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Ballast Technology Applications & Specification Guide

SYLVANIA QUICKTRONIC® Electronic Ballasts

SYLVANIA

The Original System Solution

TABLE OF

Contents

QUICKTRONIC® Electronic Ballasts

TABLE OF CONTENTS

SYLVANIA, OCTRON, PENTRON, POWERBALL, POWERSENSE, PowerSHED, PROStart, QUICKSENSE, QUICKSTEP, QUICK 60+, HELIOS, ICETRON, METALARC, SUPERSAVER, The System Solution and Squiggle Logo, CURVALUME, ECOLOGIC, Fixtureside Assistance, XP and XPS are trademarks or registered trademarks of OSRAM SYLVANIA. QUICKTRONIC and DULUX are trademarks or registered trademarks of OSRAM AG. All other trademarks contained herein not owned by OSRAM SYLVANIA or its subsidiaries, are the property of their respective owners.
Information in this guide subject to change at anytime without prior notice.

The system is the solution.

OSRAM SYLVANIA is the global leader in lighting systems. One of the significant trends in lighting technology is the move toward optimized lamp and ballast systems...we've been at the forefront with the system solution®, a family of ideally designed energy saving lamps and electronic ballast combinations. OSRAM SYLVANIA has the competitive advantage with years of experience in designing, developing and supporting integrated systems — both in ballasts and lamps. Our global network of design and manufacturing brings ballast and lamp knowledge together to produce innovative and cost-effective energy saving systems.

- Committed to providing energy efficient ballasts & lamps
- Innovative system solutions that exceed customer expectations
- Offer new energy saving, higher efficiency, lower power systems
- These systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry

It's the system solution, only from SYLVANIA.

the system solution®

Controllable, simple and efficient.

QUICKTRONIC® POWERSENSE® ballasts feature micro-controller technology to offer the industry's most adaptable dimming ballast. Compatibility with low voltage controls and fluorescent powerline dimmers provide the flexibility to simplify the specification, purchasing and installation process. SYLVANIA elogic™ lighting controls provide occupants the ability to control overall energy use by smoothly dimming or increasing light levels as required. One key to reducing your energy consumption is to use natural light. QUICKTRONIC POWERSENSE ballasts and elogic lighting controls are the perfect combination for Daylight Harvesting and dimming applications. Our High Efficiency dimming systems offer many different options to regulate the light output required to compensate for changes in natural daylight. **WHEN IT'S SUNNY—SAVE MONEY!**

QUICKTRONIC High Efficiency

The High Efficiency Series features energy-saving electronic T8 ballasts that save up to an additional 6% (2 to 5 watts) over standard electronic ballasts. Features also include <10% THD and Universal Voltage.

- High Efficiency Systems over 90% efficient (maximize energy savings)
- Up to 60% savings
- Over 100 LPW (lumens/watt) with OCTRON® SUPERSAVER® lamps
- Lowest power T8 Instant Start Systems
- Same Light, Less Power

QUICKTRONIC Professional

Professional Series products incorporate one or more value added features such as <10% THD, PROStart®, Instant Start, Universal Voltage, etc.

QUICKTRONIC

T8 Instant Start <20% THD Products.

Universal Voltage (120-277V)

Universal voltage models operate from 120-277V, eliminating "incorrect line voltage" wiring errors and reducing the number of models in inventory by half.

"Squiggle"

The "sine wave" graphic logo of the Electronics & Controls division of OSRAM SYLVANIA, signifies the transition from old technology to the high frequency, high efficiency electronic systems of the future. SYLVANIA has officially changed the "squiggle" to green.

The Original System Solution

The first matched T8 lamp and ballast systems for optimized performance and longer life.

T8, T5 & T5HO POWERSENSE® Dimming

The industry's first product to operate from either Power-line Fluorescent controllers or low-voltage (0-10 Vdc) controls.

- Efficient - Highest energy efficiency dimming system
- Versatile - Controls flexibility and universal-voltage
- Intelligent - Senses faulty wiring and lamp failure

High Efficiency DULUX® L Systems

QHE energy saving FT40DL/25W & FT40DL/28W SUPERSAVER Systems:

- SAME LIGHT, LESS POWER
- Universal input voltage (120-277V)
- QUICKSENSE® end-of-lamp-life sensing, auto reset

Banded Packaging

New Banded Packaging has replaced the shrink-wrapped product for added benefits:

- Distributor friendly; easy stocking for individual ballast sales
- Contractor friendly; easy handling; no tangled wires
- Reduces waste; easily removable bands

SUPERSAVER® Xtreme Systems

New High Efficiency QUICKTRONIC PROStart® PSX Universal Voltage ballasts, when combined with OCTRON® SUPERSAVER energy saving high performance T8 lamps, provide the lowest power PROStart T8 systems available.

- PROStart Xtreme: For frequent switching/occupancy sensor applications
- Universal input voltage (120-277)
- Available in 0.71 ballast factor

Ballast Case Improvements

Some models have a new flange design and top lead exits, allowing for multiple mounting methods:

- Standard, center-line mounting
- Double bolt mounting
- 4-bolt mounting for specialty codes & regulations

Specifications subject to change without notice.

The Original System Solution

MULTI-WATT
New electronic ballasts that offer the versatility to operate multiple lamp types of various wattages. These multi-watt and multi-lamp models also can vary the number of lamps operated (i.e. 1 or 2 lamps), reducing the amount of ballast types required.

Dual Entry CFL
Dual entry, color coded connectors located on the side and bottom allow for increased mounting flexibility with one ballast and also increased ease of installation.

T5HO HELIOS™ Dimming
Electronic ballast with continuous 100-1% dimming range. They can be controlled by a wide variety of 0-10 volt DC control devices, including daylight sensors, building automation systems and compatible wall box dimming controllers.

DALI Digital Dimming (High Efficiency)
DALI digital control technology offers full-range continuous dimming, individual fixture control and feedback. The communications protocol is “DALI”, an acronym for “Digital Addressable Lighting Interface”. DALI is the worldwide standard for digital lighting control.

PROStart®
A programmed rapid starting method for fluorescent lamps that achieves up to 100,000 switching cycles which is ideal for use on occupancy sensors.
- Exclusive lamp warranty for occupancy sensor applications

PENTRON® HO
New T5 high output fluorescent lamp systems provide almost twice the lumen output of standard lamps and allow new low profile fixtures to be designed.

QUICKSENSE®
The patented end-of-lamp-life sensing technology that helps prevent lamp overheating and established the benchmark for industry recommendations for T5 and smaller diameter lamps.

PLUS (High Ballast Factor) Systems
T8 lamps are run at higher lumen levels to allow fewer lamps or higher light levels.

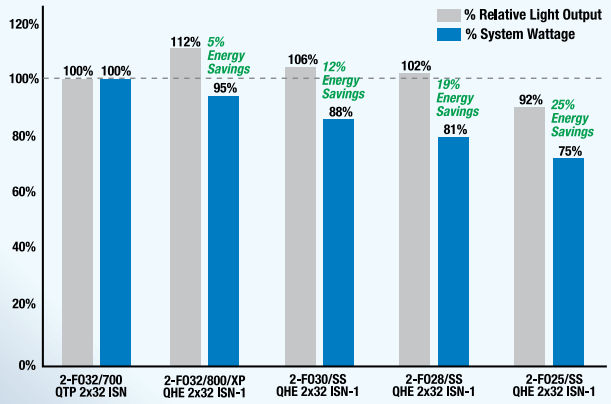
ICETRON® Systems
Unique “Inductively Coupled Electrodeless Fluorescent Lamp Systems” that provide 100,000 hour rated lamp life for use in high maintenance cost areas.

Electronic Metal Halide Systems
QUICKTRONIC® MH features a state-of-the-art electronic design to deliver performance levels unattainable with standard magnetic based lighting systems.

QUICKTRONIC High Efficiency Type CC & Lamp Striation Control (LSC) Models

Offer the same energy saving benefits as the High Efficiency QHE ballasts with two additional advantages:

- Meets UL Type CC (Commercial Cabinet) Rating: New micro-controller circuity reduces arcing caused by loose or improper lamp pin to socket connections.
- Lamp Striation Control, (LSC): LSC circuitry minimizes lamp striations/strobing that can occur at lower temperatures and especially in T8 energy saving lamps. (Please consult manufacturers for additional details.)



Key System Features:

- Lowest power T8 Instant Start Systems
- Over 100 LPW (lumens/watt) with OCTRON® SUPERSAVER® lamps
- Provides 30-50% energy savings when compared to F40T12 Magnetic Systems
- QHE/SS Systems provide up to 25% savings compared to standard T8 systems
- Universal input voltage (120-277)

OCTRON® 800 XV® ECOLOGIC® and OCTRON 800 XV SUPERSAVER® ECOLOGIC

EXtended Value T8 fluorescent lamps

Significant enhancements for improved value

OCTRON 800 XV ECOLOGIC T8 fluorescent lamps meet today's lighting needs of high efficiency, long life and superior color rendition. With high initial lumens, mean lumens of 94 percent and an average rated life of up to 42,000 hours, these lamps ensure light levels will be maintained for a very long time. A color rendering index (CRI) of up to 83 supports applications where lighting color quality is important. The lamps are available in 4-foot and 8-foot full wattage and SUPERSAVER energy saving options. Engineered with optimized phosphor coatings, these lamps deliver specification grade performance and value to satisfy the most demanding general lighting applications.

Features

- Optimized phosphor blends deliver specification grade performance and value
- High CRI to support applications where lighting color quality is important
- Long lamp life platform reduces lighting maintenance costs
- Enhanced total cost of ownership with energy-saving OCTRON XV SUPERSAVER lamps
- Complies with new US DOE GSFL standards
- QUICK 60+® system warranty with QUICKTRONIC® electronic ballasts

4-foot

- 25W and 28W types meet CEE reduced wattage T8 specifications
- Realize up to 96% lumens of premium OCTRON T8 lamps
- 94% lumen maintenance

8-foot

- Energy-saving, optimized phosphor replacements for 700 and 800 Series F96T8 lamps
  – 95% initial and mean lumens of premium OCTRON 8-foot lamps

Product Specifications

Series	Length	Watts	CCT	Initial Lumens	Mean Lumens	CRI	Life on Instant Start 3 hours per start	Life on Instant Start 12 hours per start	Life on PROStart® 3 hours per start	Life on PROStart® 12 hours per start
F032/800/XV/ECO	4ft	32	3000K, 3500K, 4100K, 5000K*	2900	2725	83	24,000	40,000	40,000	42,000
F030/800/XV/SS/ECO	4 ft	30	3000K, 3500K, 4100K, 5000K*	2750	2585	83	24,000	40,000	40,000	42,000
F028/800/XV/SS/ECO	4 ft	28	3000K, 3500K, 4100K, 5000K*	2600	2445	83	24,000	40,000	40,000	42,000
F032/25W/800/XV/SS/ECO	4 ft	25	3500K, 4100K, 5000K*	2400	2255	83	24,000	40,000	40,000	42,000
F096/54W/800/XV/SS/ECO	8 ft	54	3500K, 4100K	5400	5075	83	24,000	40,000	40,000	42,000
F096/50W/800/XV/SS/ECO	8 ft	50	3500K, 4100K	5100	4795	83	24,000	40,000	40,000	42,000

*5000K CCT have CRI of 81

See pages 194-201 for OCTRON XV Systems

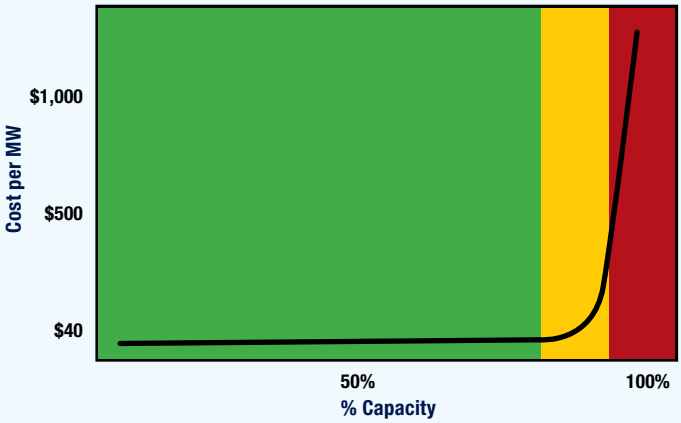
the system solution®

SYLVANIA can help you make lighting part of the Demand Response Solution.

A solution for today—and tomorrow.

Many local utilities are using incentives and rebates to motivate their customers to reduce their lighting energy consumption when grid capacity reaches maximum levels. With coordinated participation, a utility can manage the load demand, minimizing the risk of brown-outs and minimizing the cost and environmental effects of adding short-term capacity using fossil fuels.

Costs skyrocket as grid capacity is reached



As demand threatens to outstrip capacity, utilities buy power back from customers in the form of demand reduction.

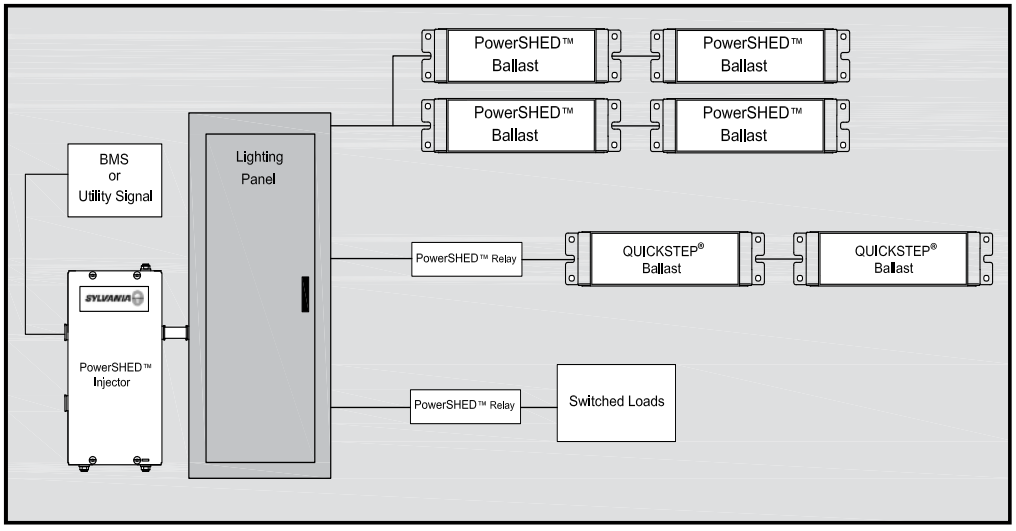
FERC approved a rule March 15, 2011 that will require utilities to pay the same amount for Demand Response as they charge for generated power.

Graph courtesy of the Lighting Research Center

Cooperatively designed by New York State Energy Research & Development Authority, the Lighting Research Center at Rensselaer and SYLVANIA, the PowerSHED Demand Response System allows users to cost-effectively bring lighting loads into their demand response portfolio.

PowerSHED Applications Example

When the PowerSHED ballast receives the Power Line Carrier (PLC) signal from the lighting panel, it immediately sheds up to 33% of its load (Up to 600 hours per year).



TAKE THE LOAD OFF with PowerSHED™

PowerSHED Control System Command Injector and Command Coupler

PowerSHED Control System QPSC

At the heart of the SYLVANIA PowerSHED Demand Response System lies the Command Injector and Command Coupler.

COMMAND INJECTOR
Item Number: 50699

COMMAND COUPLERS
Item Number: 45005
(for up to 225 amp panels)

Item Number: 45006
(for up to 400 amp panels)

QUICKTRONIC® PowerSHED T8 Instant Start Ballast

PowerSHED T8 Ballasts
Item Number: 50695 2 lamp
Item Number: 50696 3 lamp

SYLVANIA QUICKTRONIC High Efficiency, Type QHE LS energy saving electronic T8 ballasts offer many advantages:

Key System Features:

- High Efficiency Systems over 90% efficient
- Universal voltage (120-277V)
- 30-50% energy savings
- Enable step dimming
- No new wires

NEMA Premium

RoHS compliant

Application Information:

SYLVANIA QUICKTRONIC High Efficiency PowerSHED ballast is ideally suited for support of load shed:

- Areas where power generation demands can outstrip capacity during peak periods
- Energy retrofits
- Commercial and retail
- Hospitality and institutional
- New construction and retrofits

QUICKTRONIC PowerSHED Relay

PowerSHED Relay
Item Number: 45007
(150 watt ballast load, 5 amp resistive load)

Add Nearly Any Load to Your Demand Response Portfolio.

Key Features:

- Demand Response Load Switching via PowerSHED PLC command from lighting panel
- Small package fits easily into fixture or junction box
- Universal voltage
- Isolated relay provides Normally Open and Normally Closed contacts
- Switch one ballast off within a multi-ballast fixture
- Step dim the SYLVANIA QUICKSTEP® ballast to save 50% power

RoHS compliant

For complete PowerSHED system details refer to www.sylvania.com (reference literature ordering codes ECS098, ECS142 and ECS262)

SYLVANIA Products and the IESNA Progress Report

A proud legacy of achievement

Each year, the Progress Committee of the Illuminating Engineering Society of North America (IESNA) solicits the lighting industry for product submissions. If accepted, these submissions are featured in the committee's Progress Report that is published in the IESNA's publication, LD+A. The mandate of the Progress Committee is "to keep in touch with developments in the art and science of lighting throughout the world and prepare a yearly review of achievements for the Illuminating Engineering Society of North America." Submissions are organized into one of seven categories: light source, accessory, luminaire, research, application, publication and design tool. They are evaluated for their design, engineering characteristics, installation features and overall uniqueness. The 30-member committee of industry experts votes on up to 200 product submissions annually.

Over the years, many SYLVANIA and OSRAM branded products have been accepted for the Progress Report. An itemized list of our lamps and ballasts is included in the tables that follow along with their significant features. For detailed descriptions and specifications, please visit www.mySYLVANIA.com.

2011 Progress Report

OSRAM SYLVANIA LIGHTING SUBMISSIONS ACCEPTED BY THE IESNA PROGRESS COMMITTEE	SIGNIFICANCE TO THE LIGHTING INDUSTRY*
OCTRON® 800XP® XL T8 fluorescent lamps	Industry's longest life T8 lamps rated at 62,000 hours life at 12 hours per start on programmed rapid start ballasts
PENTRON® SEAMLESS T5 fluorescent lamps	Feature an innovative and unique basing configuration allowing end-to-end lamping. They are compatible with ballasts designed for standard lamps and are available in 14, 21 and 28 watts and in a variety of color temperatures
METALARC® POWERBALL® Ceramic 100W ET23.5 lamps	Industry's first ceramic metal halide lamp in this configuration with long life of 24,000 hours, which is comparable to HPS, an initial LPW of 100 and a CRI of 94
METALARC POWERBALL Ceramic 150W ET23.5 lamps	Industry's first ceramic metal halide lamp in this configuration with average rated life of 24,000 hours and also has an LPW of 100 and a CRI of 90
METALARC POWERBALL Ceramic 200W ET18 lamps	Industry's first ceramic metal halide lamp in this configuration has an LPW of 96 and a CRI of >95, making this a fine white light source alternative to high pressure sodium with comparable life and superior color rendering
SUPER METALARC Pulse Start 750W metal halide lamps	Industry's longest life rating at 20,000 hours, reflecting a 25 percent longer life than other pulse start metal halide options, and are available in clear and coated versions
LUMALUX® and LUMALUX ECOLOGIC® high pressure sodium lamps	Industry's longest lamp life rating up to 30,000 hours, representing a 20 percent performance improvement over competitive lamps
ULTRA RT4 Recessed Downlight Kit	Highest lumens and LPW for a 4-inch retrofit kit, 35,000 hour rated life and dimmable from 100 to 20 percent
ULTRA LED A19 lamps	Industry's highest-efficacy LED replacement for 75 watt incandescent A Lamps
ULTRA LED B10 lamps	25W B10 replacement lamp 200 lumens/4 Watt/50 LPW. Light pipe emulates filament sparkle. Dimmable with highest lumens in the industry
ULTRA LED PAR38 lamps	Industry first featuring highest CBCP at 5,000 candelas and lumens closest to 120 watt halogen PAR38 lamp with same 30 degree beam
Hyper Red – OSLON® and Golden DRAGON® Plus LEDs	Industry's first and most efficient system of 1 watt LEDs; ideal for plant photosynthesis in horticultural applications
HF²Chain LED modules	Industry's first EMerge® Alliance Registered 24-volt DC chain LED module
HF²Narrow Stick LED modules	Industry's first EMerge Alliance Registered array LED modules
LEDstixx® LED modules	Industry's highest-efficacy display lighting system for small showcases
QUICKTRONIC® ICETRON® 100W dimming system	Industry's first dimming ballasts for ICETRON induction system by providing continuous dimming via a 0 to 10 volt signal with a range of 100 to 50 percent. It is UL Type 2 wet location listed and meets the energy-saving requirements for ASHRAE 90.1 2010 and CA Title 24
QUICKTRONIC QTO outdoor metal halide and high pressure sodium dimming system	Industry's first UL Type 2 wet location listed dimming system for 100, 150, and 200W metal halide and high pressure sodium lamps. There are three dimming modes with a possible range of 100 to 40 percent
QUICKTRONIC Instant Start ISH 347-480V HT ballast	Industry's first 4-lamp ISH ballast for T8 lamps with an input power of 347 to 480 volts. The ballasts are RoHs compliant and offer a 5 year warranty at 70°C
OPTOTRONIC® Phase-Cut Dimmable LED power supply	Industry's smallest 15 watt line voltage dimmable LED power supply, compatible with both leading and trailing edge phase-cut type dimmers
OPTOTRONIC Multiple Output LED power supply	50 watt LED power supply with up to 4 output channels and factory configurable to a customer-specific drive current. Dimmable with standard 0-10V type dimmers
OPTOTRONIC 24V Dimmable LED power supply	High power-density LED power supply. It is the smallest, dimmable, 96 watt LED power supply on the market

*Based on 2011 IESNA Progress Committee Review

The QUICK 60+® System Warranty

It's the simple way to make sure you're completely covered. Just call 1-800-LIGHTBULB.

Simply better coverage

QUICK 60+® is the industry's original and most comprehensive system warranty, providing coverage for QUICKTRONIC® ballasts and the SYLVANIA lamps they power. As the originator of the system solution®, we have unparalleled lamp and ballast technology — within one company — that enables us to produce systems that perform better and are more reliable. Of course we design our ballasts and lamps to be compatible with other manufacturers' products and back their operation accordingly, but our systems approach allows us to back our systems with a warranty that simply gives you better coverage.

It starts with the ballast. When you purchase any QUICKTRONIC ballast, it's warranted for a period of up to 60 months. Then, when you add SYLVANIA lamps, you benefit from additional coverage for those lamps; that's the PLUS. More combinations and wider applications provide the broadest range of coverage available in the industry. Another benefit comes each time you group relamp, as the lamp portion of the warranty will extend for an additional term. In short, if you have SYLVANIA ballasts and lamps, you're covered — it's that simple.

Simply peace of mind

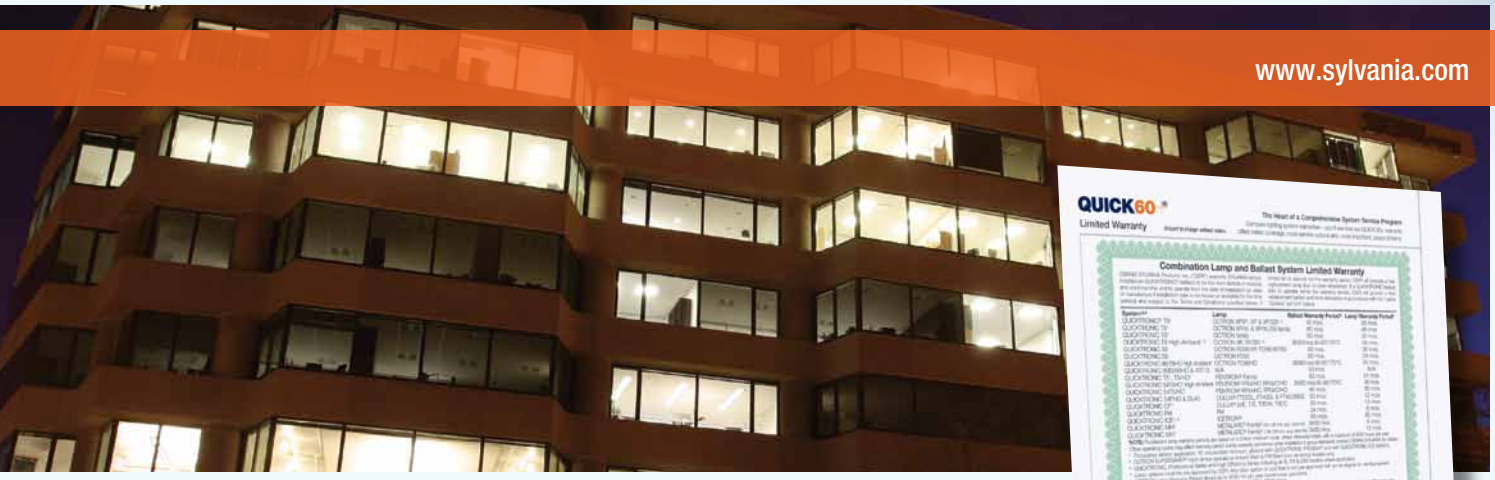
When you specify SYLVANIA electronic ballasts and lamps, your installation will enjoy the highest available levels of performance, and you will enjoy the added benefit of peace of mind. If there is an issue, you'll never need to worry about whether it's the lamp or it's the ballast, and you won't get caught in the middle of solving the problem (we may argue with ourselves, but you won't have to!). All it takes is a phone call and you can get back to business. The bottom line is these are our products, and we stand behind them as no one else can.

Simply better service

Only **QUICK 60+** offers you a choice of three service options to resolve warranty claims for ballasts, including our unique "Fixtureside Assistance®" program from our own nationwide service organization, SYLVANIA Lighting Services. At our discretion, we will dispatch a trained technician to make a service call to resolve any issues with our products. Our people taking care of our products ensure that you get the level of expert service you deserve. Of course, OSRAM SYLVANIA can also coordinate ballast replacement with an independent service provider, or you can manage the replacement yourself and we will determine labor reimbursement costs. OSRAM SYLVANIA will determine which option best suits your needs to make sure you're covered.

For lamp replacements, OSRAM SYLVANIA will send lamps to your facility (NO LABOR FOR LAMPS).

The **QUICK 60+** warranty is simple to put to work. If you have SYLVANIA electronic ballasts and lamps — you're covered. Just call 1-800-LIGHTBULB (1-800-544-4828) and request warranty service. Any installation of QUICKTRONIC ballasts and SYLVANIA brand lamps is covered by **QUICK 60+** for periods defined in the warranty and by the date codes incorporated on all of our products. As an added value, by simply registering the installation, all warranty periods will be defined by the actual date of installation providing complete assurance that you'll receive the coverage you deserve. If there's ever a problem, it's not a problem — you won't have to look up old records and worry about who's responsible. It's that simple.



Simple for fixture manufacturers

Any lighting manufacturer that installs QUICKTRONIC ballasts in their fixtures can provide their customers with a system warranty once SYLVANIA lamps are installed. Whether the lamps are installed in the factory, or they arrive through distribution, the system is covered. In effect, OEMs can provide customers with a great deal of added value by installing SYLVANIA ballasts and lamps — it's that simple.

Simple for lighting distributors

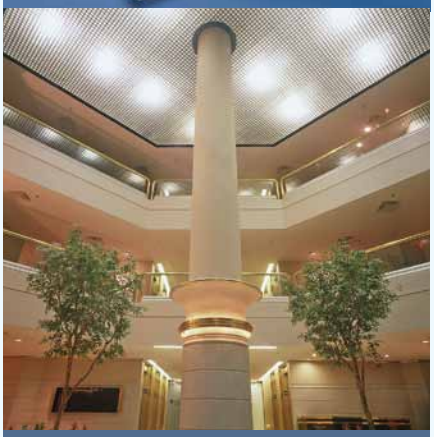
Lighting system upgrades and retrofit installations are an important part of any electrical distributor's business **QUICK 60**+ allows a distributor to offer customers a comprehensive system warranty in addition to their other value added services. And since the lamp portion of **QUICK 60**+ renews when an installation is group relamped, distributors can offer added value to future sales of SYLVANIA brand lamps. Peace of mind today and tomorrow — it's that simple.

Simple for contractors

QUICKTRONIC ballasts and SYLVANIA lamps allows a contractor to provide an added value to their customers. Once the system is installed, the contractor can utilize the strengths and services of the nationwide SYLVANIA organization to assist in standing behind the project if the need arises. Added assurance — it's that simple.

Simple for end users

Today's users of lighting systems demand better performance — higher lumen output, lower energy usage, better color characteristics and more responsive control capabilities — all with worry-free operation. OSRAM SYLVANIA has the resources in both lamp and ballast technology to deliver the performance, while **QUICK 60**+ provides the industry's most comprehensive and worry-free system warranty. End users enjoy a lighting system that is high performance without being high risk — it's that simple.



See www.sylvania.com or www.mysylvania.com for **QUICK 60**+ Lamp and Ballast Limited Warranty details.

Complete energy management solutions from SYLVANIA Lighting Services

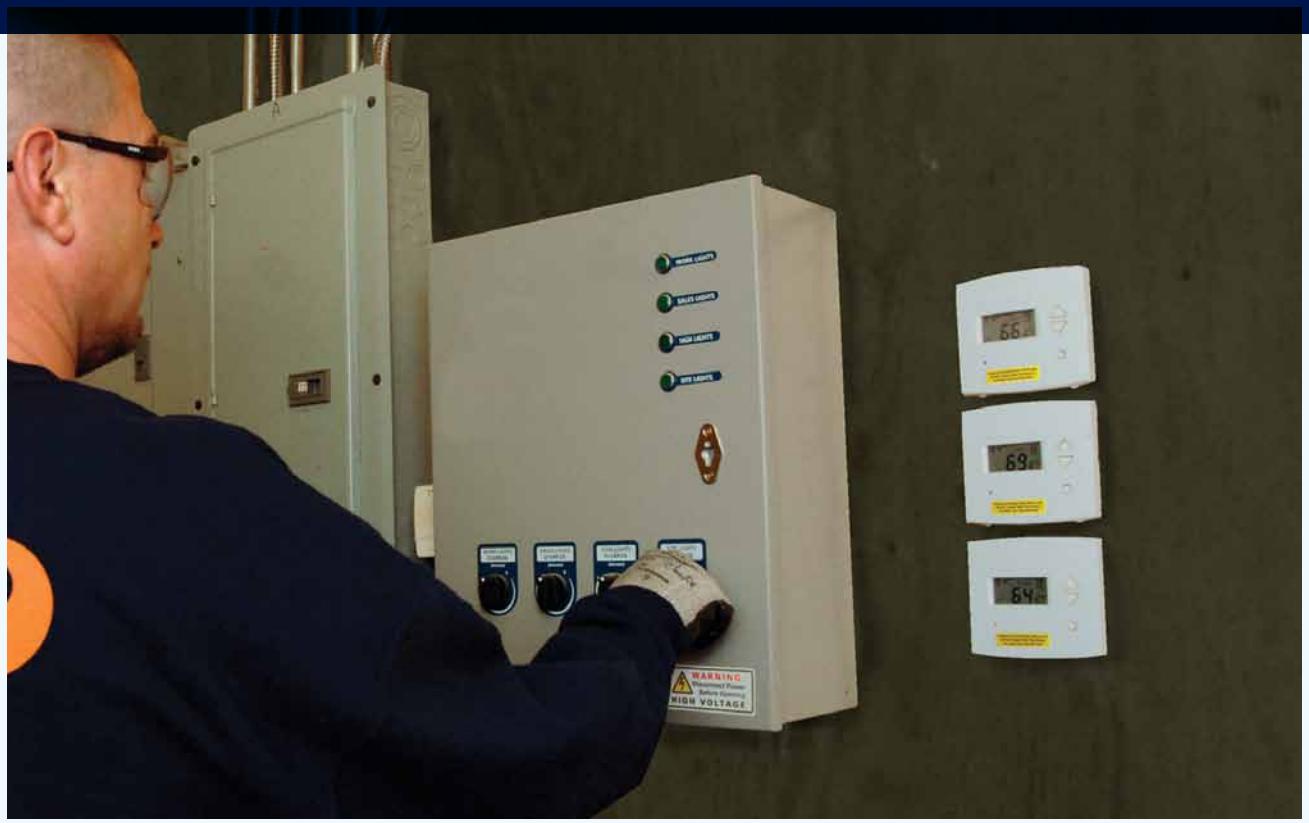
Energy management programs for interior, exterior and sign lighting systems including full lighting and building management system solutions with HVAC system integration.

Value added capabilities

- Audit and survey
- Control system specification and design
- Installation
- Commissioning
- Maintenance
- Utility program management and rebate optimization

Visit us at www.sylvania.com/sls • SYLVANIA Lighting Services 800-323-0572

SLS Lighting Systems Controls Integration



Design

- System selection: control systems are selected based on fitness for the application and customer requirements
- Architecture: sequence of operation, customer requirements, etc.
- Compatibility: links/compatibility with other EMS/BMS systems as applicable
- Ability to incorporate in energy savings to take maximum advantage of utility rebate programs

Installation

- Installation by trained and certified technicians —certifications as required
- In-house project management team from one of our 35 national service centers

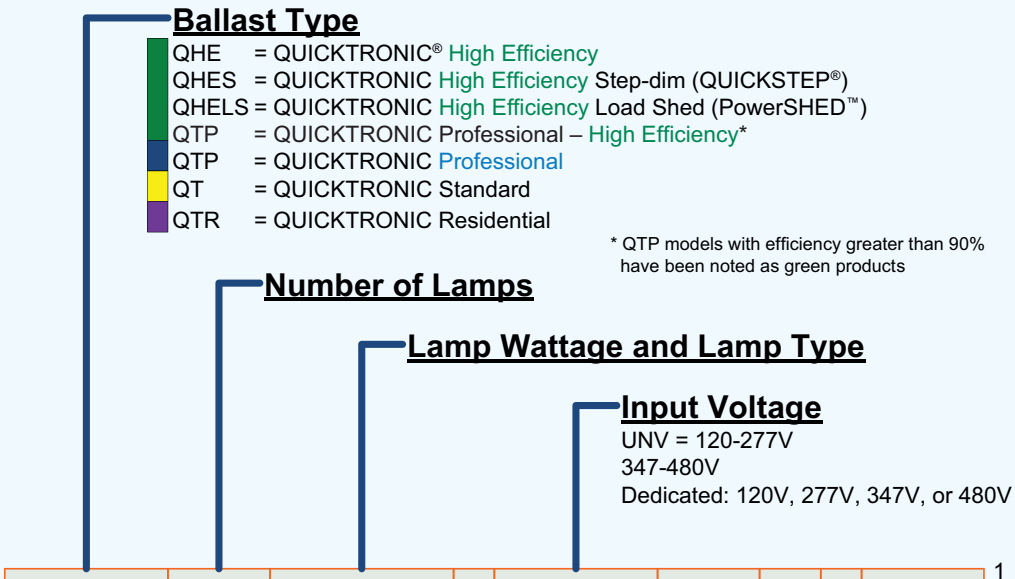
Commissioning

- In-house commissioning and system testing
- Factory trained technicians, specialty equipment used as needed
- On-site training for system owners

Maintenance

- Remote system diagnostics from national support center or locally, if system is so enabled
- Field diagnosis and repair/replacement of components as needed
- Remote system monitoring solutions available if requested to ensure continued system optimization. (Reporting, dispatching and more)

Electronic Fluorescent Ballast Ordering Information



Starting Type

IS – Instant Start
PS – Programmed Rapid Start (PROStart®)
DIM – Dimming
DALI – Digital Addressable Lighting Control
PHO – Programmed Rapid Start (PROStart) - PENTRON®

Ballast Factor

H = High
M = Medium
N = Normal
L = Low
X = Xtreme Low

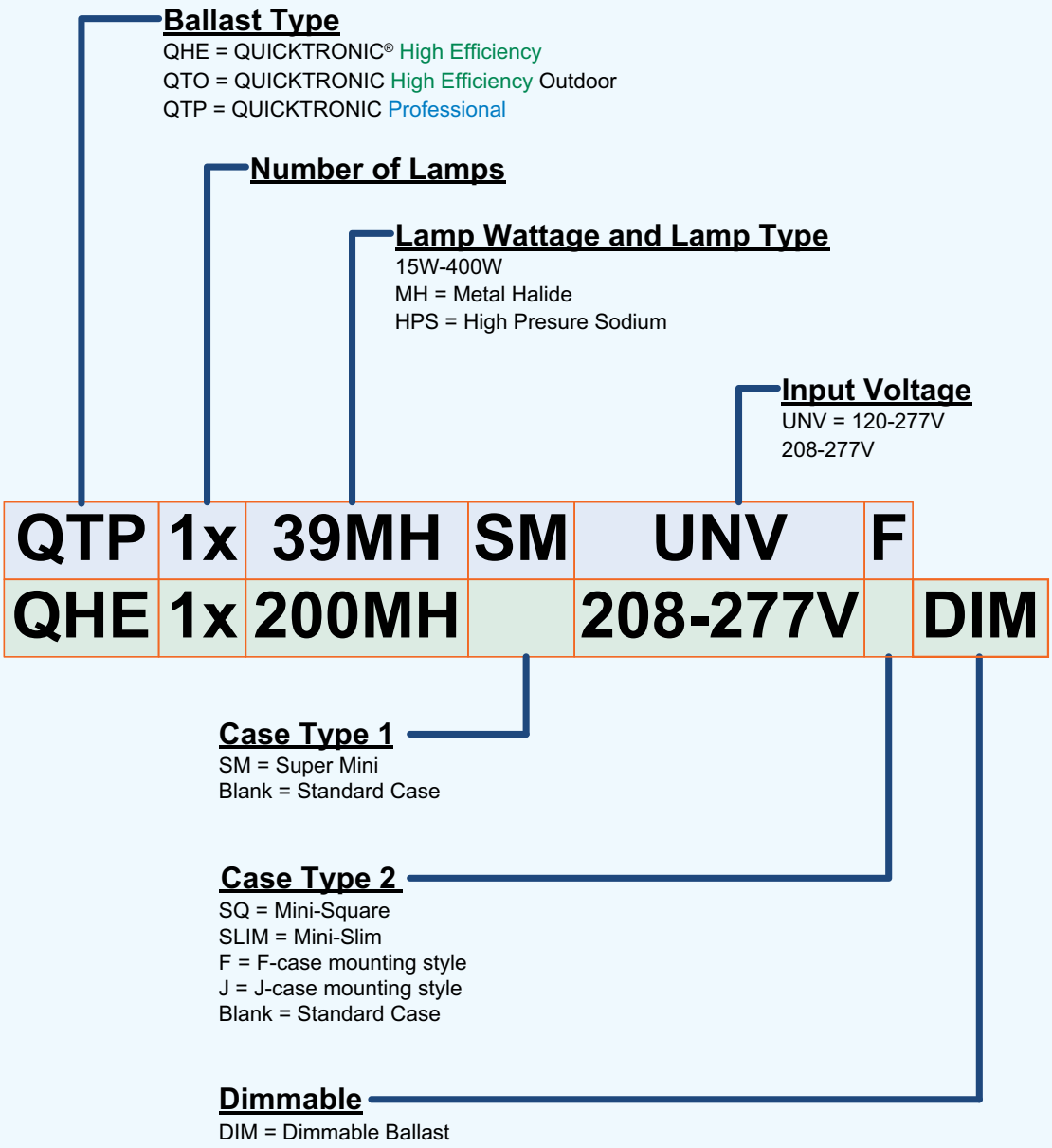
PS51 = 0.51 Ballast Factor
PS80 = 0.80 Ballast Factor
PS90 = 0.90 Ballast Factor

[1] Another example: QHE4x54T5/UNV PSH-HT-SCL;
HT=High Ambient Applications (90°C Max case temp)

Can Size

MC/MCL = Micro Can / Micro Can Long
SC/SCL = Small Can / Small Can Long
TC/TCL = Thin Can / Thin Can Long
W = Wide Can
DM = Dual Mount
DM PEM = Dual Mount with PEM studs
F = “F” Enclosure
B = “B” Enclosure
Blank = Standard Can

Electronic HID (eHID) Ballast Ordering Information



QUICKTRONIC® High Efficiency T8 Instant Start Systems

Maximum efficiency, lower power

30-50% energy savings*

*Compared to F40T12 magnetic systems

QUICKTRONIC High Efficiency QHE instant start ballasts operate OCTRON® T8 lamps with maximum efficacy and high lumen output, while providing 30-50% energy savings when compared to F40T12 magnetic systems. The QUICKTRONIC QHE energy-saving electronic T8 ballasts save an additional 6% over standard electronic ballasts without compromising light output or lamp life, thus allowing for a quicker payback.

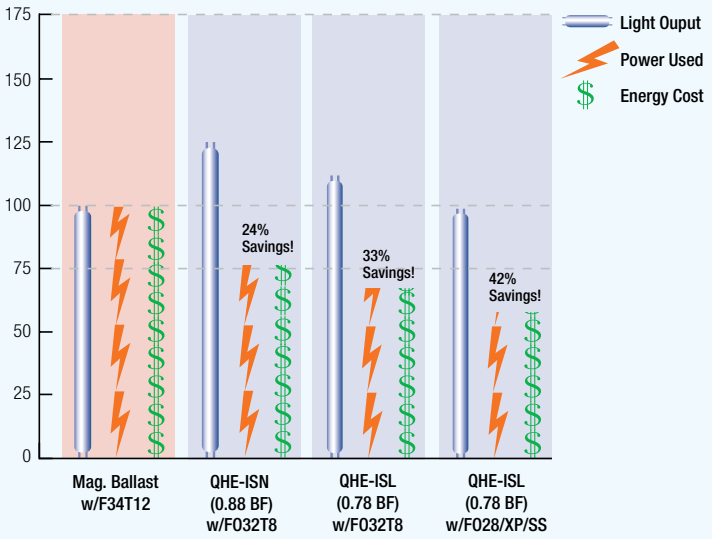
Features

- Instant start, with highest ballast efficiency
  – Over 90% efficient
- 6% energy savings over standard T8 electronic ballasts
- NEMA Premium Ballast Program compliant
- Universal input voltage (120-277V)
- Available ballast factors:
  – Low (0.78)
  – Normal (0.88)
  – **NEW! Medium (1.00)**
  – High (1.15-1.20)
- New Feature – LSC (Lamp Striation Control)
  – Minimize lamp striation
  – Ideal for energy-saving T8

Market Segments

- Education
- Healthcare
- Hospitality
- Institutional
- Office
- Retail

Typical Savings QHE-IS: Two Lamp



Based on 4000 operating hours per year with energy cost of $0.10/kWh. Magnetic T12 system: 'Energy Saving' T12 Magnetic ballast with F34T12CW lamps. Electronic T8 systems: 0.88 & 0.78 ballast factor – High Efficiency Instant Start ballast with FO32T8/800/XP/ECO and FO28T8/800/XP/SS/ECO lamps

the system solution®

QUICKTRONIC® Professional QTP Instant Start Ballasts

Operate OCTRON® T8 lamps with high efficacy and high lumen output

30-40% energy savings*

QUICKTRONIC Professional Series products are typically used in OEM (original equipment manufacturers) standard fixtures and Trade/Distributor Basic stocked products for replacement.

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

*Compared to F40T12 magnetic systems

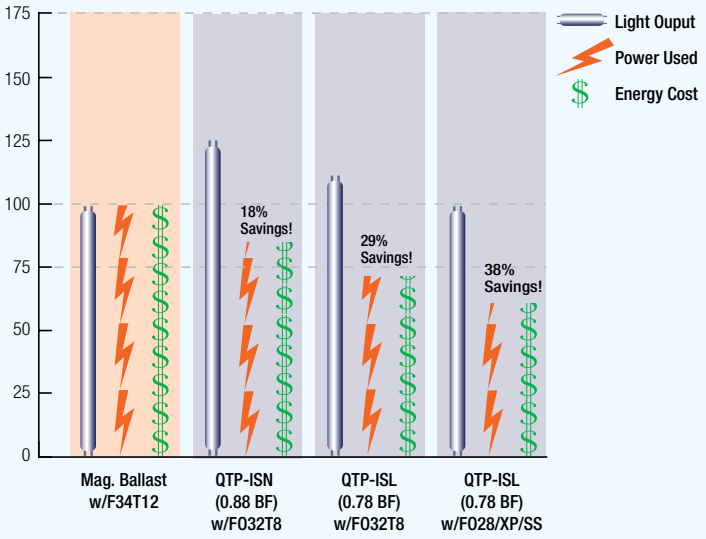
Features

- Universal input voltage (120-277V)
- 50% reduction in number of models
- 30-40% energy savings vs. magnetic systems
- Available ballast factors:
  - Low (0.78)
  - Normal (0.88)
  - High (1.18-1.20)

Market Segments

- Commercial
- Hospitality
- Institutional
- New construction
- Retail
- Retrofits

Typical Savings QTP-IS: Two Lamp



Based on 4000 operating hours per year with energy cost of $0.10/kWh. Magnetic T12 system: 'Energy Saving' T12 Magnetic ballast with F34T12CW lamps. Electronic T8 systems: 0.88 & 0.78 ballast factor – Instant Start ballast with FO32T8/800/XP/ECO and FO28T8/800/XP/SS/ECO lamps.

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

NEMA Premium

RoHS compliant

Lamp Striation Control
Low Ballast Factor

High Efficiency Series

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
1-lamp QHE1x32T8/UNV ISL-SC
2-lamp QHE2x32T8/UNV ISL-SC
3-lamp QHE3x32T8/UNV ISL-SC
4-lamp QHE4x32T8/UNV ISL-SC

Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)

F040T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- Lamp Striation Control (LSC)
- Over 100 LPW (lumens/watt) with OCTRON SUPERSAVER® lamps
- Lowest power T8 I.S. Systems
- Universal voltage (120-277)
- Small Can enclosure size
- 30-50% Energy savings
- Min. Starting Temp:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for F040T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts are ideally suited for:

- Any applications where the lowest power T8 systems are needed for maximum energy savings
- Energy Retrofits
- Commercial & Retail
- Hospitality & Institutional
- New Construction

SYLVANIA QUICKTRONIC High Efficiency, (QHE) energy-saving electronic T8 ballasts offer several advantages:

1. **Same Light, Less Power!**
   - **Up to 6% in energy savings** compared to standard T8 low power electronic ballasts without compromising light output
   - **Maximum energy savings** when compared to F40T12 magnetically ballasted systems
2. **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
3. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations
4. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***
5. **New Banded Packaging**
   - Distributor-friendly for easy stocking and individual ballast sales
   - Reduced waste
   - Easy removable bands
   - No tangled wires

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

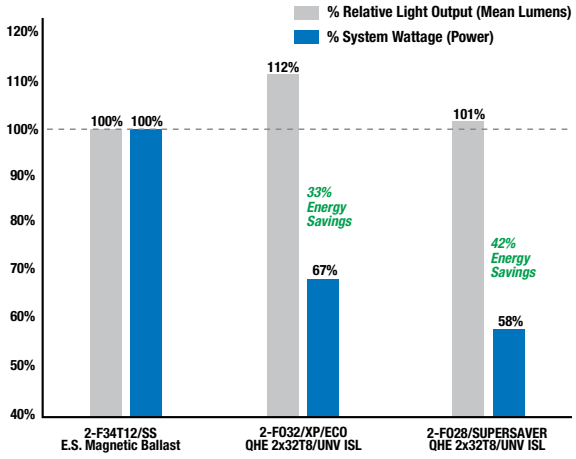
SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
F34T12 - E.S. Magnetic Ballast	72	4660	65	3960	Baseline	Baseline
F032/XP - QHE2x32T8/UNV ISL-SC	**48**	**4680**	**98**	**4440**	**112%**	**33%**
F028/SS - QHE2x32T8/UNV ISL-SC	**42**	**4250**	**101**	**3995**	**101%**	**42%**



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Universal Voltage (120-277V), Lamp Striation Control

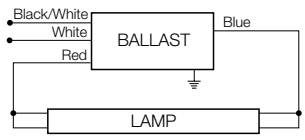
RoHS compliant

NEMA Premium

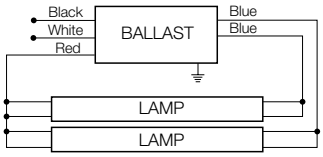
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QHE1X32T8/UNV ISL-SC	0.21/0.09	F032/700	2800	1	0.78	2185	1965	25	87	3.12
49837	*Banded Pack*	0.21/0.09	F032/XP	3000	1	0.78	2340	2200	25	94	3.12
49861	*10-Pack*	0.20/0.09	F030/SS	2850	1	0.78	2225	2090	24	93	3.25
		0.19/0.08	**F028/SS**	**2725**	**1**	**0.78**	**2125**	**2000**	**22**	**97**	**3.55**
		0.17/0.08	F025/SS	2475	1	0.78	1930	1815	20	97	3.90
	QHE2X32T8/UNV ISL-SC	0.41/0.18	F032/700	2800	2	0.78	4370	3930	48	91	1.63
49838	*Banded Pack*	0.41/0.18	F032/XP	3000	2	0.78	4680	4400	48	98	1.63
49863	*10-Pack*	0.38/0.16	F030/SS	2850	2	0.78	4445	4180	45	99	1.73
		0.35/0.15	**F028/SS**	**2725**	**2**	**0.78**	**4250**	**3995**	**42**	**101**	**1.86**
		0.32/0.14	F025/SS	2475	2	0.78	3860	3630	38	102	2.05
	QHE3X32T8/UNV ISL-SC	0.61/0.27	F032/700	2800	3	0.78	6550	5895	73/72	90/91	1.08
49839	*Banded Pack*	0.61/0.27	F032/XP	3000	3	0.78	7020	6600	73/72	96/98	1.08
49865	*10-Pack*	0.58/0.25	F030/SS	2850	3	0.78	6670	6270	68	98	1.15
		0.53/0.23	**F028/SS**	**2725**	**3**	**0.78**	**6380**	**5995**	**63**	**101**	**1.24**
		0.48/0.21	F025/SS	2475	3	0.78	5790	5445	57	102	1.37
	QHE4X32T8/UNV ISL-SC	0.80/0.35	F032/700	2800	4	0.78	8735	7860	95	92	0.82
49840	*Banded Pack*	0.80/0.35	F032/XP	3000	4	0.78	9360	8800	95	99	0.82
49867	*10-Pack*	0.75/0.32	F030/SS	2850	4	0.78	8890	8360	89	100	0.88
		0.71/0.31	**F028/SS**	**2725**	**4**	**0.78**	**8500**	**7990**	**84**	**101**	**0.93**
		0.62/0.27	F025/SS	2475	4	0.78	7720	7260	76/75	102/103	1.04

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

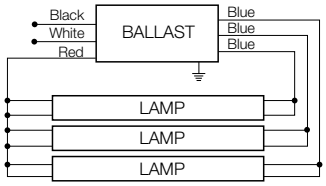


QUICKTRONIC 1x32



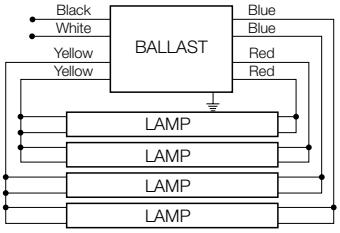
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32



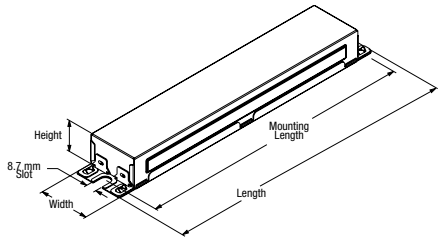
Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. For one lamp application, cap two blue leads, one red and one yellow lead individually. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only
(no connectors provided)



Item Number — **49838 QHE 2 x 32T8 / UNV ISL - SC** — Case Size
QUICKTRONIC High Efficiency — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F17, F25 and F32 (and the SUPERSAVER® & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.78
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
NEMA Premium Electronic Ballast Program compliant
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

NEMA Premium | RoHS compliant

Lamp Striation Control
Normal Ballast Factor

High Efficiency Series

QHE T8 ISN

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
1-lamp QHE1x32T8/UNV ISN-SC
2-lamp QHE2x32T8/UNV ISN-SC
3-lamp QHE3x32T8/UNV ISN-SC
4-lamp QHE4x32T8/UNV ISN-SC

Also operates:
FBO32, FBO31, FO25, FBO24, FO17, FBO16, FO30/SS (30W), FBO30/SS (30W), FBO29/SS (29W), FO28/SS (28W) & FO25/SS (25W)

FO40T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- Lamp Striation Control (LSC)
- Over 100 LPW (lumens/watt) with OCTRON SUPERSAVER® lamps
- Lowest power T8 I.S. Systems
- Universal voltage (120-277V)
- Small Can enclosure size
- 30-50% Energy savings
- Min. Starting Temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for FO40T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts are ideally suited for:

- Any applications where the lowest power T8 systems are needed for maximum energy savings
- Energy Retrofits
- Commercial & Retail
- Hospitality & Institutional
- New Construction

Lamp Striation Control (LSC)

- General lighting applications where energy saving T8 lamps may striate, particularly for the F25 energy saving T8 lamps.

SYLVANIA QUICKTRONIC High Efficiency, (QHE) energy-saving electronic T8 ballasts offer several advantages:

1. **Same Light, Less Power!**
   - **Up to 6% in energy savings** compared to standard T8 low power electronic ballasts without compromising light output
   - **Maximum energy savings** when compared to F40T12 magnetically ballasted systems
2. **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
3. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations
4. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***

5. **New Banded Packaging**
   - Distributor-friendly for easy stocking and individual ballast sales
   - Reduced waste
   - Easy removable bands
   - No tangled wires

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

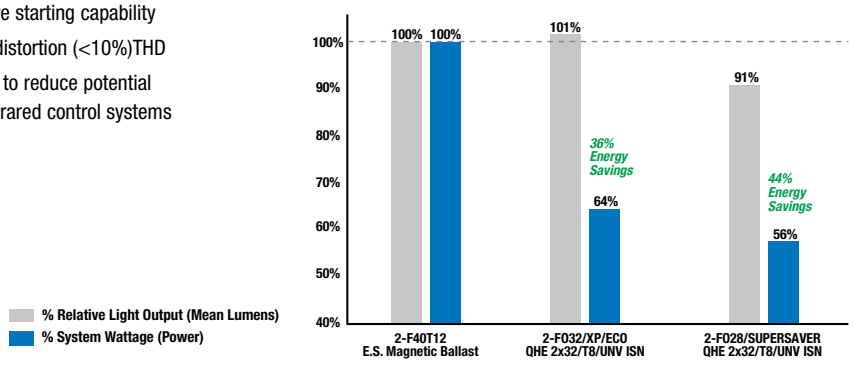
SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are also covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
F40T12 - E.S. Magnetic Ballast	86	5795	67	4930	Baseline	Baseline
F34T12 - E.S. Magnetic Ballast	72	4660	65	3960	80%	16%
FO32/XP - QHE2x32T8/UNV ISN-SC	**55**	**5280**	**96**	**4965**	**101%**	**36%**
FO28/SS - QHE2x32T8/UNV ISN-SC	**48**	**4800**	**100**	**4510**	**91%**	**44%**



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Universal Voltage (120-277V), Lamp Striation Control

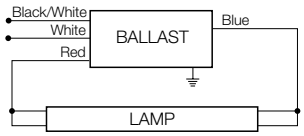
RoHS compliant

NEMA Premium

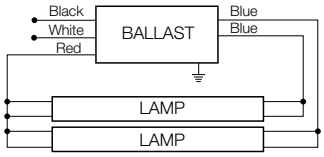
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QHE1X32T8/UNV ISN-SC	0.25/0.11	F032/700	2800	1	0.88	2465	2220	28	88	3.14
49968	*Banded Pack*	0.25/0.11	F032/XP	3000	1	0.88	2640	2480	28	94	3.14
49851	*10-Pack*	0.22/0.09	F030/SS	2850	1	0.88	2510	2360	26	97	3.38
		0.21/0.09	**F028/SS**	**2725**	**1**	**0.88**	**2400**	**2255**	**25**	**96**	**3.52**
		0.19/0.09	F025/SS	2475	1	0.88	2175	2045	22	99	4.00
	QHE2X32T8/UNV ISN-SC	0.47/0.20	F032/700	2800	2	0.88	4930	4435	55	90	1.60
49969	*Banded Pack*	0.47/0.20	F032/XP	3000	2	0.88	5280	4965	55	96	1.60
49853	*10-Pack*	0.44/0.19	F030/SS	2850	2	0.88	5015	4715	52	96	1.69
		0.40/0.18	**F028/SS**	**2725**	**2**	**0.88**	**4800**	**4510**	**48**	**100**	**1.83**
		0.36/0.16	F025/SS	2475	2	0.88	4355	4095	43	101	2.05
	QHE3X32T8/UNV ISN-SC	0.69/0.30	F032/700	2800	3	0.88	7390	6650	83/82	89/90	1.07
49970	*Banded Pack*	0.69/0.30	F032/XP	3000	3	0.88	7920	7445	83/82	95/97	1.07
49855	*10-Pack*	0.66/0.28	F030/SS	2850	3	0.88	7525	7075	78/77	96/98	1.14
		0.61/0.26	**F028/SS**	**2725**	**3**	**0.88**	**7195**	**6760**	**72**	**100**	**1.22**
		0.55/0.23	F025/SS	2475	3	0.88	6530	6140	65/64	101/102	1.38
	QHE4X32T8/UNV ISN-SC	0.91/0.39	F032/700	2800	4	0.88	9855	8870	108/107	91/92	0.82
49971	*Banded Pack*	0.91/0.39	F032/XP	3000	4	0.88	10560	9925	108/107	98/99	0.82
49857	*10-Pack*	0.86/0.37	F030/SS	2850	4	0.88	10030	9430	102/101	98/99	0.87
		0.80/0.35	**F028/SS**	**2725**	**4**	**0.88**	**9590**	**9015**	**95**	**101**	**0.93**
		0.71/0.30	F025/SS	2475	4	0.88	8710	8190	85	102	1.04

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

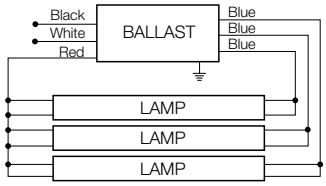


QUICKTRONIC 1x32



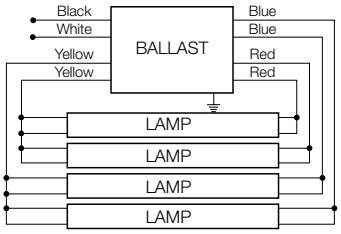
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32



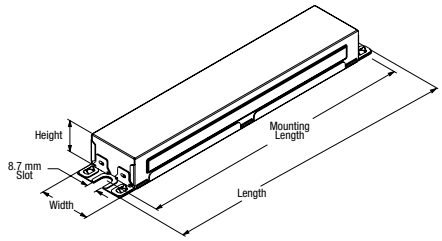
Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. For one lamp application, cap two blue leads, one red and one yellow lead individually. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only
(no connectors provided)



Item Number — **49970 QHE 3 x 32T8 / UNV ISN - SC** — Case Size
QUICKTRONIC High Efficiency — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F17, F25 and F32 (and the SUPERSAVER® & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.88
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
NEMA Premium Electronic Ballast Program compliant
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

NEMA Premium

RoHS compliant

Lamp Striation Control

Medium Ballast Factor

High Efficiency Series

QHE T8 ISM

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
QHE ISM SC Models
2-lamp QHE2x32T8/UNV ISM-SC
3-lamp QHE3x32T8/UNV ISM-SC
4-lamp QHE4x32T8/UNV ISM-SC

Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)

FO40T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- New medium ballast factor (1.0 BF) for areas requiring more light or fewer lamps
- NEMA Premium Electronic Ballast Program compliant
- RoHS compliant
- Lead free solder and manufacturing process
- Lamp striation control (LSC)
- Over 100 LPW (lumens/watt) with OCTRON SUPERSAVER® lamps
- Universal voltage (120-277V)
- 30-50% energy savings
- Min. starting temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for energy saving T8 lamps
  - 0°F (-18°C) for FO40T8 lamps

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts
are ideally suited for:

- Applications requiring additional light output
- Applications where you can reduce lamp quantities
- Any applications where the lowest power T8 systems are needed for maximum energy savings
- Energy retrofits
- Commercial & retail
- Hospitality & institutional
- New construction

SYLVANIA QUICKTRONIC High Efficiency, (QHE) energy-saving instant start electronic T8 ballasts offer several advantages:

Medium ballast factor (1.0 BF)

- Midrange ballast factor family when combined with the OCTRON XPS® (SUPER T8) lamps and the higher efficient luminaire designs, can reduce the number of lamps needed to light spaces.
- With a 1.0 BF, this product is ideal for areas requiring more light with fewer lamps.
- Maximum energy savings when compared to F40T12 magnetically ballasted systems

Parallel Circuitry: keeps remaining lamps lit if one or more go out.

NEMA Premium Electronic Ballast Program and RoHS compliant. These ballasts feature lead-free solder and manufacturing process. The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the ballast efficiency factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***

New Banded Packaging

- Distributor-friendly for easy stocking and individual ballast sales
- Reduced waste
- Easy removable bands
- No tangled wires

SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

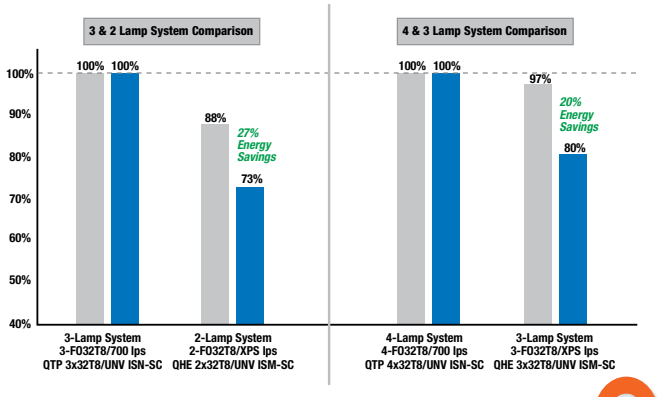
System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballast advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest system efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

LSC (lamp striation control) minimizes or eliminates striating lamps. Under certain conditions however, T8 lamps may striate. This condition will not affect light output of the lamp and will not affect the ballast. Consult lamp manufacturers for additional details.

System Type	Input Power (W)	Initial System LPW	Mean System Lumens	Relative Mean Light Output	% System Power	% Energy Savings
3-Lamp System 3-FO32T8/700 lps QTP3x32T8/UNV ISN-SC	86	86	6655	100%	100%	Baseline
2-Lamp System 2-FO32T8/XPS lps QHE2x32T8/UNV ISM-SC	63	98	5830	88%	73%	27%
4-Lamp System 4-FO32T8/700 lps QTP4x32T8/UNV ISN-SC	112	88	8870	100%	100%	Baseline
3-Lamp System 3-FO32T8/XPS lps QHE3x32T8/UNV ISM-SC	90	101	8565	97%	80%	20%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Universal Voltage (120-277V), Lamp Striation Control

RoHS compliant

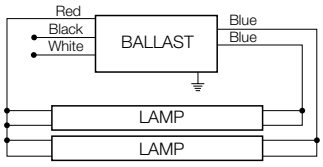
NEMA Premium

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean Lumens	Input Power (W) 120V	Input Power (W) 277V	Initial System Efficacy (lm/W)[1]	BEF[2]
	QHE 2x32T8/UNV ISM-SC	0.54/0.23	F032/700	2800	2	1.00	5600	5040	63	62	90	1.61
49248	*Banded Pack*	0.54/0.23	F032/XPS	3100	2	1.00	6200	5830	63	62	100	1.61
		0.49/0.21	F030/SS	2850	2	1.00	5700	5360	58	58	98	1.72
		0.44/0.19	**F028/SS**	**2725**	**2**	**1.00**	**5450**	**5125**	**53**	**53**	**103**	**1.89**
		0.41/0.18	F025/SS	2475	2	1.00	4950	4655	50	49	101	2.04
		0.41/0.18	F025/XPS	2200	2	1.01	4445	4175	49	49	91	2.06
		0.29/0/13	F017/XPS	1400	2	1.03	2885	2710	35	35	82	2.94
	QHE 3x32T8/UNV ISM-SC	0.76/0.40	F032/700	2800	3	0.98	8230	7410	90	89	92	1.10
49249	*Banded Pack*	0.76/0.40	F032/XPS	3100	3	0.98	9115	8565	90	89	102	1.10
		0.67/0.30	F030/SS	2850	3	0.98	8380	7875	83	83	101	1.18
		0.64/0.28	**F028/SS**	**2725**	**3**	**0.98**	**8010**	**7530**	**76**	**76**	**105**	**1.29**
		0.59/0.26	F025/SS	2475	3	0.98	7275	6840	70	70	104	1.40
		0.59/0.26	F025/XPS	2200	3	0.99	6535	6140	69	69	95	1.43
		0.41/0.18	F017/XPS	1400	3	1.00	4200	3950	49	49	86	2.04
	QHE 4x32T8/UNV ISM-SC	1.02/0.44	F032/700	2800	4	0.98	10,975	9880	122	120	91	0.82
49491	*Banded Pack*	1.02/0.44	F032/XPS	3100	4	0.98	12,150	11,425	122	120	101	0.82
		0.95/0.41	F030/SS	2850	4	0.98	11,170	10,500	114	112	100	0.88
		0.89/0.38	**F028/SS**	**2725**	**4**	**0.98**	**10,680**	**10,040**	**107**	**105**	**102**	**0.93**
		0.83/0.36	F025/SS	2475	4	0.98	9700	9120	99	98	99	1.00
		0.77/0.34	F025/XPS	2200	4	0.99	8710	8190	92	91	96	1.09
		0.53/0.24	F017/XPS	1400	4	1.00	5600	5265	64	64	88	1.56

Banded Pack, (add "-B" to Description). Banded Pack contains 10 pieces each.

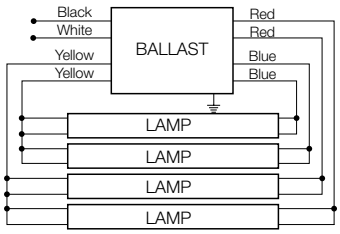
1 System Efficiency is calculated on the lowest Input Power

2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest Input Power value).



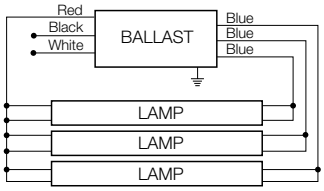
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. Insulate to 600 volts.

QUICKTRONIC 4x32



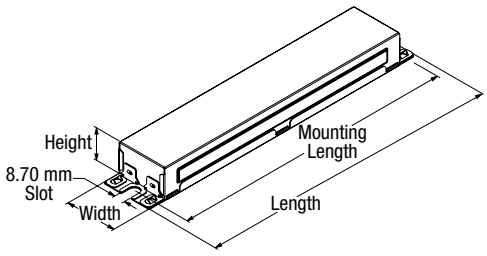
Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only
(no connectors provided)



Item Number — **49248 QHE 2 x 32T8 / UNV ISM - SC** — Case Size
QUICKTRONIC High Efficiency — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Specifications subject to change without notice.

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F17, F25 and F32 (and the SUPERSAVER® & U-Bend equivalent) T8 lamps.

Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.98 - 1.03
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[3]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
NEMA Premium Electronic Ballast Program compliant
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):

- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

3 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

QUICKTRONIC® T8 Instant Start UNV High Ambient Temp. Systems

NEMA Premium

RoHS compliant

Lamp Striation Control
High Ballast Factor

High Efficiency Series

QHE T8 ISH HT

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
1-lamp QHE1x32T8/UNV ISH-HT-SC
2-lamp QHE2x32T8/UNV ISH-HT-SC
3-lamp QHE3x32T8/UNV ISH-HT-SC
Also operates:
FBO32, FBO31, FO30/SS (30W), FBO30/SS (30W), FBO29/SS (29W), FO28/SS (28W) & FO25/SS (25W)

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- 90°C maximum case temp.
- Lamp Striation Control (LSC)
- Over 100 LPW (lumens/watt) with OCTRON SUPERSAVER® lamps
- Lowest power T8 PLUS Systems
- Universal voltage (120-277V)
- 1.18-1.20 ballast factor
- 30-50% Energy savings
- Min. Starting Temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts are ideally suited for:

- Any applications where the highest light output for the lowest amount of power T8 systems are needed for maximum energy savings
- High bay lighting
- Energy Retrofits
- Commercial & Retail
- Hospitality & Institutional
- New Construction

SYLVANIA QUICKTRONIC High Efficiency (QHE) energy-saving electronic T8 ISH (PLUS) ballasts offer several advantages:

- **Same Light, Less Power!**
  - **Up to 6% in energy savings** compared to standard T8 low power electronic ballasts without compromising light output
  - **Maximum energy savings** when compared to F40T12 magnetically ballasted systems
- **High Light Output:**
  - Higher lumens per fixture
  - Fewer fixtures required for same light output
  - Ideal for high bays
- **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
- **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors (BEF) established by the CEE (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***

- **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations. These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.
- High Ambient Temp: specifically designed for those applications where the ballast is subject to higher ambient temperatures, such as high bays in industrial installations.

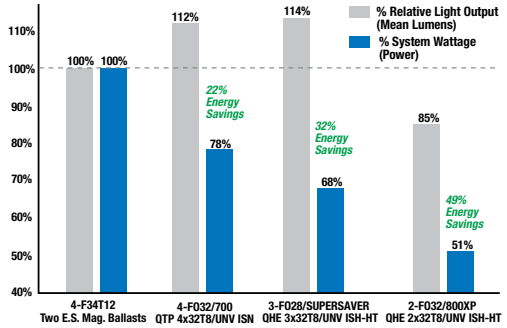
SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
4:F34T12 - Two E.S. Magnetic Ballasts	144	9330	65	7930	Baseline	Baseline
4:FO32T8/700 - QTP4x32T8/UNV-ISN-SC	112	9860	89	8870	112%	22%
3:FO32/XP - QHE3x32T8/UNV-ISH-HT-SC	111/109	10620	96/97	9985	126%	23%
3:FO28/SS - QHE3x32T8/UNV-ISH-HT-SC	98/96	9650	98/101	9070	114%	32%
2:FO32/XP - QHE2x32T8/UNV-ISH-HT-SC	74/73	7200	97/99	6770	85%	49%
2:FO28/SS - QHE2x32T8/UNV-ISH-HT-SC	65/64	6540	101/102	6150	78%	55%



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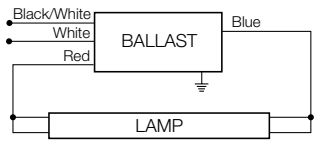
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

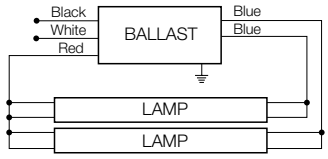
High Efficiency, Lamp Striation Control, High Ambient (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QHE1X32T8/UNV ISH-HT-SC	0.32/0.14	F032/700	2800	1	1.20	3360	3025	38	88	3.16
49496 ✪	*Banded Pack*	0.32/0.14	F032/XP	3000	1	1.20	3600	3385	38	95	3.16
49495 ✪	*10-Pack*	0.30/0.13	F030SS	2850	1	1.20	3420	3215	36	95	3.33
		0.27/0.12	**F028SS**	**2725**	**1**	**1.20**	**3270**	**3075**	**33**	**99**	**3.64**
		0.26/0.12	F025/SS	2475	1	1.20	2970	2790	30	99	4.00
	QHE2X32T8/UNV ISH-HT-SC	0.65/0.28	F032/700	2800	2	1.20	6720	6050	74/73	91/92	1.64
49498 ✪	*Banded Pack*	0.65/0.28	F032/XP	3000	2	1.20	7200	6770	74/73	97/99	1.64
49497 ✪	*10-Pack*	0.59/0.25	F030SS	2850	2	1.20	6840	6430	70/69	98/99	1.74
		0.55/0.23	**F028SS**	**2725**	**2**	**1.20**	**6540**	**6150**	**65/64**	**101/102**	**1.88**
		0.50/0.22	F025/SS	2475	2	1.20	5940	5585	58/57	102/104	2.11
	QHE3X32T8/UNV ISH-HT-SC	0.93/0.40	F032/700	2800	3	1.18	9910	8920	111/109	89/90	1.08
49500 ✪	*Banded Pack*	0.93/0.40	F032/XP	3000	3	1.18	10,620	9985	111/109	96/97	1.08
49499 ✪	*10-Pack*	0.87/0.38	F030SS	2850	3	1.18	10,090	9485	104/103	97/98	1.15
		0.82/0.35	**F028SS**	**2725**	**3**	**1.18**	**9650**	**9070**	**98/96**	**98/101**	**1.23**
		0.72/0.31	F025/SS	2475	3	1.18	8760	8235	87/86	101/102	1.37

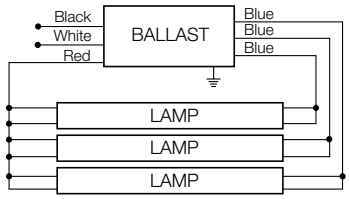
Banded Pack Item Numbers, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*
Note: New 4-Lamp ISH-HT-SCL coming in 2013. Please contact OSRAM SYLVANIA for availability.



QUICKTRONIC 1x32



QUICKTRONIC 2x32

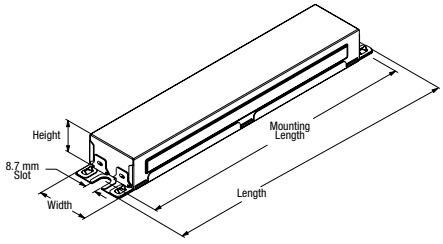


QUICKTRONIC 3x32

Dimensions "-SC" Small Enclosure:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only



Item Number — **49500 QHE 3 x 32T8 / UNV ISH - HT - SC** — Case Size
QUICKTRONIC High Efficiency — High Case Temp. Rating
Number of Lamps — Starting/Ballast Factor
Primary Lamp Wattage — Line Voltage (120-277V)

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F32 (and the SUPERSAVER® & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 1.18-1.20
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
High Ambient Applications:
90°C Max. Case Temp. (3 yr. warranty)
Standard Ambient Applications:
70°C Max. Case Temp. **(5 yr. warranty)**
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
NEMA Premium Electronic Ballast Program compliant
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

NEMA Premium

RoHS compliant

Lamp Striation Control
High Ballast Factor

High Efficiency Series

QHE T8 ISH

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
3-lamp QHE3x32T8/UNV ISH-SC
4-lamp QHE4x32T8/UNV ISH

Also operates:
FB032, FB031, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- Lamp Striation Control (LSC)
- Over 100 LPW (lumens/watt) with OCTRON SUPERSAVER® lamps
- Lowest power T8 PLUS Systems
- Universal voltage (120-277V)
- 1.15-1.18 ballast factor
- 30-50% Energy savings
- Min. Starting Temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts
are ideally suited for:

- Any applications where the highest light output for the lowest amount of power T8 systems are needed for maximum energy savings
- Energy Retrofits
- Commercial & Retail
- Hospitality & Institutional
- New Construction

SYLVANIA QUICKTRONIC High Efficiency (QHE) energy-saving electronic T8 ISH (PLUS) ballasts offer several advantages:

1. **Same Light, Less Power!**
   - **Up to 6% in energy savings** compared to standard T8 low power electronic ballasts without compromising light output
   - **Maximum energy savings** when compared to F40T12 magnetically ballasted systems
2. **High Light Output:**
   - Higher lumens per fixture
   - Fewer fixtures required for same light output
3. **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
4. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors (BEF) established by the CEE (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***

5. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

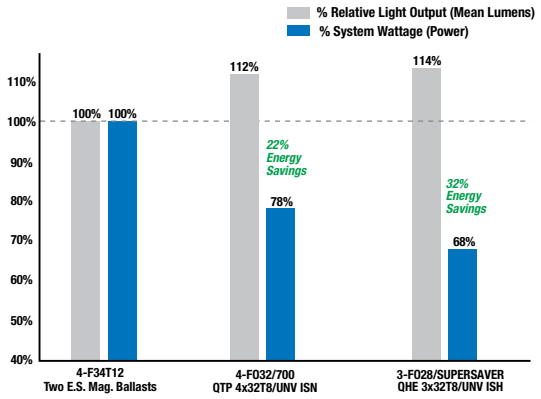
SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%) THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
4:F34T12 - Two E.S. Magnetic Ballasts	144	9330	65	7930	Baseline	Baseline
4:FO32T8/700 - QTP4x32T8/UNV-ISN-SC	112	9860	89	8870	112%	22%
3:FO32/XP - QHE3x32T8/UNV-ISH-SC	111/109	10620	96/97	9985	126%	23%
3:FO28/SS - QHE3x32T8/UNV-ISH-SC	98/96	9650	98/101	9070	114%	32%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

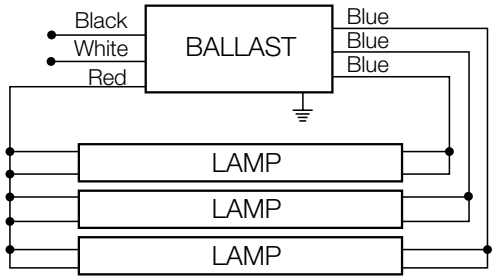
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

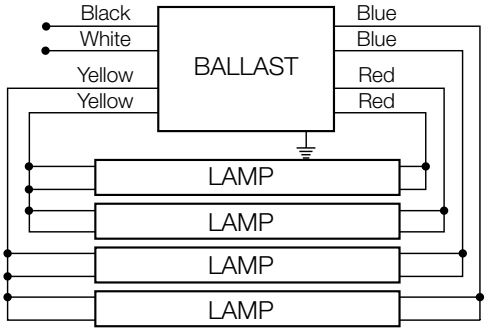
High Efficiency Universal Voltage (120-277V), Lamp Striation Control

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
49875	QHE3X32T8/UNV ISH-SC *10-Pack*	0.93/0.40	F032/700	2800	3	1.18	9910	8920	111/109	89/90	1.08
		0.93/0.40	F032/XP	3000	3	1.18	10,620	9985	111/109	96/97	1.08
		0.87/0.38	F030SS	2850	3	1.18	10,090	9485	104/103	97/98	1.15
		0.82/0.35	**F028SS**	**2725**	**3**	**1.18**	**9650**	**9070**	**98/96**	**98/101**	**1.23**
		0.72/0.31	F025/SS	2475	3	1.18	8760	8235	87/86	101/102	1.37
49922 *49877*	QHE4X32T8/UNV ISH *Banded Pack* *10-Pack*	1.21/0.52	F032/700	2800	4	1.15	12,880	11,590	144/141	89/91	0.82
		1.21/0.52	F032/XP	3000	4	1.15	13,800	12,970	144/141	96/98	0.82
		1.13/0.49	F030SS	2850	4	1.15	13,110	12,325	135/133	97/99	0.86
		1.06/0.46	**F028SS**	**2725**	**4**	**1.15**	**12,535**	**11,785**	**127/124**	**99/101**	**0.93**
		0.94/0.41	F025/SS	2475	4	1.15	11,385	10,700	112/111	102/103	1.04

Banded Pack Item Numbers, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).



QUICKTRONIC 3x32

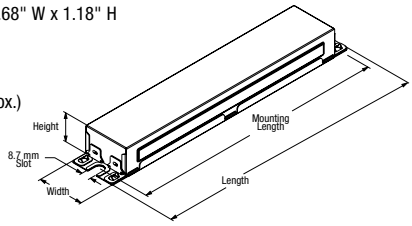


QUICKTRONIC 4x32

Dimensions "-SC" Small Enclosure:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

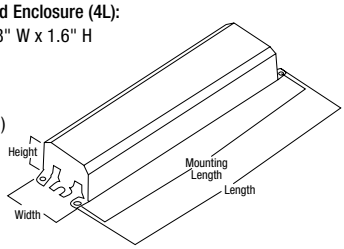
Wiring:
Leads only



Dimensions Standard Enclosure (4L):
Overall: 9.5" L x 2.38" W x 1.6" H
Mounting: 8.90"

Product Weight:
2.8 lbs each (approx.)

Wiring:
Leads only



Item Number — **49921 QHE 3 x 32T8 / UNV ISH - SC** — Case Size
QUICKTRONIC High Efficiency — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F32 (and the SUPERSAVER® & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 1.15-1.18
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
NEMA Premium Electronic Ballast Program compliant
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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www.sylvania.com

Specifications subject to change without notice.

Meet NEMA Premium Electronic Ballast Program Requirements

QUICKTRONIC® High Efficiency T8 Systems

SYLVANIA QUICKTRONIC QHE High Efficiency energy saving electronic T8 ballasts offer several advantages:

- Meet NEMA Premium Electronic Ballast Program Requirements and qualify for utility incentives
- Deliver 30-50% energy savings when compared to F34T12 magnetically ballasted systems
- Offer up to 6% (2-5 Watt) energy savings over standard electronic ballasts
- Achieve over 100 lumens per watt (LPW) with OCTRON® 800 XP® SUPERSAVER® lamps
- Available in:
  - Instant Start and PROStart® (Programmed Rapid Start)
  - Bi-level QUICKSTEP® and POWERSENSE® Dimming models
- Save energy (less power) thus more beneficial to the environment by helping to reduce pollution and greenhouse gas emissions
- Excellent for the most stringent energy codes and sustainability focused projects

Meet Requirements of NEMA Premium Electronic Ballast Program

The NEMA Premium Electronic Ballast Program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors (BEF) established by the Consortium for Energy Efficiency (CEE). For additional information on this program visit: www.cee1.org or www.nema.org

OSRAM SYLVANIA has a variety of high efficiency instant start, programmed rapid start, dimming and bi-level ballasts that comply with the NEMA Premium Electronic Ballast Program. Be sure to look for the “NEMA Premium” mark on our QUICKTRONIC High Efficiency electronic ballast systems. These systems allow you to meet the increasing demands of the energy efficiency lighting requirements.

NEMA Premium

QUICKTRONIC® High Efficiency T8 Instant Start Systems

With UL Type CC, lamp striation control features

Same light, less power. Up to 50% energy savings.*

*Compared to T12 magnetic systems

SYLVANIA QUICKTRONIC High Efficiency, (QHE) Type CC energy saving electronic T8 ballasts offer four major advantages: the same light, with less power, UL Type CC compliant, Lamp Striation Control (LSC), and NEMA Premium Electronic Ballast Program compliant.

Features

- Meets UL Type CC requirements
- LSC (Lamp Striation Control)
  – Minimizes lamp striation
- -20°F (-29°C) minimum starting temperature for OCTRON® lamps
- 60°F (16°C) minimum starting temperature for SUPERSAVER® lamps
- Available ballast factors:
  – Low (0.77)
  – Normal (0.87)
  – **NEW! High (1.15-1.20)**

Applications

- Air-handling troffers
- Commercial cabinets, coolers, display signage
- Suspended indirect luminaires

Market Segments

- Education
- Healthcare
- Hospitality
- Industrial
- Institutional
- Office
- Retail

Benefits

- Suitable for applications where arc reduction circuitry is specified:
  – Commercial cabinets, coolers, displays, etc.
- LSC ideal for energy-saving T8 lamps
- California Title 24 and NEMA Premium Ballast Program compliant
- Meet CEE qualifications for utility rebate programs
- Facilitates energy code (W/ft^2) requirements

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

NEMA Premium

RoHS compliant

Type CC
Lamp Striation Control
Low Ballast Factor

High Efficiency Series

Lamp/Ballast Guide

32W T8 - OCTRON® lamps
1-lamp QHE1x32T8/UNV-ISL-SC-1
2-lamp QHE2x32T8/UNV-ISL-SC-1
3-lamp QHE3x32T8/UNV-ISL-SC-1
4-lamp QHE4x32T8/UNV-ISL-SC-1
Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)
Display lamps:
F013, F014, F021 & F028
Preheat lamps:
F15T8, F25T8 & F30T8
F40T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- **UL Type CC Rated** (Commercial Cabinet)
- **Lamp Striation Control (LSC)**
- Min. Starting Temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for FO40T8 lamps
- Flexible De-Lamp Combinations — see wiring diagrams on next page
- 30-50% Energy savings
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts are ideally suited for:

UL Type CC

- Refrigerated cases*
- Walk-in coolers*
- Commercial cabinets
- Display cases
- Applications that could expose lamp and sockets to vibration and potential movement

*T8 energy saving lamps should not be used in applications below 60°F lamp ambient.

Lamp Striation Control, (LSC)

- General lighting applications where energy saving T8 lamps may striate, particularly for the F25 energy saving T8 lamps.

SYLVANIA QUICKTRONIC High Efficiency, (QHE) Type CC energy saving electronic T8 ballasts offer **four** major advantages:

1. **Same Light, Less Power!**
   - **Up to 6% in energy savings** compared to standard T8 low power electronic ballasts without compromising light output
   - **Maximum energy savings** when compared to F40T12 magnetically ballasted systems
2. **UL Type CC compliant:** ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin to socket connections.
3. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations.

(Please consult lamp manufacturers for additional details.)

4. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***

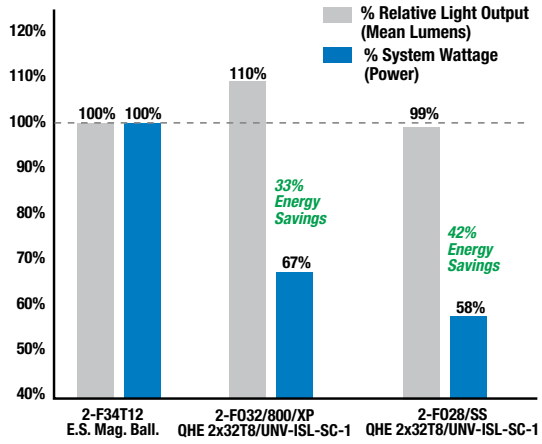
These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
  - Parallel circuity - keeps remaining lamps lit if one or more go out
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

System Type (2 lamp)	Input Power (W)	Initial System Lumens	System Efficacy (lm/W)	Mean System Lumens	Relative Mean Light Output	% Energy Savings
2-F34T12 E.S. Magnetic Ballast	72	4665	65	3965	Baseline	Baseline
2-FO32/800/XP QHE 2x32T8/UNV ISL-SC-1	48	4620	96	4345	110%	33%
2-FO28/SS QHE 2x32T8/UNV ISL-SC-1	42	4195	100	3945	99%	42%



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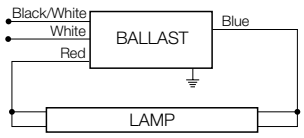
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

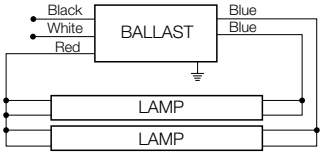
High Efficiency UNV (120-277V) Type CC & Lamp Striation Control

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
49199	QHE1x32T8/UNV ISL-SC-1 *Banded Pack*	0.21/0.093	F032/700	2800	1	0.77	2155	1940	25	86	3.08
		0.21/0.093	F032XP	3000	1	0.77	2310	2170	25	92	3.08
		0.20/0.087	F030SS	2850	1	0.77	2195	2065	24	91	3.21
		0.18/0.081	**F028SS**	**2725**	**1**	**0.77**	**2100**	**1970**	**22**	**95**	**3.52**
		0.16/0.073	F025SS	2475	1	0.77	1905	1790	21	91	3.67
49200	QHE2x32T8/UNV ISL-SC-1 *Banded Pack*	0.40/0.18	F032/700	2800	2	0.77	4310	3880	48	90	1.60
		0.40/0.18	F032XP	3000	2	0.77	4620	4345	48	96	1.60
		0.38/0.17	F030SS	2850	2	0.77	4390	4125	45	98	1.71
		0.35/0.16	**F028SS**	**2725**	**2**	**0.77**	**4195**	**3945**	**42**	**100**	**1.83**
		0.31/0.14	F025SS	2475	2	0.77	3810	3585	38	100	2.03
49367	QHE3x32T8/UNV ISL-SC-1 *Banded Pack*	0.60/0.26	F032/700	2800	3	0.77	6470	5820	73	89	1.05
		0.60/0.26	F032XP	3000	3	0.77	6930	6515	73	95	1.05
		0.56/0.24	F030SS	2850	3	0.77	6585	6190	68	96	1.13
		0.53/0.23	**F028SS**	**2725**	**3**	**0.77**	**6295**	**5915**	**64**	**98**	**1.20**
		0.47/0.20	F025SS	2475	3	0.77	5715	5375	57	100	1.35
49368	QHE4x32T8/UNV ISL-SC-1 *Banded Pack*	0.81/0.35	F032/700	2800	4	0.77	8625	7760	96	90	0.80
		0.81/0.35	F032XP	3000	4	0.77	9240	8685	96	96	0.80
		0.76/0.33	F030SS	2850	4	0.77	8780	8250	90	98	0.86
		0.71/0.31	**F028SS**	**2725**	**4**	**0.77**	**8395**	**7890**	**85**	**99**	**0.91**
		0.63/0.27	F025SS	2475	4	0.77	7625	7165	76	100	1.01

Banded Pack contains 10 pieces, (add "-B" to Description).
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

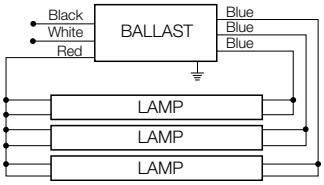


QUICKTRONIC 1x32



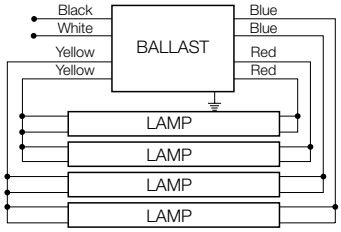
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32



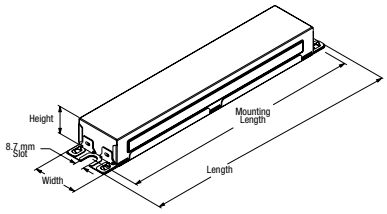
Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. For one lamp application, cap two blue leads, one red and one yellow lead individually. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49200 QHE 2 x 32T8 / UNV ISL - SC - 1** — UL Type CC
QUICKTRONIC High Efficiency — Case Size
Number of Lamps — Starting/Ballast Factor
Primary Lamp Wattage — Line Voltage (120-277V)

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will also operate F17, F25, F32 and the U-Bend equivalent & energy saving T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.77
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: [2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
UL Type CC Rated
CSA Certified
70°C Max Case Temperature
FCC 47 CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI 62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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the system solution®

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QUICKTRONIC® T8 Instant Start Universal Voltage Systems

NEMA Premium

RoHS compliant

Type CC
Lamp Striation Control
Normal Ballast Factor

High Efficiency Series

QHE T8 ISN CC

Lamp/Ballast Guide

32W T8 - OCTRON® lamps
1-lamp QHE1x32T8/UNV-ISN-SC-1
2-lamp QHE2x32T8/UNV-ISN-SC-1
3-lamp QHE3x32T8/UNV-ISN-SC-1
4-lamp QHE4x32T8/UNV-ISN-SC-1

Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)
Display lamps:
F013, F014, F021 & F028
Preheat lamps:
F15T8, F25T8 & F30T8

F40T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- **UL Type CC Rated** (Commercial Cabinet)
- **Lamp Striation Control (LSC)**
- Min. Starting Temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for FO40T8 lamps
- Flexible De-Lamp Combinations — see wiring diagrams on next page
- QHE ballasts meet the most demanding utility rebate standards
- 30-50% energy savings
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts are ideally suited for:

UL Type CC
- Refrigerated cases*
- Walk-in coolers*
- Commercial cabinets
- Display cases
- Applications that could expose lamp and sockets to vibration and potential movement

*T8 energy saving lamps should not be used in applications below 60°F lamp ambient.

Lamp Striation Control (LSC)
- General lighting applications where energy saving T8 lamps may striate, particularly for the F25 energy saving T8 lamps.

SYLVANIA QUICKTRONIC High Efficiency, (QHE) Type CC energy saving electronic T8 ballasts offer **four** major advantages:

1. **Same Light, Less Power!**
   - **Up to 6% in energy savings** compared to standard T8 low power electronic ballasts without compromising light output
   - **Maximum energy savings** when comparedto F40T12 magnetically ballasted systems
2. **UL Type CC compliant:** ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin to socket connections.
3. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations.

(Please consult lamp manufacturers for additional details.)

4. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org*** *or* ***www.nema.org***

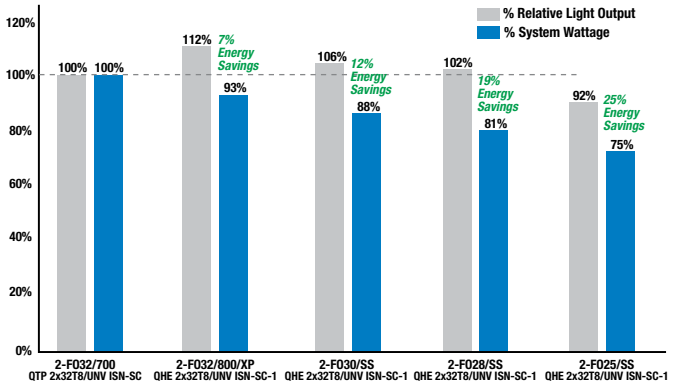
These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
  - Parallel circuity - keeps remaining lamps lit if one or more go out
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

Lamp & Ballast Type	System Watts	Initial LPW	Mean System Lumens @ 8000 Hours	Relative Light Output @ 8000 Hours	% Energy Savings	% Lamp Life @3hrs/ start
2-F032/700 QTP2x32T8/UNV ISN-SC	59	84	4435	Baseline	Baseline	Baseline
2-F032/800/XP QHE2x32T8/UNV ISN-SC-1	55	95	4905	112%	7%	160%
2-F030/SS QHE2x32T8/UNV ISN-SC-1	52	95	4660	106%	12%	160%
2-F028/SS QHE2x32T8/UNV ISN-SC-1	48	99	4455	102%	19%	160%
2-F025/SS QHE2x32T8/UNV ISN-SC-1	44	98	4050	92%	25%	160%



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SPECIFICATION DATA

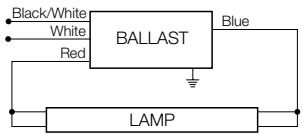
Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency UNV (120-277V) Type CC & Lamp Striation Control

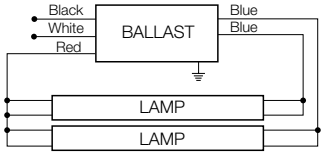
Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Wattage (W)	System Efficacy (lm/W)	BEF[1]
49381	QHE1x32T8/UNV-ISN-SC-1 *Banded Pack*	0.25/0.11	F032/700	2800	1	0.87	2435	2190	28	87	3.11
		0.25/0.11	F032/XP	3000	1	0.87	2610	2455	28	93	3.11
		0.23/0.09	F030/SS	2850	1	0.87	2480	2330	27/26	92/95	3.35
		0.21/0.09	**F028/SS**	**2725**	**1**	**0.87**	**2370**	**2230**	**25/24**	**95/99**	**3.63**
		0.20/0.09	F025/SS	2475	1	0.87	2155	2025	23/22	94/98	3.95
49383	QHE2x32T8/UNV-ISN-SC-1 *Banded Pack*	0.47/0.20	F032/700	2800	2	0.87	4870	4385	55	89	1.58
		0.47/0.20	F032/XP	3000	2	0.87	5220	4905	55	95	1.58
		0.44/0.19	F030/SS	2850	2	0.87	4960	4660	52	95	1.67
		0.40/0.18	**F028/SS**	**2725**	**2**	**0.87**	**4740**	**4455**	**48/47**	**99/101**	**1.85**
		0.37/0.16	F025/SS	2475	2	0.87	4305	4050	44/43	98/100	2.02
49385	QHE3x32T8/UNV-ISN-SC-1 *Banded Pack*	0.68/0.30	F032/700	2800	3	0.87	7305	6575	82/81	89/90	1.07
		0.68/0.30	F032/XP	3000	3	0.87	7830	7360	82/81	96/97	1.07
		0.65/0.28	F030/SS	2850	3	0.87	7440	6990	77/76	97/98	1.14
		0.61/0.26	**F028/SS**	**2725**	**3**	**0.87**	**7110**	**6685**	**72/71**	**99/100**	**1.23**
		0.55/0.23	F025/SS	2475	3	0.87	6460	6070	65/64	99/101	1.36
49387	QHE4x32T8/UNV-ISN-SC-1 *Banded Pack*	0.92/0.39	F032/700	2800	4	0.87	9745	8770	109/107	89/91	0.81
		0.92/0.39	F032/XP	3000	4	0.87	10,440	9815	109/107	96/98	0.81
		0.86/0.37	F030/SS	2850	4	0.87	9920	9325	102	97	0.85
		0.80/0.35	**F028/SS**	**2725**	**4**	**0.87**	**9485**	**8915**	**95/94**	**100/101**	**0.93**
		0.74/0.31	F025/SS	2475	4	0.87	8615	8095	87/86	99/100	1.01

Banded Pack contains 10 pieces, (add "-B" to Description).

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

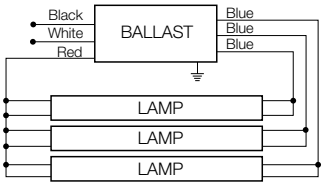


QUICKTRONIC 1x32



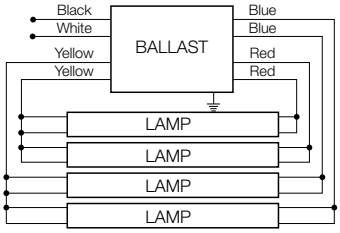
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32



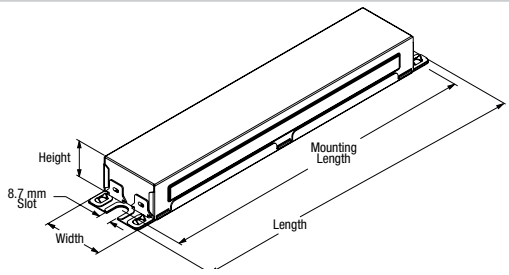
Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. For one lamp application, cap two blue leads, one red and one yellow lead individually. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49383 QHE 2 x 32T8 / UNV ISN - SC - 1** — UL Type CC
QUICKTRONIC High Efficiency — Case Size
Number of Lamps — Starting/Ballast Factor
Primary Lamp Wattage — Line Voltage (120-277V)

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will also operate F17, F25, F32 and the U-Bend equivalent & energy saving T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.87
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
UL Type CC Rated
CSA Certified
70°C Max Case Temperature
FCC 47 CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI 62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start UNV High Ambient Temp. Systems

NEMA Premium

RoHS compliant

Type CC
Lamp Striation Control
High Ballast Factor

High Efficiency Series

QHE T8 ISH CC HT

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
2-lamp QHE2x32T8/UNV-ISH-HT-SC-1
4-lamp QHE4x32T8/UNV-ISH-HT-1

Also operates:
FB032, FB031, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W), F025, FB024, F017 & FB016 lamps

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- **UL Type CC Rated** (Commercial Cabinet)
- **Lamp Striation Control (LSC)**
- Min. Starting Temp:
  - -20°F(-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- 90°C maximum case temperature
- QHE ballasts also meets the most demanding utility rebate standards
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts are ideally suited for:

UL Type CC
- Refrigerated cases*
- Walk-in coolers*
- Commercial cabinets
- Display cases
- Applications that could expose lamp and sockets to vibration and potential movement

Lamp Striation Control, (LSC)
- General lighting applications where energy saving T8 lamps may striate, particularly for the F25 energy saving T8 lamps.

High bay

Warehouses

*T8 energy saving lamps should not be used in applications below 60°F lamp ambient.

SYLVANIA QUICKTRONIC High Efficiency, (QHE) Type CC energy saving electronic T8 ballasts offer **seven** major advantages:

1. **Same Light, Less Power!**
   - **Up to 6% in energy savings** compared to standard efficiency T8 electronic ballasts without compromising light output
   - **50% energy savings** when compared to typical magnetically ballasts 400 metal halide systems
2. **High Light Output:**
   - Higher lumens per fixture
   - Fewer fixtures required for same light output
   - Ideal for high bays
3. **UL Type CC compliant:** ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin to socket connections.
4. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations. (Please consult lamp manufacturers for additional details.)
5. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***
6. **High Ambient Temperature:** specifically designed for those applications where the ballast is subject to higher ambient temperatures, such as high bays in industrial installations.
7. **Available in 2 & 4-lamp models** which allows great flexibility for various light levels in high bay applications to replace HID or T12HO lighting applications.

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

System Information

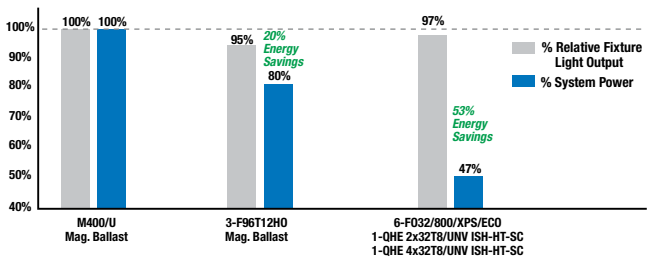
SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
  - Parallel circuity - keeps remaining lamps lit if one or more go out
- Very low harmonic distortion (<10%) THD
- Operate at >42 kHz to reduce potential interference with infrared control systems

Lamp & Ballast Type	Input Power (W)	Initial LPW	Mean Fixture* Lumens	Relative Fixture* Output	% Energy Savings	% Lamp Life @3hrs/ start
M400/U Magnetic Ballast	452	61	17,784	Baseline	Baseline	Baseline
3-F96T12HO Magnetic Ballast	360	58	16,875	95%	20%	60%
6-F032/800/XPS 1-QHE2x32 ISH-HT-SC 1-QHE4x32 ISH-HT-SC	214	100	17,238	97%	53%	200%

*Based on Fixture Efficiency: 76% for M400/U and 85% for T12HO and F032T8 lamps.

High Bay Comparison



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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

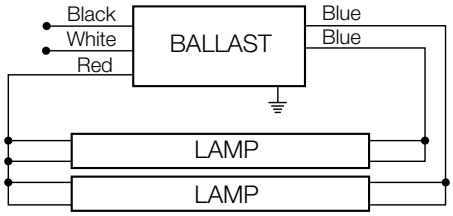
High Efficiency Type CC, Lamp Striation Control, High Ambient (120-277V)

RoHS compliant

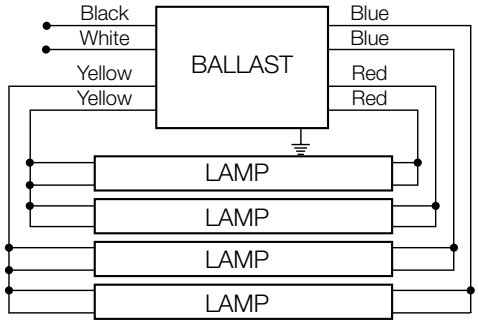
NEMA Premium

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power 120V	Input Power 277V	System[1] Efficacy (lm/W)	BEF[2]
	QHE2x32T8/UNV ISH-HT-SC-1	0.63/0.28	F032/700	2800	2	1.18	6610	5945	74	73	91	1.62
49783 ✪	*Banded Pack*	0.63/0.28	F032/XPS	3100	2	1.18	7315	6875	74	73	100	1.62
		0.59/0.25	F030/SS	2850	2	1.18	6725	6320	70	69	97	1.71
		0.55/0.23	**F028/SS**	**2725**	**2**	**1.18**	**6430**	**6045**	**65**	**64**	**100**	**1.84**
		0.50/0.22	F025/SS	2475	2	1.18	5840	5490	58	57	102	2.07
		0.47/0.21	F025/XPS	2200	2	1.19	5235	4920	57	56	93	2.13
		0.34/0.15	F017/XPS	1400	2	1.20	3360	3160	40	40	84	3.00
	QHE4x32T8/UNV ISH-HT-1	1.22/0.52	F032/700	2800	4	1.15	12,880	11,590	144	141	91	0.82
49787 ✪	*Banded Pack*	1.22/0.52	F032/XPS	3100	4	1.15	14,260	13,405	144	141	101	0.82
		1.13/0.49	F030/SS	2850	4	1.15	13,110	12,325	135	133	99	0.86
		1.06/0.46	**F028/SS**	**2725**	**4**	**1.15**	**12,535**	**11,785**	**127**	**124**	**101**	**0.93**
		0.94/0.41	F025/SS	2475	4	1.15	11,385	10,700	112	111	103	1.04
		0.92/0.40	F025/XPS	2200	4	1.19	10,470	9845	109	109	96	1.09
		0.64/0.29	F017/XPS	1400	4	1.20	6720	6315	77	77	87	1.56

Banded Pack Item Numbers (add "-B" to Description). Banded Pack contains 10 pieces.
1 System Efficacy calculation based on lowest input power value
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest power value).
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*



QUICKTRONIC 2x32

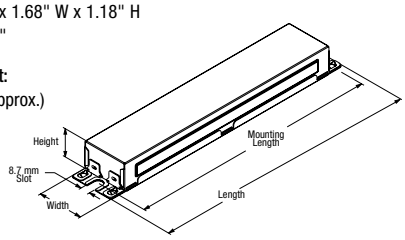


QUICKTRONIC 4x32

Dimensions "-SC" Small Enclosure:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

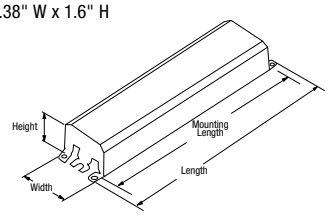
Wiring:
Leads only



Dimensions Standard Enclosure (4L):
Overall: 9.5" L x 2.38" W x 1.6" H
Mounting: 8.90"

Product Weight:
2.8 lbs each (approx.)

Wiring:
Leads only



Item Number — **49783 QHE 2 x 32T8 / UNV ISH - HT - SC - 1**
QUICKTRONIC High Efficiency
Number of Lamps
Primary Lamp Wattage
UL Type CC
Case Size
High Case Temp. Rating
Starting/Ballast Factor
Line Voltage (120-277V)

Specifications subject to change without notice.

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F32, F25, F17 and the U-bend & energy saving equivalent T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications
Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 1.15-1.20
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: [3]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
UL Type CC Rated
CSA Certified
High Ambient Applications:
90°C Max. Case Temp. **(3 yr. warranty)**
Standard Ambient Applications:
70°C Max. Case Temp. **(5 yr. warranty)**
FCC 47 CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
ANSI 62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

3 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

RoHS compliant

Lamp Striation Control
Low Ballast Factor

Professional Series

QTP T8 ISL

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
2-lamp QTP2x32T8/UNV ISL-SC
3-lamp QTP3x32T8/UNV ISL-SC
4-lamp QTP4x32T8/UNV ISL-SC

Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)

F040T8 operation:
1 lamp on 2L ballast, 2 lamps on 3L ballast, 3 lamps on 4L ballast

Key System Features

- Universal voltage (120-277V)
- Small can enclosure size
- 0.78 ballast factor
- 30-40% energy savings
- Lamp Striation Control (LSC)
- Min. Starting Temp:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for F040T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC 32 UNV ballasts
are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Retrofit

Lamp Striation Control (LSC)

- General lighting applications where energy saving T8 lamps may striate, particularly for the F25 energy saving T8 lamps

SYLVANIA QUICKTRONIC Professional Series products are typically used in OEM (original equipment manufacturers) standard fixtures and Trade/Distributor Basic stocked products for replacement.

SYLVANIA QUICKTRONIC SYSTEM 32 UNV ISL (LP) electronic T8 ballasts offer several advantages:

- **Operate OCTRON T8 lamps** with maximum efficacy and high lumen output
- **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
- 30-40% energy savings when compared to F40T12 magnetically ballasted systems
- **Small Can Enclosure for:**
  - low profile fixture design
  - transportation, inventory and ergonomic benefits
- **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations.

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

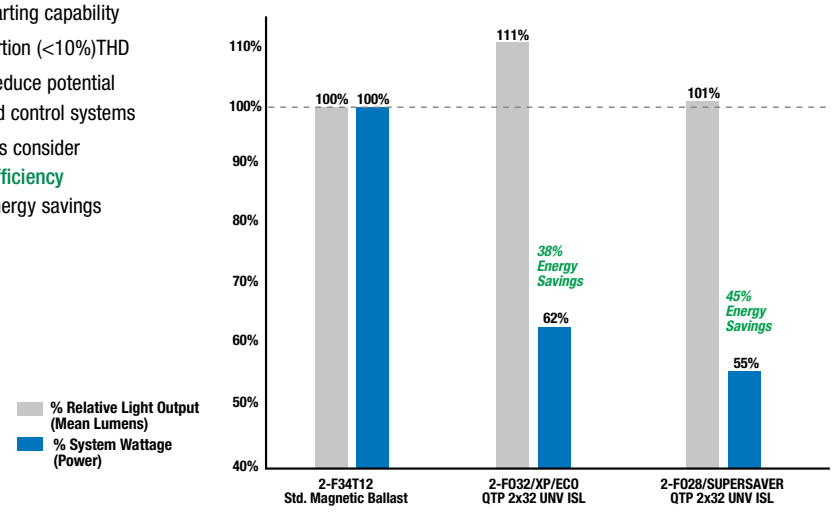
Setting the standard for quality, QUICKTRONIC T8 Instant Start 32 UNV-ISL systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC SYSTEM 32 (QTP) UNV system advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems
- Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
F34T12 - Std. Magnetic Ballast	82	4660	57	3960	Baseline	Baseline
E.S. Magnetic Ballast	72	4660	65	3960	Baseline	12%
FO32/XP - QTP2x32T8/UNV-ISL-SC	51	4680	92	4400	111%	38%
FO28/SS - QTP2x32T8/UNV-ISL-SC	45	4250	94	3995	101%	45%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

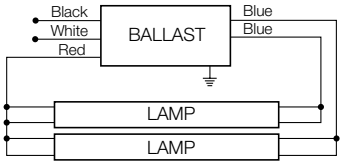
Catalog #	Date	Type
Project	Prepared by	
Comments		

Universal Voltage Lamp Striation Control (120-277V)

RoHS compliant

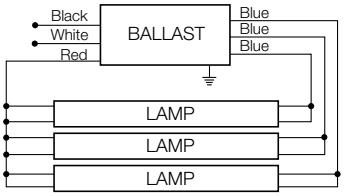
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QTP2x32T8/UNV ISL-SC	0.44/0.19	F032/700	2800	2	0.78	4370	3930	51	86	1.53
49834	*Banded Pack*	0.44/0.19	F032/XP	3000	2	0.78	4680	4400	51	92	1.53
49743	*10-Pack*	0.41/0.18	F030/SS	2850	2	0.78	4445	4180	48	93	1.63
		0.38/0.17	**F028/SS**	**2725**	**2**	**0.78**	**4250**	**3995**	**45**	**94**	**1.73**
		0.34/0.15	F025/SS	2475	2	0.78	3860	3630	40	97	1.95
	QTP3x32T8/UNV ISL-SC	0.65/0.27	F032/700	2800	3	0.78	6550	5895	75	87	1.04
49745	*10-Pack*	0.65/0.27	F032/XP	3000	3	0.78	7020	6600	75	94	1.04
		0.60/0.26	F030/SS	2850	3	0.78	6670	6270	71	94	1.10
		0.57/0.25	**F028/SS**	**2725**	**3**	**0.78**	**6380**	**5995**	**67**	**95**	**1.16**
		0.50/0.21	F025/SS	2475	3	0.78	5790	5445	59	98	1.32
	QTP4x32T8/UNV ISL-SC	0.80/0.35	F032/700	2800	4	0.78	8735	7860	98	89	0.80
49747	*10-Pack*	0.80/0.35	F032/XP	3000	4	0.78	9360	8800	98	96	0.80
		0.78/0.34	F030/SS	2850	4	0.78	8890	8360	92	97	0.85
		0.73/0.32	**F028/SS**	**2725**	**4**	**0.78**	**8500**	**7990**	**86**	**99**	**0.91**
		0.63/0.28	F025/SS	2475	4	0.78	7720	7260	77	100	1.01

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).



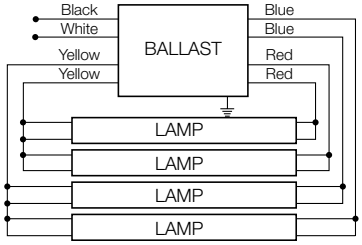
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32



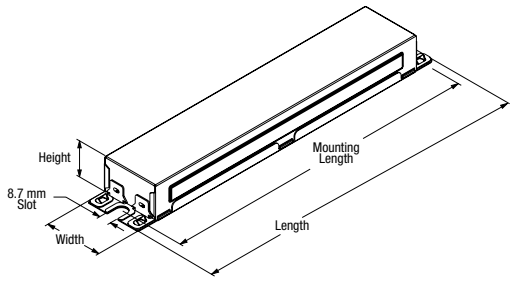
Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. For one lamp application, cap two blue leads, one red and one yellow lead individually. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49745 QTP 3 x 32T8 / UNV ISL - SC** — Case Size
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® 32ISL-SC is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F17, F25 and F32 (and the SUPERSAVER & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.78
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON® T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified (where applicable)
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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(1-800-544-4828)
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the system solution®

Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

RoHS compliant

Lamp Striation Control
Normal Ballast Factor

Professional Series

QTP T8 ISN

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
1-lamp QTP1x32T8/UNV ISN-SC
2-lamp QTP2x32T8/UNV ISN-SC
3-lamp QTP3x32T8/UNV ISN-SC
4-lamp QTP4x32T8/UNV ISN-SC

Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS (30W), FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)

F040T8 operation:
1 lamp on 2L ballast, 2 lamps on 3L ballast, 3 lamps on 4L ballast

Key System Features

- Universal voltage (120-277V)
- Small can enclosure size
- Lamp Striation Control (LSC)
- 0.88 ballast factor
- 30-40% energy savings
- Min. Starting Temp:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for FO40T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC 32 UNV ballasts
are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Retrofit

SYLVANIA QUICKTRONIC Professional Series products are typically used in OEM (original equipment manufacturers) standard fixtures and Trade/Distributor Basic stocked products for replacement.

SYLVANIA QUICKTRONIC SYSTEM 32 UNV electronic T8 ballasts offer several advantages:

1. **Operate OCTRON T8 lamps** with maximum efficacy and high lumen output
   - **30-40% energy savings** when compared to F40T12 magnetically ballasted systems (see table below)
2. **Parallel Circuitry:** keeps remaining lamps lit if one or more go out
3. **Small Can Enclosure for:**
   - low profile fixture design
   - transportation, inventory and ergonomic benefits

4. **Lamp Striation Control (LSC):**
   T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

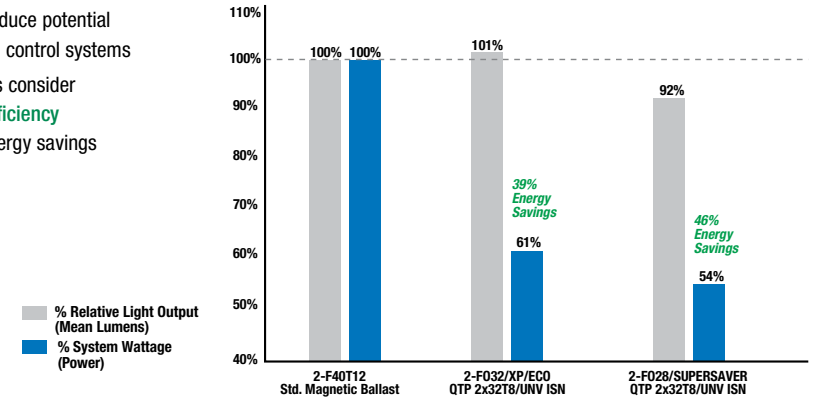
Setting the standard for quality, QUICKTRONIC T8 Instant Start 32 UNV-ISN systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC SYSTEM 32 (QTP) UNV system advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems
- Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
F40T12 - Std. Magnetic Ballast	96	5795	60	4925	Baseline	Baseline
E.S. Magnetic Ballast	86	5795	67	4925	Baseline	10%
F34T12 - Std. Magnetic Ballast	82	4665	58	3965	81%	15%
E.S. Magnetic Ballast	72	4665	66	3965	81%	25%
FO32/XP - QTP2x32T8/UNV-ISN-SC	59	5280	89	4965	101%	39%
FO28/SS - QTP2x32T8/UNV-ISN-SC	52	4795	92	4510	92%	46%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

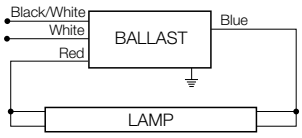
Catalog #	Date	Type
Project	Prepared by	
Comments		

Universal Voltage (120-277V), Lamp Striation Control

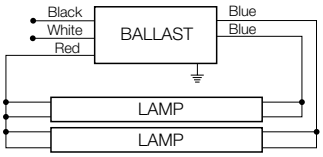
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QTP1x32T8/UNV ISN-SC	0.26/0.11	F032/700	2800	1	0.88	2465	2220	30	82	2.93
49905	*Banded Pack*	0.26/0.11	F032/XP	3000	1	0.88	2640	2480	30	88	2.93
49941	*10-Pack*	0.25/0.11	F030/SS	2850	1	0.88	2510	2360	28	90	3.14
49942	*Pallet Pack*	**0.23/0.10**	**F028/SS**	**2725**	**1**	**0.88**	**2400**	**2255**	**26**	**91**	**3.38**
		0.20/0.09	F025/SS	2475	1	0.88	2180	2050	23	95	3.83
	QTP2x32T8/UNV ISN-SC	0.50/0.21	F032/700	2800	2	0.88	4930	4435	59	84	1.49
49906	*Banded Pack*	0.50/0.21	F032/XP	3000	2	0.88	5280	4965	59	89	1.49
49943	*10-Pack*	0.46/0.20	F030/SS	2850	2	0.88	5015	4715	55	91	1.60
49944	*Pallet Pack*	**0.43/0.19**	**F028/SS**	**2725**	**2**	**0.88**	**4795**	**4510**	**52**	**92**	**1.69**
		0.39/0.16	F025/SS	2475	2	0.88	4355	4095	46	95	1.91
	QTP3x32T8/UNV ISN-SC	0.72/0.31	F032/700	2800	3	0.88	7390	6650	86	86	1.02
49907	*Banded Pack*	0.72/0.31	F032/XP	3000	3	0.88	7920	7445	86	92	1.02
49945	*10-Pack*	0.69/0.30	F030/SS	2850	3	0.88	7525	7075	81	93	1.09
49946	*Pallet Pack*	**0.65/0.28**	**F028/SS**	**2725**	**3**	**0.88**	**7195**	**6760**	**76**	**95**	**1.16**
		0.58/0.25	F025/SS	2475	3	0.88	6535	6140	67	98	1.31
	QTP4x32T8/UNV ISN-SC	0.95/0.40	F032/700	2800	4	0.88	9855	8870	112	88	0.79
49908	*Banded Pack*	0.95/0.40	F032/XP	3000	4	0.88	10,560	9925	112	94	0.79
49947	*10-Pack*	0.91/0.39	F030/SS	2850	4	0.88	10,030	9430	105	96	0.84
49948	*Pallet Pack*	**0.85/0.37**	**F028/SS**	**2725**	**4**	**0.88**	**9590**	**9015**	**98**	**98**	**0.90**
		0.74/0.31	F025/SS	2475	4	0.88	8710	8190	88	99	1.00

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each. Pallet Pack contains 840 pieces, (add "-PAL" to Description).
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor X 100) divided by Input Power (Note: calculation based on lowest wattage value).

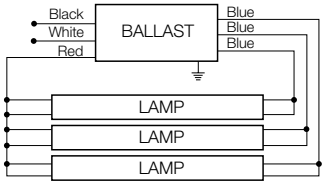


QUICKTRONIC 1x32



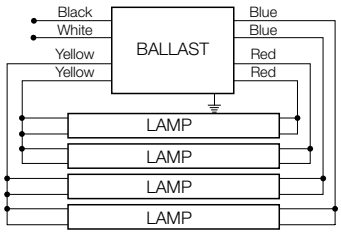
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. For one lamp application, cap any two blue leads. Insulate to 600 volts.

QUICKTRONIC 3x32



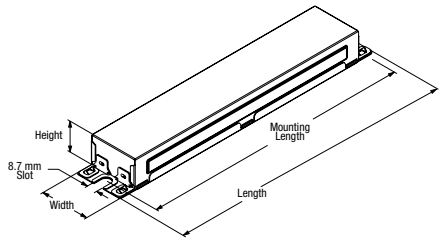
Note: For three lamp application, cap any unused blue lead. For two lamp application, cap two blue leads individually. For one lamp application, cap two blue leads, one red and one yellow lead individually. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49907 QTP 3 x 32T8 / UNV ISN - SC** — Case Size
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® 32ISN-SC is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F17, F25 and F32 (and the SUPERSAVER & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.88
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON® T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
75°C Max Case Temp. (4-lamp model)
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):

- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start Universal Voltage Systems

RoHS compliant

High Ballast Factor

Professional Series

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
2-lamp QTP2x32T8/UNV ISH-SC
3-lamp QTP3x32T8/UNV ISH-SC

Also operates:
FBO32, FBO31, FO30/SS (30W), FBO30/SS (30W), FBO29/SS (29W), FO28/SS (28W) & FO25/SS (25W)

Key System Features

- Universal voltage (120-277V)
- Small can enclosure size
- 1.18 - 1.20 high ballast factor
- 30-40% Energy savings
- Min. Starting Temp:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- <10% THD
- Full lamp life
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC 32 UNV ballasts
are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Retrofit

SYLVANIA QUICKTRONIC Professional Series products are typically used in OEM (original equipment manufacturers) standard fixtures and Trade/Distributor Basic stocked products for replacement.

SYLVANIA QUICKTRONIC SYSTEM 32 UNV ISH electronic T8 ballasts offer several advantages:

1. **Operate OCTRON T8 lamps** with maximum efficacy and high lumen output
   - **30-40% energy savings** when compared to F40T12 magnetically ballasted systems
2. **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
3. **Small Can Enclosure for:**
   - low profile fixture design
   - transportation, inventory and ergonomic benefits

These ballasts are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

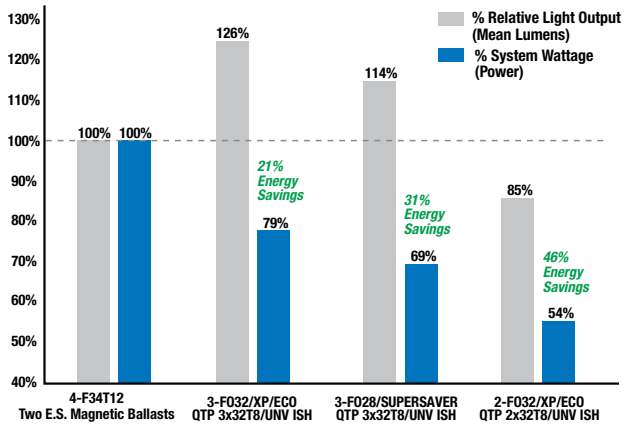
Setting the standard for quality, QUICKTRONIC T8 Instant Start 32 UNV-ISH systems are also covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC SYSTEM 32 (QTP) UNV advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems
- Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Relative Mean Light Output	Energy Savings
4:F34T12 - Two E.S. Magnetic Ballasts	144	9330	65	7930	Baseline	Baseline
4:FO32T8/700 - QTP4x32T8/UNV-ISN-SC	112	9860	88	8870	112%	22%
3:FO32/XP - QTP3x32T8/UNV-ISH-SC	114/111	10620	93/96	9985	126%	21%
3:FO28/SS - QTP3x32T8/UNV-ISH-SC	100/98	9645	97/98	9070	114%	31%
2:FO32/XP - QTP2x32T8/UNV-ISH-SC	78	7200	92	6770	85%	46%
2:FO28/SS - QTP2x32T8/UNV-ISH-SC	69	6540	95	6150	78%	52%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

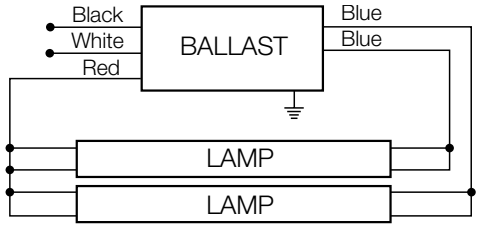
Catalog #	Date	Type
Project	Prepared by	
Comments		

Universal Voltage (120-277V)

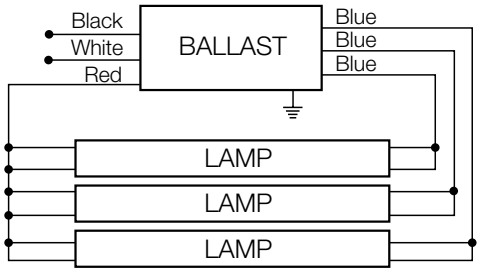
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
49843	QTP2x32T8/UNV ISH-SC 10-Pack	0.65/0.28	F032/700	2800	2	1.20	6720	6050	78	86	1.54
		0.65/0.28	F032/XP	3000	2	1.20	7200	6770	78	92	1.54
		0.61/0.26	F030/SS	2850	2	1.20	6840	6430	73	93	1.64
		0.57/0.25	**F028/SS**	**2725**	**2**	**1.20**	**6540**	**6150**	**69**	**95**	**1.74**
		0.51/0.22	F025/SS	2475	2	1.20	5940	5585	61	97	1.97
49845	QTP3x32T8/UNV ISH-SC 10-Pack	0.95/0.41	F032/700	2800	3	1.18	9910	8920	114/111	87/89	1.06
		0.95/0.41	F032/XP	3000	3	1.18	10620	9985	114/111	93/96	1.06
		0.89/0.39	F030/SS	2850	3	1.18	10090	9485	107/104	94/97	1.13
		0.84/0.36	**F028/SS**	**2725**	**3**	**1.18**	**9645**	**9070**	**100/98**	**97/98**	**1.20**
		0.75/0.32	F025/SS	2475	3	1.18	8760	8235	89/88	98/99	1.34

Banded Pack, (add "-B" to Description). 10-Pack contain 10 pieces each.
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor X 100) divided by Input Power (Note: calculation based on lowest wattage value).



QUICKTRONIC 2x32

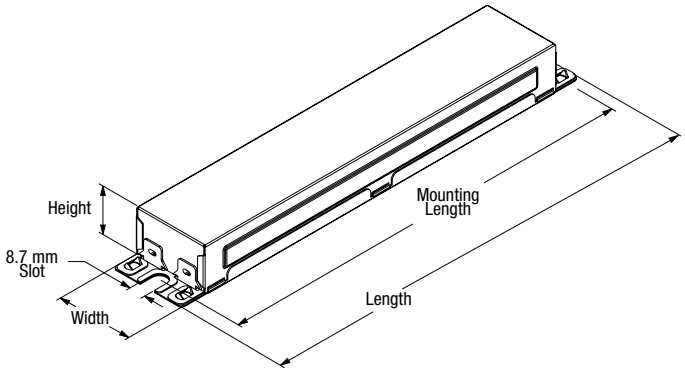


QUICKTRONIC 3x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49845 QTP 3 x 32T8 / UNV ISH - SC**
QUICKTRONIC PROFESSIONAL
Number of Lamps
Case Size
Starting/Ballast Factor
Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® 32ISH-SC is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QTP Instant Start ballasts will operate F32 (and the SUPERSAVER & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 1.18 - 1.20
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON® T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® PROStart® Xtreme Systems

Ideal for occupancy sensor applications

EXCLUSIVE

PROStart (PS): A programmed rapid start method of starting fluorescent lamps where cathode heat is applied prior to lamp ignition, then removed or reduced once the lamp has ignited (except dimming models which optimize cathode heat). PROStart ballasts maximize the number of lamp starting cycles while maintaining energy efficiency. This is the preferred mode of lamp starting for applications with occupancy sensors and several on/off cycles per day. Additionally, the lamps have the capability to start at temperatures down to -20°F (starting temperatures may vary depending on ballast/lamp types and applications, see actual specifications for details).

Features

- Custom integrated chip (IC) technology
  – Matched with SYLVANIA XPS®, XP®/XL or SUPERSAVER® T8 lamps
- PROStart programmed rapid start
  – For frequent switching
  – Longest lamp life
- NEMA Premium Ballast Program compliant
- Available ballast factors:
  – **Xtreme low (0.71 - 0.72)**
  – **Normal (0.88)**
  – **High (1.15 - 1.18)**

Applications

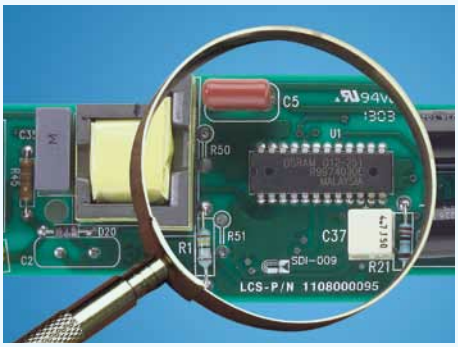
- Ideal for occupancy sensors
- Recessed troffers
- Suspended indirect luminaires

Benefits

- Delivers maximum energy savings, longer lamp life
  – Up to 100,000 lamp starts
  – Minimizes maintenance costs
- Exclusive lamp warranty for occupancy sensor applications
- Facilitates energy code (W/ft^2) compliance

Market Segments

- Education
- Healthcare
- Industrial
- Institutional
- Office
- Retail



the system solution®

QUICKTRONIC® High Efficiency PROStart® T8 Parallel Systems

Universal voltage (120-277V) models

SYLVANIA QUICKTRONIC High Efficiency PROStart PSX programmed rapid start electronic T8 ballast family is the lowest power T8 OCTRON® system available when combined with OCTRON SUPER-SAVER® high performance T8 lamps. The Parallel Circuitry operates to keep remaining lamps lit if one or more go out.

*Compared to T12 magnetic systems

Features

- Available ballast factors:
  - **– Xtreme low (0.71 - 0.72)**
  - **– Normal (0.88)**
  - **– High (1.15 - 1.18)**
- **Parallel operation**
- Meets UL Type CC requirements
- LSC (Lamp Striation Control) ideal for energy-saving T8 lamps
- Operates OCTRON® FO32, FO25, FO17 and SUPERSAVER® lamps
- -20°F (-29°C) minimum start temperature for OCTRON lamps
- 60°F (16°C) minimum start temperature for SUPERSAVER lamps
- Industry Exclusive – two, three and four-lamp models PSH (90°C maximum case temperature)
- One, two, three and four-lamp PSN (70ºC maximum case temperature)

Applications

High Ballast Factor (PSH)

- Gymnasiums
- High bay
- Signs
- Warehouses

Normal & Xtreme Low Ballast Factor (PSN, PSX)

- Office
- Retrofits
- Schools

the system solution®

QUICKTRONIC® PROStart® T8 Parallel Operation Systems

Type CC, Lamp Striation Control
Parallel Operation
Xtreme Low Ballast Factor

High Efficiency Series

QHE T8 PSX

Lamp / Ballast Guide

Primary Systems
32W T8 - OCTRON®
1-lamp QHE 1x32T8/UNV PSX-MC
2-lamp QHE 2x32T8/UNV PSX-MC
3-lamp QHE 3x32T8/UNV PSX-SC
4-lamp QHE 4x32T8/UNV PSX-SC

Also operates:
FO30/SS, FO28/SS, FO25/SS, FBO32, FBO31, FBO30/SS, FBO29/SS, FO25, FO17, FBO24 & FBO16

F40T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems
- NEMA Premium Electronic Ballast Program compliant
- PROStart programmed rapid start
- Parallel operation (one lamp out, remaining lamps stay lit)
- Xtreme Low Ballast Factor: 0.71- 0.72
- UL Type CC
- LSC (Lamp Striation Control)
- Universal input voltage (120-277V)
- Minimum starting temperature:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for energy saving T8 lamps
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart Ballast is ideally suited for:

- Any applications where the lowest power systems are needed for maximum energy savings
- Energy retrofits
- Occupancy sensors
- Building control systems

SYLVANIA QUICKTRONIC High Efficiency PROStart PSX programmed rapid start electronic T8 ballast family offers several advantages:

- **Lowest Power** T8 OCTRON system available when combined with OCTRON SUPERSAVER high performance T8 lamps.
- **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
- **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions, the lamps may striate. LSC circuitry will minimize or eliminate this condition in most applications. (Please consult lamp manufacturers for additional details.)
- **Micro-Can Enclosure:** the 1 & 2-lamp models are in the micro-can enclosure. This allows the ballast to fit in very small profile fixtures where standard can T8 ballasts are too large.

- **NEMA Premium Electronic Ballast Program and RoHS compliant:** These ballasts feature lead-free solder and manufacturing. The NEMA Premium program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional details on this program go to: ***www.cee1.org or www.nema.org***

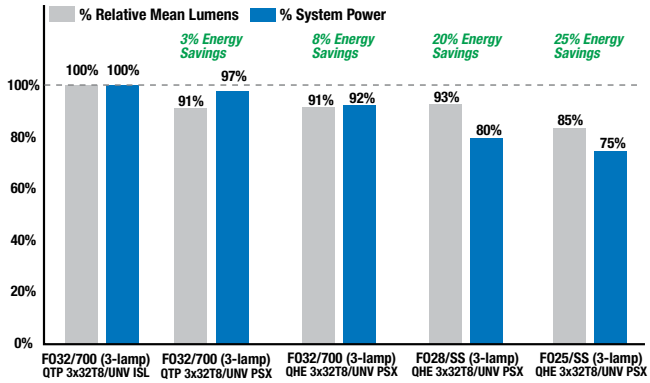
System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - High System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications with OCTRON SUPERSAVER lamps.
- Operate at >42 kHz to reduce potential interference with infrared control systems
- UL Type CC compliant: ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin-to-socket connections
- These ballasts are also RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process

System Type	Input System Power (W)	Initial System Lumens	Mean System Lumens	Initial System Efficacy (lm/W)	Mean Relative Lumens (%)	Energy Savings (%)
FO32/700 (3-lamps) - QTP3x32T8/UNV ISL	75	6550	5895	87	Baseline	Baseline
FO32/700 (3-lamps) - QTP3x32T8/UNV PSX	73	5965	5370	82	91%	3%
FO32/700 (3-lamps) - QHE3x32T8/UNV PSX	69	5965	5370	86	91%	8%
FO28/SS (3-lamps) - QHE3x32T8/UNV PSX	60	5805	5455	97	93%	20%
FO25/SS (3-lamps) - QHE3x32T8/UNV PSX	56	5345	5025	95	85%	25%

**Fixture efficiency not considered.* **120V input voltage.*



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

SUPERSAVER Xtreme Systems Universal Voltage (120-277V)

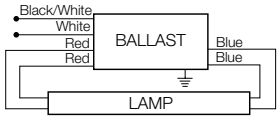
RoHS compliant

NEMA Premium

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120	277	System[3] Efficacy (lm/W)	BEF[2]
51423 ❂	QHE1x32T8/UNV PSX-MC *Banded 10-Pack*	0.21/0.09	F032/700	2800	1	0.72	2000	1800	25	24	82	2.94
		0.21/0.09	F032XPS	3100	1	0.72	2230	2100	25	24	93	3.00
		0.21/0.09	F032XP/XL	2950	1	0.72	2110	1985	25	24	88	2.97
		0.20/0.09	F030/SS	2850	1	0.72	2050	1930	23	23	88	3.10
		0.18/0.08	**F028/SS**	**2725**	**1**	**0.72**	**1960**	**1845**	**21**	**21**	**93**	**3.41**
		0.16/0.07	F025/SS	2475	1	0.72	1780	1675	20	19	92	3.71
51428 ❂	QHE2x32T8/UNV PSX-MC *Banded 10-Pack*	0.40/0.17	F032/700	2800	2	0.72	4030	3630	48	47	86	1.53
		0.40/0.17	F032XPS	3100	2	0.72	4465	4195	48	47	94	1.53
		0.40/0.17	F032XP/XL	2950	2	0.72	4250	3995	48	47	90	1.53
		0.37/0.16	F030/SS	2850	2	0.72	4105	3860	45	43	95	1.66
		0.34/0.15	**F028/SS**	**2725**	**2**	**0.72**	**3925**	**3690**	**41**	**40**	**98**	**1.80**
		0.31/0.14	F025/SS	2475	2	0.72	3565	3350	38	37	96	1.94
51433 ❂	QHE3x32T8/UNV PSX-SC *Banded 10-Pack*	0.58/0.25	F032/700	2800	3	0.71	5965	5370	69	67	89	1.06
		0.58/0.25	F032XPS	3100	3	0.71	6605	6205	69	67	99	1.06
		0.58/0.25	F032XP/XL	2950	3	0.71	6285	5905	69	67	94	1.06
		0.54/0.23	F030/SS	2850	3	0.71	6070	5705	65	63	97	1.13
		0.50/0.22	**F028/SS**	**2725**	**3**	**0.71**	**5805**	**5455**	**60**	**59**	**98**	**1.20**
		0.47/0.20	F025/SS	2475	3	0.71	5345	5025	56	55	96	1.28
51438 ❂	QHE4x32T8/UNV PSX-SC *Banded 10-Pack*	0.76/0.32	F032/700	2800	4	0.71	7920	7125	90	89	89	0.79
		0.76/0.32	F032XPS	3100	4	0.71	8770	8240	90	89	99	0.79
		0.76/0.32	F032XP/XL	2950	4	0.71	8345	7845	90	89	94	0.79
		0.72/0.31	F030/SS	2850	4	0.71	8065	7580	86	84	96	0.84
		0.66/0.28	**F028/SS**	**2725**	**4**	**0.71**	**7745**	**7280**	**79**	**77**	**100**	**0.92**
		0.61/0.26	F025/SS	2475	4	0.71	7060	6640	73	71	99	1.00

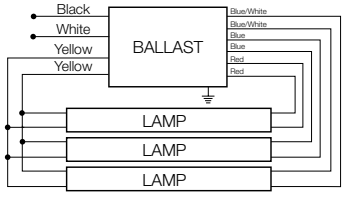
1 See QUICKSYSTEMS for delamped data. 2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value. ❂ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

1 lamp



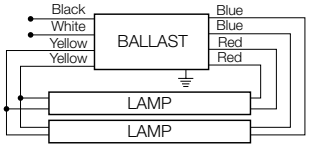
Installation Notes Lamp wiring for 3 & 4 lamp QHE PSX "parallel" models vary from QTP series models. Be sure to wire ballasts per label/ schematics shown on this bulletin.

3 lamp



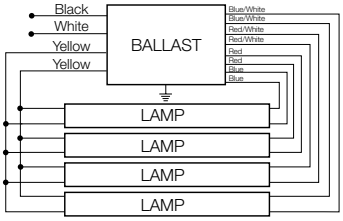
Note: For 2L application, individually cap both RED leads.
For 1L operation, individually cap both RED and BLUE leads.
Insulate to 600 volts.

2 lamp



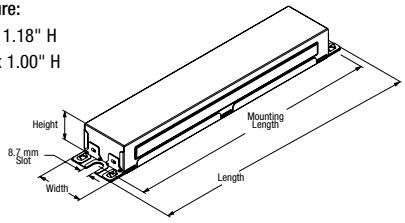
Note: For 1L application, individually cap both RED leads.
Insulate to 600 volts.

4 lamp



Note: For 3L application, individually cap both RED leads.
For 2L application, individually cap both RED and BLUE leads.
For 1L application, individually cap both RED, BLUE and Red/White leads.
For lamps approved for 1L operation, see QUICKSYSTEMS.
Insulate to 600 volts.

Dimensions "MC & SC" Enclosure:
"SC" Overall: 9.5" L x 1.68" W x 1.18" H
"MC" Overall: 9.5" L x 1.30" W x 1.00" H
Mounting: 8.90"



Product Weight:
QHE1xPSX & QHE2xPSX: 0.66lbs (approx.)
QHE2xPSX & QHE3xPSX: 1.27lbs each (approx.)

Wiring:
Leads only (no connectors provided)

Item Number — **51428 QHE 2 x 32T8 / UNV PSX - MC** — Enclosure Type (MC or SC)
QUICKTRONIC High Efficiency — Starting Type/Ballast Factor - PROStart/Xtreme Low BF
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Specifications subject to change without notice.

Xtreme Low Ballast Factor

NEW

T8 PROStart®

High Efficiency

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE PROStart ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE PROStart ballasts will also operate F017 & F025, SUPERSAVER & U-Bend equivalent T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F32T8

Starting Method: Programmed Rapid Start
Ballast Factor: 0.71 - 0.72
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[4]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
UL Type CC Rated
Lamp Striation Control (LSC)
CSA Certified (where applicable)
70°C Max. Case Temperature
FCC 47 CFR Part 18 Non-Consumer Class A Sound Rating
NEMA Premium Electronic Ballast Program compliant
RoHS compliant[5]
ANSI C62.41 Cat. A Transient Protection
GFCI & emergency ballast compatible
Remote Mounting (Max wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

4 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

5 Complies with European Union Restriction of Hazardous Substances Directive

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QUICKTRONIC® PROStart® T8 Parallel Operation Systems

High Efficiency Series

Type CC, Lamp Striation Control
Parallel Operation
Normal Ballast Factor

QHE T8 PSN

Lamp / Ballast Guide

Primary Systems
32W T8 - OCTRON® lamps
1-lamp QHE 1x32T8/UNV PSN-MC
2-lamp QHE 2x32T8/UNV PSN-MC
3-lamp QHE 3x32T8/UNV PSN-SC
4-lamp QHE 4x32T8/UNV PSN-SC

Also operates:
FO30/SS, FO28/SS, FO25/SS, FBO32, FBO31, FBO30/SS, FBO29/SS, FO25, FO17, FBO24 & FBO16

F40T8 operation:
1 lamp on 2L ballast; 2 lamps on 3L ballast; 3 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- PROStart programmed rapid start
  - Extends lamp life
- Parallel operation (one lamp out, remaining lamps stay lit)
- Normal ballast factor: 0.88
- UL Type CC
- LSC (Lamp Striation Control)
- Universal input voltage (120-277V)
- Minimum starting temperature:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for energy saving T8 lamps
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T8 ballasts
are ideally suited for:

- Any application where extended lamp life is required to reduce maintenance costs
- Occupancy sensors
- Energy retrofits
- Building control systems

SYLVANIA QUICKTRONIC High Efficiency PROStart programmed rapid start electronic T8 ballast family offers several major advantages:

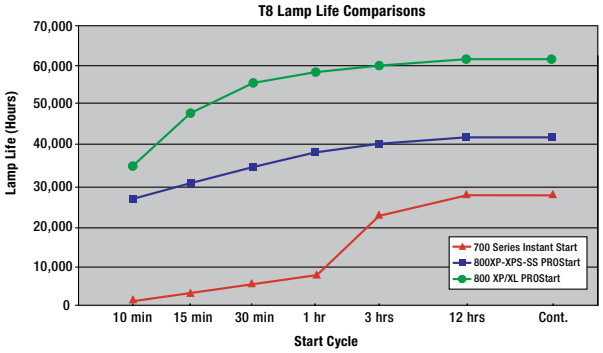
- High Efficiency: Operate 32W linear and U-bend equivalent T8 lamps, saving >2 watts as compared to standard T8 programmed rapid start ballasts.
- **Parallel Circuitry:** keeps remaining lamps lit if one or more go out.
- **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions, the lamps may striate. LSC circuitry will minimize or eliminate this condition in most applications. (Please consult lamp manufacturers for additional details.)
- **Micro-Can Enclosure:** the 1 & 2-lamp models are in the micro-can enclosure. This allows the ballast to fit in very small profile fixtures where standard can T8 ballasts are too large.
- **NEMA Premium Electronic Ballast Program and RoHS compliant:** These ballasts feature lead-free solder, printed circuit boards and manufacturing. The NEMA Premium Electronic Ballast Program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For addtional details on this program go to: ***www.cee1.org or www.nema.org***
- **Longer lamp life:** PROStart technology extends lamp life compared to instant start models for long or short switching cycles, which is ideal for reducing maitenance costs or for saving energy when using occupancy sensors.
- **UL Type CC compliant:** ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin-to-socket connections.
- **QUICK 60+® System Warranty:** Setting the standard for quality the system is covered by the first and most comprehensive warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilize Programmed Rapid Start operation for
  - Longer lamp life
  - Over 100,000 switching cycles for occupancy sensor and building control systems
- Operate at >42 kHz to reduce potential interference with infrared control systems

Lamp & Ballast Type	Input Power (W)	Initial Lumens	Initial LPW	Mean System Lumens	Relative Mean Light Output	% Energy Savings
3-FO32/700 QTP3x32T8/UNV ISN-SC	86	7390	86	6655	100%	0%
3-FO32/800/XP QHE3x32T8/UNV PSN-SC	82	7920	97	7445	112%	5%
3-FO28/SS QHE3x32T8/UNV PSN-SC	72	7195	100	6760	102%	16%
3-FO25/SS QHE3x32T8/UNV PSN-SC	66	6535	99	6140	92%	23%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

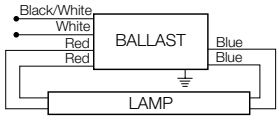
High Efficiency Parallel Wired, Type CC, Lamp Striation Control (120-277V)

RoHS compliant · NEMA Premium

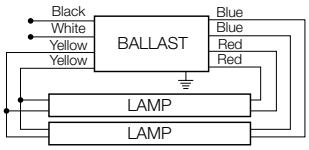
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy[1] (lm/W)	BEF[2]
	QHE1x32T8/UNV PSN-MC	0.26/0.11	F032/700	2800	1	0.88	2465	2220	30	29	85	3.03
51397 ✪	*Banded 10-Pack*	0.26/0.11	F032XPS	3100	1	0.88	2730	2565	30	29	94	3.03
51398 ✪	*Pallet Pack*	0.26/0.11	F032XP/XL	2950	1	0.88	2595	2440	30	29	90	3.03
		0.24/0.10	F030/SS	2850	1	0.88	2510	2360	28	26	97	3.38
		0.22/0.10	**F028/SS**	**2725**	**1**	**0.88**	**2400**	**2255**	**26**	**25**	**96**	**3.52**
		0.20/0.09	F025/SS	2475	1	0.88	2180	2045	23	23	95	3.83
	QHE2x32T8/UNV PSN-MC	0.48/0.21	F032/700	2800	2	0.88	4930	4435	57	55	90	1.60
51408 ✪	*Banded 10-Pack*	0.48/0.21	F032XPS	3100	2	0.88	5455	5130	57	55	99	1.60
51409 ✪	*Pallet Pack*	0.48/0.21	F032XP/XL	2950	2	0.88	5190	5523	57	55	94	3.03
		0.46/0.20	F030/SS	2850	2	0.88	5015	4715	55	53	95	1.66
		0.43/0.18	**F028/SS**	**2725**	**2**	**0.88**	**4795**	**4510**	**51**	**50**	**96**	**1.76**
		0.38/0.16	F025/SS	2475	2	0.88	4355	4095	45	44	99	2.00
	QHE3x32T8/UNV PSN-SC	0.69/0.29	F032/700	2800	3	0.88	7390	6655	83	82	90	1.07
51413 ✪	*Banded 10-Pack*	0.69/0.29	F032XPS	3100	3	0.88	8185	7695	83	82	100	1.07
51414 ✪	*Pallet Pack*	0.69/0.29	F032XP/XL	2950	3	0.88	7790	7320	83	82	95	3.03
		0.68/0.28	F030/SS	2850	3	0.88	7525	7075	80	78	96	1.13
		0.62/0.27	**F028/SS**	**2725**	**3**	**0.88**	**7195**	**6760**	**73**	**72**	**100**	**1.22**
		0.56/0.24	F025/SS	2475	3	0.88	6535	6140	67	66	99	1.33
	QHE4x32T8/UNV PSN-SC	0.93/0.39	F032/700	2800	4	0.88	9855	8870	111	108	91	0.81
51418 ✪	*Banded 10-Pack*	0.93/0.39	F032XPS	3100	4	0.88	10,910	10,255	111	108	101	0.81
51419 ✪	*Pallet Pack*	0.93/0.39	F032XP/XL	2950	4	0.88	10,385	9760	111	108	94	3.03
		0.89/0.38	F030/SS	2850	4	0.88	10,030	9430	105	103	97	0.85
		0.83/0.35	**F028/SS**	**2725**	**4**	**0.88**	**9590**	**9015**	**98**	**95**	**101**	**0.93**
		0.77/0.33	F025/SS	2475	4	0.88	8710	8190	91	89	98	0.99

Banded Pack contains 10 pieces each, (add "-B" to description). Pallet Pack contains 840 pieces, (add "-PAL" to description).
1 System Efficacy is based on the lowest Input Power
2 BEF (Ballast Efficiency Factor) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest input power)
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*

1 lamp



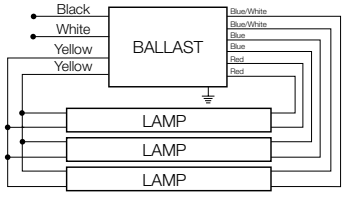
2 lamp



Note: For 1L application, individually cap both RED leads.
Insulate to 600 volts.

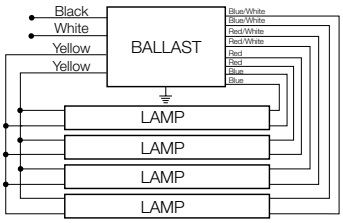
Installation Notes Lamp wiring for 3 & 4 lamp QHE PSN "parallel" models vary from QTP series models. Be sure to wire ballasts per label/schematics shown on this bulletin.

3 lamp



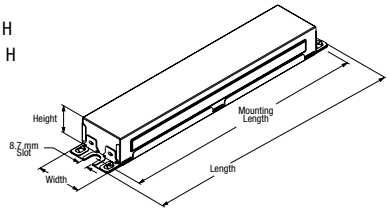
Note: For 2L application, individually cap both RED leads.
For 1L operation, individually cap both RED and BLUE leads.
Insulate to 600 volts.

4 lamp



Note: For 3L application, individually cap both RED leads.
For 2L application, individually cap both RED and BLUE leads.
For 1L application, individually cap both RED, BLUE and Red/White leads.
For lamps approved for 1L operation, see QUICKSYSTEMS.
Insulate to 600 volts.

"SC" Overall: 9.5" L x 1.68" W x 1.18" H
"MC" Overall: 9.5" L x 1.30" W x 1.00" H
Mounting: 8.90"



Product Weight:
QHE1xPSN & QHE2xPSN: 0.66 lbs. each
QHE3xPSN & QHE4xPSN: 1.27 lbs. each

Wiring:
Leads only (no connectors provided)

Item Number — **51408 QHE 2 x 32T8 / UNV PSN - MC**
QUICKTRONIC High Efficiency
Number of Lamps
Case Size
Starting/Ballast Factor
Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE PROStart ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE PROStart ballasts will operate F32 (and the SUPERSAVER® & U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications
Data based on F32T8

Starting Method: Programmed Rapid Start
Ballast Factor: 0.88
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[3]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
UL Type CC Rated
Lamp Striation Control (LSC)
CSA Certified (where applicable)
70°C Max. Case Temperature
FCC 47 CFR Part 18 Non-Consumer Class A Sound Rating
NEMA Premium Electronic Ballast Program compliant
RoHS compliant[4]
ANSI C62.41 Cat. A Transient Protection
GFCI & emergency ballast compatible
Remote Mounting (Max wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

3 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® PROStart® T8 High Ambient Temp. Systems

High Efficiency Series

Type CC, Lamp Striation Control
Parallel Operation
High Ballast Factor

NEMA Premium

RoHS compliant

QHE T8 PSH HT

Lamp / Ballast Guide

Primary Systems
32W T8 - OCTRON® lamps
2-lamp QHE2x32T8/UNV PSH-HT
3-lamp QHE3x32T8/UNV PSH-HT-SC
4-lamp QHE4x32T8/UNV PSH-HT

Also operates:
FB032, FB031, F030/SS (30W), F028/SS (28W), F025/SS (25W), FB030/SS (30W), FB029/SS (29W), F025, FB024, F017 & FB016

Key System Features

- High Efficiency Systems are over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- PROStart Programmed Rapid Start for extended lamp life
- High ballast factor: 1.15 - 1.18
- Parallel operation - one lamp out others stay lit
- 90°C maximum case temperature
- UL Type CC
- LSC (Lamp Striation Control)
- Universal input voltage (120-277V)
- Minimum starting temperature:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T8 ballasts
are ideally suited for:
- High bay
- Warehouses
- Applications where extended lamp life is required to reduce maintenance costs
- Areas where frequent switching is desired
- Occupancy sensor usage
- Building control systems
- Areas that are underlit

SYLVANIA QUICKTRONIC PROStart programmed rapid start electronic T8 ballasts offer eight major advantages:

1. **Operate** 32W linear and U-bend equivalent T8 lamps at High Efficiency and high ballast factor which increases light levels while optimizing system performance.
2. **Longer Lamp Life:** System PSH, (Programmed Start High Ballast Factor) is the first SYLVANIA high ballast factor model to extend lamp life which is ideal for applications where long lamp life is desired to reduce maintenance costs.
3. **High Ambient Temperature:** specifically designed for those applications where the ballast is subjected to higher ambient temperatures, such as high bays in industrial installations.
4. **Parallel Circuitry:** keeps remaining lamps lit if one or more go out. First SYLVANIA PROStart ballast to offer parallel lamp operation.
5. **Available in 2, 3 & 4-lamp models** which allow great flexibility for various light levels in high bay applications to replace HID or T12HO lighting systems.

6. **NEMA Premium Electronic Ballast Program compliant.** The program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***
7. **UL Type CC compliant:** ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin to socket connections.
8. **Lamp Striation Control (LSC):** T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations. (Please consult lamp manufacturers for additional details.)

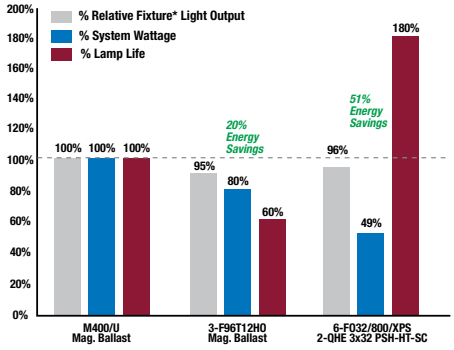
System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest system efficacy
  - Longer life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications.
- Operate at >42 kHz to reduce potential interference with infrared control systems

Lamp & Ballast Type	Input Power (W)	Initial LPW	Mean Fixture* Lumens	Relative Fixture* Output	% Energy Savings	% Lamp Life @3hrs/ start
M400/U Magnetic Ballast	452	61	17,784	Baseline	Baseline	Baseline
3-F96T12HO Magnetic Ballast	360	58	16,875	95%	20%	60%
6-F032/800/XPS 2-QHE3x32 PSH-HT-SC	220	97	17,090	96%	51%	180%

*Based on Fixture Efficiency: 76% for M400/U and 85% for T12HO and F032T8 lamps.



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

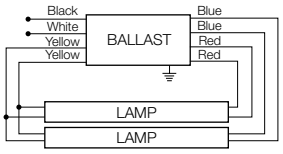
High Efficiency Type CC, Lamp Striation Control & High Ambient Temperature (120-277V)

RoHS compliant NEMA Premium

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QHE2x32T8/UNV-PSH-HT	0.60/0.27	F032/700	2800	2	1.15	6440	5795	72/70	89/92	1.64
49450	*Banded Pack*	0.60/0.27	F032/XP	3000	2	1.15	6900	6485	72/70	96/99	1.64
49459	*Pallet Pack*	0.57/0.25	F030/SS	2850	2	1.15	6555	6160	69/67	95/98	1.72
		0.53/0.23	**F028/SS**	**2725**	**2**	**1.15**	**6270**	**5890**	**63/62**	**100/101**	**1.85**
		0.47/0.20	F025/SS	2475	2	1.15	5695	5350	56/55	102/104	2.09
		0.46/0.20	F025/XP	2175	2	1.16	5045	4740	55	92	2.11
		0.32/0.14	F017/XP	1375	2	1.17	3220	3025	38	85	3.08
	QHE3x32T8/UNV-PSH-HT-SC	0.94/0.40	F032/700	2800	3	1.15	9660	8695	110/108	88/89	1.06
49520 ✪	*Banded Pack*	0.94/0.40	F032/XP	3000	3	1.15	10,350	9730	110/108	94/96	1.06
		0.88/0.37	F030/SS	2850	3	1.15	9835	9245	104/101	95/97	1.14
		0.81/0.34	**F028/SS**	**2725**	**3**	**1.15**	**9400**	**8835**	**95/93**	**99/101**	**1.24**
		0.72/0.31	F025/SS	2475	3	1.15	8540	8025	85/84	100/102	1.37
		0.70/0.30	F025/XP	2175	3	1.17	7635	7175	83/82	92/93	1.43
		0.48/0.21	F017/XP	1375	3	1.18	4870	4575	56	87	2.11
	QHE4x32T8/UNV-PSH-HT	1.22/0.53	F032/700	2800	4	1.15	12,880	11,590	143/141	90/91	0.82
49455	*Banded Pack*	1.22/0.53	F032/XP	3000	4	1.15	13,800	12,970	143/141	97/98	0.82
49470	*Pallet Pack*	1.13/0.49	F030/SS	2850	4	1.15	13,110	12,325	132/130	99/101	0.88
		1.06/0.46	**F028/SS**	**2725**	**4**	**1.15**	**12,535**	**11,785**	**124/123**	**101/102**	**0.93**
		0.95/0.41	F025/SS	2475	4	1.15	11,385	10,700	112/110	102/104	1.05
		0.91/0.40	F025/XP	2175	4	1.17	10,180	9570	107/106	95/96	1.10
		0.63/0.28	F017/XP	1375	4	1.18	6490	6100	73	89	1.62

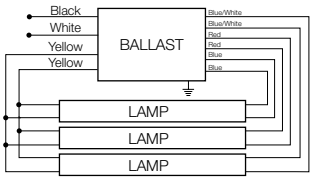
Banded pack contains 10 pieces, (add "-B" to Description). Pallet Pack contains 500 pieces, (add "-PAL" to Description).
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*

2 lamp



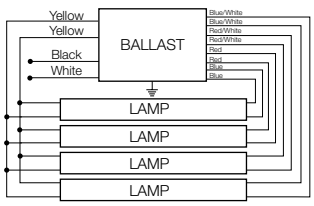
QUICKTRONIC 2x32

3 lamp



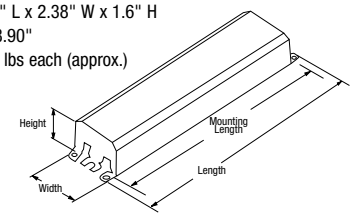
QUICKTRONIC 3x32

4 lamp

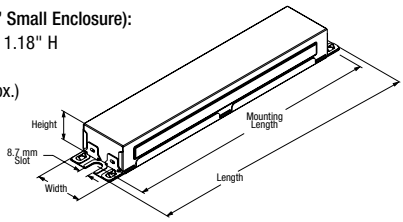


QUICKTRONIC 4x32

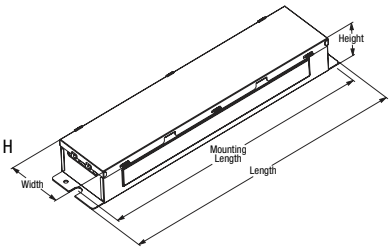
Dimensions 2-lamp:
Overall: 9.5" L x 2.38" W x 1.6" H
Mounting: 8.90"
Weight: 1.6 lbs each (approx.)



Dimensions 3-lamp ("-SC" Small Enclosure):
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"
Weight: 1.6 lbs each (approx.)
Wiring: Leads only
(no connectors provided)



Dimensions 4-lamp:
Overall: 11.75" L x 2.38" W x 1.6" H
Mounting: 11.13"
Weight: 2.9 lbs each (approx.)



Item Number — **49450 QHE 2 x 32T8 / UNV PSH HT** — High Case Temp. Rating
QUICKTRONIC High Efficiency — Starting Type/Ballast Factor
Number of Lamps (2, 3, 4) — Line Voltage (120-277V)
Primary Lamp Wattage

Specifications subject to change without notice.

NEW

High Ballast Factor

T8 PROStart®

High Efficiency

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE PROStart ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE PROStart ballasts will also operate F17 & F25, SUPERSAVER & U-Bend equivalent T8 lamps.

Specifications

Data based on F32T8

Starting Method: Programmed Rapid Start
Ballast Factor: 1.15 - 1.18
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
UL Type CC rated
Lamp Striation Control (LSC)
CSA certified
High Ambient Applications:
90°C Max. case temp. (3 yr. warranty)
Standard Ambient Applications:
70°C Max. Case Temp. **(5 yr. warranty)**
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat A. Transient Protection
GFCI compatible
Emergency ballast compatible
Remote mounting (Max. wire length from ballast case to lampholder):

- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50ºF (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QHE T8 PSH HT

QUICKTRONIC® T8 59W Instant Start UNV Systems

RoHS compliant

Low, Normal & High Ballast Factor Models

High Efficiency Series

Lamp/Ballast Guide

59W T8 8-Foot OCTRON lamps
2-lamp QHE2x59T8/UNV-ISL-SC
2-lamp QHE2x59T8/UNV-ISN-SC
2-lamp QHE2x59T8/UNV-ISH

QHE2x59T8-ISL-SC & QHE2x59T8-ISN-SC operates 1 or 2:
FO96T8 (59W), FO96T8/SS (54W & 50W), FO72T8 & FO48T8

QHE2x59T8-ISH operates 2 lamps only:
FO96T8 (59W), FO96T8/SS (54W & 50W), FO72T8 & FO48T8

Key System Features

- Universal voltage (120-277V)
- High Efficiency Systems over 90% efficient
- Over 100 LPW (lumens/watt) with OCTRON® lamps
- Lowest power, full light output 59W T8 Systems
- QHE Ballasts also meet the most demanding – Utility Rebate standards
- 30% more light output than standard T8 systems
- Parallel circuitry is utilized to keep the remaining lamps lit if one or more should fail
- Min. Starting Temp:
  - 0°F (-18°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts
are ideally suited for:

- Energy retrofits
- Commercial & Retail
- Hospitality & Institutional
- New construction

SYLVANIA QUICKTRONIC High Efficiency (QHE) energy savings electronic T8 ballasts save up to 6% wattage over standard electronic ballasts without compromising light output or lamp life. The added energy savings also provides for a quicker payback.

SYLVANIA QUICKTRONIC High Efficiency (QHE) 59IS ballasts operate OCTRON® FO96 T8 lamps with maximum efficacy and high lumen output and provides 30%-50% energy savings when compared to F96T12 magnetic systems.

New small can enclosure on select models allows for low profile fixture design and application.

QHE Ballasts also meet the most demanding utility rebate standards.

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) 59IS ballasts operate from 120V through 277V, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by 50%.

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts use instant start operation to provide the highest system efficacy and to assure low temperature starting capability.

Instant start also provides for maximum remote wiring distances.

System Type QHE-ISL (2-lamps)	Input Power (W)	Mean System Lumens	Mean RLO	Initial System LPW	Energy Savings
Magnetic Ballast & F96T12/SS	125	8209	Baseline	75	Baseline
QTP2x59-ISN & FO96T8/54W/XP/SS	102	9430	115%	98	18%
QHE2x59-ISL & FO96T8/XP (59W)	94	8830	108%	100	25%
QHE2x59-ISL & FO96T8/54W/XP/SS	85	8250	100%	103	32%
QHE2x59-ISL & FO96T8/50W/XP/SS	78	7615	93%	104	38%
System Type QHE-ISN (2-lamps)					
Magnetic Ballast & F96T12	160	9984	Baseline	71	Baseline
Magnetic Ballast & F96T12/SS	125	8209	82%	75	22%
QTP2x59-ISN & FO96T8/XP (59W)	110	10,090	101%	98	31%
QHE2x59-ISN & FO96T8/XP (59W)	107	10,090	101%	100	33%
QHE2x59-ISN & FO96T8/54W/XP/SS	98	9430	94%	102	39%
QHE2x59-ISN & FO96T8/50W/XP/SS	89	8630	86%	103	44%
System Type QHE-ISH (2-lamps)					
Magnetic Ballast & F96T12CW/HO	240	13,235	Baseline	68	Baseline
Magnetic Ballast & F96T12CW/HO/SS	210	11,923	90%	70	13%
Electronic Ballast & F96T12CW/HO/SS	170	11,405	86%	83	29%
Electronic Ballast & F96T8HO	160	12,989	98%	90	33%
QHE2x59T8/UNV-ISH & FO96T8/XP (59W)	141	13,190	100%	100	41%
QHE2x59T8/UNV-ISH & FO96T8/54W/XP/SS	130	12,215	92%	100	46%
QHE2x59T8/UNV-ISH & FO96T8/50W/XP/SS	118	11,165	84%	101	51%

**Data based on 277V input volts*

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Electronic T8 Fluorescent Systems (Low, Normal & High B.F.)

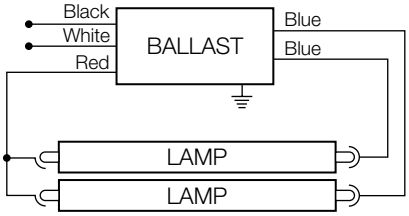
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
				LOW BALLAST FACTOR							
	QHE2x59T8/UNV-ISL-SC	0.80/0.34	F096T8/700 (59W)	5700	2	0.77	8780	7900	95/94	92/93	0.82
49869	*10-Pack*	0.80/0.34	F096T8/XP (59W)	6100	2	0.77	9395	8830	95/94	99/100	0.82
		0.73/0.31	**F096T8/54W/XP/SS**	**5700**	**2**	**0.77**	**8780**	**8250**	**87/85**	**101/103**	**0.91**
		0.67/0.29	**F096T8/50W/XP/SS**	**5400**	**2**	**0.75**	**8100**	**7615**	**79/78**	**103/104**	**0.96**
		0.62/0.27	F072T8/XP	4650	2	0.79	7345	6905	74/73	99/101	1.08
		0.42/0.19	F048T8/XP	2850	2	0.80	4560	4285	50	91	1.60
				NORMAL BALLAST FACTOR							
	QHE2x59T8/UNV-ISN-SC	0.92/0.40	F096T8/700 (59W)	5700	2	0.88	10,030	9030	109/107	92/94	0.82
50237	*Banded Pack*	0.92/0.40	F096T8/XP (59W)	6100	2	0.88	10,735	10,090	109/107	98/100	0.82
49859	*10-Pack*	**0.84/0.36**	**F096T8/54W/XP/SS**	**5700**	**2**	**0.88**	**10,030**	**9430**	**99/98**	**101/102**	**0.90**
		0.76/0.32	**F096T8/50W/XP/SS**	**5400**	**2**	**0.85**	**9180**	**8630**	**90/89**	**102/103**	**0.96**
		0.71/0.31	F072T8/XP	4650	2	0.90	8370	7870	84/83	100/101	1.08
		0.47/0.22	F048T8/XP	2850	2	0.90	5130	4820	56	92	1.61
				HIGH BALLAST FACTOR							
	QHE2x59T8/UNV-ISH	1.20/0.52	F096T8/700 (59W)	5700	2	1.15	13,110	11,800	144/141	91/93	0.82
49879	*10-Pack*	1.20/0.52	F096T8/XP (59W)	6100	2	1.15	14,030	13,190	144/141	97/100	0.82
		1.10/0.47	**F096T8/54W/XP/SS**	**5700**	**2**	**1.14**	**12,995**	**12,215**	**131/130**	**99/100**	**0.88**
		1.01/0.43	**F096T8/50W/XP/SS**	**5400**	**2**	**1.10**	**11,880**	**11,165**	**119/118**	**100/101**	**0.93**
		0.91/0.40	F072T8/XP	4650	2	1.15	10,695	10,055	108	99	1.06
		0.62/0.28	F048T8/XP	2850	2	1.18	6725	6320	74	91	1.59

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.

F096T8/XP/SS (55W) has been re-rated to F096/54W/XP/SS.

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).



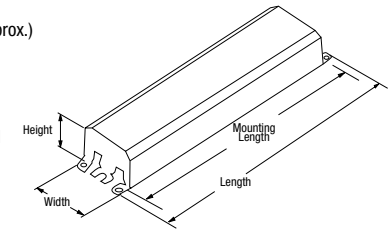
Note: One lamp operation is possible for QHE2x59-ISL & ISN models only. Cap off any unused blue lead (insulate).

QUICKTRONIC 2x59

Dimensions Standard Enclosure:
Overall: 9.5" L x 2.38" W x 1.6" H
Mounting: 8.90"

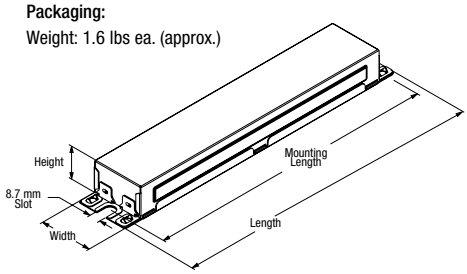
Packaging:
Weight: 2.8 lbs ea. (approx.)

Wiring:
Leads only,
no connectors provided



Dimensions "SC" Small Enclosure:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Packaging:
Weight: 1.6 lbs ea. (approx.)



Item Number — **50237 QHE 2 x 59T8 / UNV ISN - SC** — Case Size
QUICKTRONIC High Efficiency — Starting/Ballast Factor
Number of Lamps (2) — Line Voltage (120-277V)
Primary Lamp Wattage

Specifications subject to change without notice.

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F96T8

Starting Method: Instant Start
Ballast Factor: 0.77/0.88/1.15 (see table)
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
0°F (-18°C) for OCTRON 96T8 lamps
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)
70°C Max Case Temperature

UL Listed Class P, Type 1 Outdoor
CSA Certified
Meets FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QUICKTRONIC® T8 8-Foot Instant Start UNV Systems

RoHS compliant

Normal Ballast Factor

Professional Series

Lamp/Ballast Guide

59W T8 8-Foot - OCTRON® lamps
2-lamp QTP2x59T8 UNV ISN SC

Primary Lamp Type:
F096T8 (59W Lamp)

Also operates:
F096T8/SS (54W Lamp)
F072T8
F048T8

Key System Features

- Over 30% Energy savings
- Provides 50% longer lamp life than standard magnetic T12 slimline lamps
- 0.88 Ballast factor (see table)
- Min. Starting Temp:
  - 0°F (-18°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
- Universal voltage (120-277V)
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC 59 ISN ballasts
are ideally suited for:

- Commercial
- Retail
- New construction
- Industrial
- Schools
- Retrofit

SYLVANIA QUICKTRONIC SYSTEM 59 ISN UNV electronic T8 ballasts offer several advantages:

- **Operate OCTRON T8 lamps** with maximum efficacy and high lumen output
  - Over 30% energy savings when compared to F96T12 magnetically ballasted systems
- **Longer Lamp Life:** provides 50% longer lamp life compared to standard magetic T12 slimline systems
- **Parallel Circuitry:** keeps remaining lamp lit if one goes out
- **Small Can Enclosure for:**
  - low profile fixture design
  - transportation, inventory and ergonomic benefits
- **New Banded Packaging**
- Distributor-friendly for easy stocking and individual ballast sales

- Reduced waste
- Easy removable bands
- No tangled wires

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC T8 8-foot Instant Start 59 ISN UNV systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

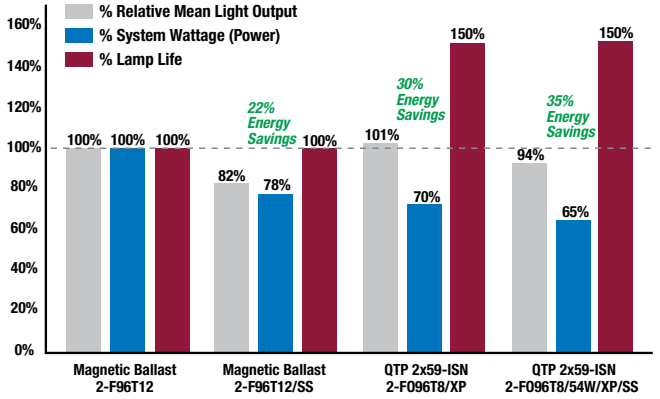
System Information

SYLVANIA QUICKTRONIC SYSTEM 59 ISN UNV ballast advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Instant Start operation for
  - Highest System Efficacy
  - Low temperature starting capability
- Very low harmonic distortion (<10%)THD
- Operate at >42 kHz to reduce potential interference with infrared control systems
- Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

System Type	Input Power (W)	Initial System Lumens	System Efficacy (LPW)	Mean System Lumens	Relative Mean Light Output	Energy Savings	Lamp Life (%*)
Magnetic Ballast 2-F96T12	160	11,345	71	9985	100%	0%	Baseline
Magnetic Ballast 2-F96T12/SS	125	9330	75	8210	82%	22%	100%
QTP2x59-ISN 2-F096T8/XP (59W)	112	10,735	96	10,090	101%	30%	150%
QTP2x59-ISN F096T8/54W/XP/SS	104	10,030	96	9430	94%	35%	150%

**3 hours/start*



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

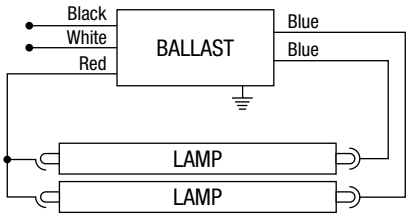
Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic T8 8-foot Fluorescent Systems Universal Voltage (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QTP2x59T8/UNV ISN-SC	0.93/0.40	F096T8/700 (59W)	5700	2	0.88	10,030	9030	112/110	90/91	0.80
49590	*Banded Pack*	0.93/0.40	F096T8/XP (59W)	6100	2	0.88	10,735	10,090	112/110	96/98	0.80
49598	*10-Pack*	0.85/0.36	**F096T8/54W/XP/SS**	**5700**	**2**	**0.88**	**10,030**	**9430**	**104/102**	**96/98**	**0.86**
		0.70/0.31	F072T8/XP	4650	2	0.89	8275	7780	86/85	96/97	1.05
		0.47/0.21	F048T8/XP	2850	2	0.89	5075	4770	58	88	1.53
		0.56/0.25	F096T8/XP (59W)	6100	1	1.02	6220	5850	67	93	1.52
		0.51/0.22	F096T8/54W/XP/SS	5700	1	1.02	5815	5465	62	94	1.65
		0.43/0.20	F072T8/XP	4650	1	1.02	4745	4460	51	93	2.00
		0.30/0.14	F048T8/XP	2850	1	1.03	2935	2760	36	82	2.86

Banded Pack, (add "-B" to Description). Banded Pack and 10-Pack contain 10 pieces each.
F096T8/XP/SS (55W) has been re-rated to F096/54W/XP/SS.
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).



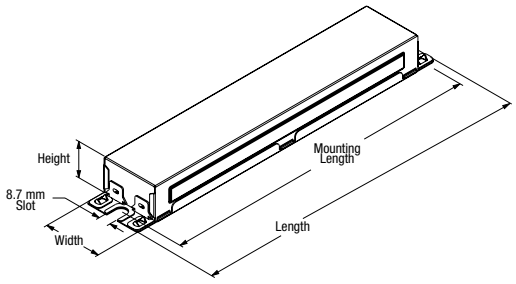
Note: For one lamp application, cap any unused blue lead. Insulate to 600 volts.

QUICKTRONIC 2x59

Dimensions "SC" Small Enclosure:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs ea. (approx.)

Wiring:
Leads only,
no connectors provided



Item Number — **49598 QTP 2 x 59T8 / UNV ISN SC** — Case Size
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Type (59W F096T8)

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® 59 ISN-SC is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F096T8

Starting Method: Instant Start
Ballast Factor: 0.88 - 1.03
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
0°F (-18°C) for OCTRON® 96T8 lamps
60°F (16°C) for SUPERSAVER® lamps
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat A. Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s

2 Operation below 50ºF (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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the system solution®

Specifications subject to change without notice.

QUICKTRONIC® PROStart® T8HO UNV High Ambient Temp. Systems

RoHS compliant

Normal Ballast Factor

High Efficiency Series

QHE T8HO HT

Lamp / Ballast Guide

Primary Systems:
FO96 T8HO-OCTRON® lamps
2-lamp QHE 2x86T8HO/UNV PSN-HT

QHE 2x86T8HO/UNV PSN-HT operates 2 or 1 FO96T8HO, F72T8HO(65W), F60T8HO(55W) & F48T8HO(44W)

Key System Features

- High Efficiency Systems — over 90% efficient
- 90°C maximum case temperature
- Normal Ballast Factor: 0.95 - 0.96
- PROStart® Programmed Rapid Start
  - Extends lamp life
  - Ideal for Occupancy sensors
  - Reduces maintenance costs
- Universal input voltage (120-277V)
- Min. Starting Temp:
  - -20°F (-29°C) T8HO lamps
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency T8HO ballasts are ideally suited for:

- High Bay
- Energy retrofits
- Warehouse
- Industrial
- New Construction
- Refrigeration Coolers
- Occupancy Sensors Applications

SYLVANIA QUICKTRONIC High Efficiency QHE electronic T8HO PROStart® Normal Ballast Factor ballast operates the family of T8HO lamps at high efficiency which increases light levels while optimizing system performance.

This ballast system is the ideal replacement for existing T12HO applications and HID systems.

Programmed Rapid Start QHE T8HO PROStart® ballast extends lamp life which is ideal for applications where long lamp life is desired to reduce maintenance cost or for use with occupancy sensors.

This ballast design provides the flexibility to operate as 2-lamp or 1-lamp system, allowing for an additional 50% reduction in inventory.

The QUICKTRONIC High Efficiency T8HO PSN "High Ambient Temperature" systems are specifically designed for those applications where the ballast is subjected to higher ambient temperatures, such as high bays in industrial installations. New 90ºC case temperature and -20ºF (-29ºC) starting rating makes this ballast the ideal T8HO system for high bay applications.

This ballast is RoHS compliant and feature lead-free solder and manufacturing process.

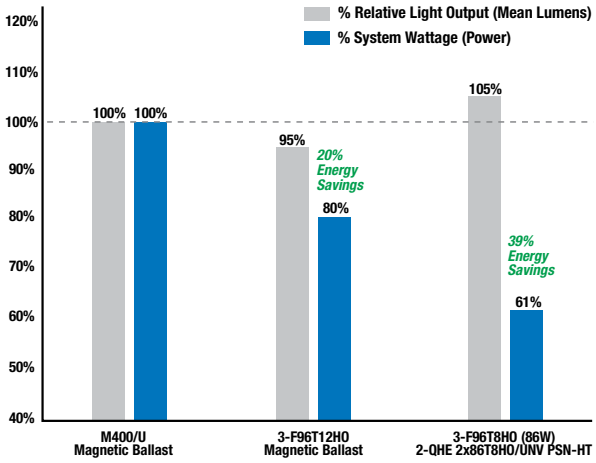
System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications
- Operate at >42 kHz to reduce potential interference with infrared control systems

Lamp & Ballast Type	Input Power (W)	Initial System LPW	Mean Fixture Lumens	Relative Fixture Lumens	% Energy Savings
M400/U Mag. Ballast	452	61	17,784	100%	Baseline
3-F96T12HO Mag. Ballast	360	58	16,875	95%	20%
3-F96T8HO (86W) 2-QHE2x86T8HO/UNV PSN-HT*	277	72	18,673	105%	39%

Fixture Efficiency: M400/U = 0.76, T12HO & T8 = 0.85
**3-lamp (F96T8HO) fixture data is based on operating two 2-lamp ballasts with the second ballast wired to operate as a one-lamp system.*



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SPECIFICATION DATA

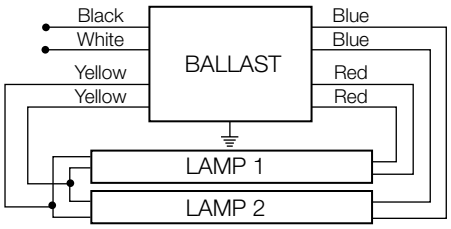
Catalog #	Date	Type
Project	Prepared by	
Comments		

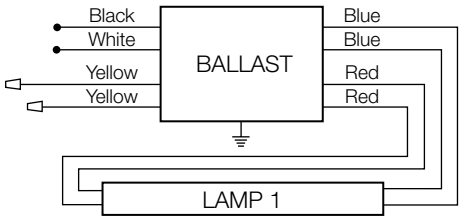
High Efficiency PROStart® T8HO (120-277V) High Ambient Temperature

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
	QHE2x86T8HO/ UNV-PSN-HT	**1.54/0.67**	**F96T8HO (86W)**	**8200**	**2**	**0.95**	**15,580**	**14,645**	**182/178**	**86/88**	**0.53**
50304 ❂	*Banded Pack*	1.13/0.50	F72T8HO (65W)	6100	2	0.96	11,710	10,540	136/133	86/88	0.72
		0.97/0.44	F60T8HO (55W)	5050	2	0.96	9695	8725	115	84	0.83
		0.72/0.34	F48T8HO (44W)	4000	2	0.96	7680	6910	86/85	89/90	1.13
		0.78/0.36	**F96T8HO (86W)**	**8200**	**1**	**0.96**	**7870**	**7400**	**95**	**83**	**1.01**
		0.62/0.30	F72T8HO (65W)	6100	1	0.96	5855	5270	73	80	1.32
		0.50/0.26	F60T8HO (55W)	5050	1	0.96	4850	4365	60	81	1.60
		0.43/0.24	F48T8HO (44W)	4000	1	0.96	3840	3455	51	75	1.88

Banded Pack contains 10 pieces, (add "B" to description).
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
❂ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*



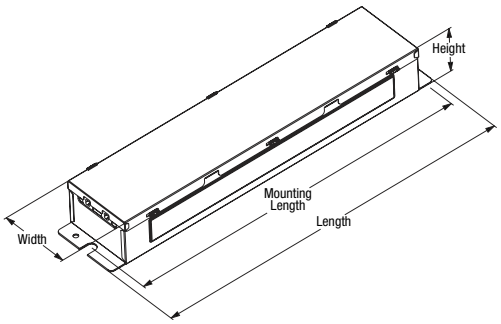


Note: For one lamp application,
cap two yellow leads. Insulate to 600 volts.

Dimensions:
Overall: 11.75" L x 2.38" W x 1.6" H
Mounting: 8.90"

Product Weight:
3.5 lbs each (approx.)

Wiring:
Leads only
(no connectors provided)



Item Number — **50304 QHE 2 x 86T8HO UNV PSN-HT** — High Case Temp. Rating
QUICKTRONIC High Efficiency — Starting Type/Ballast Factor
Number of Lamps (2) — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE PROStart® ballasts are also compatible with other lamp manufacturers' equivalent lamp types that meet ANSI specifications.

QHE PROStart ballasts will also operate F48T8HO, F60T8HO and F72T8HO, equivalent T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Ballast Technology & Specification Guide.

Specifications

Data based on F096T8HO lamp

Starting Method: Programmed Rapid Start
Ballast Factor: 0.95 - 0.96
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2] -20°F (-29°C) for OCTRON T8HO lamps
Input Frequency: 50/60 Hz
THD: <10%
Power Factor: >98%
Voltage Range: ±10%

UL Listed Class P, Type 1 Outdoor
CSA Certified
High Ambient (3 yr. warranty):
90°C Max. Case Temp.
Standard (5 yr. warranty):
70°C Max. Case Temp.
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max wire length from ballast case to lampholder): up to 8 ft

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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the system solution®

Specifications subject to change without notice.

QUICKTRONIC® T8 Instant Start
347 Volt – Canada

RoHS compliant

Low & Normal Ballast Factor Models

High Efficiency Series

CANADA QHE T8 347V

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
QHE ISN and ISL SC Models
1-lamp QHE1x32T8/347
2-lamp QHE2x32T8/347
3-lamp QHE3x32T8/347
4-lamp QHE4x32T8/347

Also operates:
FB032, FB031, F025, FB024, F017, FB016, F030/SS, FB030/SS (30W), FB029/SS (29W), F028/SS (28W) & F025/SS (25W)

F40T8 operation:
1 lamp on 2L ballast
2 lamps on 3L ballast
3 lamps on 4L ballast

Key System Features

- High Efficiency Systems – over 90% efficient
- Up to 105 LPW (lumens/watt) with OCTRON SUPERSAVER® lamps
- Lowest power T8 I.S. Systems
- Small can enclosure size
- 30-50% Energy savings
- Min. Starting Temp:
  - -20°F (-29°C) for T8 lamps
  - 60°F (16°C) for Energy Saving T8 lamps
  - 0°F (-18°C) for FO40T8 lamps
- <10% THD
- Virtually eliminates lamp flicker
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency ballasts are ideally suited for:

- Any applications where the lowest power T8 systems are needed for maximum energy savings
- Energy retrofits
- Commercial & retail
- Hospitality & institutional
- New construction

SYLVANIA QUICKTRONIC High Efficiency (QHE) energy-saving electronic T8 ballasts save up to 6% over standard electronic ballasts without compromising light output or lamp life. The added energy savings also provides for a quicker payback. QHE ballasts also meet the most demanding utility rebate standards.

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts operate OCTRON T8 lamps with maximum efficacy and high lumen output, and provides maximum energy savings when compared to F40T12 magnetic systems.

Small can enclosure allows for low profile fixture design. Small size also provides transportation, inventory and ergonomic benefits.

These ballasts are also RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

SYLVANIA QUICKTRONIC High Efficiency (QHE) systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

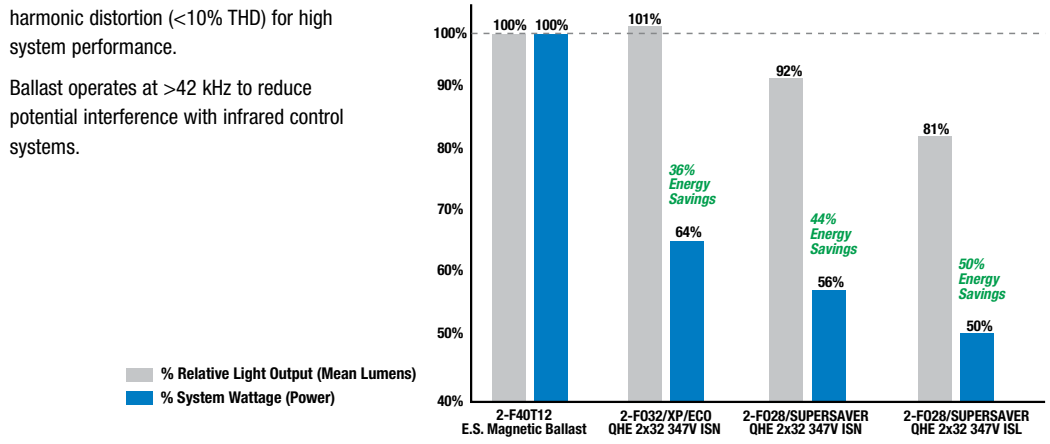
System Information

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts use instant start operation to provide the highest system efficacy and to assure low temperature starting capability. Instant start also provides for maximum remote wiring distances.

SYLVANIA QUICKTRONIC High Efficiency (QHE) electronic ballasts have very low harmonic distortion (<10% THD) for high system performance.

Ballast operates at >42 kHz to reduce potential interference with infrared control systems.

System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW	Mean System Lumens	Energy Savings
F40T12 - E.S. Magnetic Ballast	86	5795	67	4985	Baseline
F34T12 - E.S. Magnetic Ballast	72	4750	66	4085	16%
F032/XP - QHE2x32T8/347 ISN-SC	55	5280	96	4965	36%
F028/SS - QHE2x32T8/347 ISN-SC	48	4800	100	4510	44%
F032/XP - QHE2x32T8/347 ISL-SC	48	4680	98	4400	44%
F028/SS - QHE2x32T8/347 ISL-SC	43	4250	99	3995	50%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

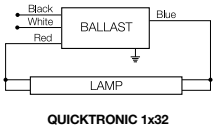
Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Low & Normal Ballast Factor 347V

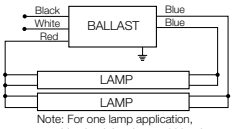
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
QUICKTRONIC® High Efficiency Low Ballast Factor (0.78)											
49471	QHE1X32T8/347 ISL-SC	0.08	F032/700	2800	1	0.78	2185	1965	25	87	3.12
		0.08	F032/XP	3000	1	0.78	2340	2200	25	94	3.12
		0.07	F030/SS	2850	1	0.78	2220	2090	24	93	3.25
		0.07	**F028/SS**	**2725**	**1**	**0.78**	**2125**	**2000**	**22**	**97**	**3.55**
		0.06	F025/SS	2475	1	0.78	1930	1815	20	97	3.90
49473	QHE2X32T8/347 ISL-SC	0.14	F032/700	2800	2	0.78	4370	3930	48	91	1.63
		0.14	F032/XP	3000	2	0.78	4680	4400	48	98	1.63
		0.13	F030/SS	2850	2	0.78	4445	4180	46	97	1.70
		0.12	**F028/SS**	**2725**	**2**	**0.78**	**4250**	**3995**	**43**	**99**	**1.81**
		0.12	F025/SS	2475	2	0.78	3860	3630	38	102	2.05
49475	QHE3X32T8/347 ISL-SC	0.21	F032/700	2800	3	0.78	6550	5895	71	92	1.10
		0.21	F032/XP	3000	3	0.78	7020	6600	71	99	1.10
		0.20	F030/SS	2850	3	0.78	6670	6270	67	100	1.16
		0.18	**F028/SS**	**2725**	**3**	**0.78**	**6380**	**5995**	**62**	**103**	**1.26**
		0.17	F025/SS	2475	3	0.78	5790	5445	55	105	1.42
49477	QHE4X32T8/347 ISL-SC	0.28	F032/700	2800	4	0.78	8735	7860	96	91	0.81
		0.28	F032/XP	3000	4	0.78	9360	8800	96	98	0.81
		0.26	F030/SS	2850	4	0.78	8890	8360	90	99	0.87
		0.25	**F028/SS**	**2725**	**4**	**0.78**	**8500**	**7990**	**84**	**101**	**0.93**
		0.23	F025/SS	2475	4	0.78	7720	7260	74	104	1.05
QUICKTRONIC® High Efficiency Normal Ballast Factor (0.88)											
49461	QHE1X32T8/347 ISN-SC	0.08	F032/700	2800	1	0.88	2465	2220	28	88	3.14
		0.08	F032/XP	3000	1	0.88	2640	2480	28	94	3.14
		0.08	F030/SS	2850	1	0.88	2510	2360	27	93	3.26
		0.07	**F028/SS**	**2725**	**1**	**0.88**	**2400**	**2255**	**25**	**96**	**3.52**
		0.07	F025/SS	2475	1	0.88	2175	2045	22	99	4.00
49463	QHE2X32T8/347 ISN-SC	0.16	F032/700	2800	2	0.88	4925	4435	55	90	1.60
		0.16	F032/XP	3000	2	0.88	5280	4965	55	96	1.60
		0.15	F030/SS	2850	2	0.88	5015	4715	52	96	1.69
		0.14	**F028/SS**	**2725**	**2**	**0.88**	**4800**	**4510**	**48**	**100**	**1.83**
		0.13	F025/SS	2475	2	0.88	4355	4095	43	101	2.05
49465	QHE3X32T8/347 ISN-SC	0.25	F032/700	2800	3	0.88	7390	6655	83	89	1.06
		0.25	F032/XP	3000	3	0.88	7920	7445	83	95	1.06
		0.24	F030/SS	2850	3	0.88	7525	7075	78	96	1.13
		0.22	**F028/SS**	**2725**	**3**	**0.88**	**7195**	**6765**	**74**	**97**	**1.19**
		0.20	F025/SS	2475	3	0.88	6530	6140	66	99	1.33
49467	QHE4X32T8/347 ISN-SC	0.33	F032/700	2800	4	0.88	9855	8870	109	90	0.81
		0.33	F032/XP	3000	4	0.88	10,560	9925	109	97	0.81
		0.31	F030/SS	2850	4	0.88	10,030	9430	103	97	0.85
		0.29	**F028/SS**	**2725**	**4**	**0.88**	**9590**	**9015**	**97**	**99**	**0.91**
		0.26	F025/SS	2475	4	0.88	8710	8190	87	100	1.01

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power.

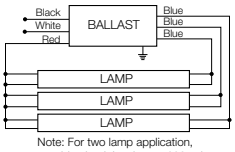


QUICKTRONIC 1x32



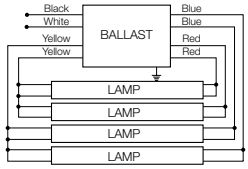
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 2x32



Note: For two lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 3x32



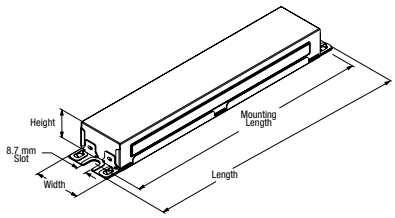
Note: For three lamp application, cap any blue lead. Insulate to 600 volts.

QUICKTRONIC 4x32

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Packaging:
Quantity: 10-pack
Weight: 1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49473 QHE 2 x 32T8 / 347 ISL - SC** — Case Size
QUICKTRONIC High Efficiency — Starting/Ballast Factor
Number of Lamps — Line Voltage
Primary Lamp Wattage

Specifications subject to change without notice.

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE Instant Start ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QHE Instant Start ballasts will operate F17, F25, F32, the U-Bend and Energy Saving equivalents.

CANADA QHE T8 347V

Specifications

Data based on F32T8

Starting Method: Instant Start
Ballast Factor: 0.78 - 0.88
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
-20°F (-29°C) for OCTRON T8 lamps;
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1 Outdoor
CSA Certified (where applicable)
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):

- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QUICKTRONIC® T8 Instant Start
347 Volt – Canada

RoHS compliant

Normal & High Ballast Factor

Standard & Professional Series

CANADA T8 347V

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
2-lamp QTP2x32T8/347 ISN-SC
3-lamp QTP3x32T8/347 ISN-SC
4-lamp QTP4x32T8/347 ISN-SC

Primary Lamp Types:
FO32, FBO32 & FBO31

Also operates:
FO17, FO25, FO40, FBO16, FBO24 & SUPERSAVER® Equivalents (SS)

FO40T8 operations:
1 lamp on 2L ballast
2 lamps on 3L ballast
3 lamps on 4L ballast

Note: FO40T8 0°F (-18°C) Starting Temp.

2-lamp QT2x32T8/347 ISH-SC
Only operates lamp types FO32, FO30/SS, FO28/SS, FO25/SS, FBO32, FBO31, FBO30/SS, FBO29/SS

59W T8 8-Foot OCTRON
2 lamp QT2x59/347 IS

Primary Lamp Types
FO96 T8 (59W lamp)

Also operates:
FO96T8/SS lamp (55W)

Key System Features

- 30-40% energy savings
- -20°F (-29°C) min. starting temp. for QTP ballast operating OCTRON lamps (See Starting Temp. details in Specification section)
- Virtually eliminates lamp flicker
- CSA approved
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC Systems are ideally suited for:

- Commercial, retail, hospitality
- Institutional
- Schools
- New construction
- Retrofit

SYLVANIA QUICKTRONIC 32IS-SC ballasts operate OCTRON T8 lamps with maximum efficacy and provides 30-40% energy savings when compared to F40T12 magnetic systems.

SYLVANIA QUICKTRONIC 59ISN ballasts operate OCTRON FO96 T8 lamps with maximum efficacy and provides 30% energy savings when compared to F96T12 magnetic systems.

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

System Information

New small can enclosure on select models allows for low profile fixture design and application. Small can size also provides transportation, inventory and ergonomic benefits. Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

Setting the standard for quality these systems are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

2-Lamp Systems Lamp & Ballast Type	Input Power (W)	Initial System Lumens	System LPW	Mean System Lumens	Relative Mean Light Output	% Energy Savings
2-F34T12CW E.S. Magnetic Ballast	72	4665	65	3965	100%	0%
2-FO32/800/XP QTP2x32 ISN-SC	59	5280	89	4965	125%	18%
2-FO28/SS QTP2x32 ISN-SC	52	4795	92	4510	114%	28%
4-Lamp Systems Lamp & Ballast Type	**Input Power (W)**	**Initial System Lumens**	**System LPW**	**Mean System Lumens**	**Relative Mean Light Output**	**% Energy Savings**
4-F34T12CW 2-E.S. Mag Ballasts	144	9330	65	7930	100%	0%
4-FO32/800/XP QTP4x32T8 ISN-SC	112	10,560	94	9925	125%	22%
4-FO28/SS QTP4x32 ISN-SC	99	9590	97	9015	114%	31%
2-Lamp Systems Lamp & Ballast Type	**Input Power (W)**	**Initial System Lumens**	**System LPW**	**Mean System Lumens**	**Relative Mean Light Output**	**% Energy Savings**
2-F96T12 Mag. Ballast	160	11,345	71	9985	100%	0%
F96T12/SS Mag. Ballast	125	9330	75	8210	82%	22%
FO96T8/XP QT2x59 IS	110	10,735	98	10,090	101%	31%
FO96T8/XP/SS QT2x59 IS	103	10,030	97	9430	94%	36%

SPECIFICATION DATA

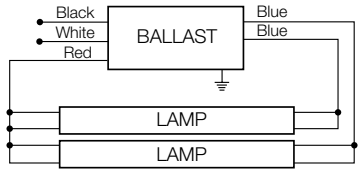
Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic T8 Fluorescent Systems 347V

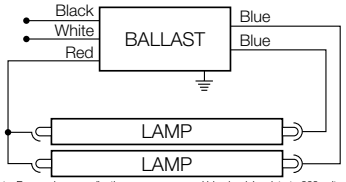
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
QUICKTRONIC® PROFESSIONAL Normal Ballast Factor (0.88) <10% THD											
49713	QTP2x32T8/347 ISN-SC	0.165	F032/XP	3000	2	0.88	5280	4965	59	89	1.49
49716	QTP3x32T8/347 ISN-SC *Pallet Pack*	0.25	F032/XP	3000	3	0.88	7920	7445	86	92	1.02
49718	QTP4x32T8/347 ISN-SC *Pallet Pack*	0.33	F032/XP	3000	4	0.88	10,560	9925	112	94	0.78
QUICKTRONIC® High Ballast Factor (1.20) <20% THD											
49927	QT2x32T8/347 ISH-SC[2]	0.23	F032/XP	3000	2	1.20	7200	6770	78	92	1.54
QUICKTRONIC 59T8 (8 Foot) Normal Ballast Factor (0.88) <20% THD											
49217	QT2x59/347 IS	0.33	F096T8 XP(59W)	6100	2	0.88	10,735	10,090	110	98	0.80

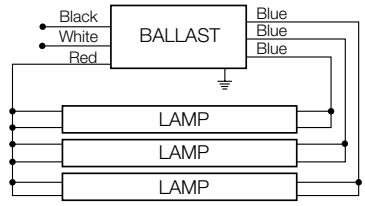
Products above are 10-pack unless noted. Pallet Pack contains 840 pieces, (add "-PAL" to Description).
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power.
2 QT2x32T8/347 ISH-SC model only operates 2 lamps (no 1-lamp operation).



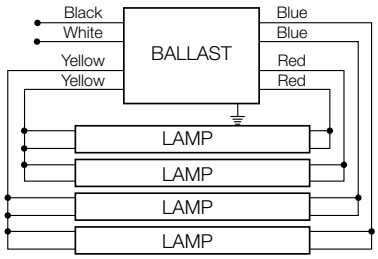
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.
QUICKTRONIC 2x32



Note: For one lamp application, cap any unused blue lead. Insulate to 600 volts.
QUICKTRONIC 2x59



Note: For two lamp application, cap any blue lead. Insulate to 600 volts.
QUICKTRONIC 3x32

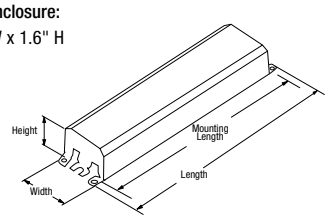


Note: For three lamp application, cap any unused blue lead. Insulate to 600 volts.
QUICKTRONIC 4x32

Dimensions Standard Enclosure:
Overall: 9.5" L x 2.38" W x 1.6" H
Mounting: 8.90"

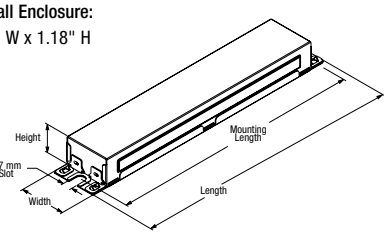
Product Weight:
2.8 lbs ea. (approx.)

Wiring:
Leads only,
no connectors provided



Dimensions "SC" Small Enclosure:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs ea. (approx.)



Item Number — **49713 QTP 2 x 32T8 / 347 ISN - SC** — Case Size
QUICKTRONIC Professional — Starting/Ballast Factor
Number of Lamps (1, 2, 3, 4) — Line Voltage
Primary Lamp Wattage

Specifications subject to change without notice.

Performance Guide

Data shown based upon SYLVANIA OCTRON® FO32/XP® & FO96 T8 XP Lamp(s).

QUICKTRONIC® ballasts are also compatible with other lamp manufacturers' equivalent lamp types that meet ANSI specifications.

Specifications

Starting Method: Instant Start
Ballast Factor: 0.88 & 1.20
Circuit Type: Parallel
Lamp Frequency:
All SC models >42 kHz
Standard enclosure >20 kHz
Lamp CCF: Less than 1.7
Starting Temp:[3]
QTP models: -20°F (-29°C) for OCTRON T8 lamps
QT models: 0°F (-18°C) for OCTRON T8 lamps
60°F (16°C) for SUPERSAVER® T8 lamps
0°F (-18°C) for FO40T8
Input Frequency: 60 Hz
THD: QTP <10%, QT <20%
Power Factor: >97%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max. Case Temperature
FCC 47 CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
ANSI 62.41 Cat. A Transient Protection
GFCI compatible
Emergency ballast compatible
Remote Mounting (Max. wire length from ballast case to lampholder):
- 20 ft: full wattage T8s
- 10 ft: energy saving T8s
- 4 ft: 25W energy saving T8s

3 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QUICKTRONIC® High Efficiency T5 Systems

Same light, less power

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart® T5 Universal Voltage electronic ballasts operate PENTRON® T5 lamps saving more than 2 watts as compared to standard T5 ballasts. These feature programmed rapid start lamp starting and operation which provides optimum conditions to deliver up to 100,000 switching cycles for use on occupancy sensors and building control systems.

Features

- High efficiency
- Operates one or two lamps
- Universal voltage
- Available with or without leads

Applications

- Cove lighting
- Indirect lighting
- Office
- Surface mount

Benefits

- Greater energy savings
- Simplifies emergency ballast wiring
- Reduces SKUs
- Greater flexibility for installers
- Environmentally friendlier

Market Segments

- Hospitality
- Institutional
- Office
- Retail

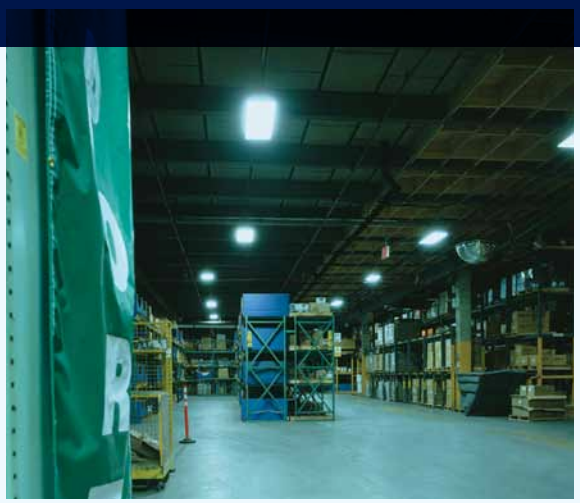
System Performance Comparison

System Type (Two-lamp)	Input Power (W)	Initial System Lumens	System Efficacy (LPW)
F40T12 - Standard Magnetic	96	5795	60
F40T12 - Energy-Saving Magnetic	86	5795	67
F34T12 - Energy-Saving Magnetic	72	4750	66
QTP2x32IS - FO32/700	59	4930	84
QHE2x28T5/UNV PSN - FP28/800	**63/62**	**5800**	**92/94**

the system solution®

QUICKTRONIC® High Efficiency T5HO Systems

Same light, less power



Features

- New high efficiency four-lamp 54W T5HO switchable models available in UNV (120-277V) and (347-480V) high temperature (90°C)
- New four-lamp - SCL (Small Can Long) leads only: 16.7in. L x 1.68in. W x 1.18in. H
- New 2/1 lamp 54W T5HO high efficiency models
  – 70°C and 90°C maximum case temperature

Applications

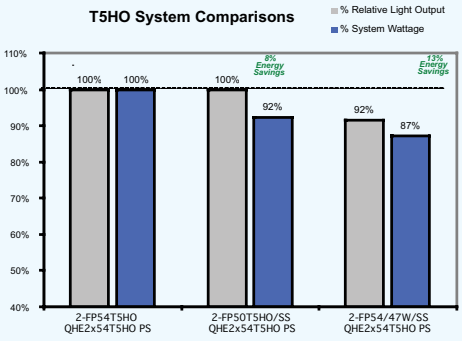
- Cove lighting
- High Bay
- Indirect lighting
- Surface mount

Benefits

- Greater energy savings
- Allows for smaller luminaire designs
- Expands family to support 4X54 347-480V applications
- Simplifies emergency ballast wiring
- Greater flexibility for installers
- Environmentally friendlier

Market Segments

- Industrial
- Institutional
- Office
- Retail



the system solution®

QUICKTRONIC® PROStart™ T5 Universal Systems

<10% THD Electronic T5 Fluorescent Programmed Rapid Start 0.90BF & QUICKSTEP® Bi-Level Dimming Systems

RoHS compliant

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON®
2-lamp QHE2x28T5/UNV PS90SC
QHES2x28T5/UNV PS90SC

Also operates:
FP14 and FP21T5 lamps

Key System Features

- High efficiency systems over 90% efficient
- First T5 system to achieve up to 104 LPW (lm/w)
- Universal voltage (120-277V)
- QUICKSTEP stepped switching bi-level dimming (0.90BF to 0.35BF)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Suitable for use with occupancy sensors
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- <10% THD total harmonic distortion at full power
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PREMIER XP T5 ballasts
are ideally suited for:

- Office
- Schools
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Renovations

SYLVANIA QUICKTRONIC High Efficiency PROStart T5 ballasts with a 0.90 ballast factor are optimally paired with high lumen output PENTRON PREMIER XP T5 ECOLOGIC® to deliver comparable light output to standard 1.0 ballast factor T5 systems, but with up to15% energy savings. The offering also includes QUICKSTEP bi-level dimming ballasts. These ballasts are designed to meet California Energy Commission's Title 24* requirements for multi-level lighting controls (Section 131). The combined lamp and ballast system offers a higher efficiency system for T5 luminaires.

QUICKTRONIC QHE PROStart T5 ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

The ballasts are RoHS Compliant, featuring lead-free solder and manufacturing process. Setting the standard for quality, PENTRON PREMIER XP Systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

**California's Energy Efficiency Standards 2008 Title 24 Section 131.*

System Information

QUICKTRONIC PREMIER XP T5 Systems operate from 120V through 277V, 50/60 Hz, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

PROStart programmed rapid start ballasts deliver optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Comparisons	Input Wattage	System Lumens	System LPW
QHES2x28T5/UNV PS90SC - FP28T5PM/XP/ECO (2 lamp) Full Power	55/54	5625	102/104
QHES2x28T5/UNV PS90SC - FP28T5PM/XP/ECO (2 lamp) 50% Power	27	2190	81
F34T12 - Energy Saver Magnetic (2 lamp)	72	4660	65
F32T8 - 3 lamp Instant Start Electronic	88	7525	86

The QUICKSTEP system has two AC line inputs in addition to the neutral wire. These AC line inputs must be connected to the same phase of the line voltage. The two line inputs can be configured to provide a bi-level light output system by wiring the system with two switches. Each switch provides 50% power to the ballast. When both switches are on, the lamps operate at full light output.

When either switch is off, the lamps operate in a dimmed mode and the ballast draws 50% of the full light power.

Alternatively, QUICKSTEP ballasts can be controlled by occupancy sensors allowing for customized zone controls and various energy saving configurations.

Rated lamp lumens and performance data based on PENTRON PREMIER XP ECOLOGIC® lamps.

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: 50°F (10°C) minimum
Input Frequency: 50/60 Hz
Low THD: <10% (Full power)
<20% THD (@50% power)
Power Factor: >98% (Full power)
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor, CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer
Class A+ Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting up to 8 feet for QHE models and 7 feet for QHES models.

4 Complies with European Union Restriction of Hazardous Substances Directive

SPECIFICATION DATA

Catalog # Date Type

Project Prepared by

Comments

0.90 BF Fixed Output & QUICKSTEP® Bi-Level High Efficiency Systems (120-277V)

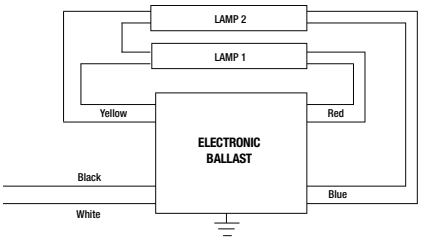
RoHS compliant

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120V	Input[1] Power (W) 277V	System[3] Efficacy (lm/W)	BEF[2]
QUICKSTEP Bi-Level 100-50% Power Switchable Models (High Efficiency Systems)													
	QHES2x28T5/UNV PS90SC	(@100%)	0.46/0.20	FP28T5XP	3125	2	0.90	5625	5345	55	54	104	1.67
51496 ✪	*10-Pack*	(@50%)	0.23/0.10	FP28T5XP	3125	2	0.35	2190	2080	27	27	81	1.30
49176 ✪	*Pallet Pack*	(@100%)	0.46/0.20	FP28T5PM/ECO	3050	2	0.90	5490	5215	55	54	102	1.67
		(@50%)	0.23/0.10	FP28T5PM/ECO	3050	2	0.35	2135	2030	27	27	79	1.30
		(@100%)	0.46/0.20	FP28T5	2900	2	0.90	5220	4960	55	54	97	1.67
		(@50%)	0.23/0.10	FP28T5	2900	2	0.35	2030	1930	27	27	75	1.30
		(@100%)	0.35/0.16	FP21T5	2100	2	0.92	3865	3595	42	42	92	2.19
		(@50%)	0.18/0.09	FP21T5	2100	2	0.37	1555	1445	22	22	71	1.68
		(@100%)	0.24/0.12	FP14T5	1350	2	0.95	2565	2385	29	29	88	3.28
		(@50%)	0.14/0.07	FP14T5	1350	2	0.37	1000	930	17	17	59	2.18
QHE Fixed Output BF 0.90 (High Efficiency Systems)													
	QHE2x28T5/UNV PS90SC		0.46/0.20	FP28T5XP	3125	2	0.90	5625	5345	55	54	104	1.67
51495 ✪	*10-Pack*		0.46/0.20	FP28T5PM/ECO	3050	2	0.90	5490	5215	55	54	102	1.67
			0.46/0.20	FP28T5	2900	2	0.90	5220	4960	55	54	97	1.67
			0.35/0.16	FP21T5	2100	2	0.92	3865	3595	42	42	92	2.19
			0.24/0.12	FP14T5	1350	2	0.95	2565	2385	29	29	88	3.28

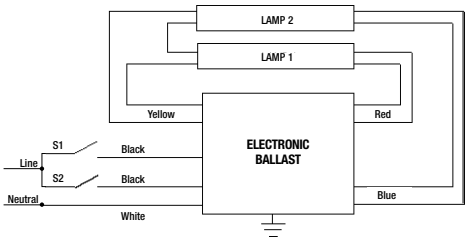
1 At 35°C lamp ambient temperature. Also compatible with equivalent lamp types that meet ANSI standards.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value.
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case
- For QUICKSTEP ballasts, the AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of QUICKSTEP ballasts



2-Lamp QHE
Fixed output only

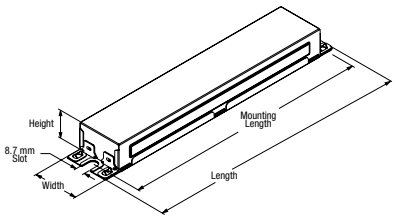


2-Lamp QHES (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode (50% power) S1 or S2 open (off)

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Wiring:
Leads only
(no connectors provided)

Packaging:
Quantity: 840 pc pallet
Weight: 1.6 lbs each (approx.)



Wire Lead Lengths:
Black and White: 18"
Yellow: 14"
Red and Blue: 9"

QUICKTRONIC High Efficiency QHE or also available in QUICKSTEP (QHES) — **QHES 2 x 28T5 / UNV PS 90 SC**
- Number of Lamps
- Primary Lamp Wattage/Type
- Enclosure Type (SC - Small Can)
- Ballast Factor (90)
- Starting Type - PROStart
- Line Voltage (120-277V)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to our QUICK 60+® warranty bulletin.

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Specifications subject to change without notice.

QUICKTRONIC® PROStart® T5 Universal Voltage Systems

RoHS compliant

Type CC
Programmed Rapid Start
Normal Ballast Factor

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps
1 or 2 lamp QHE2x28T5/UNV PSN

Primary Lamp Type:
FP28

Also operates:
FP14, FP21, FP35

Two lamp fixed output model can be wired for one lamp operation.

Key System Features

- High Efficiency Systems over 90% efficient
- Universal voltage (120-277V)
- Low-profile (0.87" High)
- 1.0 Ballast factor (see table)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Min. starting temperature
  - -20°F (-29°C)
- Operates at >42 kHz to reduce potential interference with infrared control systems
- Meet the most demanding utility rebate standards
- UL Type CC rated
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PS ballasts are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart T5 Universal Voltage electronic ballasts operate PENTRON T5 lamps saving >2 watts as compared to standard T5 ballasts.

QUICKTRONIC PROStart T5 ballasts feature programmed rapid start lamp starting and operation which provides optimum conditions to deliver up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKTRONIC PROStart T5 ballasts are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5 systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

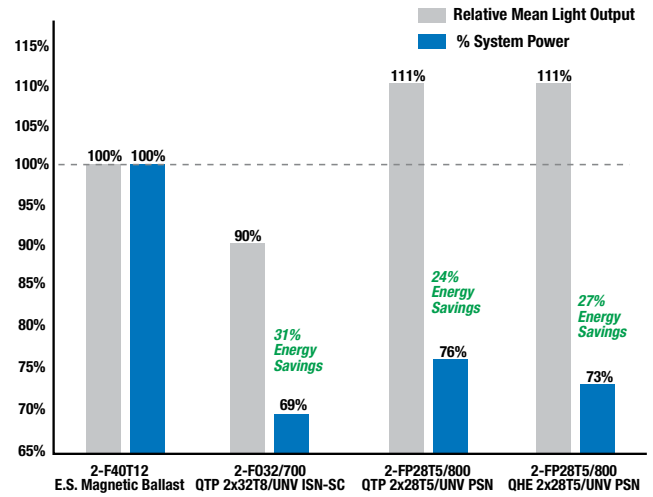
System Information

SYLVANIA QUICKTRONIC PS T5 High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Type (2-lamp)	Input Power (W)	Initial System Lumens	Initial System Efficacy (LPW)	Mean System Lumens	Relative Mean Light Output	Energy Savings (%)
2-F40T12 ES Mag. Ballast	86	5795	67	4925	100%	Baseline
2-FO32/700 QTP2x32T8/UNV ISN-SC	59	4930	84	4435	90%	31%
2-FP28T5/800 QTP2x28T5/UNV PSN	65	5800	89	5395	111%	24%
2-FP28T5/800 QHE2x28T5/UNV PSN	63	5800	92	5395	111%	27%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

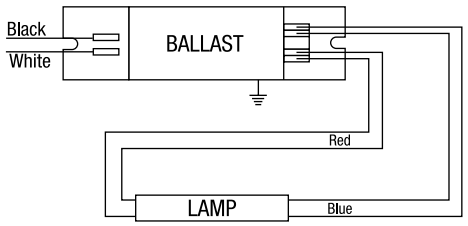
Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Type CC & Universal Voltage (120-277V)

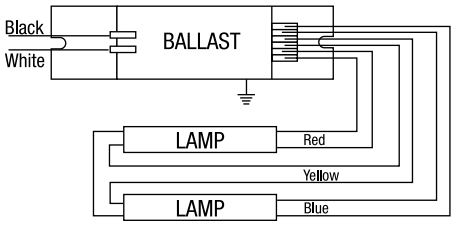
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120V	277V	System[3] Efficacy (lm/W)	BEF[2]
	QHE2x28T5/UNV PSN	0.55/0.23	FP28T5	2900	2	1.00	5800	5395	63	62	94	1.61
51473 ✪	*20-pack (without leads)*	0.68/0.29	FP35T5	3650	2	0.99	7225	6720	80	78	93	1.27
(51472) ✪	*10-pack (with leads)*	0.39/0.18	FP21T5	2100	2	1.01	4240	3945	47	46	92	2.20
		0.27/0.13	FP14T5	1350	2	1.03	2780	2585	32	32	87	3.22
		0.27/0.12	FP28T5	2900	1	1.00	2900	2695	33	32	91	3.13
		0.34/0.15	FP35T5	3650	1	1.02	3725	3460	41	40	93	2.55
		0.21/0.10	FP21T5	2100	1	1.04	2185	2030	25	24	91	4.33
		0.15/0.07	FP14T5	1350	1	1.03	1390	1295	17	17	82	6.06

1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value.
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*



1 LAMP

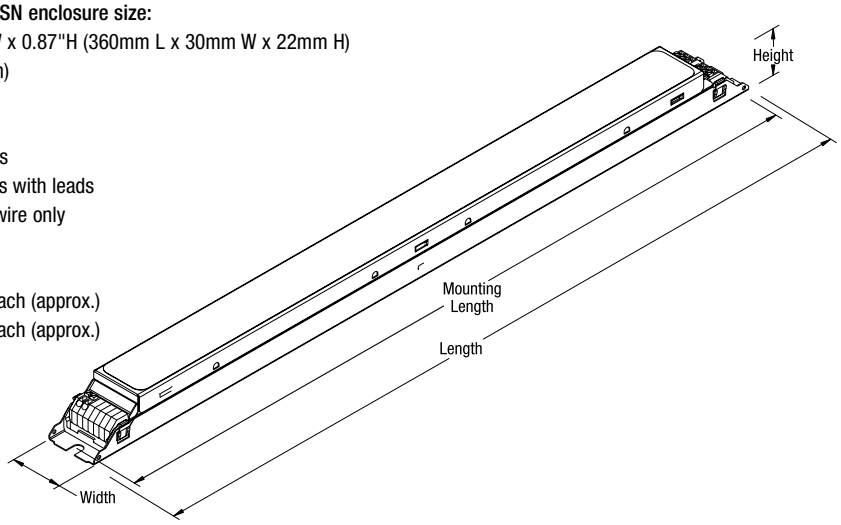


2 LAMP

Dimensions:
Model QHE2x28T5/UNV PSN enclosure size:
Overall: 14.17"L x 1.18"W x 0.87"H (360mm L x 30mm W x 22mm H)
Mounting: 13.74" (349mm)

Wiring:
51473: Push-in connectors
51472: Push-in connectors with leads
Use 18AWG solid copper wire only

Product Weight:
51473: 0.68 lb (0.30kg) each (approx.)
51472: 0.88 lb (0.40kg) each (approx.)



Item Number — **51473 QHE 2 x 28T5 / UNV PSN** — Starting/Ballast Factor
QUICKTRONIC High Efficiency — Line Voltage (120-277V)
Number of Lamps (2) — Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[4]

Starting Method: Programmed Rapid Start
Ballast Factor: 1.00 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: -20°F (-29°C)[5]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Type CC rated
UL Listed Class P, Type 1, Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
QUICKSENSE Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet . Remote red leads up to 18 feet. Keep blue leads <10 feet.
RoHS Compliant[6]

4 Data based on PENTRON 28W lamp types for primary ballast application.

5 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

6 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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(1-800-544-4828)
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Specifications subject to change without notice.

QUICKTRONIC® PROStart® T5HO Universal High Ambient Temp. Systems

RoHS compliant

Type CC
Programmed Rapid Start
Normal Ballast Factor HT

High Efficiency Series

Lamp / Ballast Guide

54W T5HO - PENTRON® lamps
1 or 2-lamp:
QHE2x54T5HO/UNV PSN-HT
4-lamp Switchable:
QHE4x54T5HO/UNV PSN-HT-SCL (leads)

Also operates:
FP54/SS, FT50DL, FT55DL, FPC55, L58T8

1 or 2 lamps on 2L ballast
1, 2, 3, or 4 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- 90°C maximum case temp.
- Universal voltage (120-277V)
- 1.0 ballast factor (see table)
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- UL type CC rated
- -20°F (-29C) min. starting temp.
- Operates at >42 kHz to reduce potential interference with infrared control systems
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC T5HO HT ballasts are ideally suited for:

- Industrial high-bay
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart T5HO High Ambient Temperature electronic ballasts operate PENTRON HO, PENTRON HO Circline, and DULUX® L T5 lamps saving >2 watts as compared to standard T5HO ballasts and are available in 2-lamp and 4-lamp models.

These ballasts are specifically designed for applications where the ballast is subjected to higher ambient temperatures, as in high bay industrial installations.

PENTRON T5HO lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.

These systems are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

QUICKTRONIC QHE PROStart T5HO HT ballasts are also covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency PROStart T5HO High Ambient System advantages:

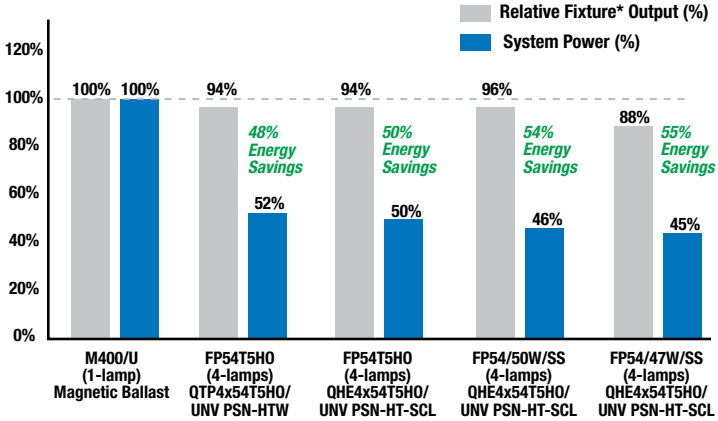
- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the lamp glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when spent lamps are replaced with new ones.

The two lamp unit can be wired for two or one lamp operation. The four lamp "switching" ballast is designed to switch from 4 to 2-lamps, 3 to 2-lamps, 3 to 1-lamp or 2 to 1-lamp. The switching feature can be used with control interfaces, including occupancy sensors.

System Type	Input System Power (W)	Initial Fixture* LPW	Mean Fixture* Lumens	Relative Fixture* Output (%)	Energy Savings (%)
M400/U (1-lamp) Magnetic Ballast	452	61	17,784	Baseline	Baseline
FP54T5HO (4-lamps) QTP4x54T5HO/UNV PSN-HTW	236	76	16,740	94%	48%
FP54T5HO (4-lamps) QHE4x54T5HO/UNV PSN-HT-SCL	226	80	16,740	94%	50%
FP54/50W/SS (4-lamps) QHE4x54T5HO/UNV PSN-HT-SCL	209	88	17,075	96%	54%
FP54/47W/SS (4-lamps) QHE4x54T5HO/UNV PSN-HT-SCL	204	82	15,625	88%	55%

**Based on Fixture Efficiency: 76% for M400 and 90% for FP54T5HO lamps*
**277V input voltage*
**Lumen output for T5HO @ 35°C/95°F*



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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency, Type CC, High Ambient, Universal Voltage (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120V	Input[1] Power (W) 277V	System[3] Efficacy (lm/W)	BEF[2]
QHE 2x54T5HO Fixed Output												
	QHE2x54T5HO/UNV PSN-HT	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	119	116	86	0.86
51476 ✪	*20-pack (without leads)*	0.94/0.40	FP54/50W/SS	5000	2	1.02	10,200	9485	112	109	94	0.94
(51475) ✪	*10-pack (with leads)*	**0.89/0.38**	**FP54/47W/SS**	**4575**	**2**	**1.02**	**9375**	**8720**	**105**	**103**	**91**	**0.99**
		0.88/0.37	FT55DL	4800	2	0.86	8255	7680	106	105	79	0.82
		0.99/0.42	FT50DL	4300	2	1.04	8945	8320	110	108	83	0.96
		0.92/0.39	L58	5200	2	0.85	8840	8220	111	108	82	0.79
		0.82/0.35	FPC55	4000	2	0.80	6400	5950	96	94	68	0.85
		0.53/0.23	FP54T5HO	5000	1	1.05	5250	4885	62	61	86	1.72
		0.49/0.21	FP54/50W/SS	5000	1	1.05	5250	4885	58	58	91	1.81
		0.45/0.20	**FP54/47W/SS**	**4575**	**1**	**1.03**	**4690**	**4365**	**53**	**53**	**88**	**1.94**
		0.49/0.21	FT55DL	4800	1	0.92	4415	4105	56	55	80	1.67
		0.51/0.22	FT50DL	4300	1	1.09	4685	4360	57	57	82	1.91
		0.48/0.21	L58	5200	1	0.87	4525	4205	57	57	79	1.53
		0.45/0.20	FPC55	4000	1	0.81	3240	3015	49	49	66	1.65
QHE 4x54T5HO Switchable Model												
51480 ✪	QHE4x54T5HO/UNV PSN-HT-SCL	2.00/0.90	FP54T5HO	5000	4	1.00	20,000	18,600	233	226	88	0.44
	10-pack (with leads)	1.77/0.76	FP54/50W/SS	5000	4	1.02	20,400	18,970	213	209	98	0.49
		1.75/0.75	**FP54/47W/SS**	**4575**	**4**	**1.02**	**18,665**	**17,360**	**210**	**204**	**91**	**0.50**
		1.82/0.78	FT55DL	4800	4	0.91	17,470	16,250	218	213	82	0.43
		1.90/0.81	FT50DL	4300	4	1.02	17,545	16,315	227	222	79	0.46
		1.87/0.89	L58	5200	4	0.87	18,095	16,830	223	216	84	0.40
		1.77/0.77	FPC55	4000	4	0.88	14,080	13,095	212	210	67	0.42
		1.50/0.65	FP54T5HO	5000	3	1.03	15,450	14,370	182	179	86	0.58
		1.43/0.62	FP54/50W/SS	5000	3	1.04	15,600	14,510	171	167	93	0.62
		1.34/0.58	**FP54/47W/SS**	**4575**	**3**	**1.04**	**14,275**	**13,275**	**160**	**156**	**92**	**0.67**
		1.39/0.60	FT55DL	4800	3	0.92	13,250	12,320	166	163	81	0.56
		1.43/0.62	FT50DL	4300	3	1.03	13,285	12,355	170	167	80	0.62
		1.42/0.61	L58	5200	3	0.89	13,885	12,910	169	166	84	0.54
		1.38/0.60	FPC55	4000	3	0.92	11,040	10,265	164	162	68	0.57
		1.00/0.45	FP54T5HO	5000	2	1.02	10,200	9485	120	118	86	0.86
		0.95/0.42	FP54/50W/SS	5000	2	1.03	10,300	9580	110	107	96	0.96
		0.88/0.39	**FP54/47W/SS**	**4575**	**2**	**1.03**	**9425**	**8765**	**104**	**102**	**92**	**1.01**
		0.92/0.41	FT55DL	4800	2	0.93	8930	8305	110	107	83	0.87
		0.94/0.42	FT50DL	4300	2	1.04	8945	8320	112	109	82	0.95
		0.93/0.41	L58	5200	2	0.88	9150	8510	112	109	84	0.81
		0.91/0.41	FPC55	4000	2	0.90	7200	6695	109	106	68	0.85
		0.51/0.25	FP54T5HO	5000	1	1.05	5250	4885	60	59	89	1.78
		0.49/0.24	FP54/50W/SS	5000	1	1.06	5300	4930	57	56	95	1.89
		0.45/0.23	**FP54/47W/SS**	**4575**	**1**	**1.06**	**4850**	**4510**	**54**	**53**	**92**	**2.00**
		0.47/0.23	FT55DL	4800	1	0.90	4320	4020	56	55	79	1.64
		0.48/0.24	FT50DL	4300	1	1.04	4470	4160	57	57	78	1.82
		0.49/0.24	L58	5200	1	0.90	4680	4350	58	57	82	1.58
		0.48/0.24	FPC55	4000	1	0.95	3800	3535	57	55	69	1.73

1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

Item Number — **51480 QHE 4 x 54 T5HO / UNV PSN HT SCL** — Case Size
QUICKTRONIC High Efficiency — High Ambient Temperature (Case)
Number of Lamps — Starting/Ballast Factor
Primary Lamp Wattage — Line Voltage (120-277V)

Performance Guide

Data based upon SYLVANIA PENTRON® HO lamps shown. QUICKTRONIC® T5HO HT ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[4]

Starting Method: Programmed Rapid Start
Ballast Factor: see table
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: -20°F (-29°C) min.[5]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1, Outdoor
UL Type CC Rated
CSA Certified
High Ambient Applications:
90°C Max. Case Temp. (3 yr. warranty)
Standard Ambient Applications:
70°C Max. Case Temp. **(5 yr. warranty)**
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
RoHS Compliant[6]
ANSI C62.41 Cat. A Transient Protection
QUICKSENSE® Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet. (Red leads to 18', keep Blue lead <10 feet.)

4 Data based on PENTRON HO lamp types for primary ballast application.

5 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

6 Complies with European Union Restriction of Hazardous Substances Directive (Directive 2002/95/EC).

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, the industry's first and most comprehensive system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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Specifications subject to change without notice.

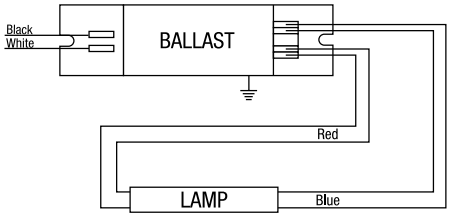
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

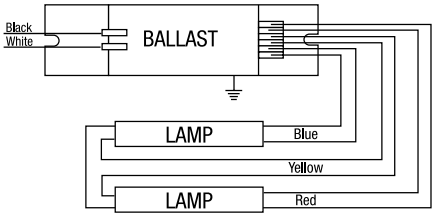
2 Lamp, High Efficiency, Type CC, High Ambient, Universal Voltage (120-277V)

RoHS compliant

Wiring Diagram



1 LAMP

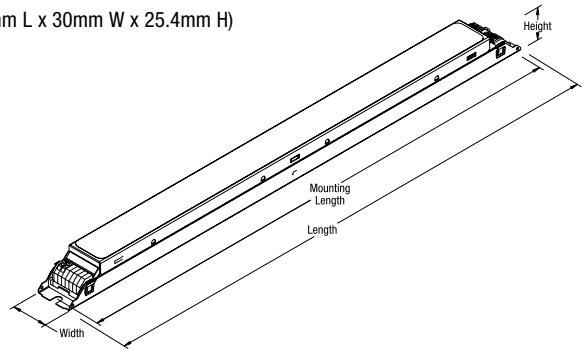


2 LAMP

Dimensions:
Model QHE2x54T5HO/UNV PSN-HT enclosure size:
Overall: 16.73" L x 1.18" W x 1.00" H (425mm L x 30mm W x 25.4mm H)
Mounting: 16.34" (415mm)

Wiring:
51476: Push-in connectors
51475: Push-in connectors with leads
(Use 18AWG solid copper wire only)

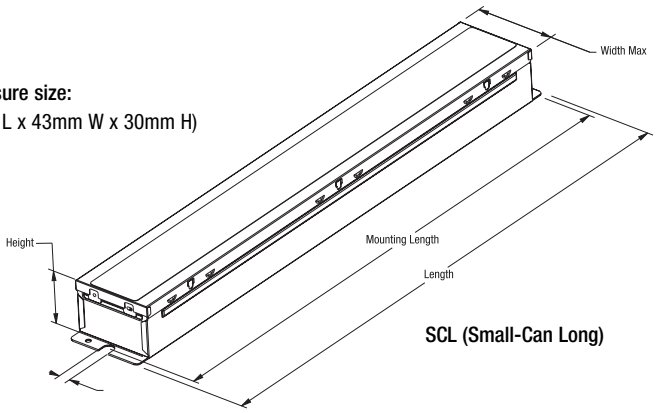
Product Weight:
51476: 0.88 lb (0.40kg) each (approx.)
51475: 1.0 lb (0.45kg) each (approx.)



Dimensions:
Model QHE4x54T5HO/UNV PSN-HT-SCL enclosure size:
Overall: 16.73" L x 1.68" W x 1.18" H (425mm L x 43mm W x 30mm H)
Mounting: 16.34" (415mm)

Wiring:
51480: Leads only (no connectors provided)

Product Weight:
51480: 2.4 lbs (1.08kg) each (approx.)



SCL (Small-Can Long)

2 LAMP T5HO UNV HT Fixed Output Ballast

High Efficiency

Lamp / Ballast Guide

Installation Notes

- Install in accordance with National & Local Electric Code
- Ground ballast case
- Switching: Simultaneously disconnect all ungrounded line conductors
- Insulate unused leads for 600V

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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

4 Lamp, High Efficiency, Type CC, High Ambient, Universal Voltage (120-277V)

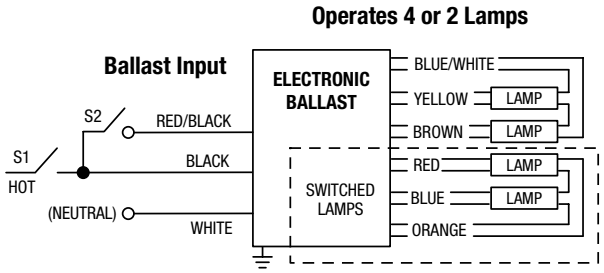
RoHS compliant

Wiring Diagram

High Ambient Switchable Model (90°C case temp.)
51480 QHE 4x54T5HO/UNV PSN-HT-SCL

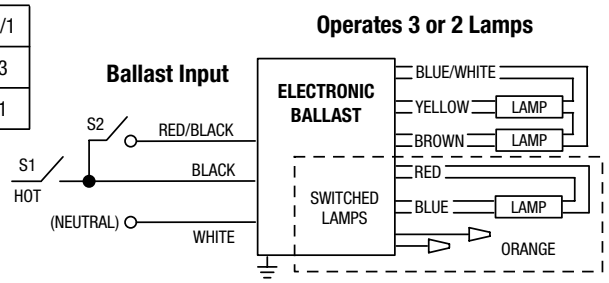
4-Lamp Switching Wiring Diagram (4L to 2L)

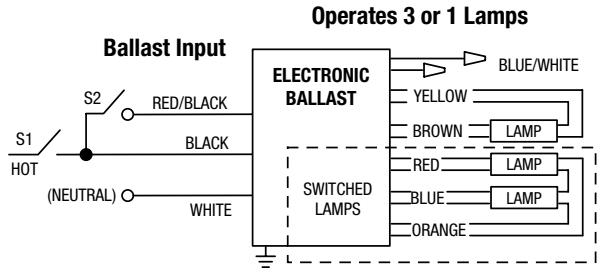
S1	S2	4/2
ON	ON	4
ON	OFF	2



3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

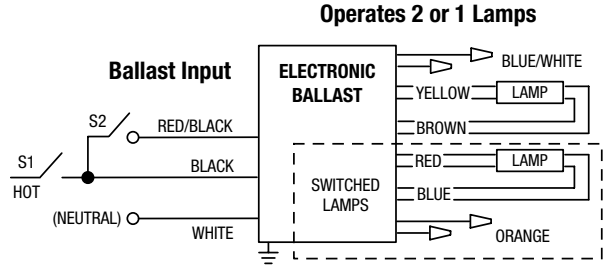
S1	S2	3/2	3/1
ON	ON	3	3
ON	OFF	2	1





2-Lamp Switching Wiring Diagram (2L to 1L)

S1	S2	2/1
ON	ON	2
ON	OFF	1



4 LAMP T5HO UNV HT Switchable Ballast

High Efficiency

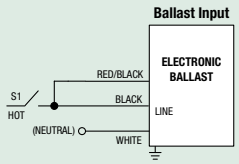
Switching Schematics

QHE T5HO PSN HT

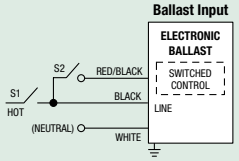
Installation Notes

- Install in accordance with National & Local Electric Code
- Ground ballast case
- Switching: Simultaneously disconnect all ungrounded line conductors
- The AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of the ballast

Input wiring for non-switching operation
Connect Red/Black to Black Line for All Lamps ON (no S2)



Input wiring for occupancy sensors
(Install occupancy sensor/switch between *Red/Black lead "S2" is the* occupancy sensor)



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QUICKTRONIC® PROStart® T5HO Universal Voltage Systems

RoHS compliant

Type CC
Programmed Rapid Start
Normal Ballast Factor

High Efficiency Series

Lamp / Ballast Guide

39W or 24W T5 - PENTRON® HO lamps
QHE2x39-24T5HO/UNV PSN
Also operates:
FP39/SS, FP24/SS, FPC22, FT24DL, FT36DL

54W T5 - PENTRON® HO lamps
QHE2x54T5HO/UNV PSN
Also operates:
FP54/SS, FT55DL, FT50DL, FPC55 and L58T8

Two lamp model can be wired for one lamp operation.

Key System Features

- High Efficiency Systems over 90% efficient
- Universal voltage (120-277V)
- Low-profile (1.00" High)
- 1.0 Ballast factor (see table)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- UL type CC rated
- Min. Starting Temp:
  - -20°F (-29°C)
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency T5HO ballasts are ideally suited for:

- Commercial & retail
- Hospitality & institutional
- New construction
- Industrial high bay lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart T5HO electronic ballasts operate PENTRON HO, PENTRON HO Circline and DULUX® L T5 lamps with full lumen output and optimal system performance. These ballasts provides nearly twice the light output (188%) of T8 systems, with the same number of lamps, allowing many new design options. One lamp fixtures can now be used in place of two lamp models.

QUICKTRONIC High Efficiency T5HO ballasts offer a minimum starting temperature of -20°F (-29°C) for PENTRON T5HO lamps.

QUICKTRONIC PROStart T5HO ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

The two lamp unit can be wired for one lamp operation, allowing for an additional 50% reduction in inventory model numbers. The ballast has a 1.18"W x 1.00"H (30mm x 25.4mm) cross section which allows for smaller and unique fixture profiles.

Setting the standard for quality, QUICKTRONIC ballasts are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

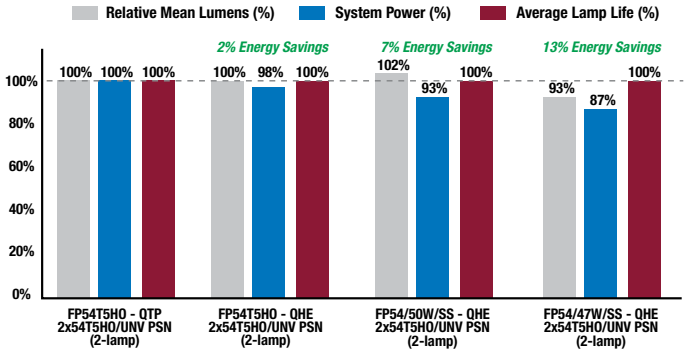
SYLVANIA QUICKTRONIC T5HO High Efficiency (QHE) System advantages:

- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Type	Input System Power (W)	Initial System Lumens	Mean System Lumens	Initial System Efficacy (lm/W)	Relative Mean Lumens (%)	Energy Savings (%)
FP54T5HO - QTP2x54T5HO/UNV PSN (2-lamp)	121	10,000	9300	83	Baseline	Baseline
FP54T5HO - QHE2x54T5HO/UNV PSN (2-lamp)	119	10,000	9300	84	100%	2%
FP54/50W/SS - QHE2x54T5HO/UNV PSN (2-lamp)	112	10,200	9485	91	102%	7%
FP54/47W/SS - QHE2x54T5HO/UNV PSN (2-lamp)	105	9335	8680	89	93%	13%

*Fixture efficiency not considered *Lumen Output for T5HO @ 35°C/95°F * 120V input voltage



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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency, Type CC & Universal Voltage (120-277V)

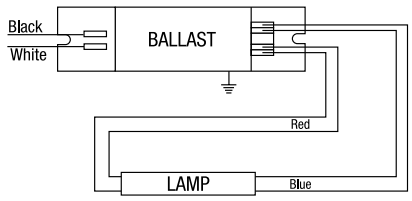
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (Watts) 120V	277V	System[3] Efficacy (lm/W)	BEF[2]
	QHE2x54T5HO/UNV PSN	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	119	116	86	0.86
51471 ✪	*20-pack (without leads)*	0.94/0.40	FP54/50W/SS	5000	2	1.02	10,200	9485	112	109	94	0.94
51470 ✪	*10-pack (with leads)*	**0.89/0.38**	**FP54/47W/SS**	**4575**	**2**	**1.02**	**9335**	**8680**	**105**	**103**	**91**	**0.99**
		0.88/0.37	FT55DL	4800	2	0.86	8255	7680	106	105	79	0.82
		0.90/0.42	FT50DL	4300	2	1.04	8945	8320	110	108	83	0.96
		0.92/0.39	L58	5200	2	0.85	8840	8220	111	108	82	0.79
		0.82/0.35	FPC55	4000	2	0.80	6400	5950	96	94	68	0.85
		0.53/0.23	FP54T5HO	5000	1	1.05	5250	4885	62	61	86	1.72
		0.49/0.21	FP54/50W/SS	5000	1	1.05	5250	4885	58	58	91	1.81
		0.45/0.20	**FP54/47W/SS**	**4575**	**1**	**1.03**	**4710**	**4380**	**53**	**53**	**89**	**1.94**
		0.49/0.21	FT55DL	4800	1	0.92	4415	4105	56	55	80	1.67
		0.51/0.22	FT50DL	4300	1	1.09	4685	4360	57	57	82	1.91
		0.48/0.21	L58	5200	1	0.87	4525	4205	57	57	79	1.53
		0.45/0.20	FPC55	4000	1	0.81	3240	3015	49	49	66	1.65
	QHE2x39/24T5HO/UNV PSN	0.70/0.30	FP39T5HO	3500	2	1.00	7000	6510	83	81	86	1.23
51479 ✪	*20-pack (without leads)*	0.65/0.28	FP39/35W/HO/SS	3500	2	1.01	7070	6575	77	76	93	1.33
51478 ✪	*10-pack (with leads)*	0.47/0.21	FP24T5HO	2000	2	1.00	4000	3720	54	53	75	1.89
		0.43/0.19	FP24/21W/HO/SS	2000	2	1.01	4040	3757	51	50	81	2.02
		0.37/0.16	FP39T5HO	3500	1	1.01	3535	3288	42	42	84	2.40
		0.35/0.16	FP39/35W/HO/SS	3500	1	1.02	3570	3320	41	40	89	2.55
		0.25/0.12	FP24T5HO	2000	1	1.01	2020	1879	29	29	70	3.48
		0.23/0.11	FP24/21W/HO/SS	2000	1	1.02	2040	1897	27	27	76	3.78

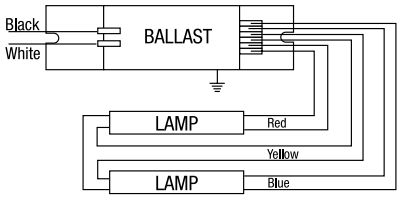
1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value.
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

Installation Notes

- Ground ballast case
- Install in accordance with the National Electrical Code
- Insulate unused leads for 600V



1 LAMP

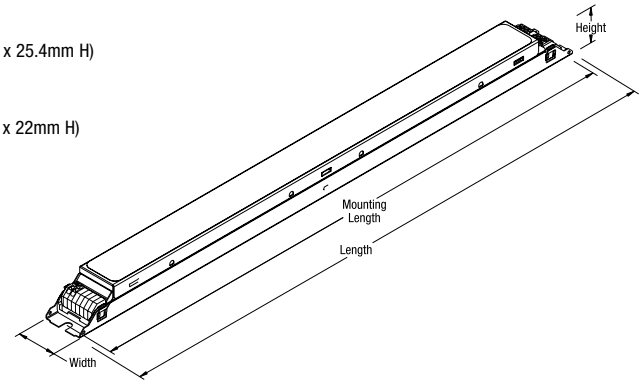


2 LAMP

Dimensions:
Model QHE2x54T5HO/UNV PSN enclosure size:
Overall: 16.73"L x 1.18"W x 1.00"H (425mm L x 30mm W x 25.4mm H)
Mounting: 16.34" (415mm)
Model QHE2x39/24T5HO/UNV PSN enclosure size:
Overall: 14.17"L x 1.18"W x 0.87"H (360mm L x 30mm W x 22mm H)
Mounting: 13.74" (349mm)

Wiring:
51471 & 51479: Push-in connectors
51470 & 51478: Push-in connectors with leads
Use 18AWG solid copper wire only

Product Weight:
51471: 0.88 lb (0.40kg) each (approx.)
51470: 1.0 lb (0.45kg) each (approx.)
51479: 0.68 lb (0.30kg) each (approx.)
51478: 0.80 lb (0.36kg) each (approx.)



Item Number — **51471 QHE 2 x 54T5HO UNV PSN** — Starting/Ballast Factor
QUICKTRONIC High Efficiency — Line Voltage (120-277V)
Number of Lamps (2) — Primary Lamp Wattage

Specifications subject to change without notice.

NEW

Normal Ballast Factor

T5HO PROStart®

High Efficiency

Performance Guide

Data based upon SYLVANIA PENTRON® HO lamps shown. QUICKTRONIC® T5HO ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[4]

Starting Method: Programmed Rapid Start
Ballast Factor: 1.00 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: -20°F (-29°C)[5]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1, Outdoor,
UL Type CC Rated
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
QUICKSENSE®: End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet. Remote red leads up to 18 feet. Keep blue leads <10 feet.
RoHS Compliant[6]

4 Data based on PENTRON HO lamp types for primary ballast application.

5 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

6 Complies with European Union Restriction of Hazardous Substances Directive. (Directive 2002/95/EC)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QHE T5HO PSN

QUICKTRONIC® PROStart® T5HO 347-480V High Ambient Temp. Systems

RoHS compliant

Type CC
Programmed Rapid Start
Normal Ballast Factor HT

High Efficiency Series

Lamp / Ballast Guide

54W T5 - PENTRON® HO lamps
1 or 2-lamp:
QHE2x54T5HO/347-480 PSN-HT
4-lamp Switchable:
QHE4x54T5HO/347-480 PSN-HT-SCL

Also operates:
FP54/SS, FT50DL, FT55DL, FPC55, L58T8

1 or 2 lamps on 2L ballast
1, 2, 3 or 4 lamps on 4L ballast

Key System Features

- High Efficiency Systems over 90% efficient
- 90°C maximum case temp.
- 347-480V input voltage range
- 1.0 ballast factor (see table)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- UL type CC rated
- -20°F (-29°C) min. starting temp.
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency T5HO HT ballasts are ideally suited for:

- Industrial high-bay
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart® T5HO 347-480V High Ambient (HT) electronic ballasts operate PENTRON HO, PENTRON HO Circline, and DULUX® L T5 lamps with full lumen output and optimal system performance.

QUICKTRONIC T5HO 347-480V HT electronic ballasts allow operation in industrial applications using a 480V AC system. This eliminates the need to rewire existing 480V installations or to drop the voltage by using expensive and bulky transformers. The same product can also be used for 347V applications, allowing for a reduction in inventory model numbers.

QUICKTRONIC T5HO 347-480V HT ballasts are specifically designed for high ambient temperature applications. The ballast may be operated at case temperatures of up to 90°C, making them an ideal choice for high ambient settings such as industrial high-bay lighting.

QUICKTRONIC T5HO 347-480V HT ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC T5HO 347-480V HT ballasts are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC High Efficiency PROStart T5HO 347-480V High Ambient System:

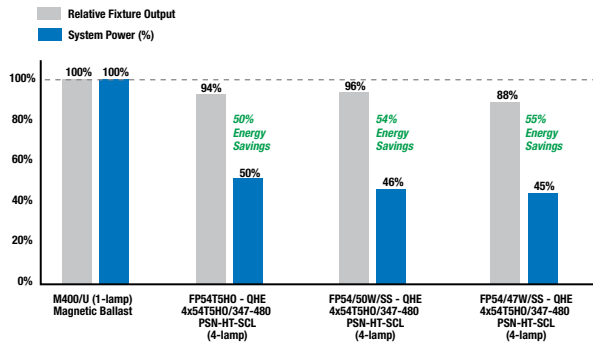
- Voltage errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

The two lamp unit can be wired for two or one lamp operation. The four lamp "switching" ballast is designed to switch from 4 to 2-lamps, 3 to 2-lamps, 3 to 1-lamp or 2 to 1-lamp. The switching feature can be used with control interfaces, including occupancy sensors.

System Type	Input System Power (W)	Initial Fixture* LPW	Mean Fixture* Lumens	Relative Fixture* Output	Energy Savings (%)
M400/U (1-lamp) Magnetic Ballast	452	61	17,784	Baseline	Baseline
FP54T5HO (4-lamps) QHE4x54T5HO/347-480 PSN-HT-SCL	228	79	16,740	94%	50%
FP54/50W/SS (4-lamps) QHE4x54T5HO/347-480 PSN-HT-SCL	207	89	17,075	96%	54%
FP54/47W/SS (4-lamps) QHE4x54T5HO/347-480 PSN-HT-SCL	203	83	15,625	88%	55%

*Based on Fixture efficiency: 76% for M400 and 90% for FP54T5HO
*480V input voltage
*Lumen Output for T5HO @ 35°C/95°F



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency, Type CC, High Ambient (347-480V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (Watts) 347V	480V	System[3] Efficacy (lm/W)	BEF[2]
QHE 2x54T5HO Fixed Output												
	QHE2x54T5HO/347-480 PSN-HT	0.35/0.25	FP54T5HO	5000	2	1.00	10,000	9300	118	117	85	0.85
51486 ✪	*20-pack (without leads)*	0.30/0.23	FP54/50W/SS	5000	2	1.00	10,000	9300	109	108	93	0.93
51485 ✪	*10-pack (with leads)*	**0.30/0.22**	**FP54/47W/SS**	**4575**	**2**	**1.02**	**9335**	**8680**	**104**	**102**	**92**	**1.00**
		0.32/0.23	FT55DL	4800	2	0.86	8255	7680	104	103	80	0.83
		0.33/0.24	FT50DL	4300	2	1.00	8600	8000	109	108	80	0.93
		0.31/0.22	L58	5200	2	1.00	10,400	9670	108	107	97	0.93
		0.26/0.22	FPC55	4000	2	0.75	6000	5040	91	90	67	0.83
		0.18/0.14	FP54T5HO	5000	1	1.00	5000	4650	60	59	85	1.69
		0.16/0.11	FP54/50W/SS	5000	1	1.01	5050	4695	56	55	92	1.84
		0.15/0.11	**FP54/47W/SS**	**4575**	**1**	**0.98**	**4484**	**4170**	**52**	**51**	**88**	**1.92**
		0.17/0.13	FT55DL	4800	1	0.87	4175	3885	55	54	77	1.61
		0.18/0.14	FT50DL	4300	1	1.02	4385	4080	57	56	78	1.82
		0.17/0.12	L58	5200	1	0.87	4525	4205	56	55	82	1.58
		0.14/0.11	FPC55	4000	1	0.77	3080	2585	48	47	66	1.64
QHE 4x54T5HO Switchable Model												
51481 ✪	QHE4x54T5HO/347-480 PSN-HT-SCL	0.67/0.48	FP54T5HO	5000	4	1.00	20,000	18,600	232	228	88	0.44
	10-pack (with leads)	0.63/0.45	FP54/50W/SS	5000	4	1.02	20,400	18,970	212	207	99	0.49
		0.59/0.43	**FP54/47W/SS**	**4575**	**4**	**1.02**	**18,665**	**17,360**	**205**	**203**	**92**	**0.50**
		0.63/0.46	FT55DL	4800	4	0.91	17,470	16,250	217	215	81	0.42
		0.66/0.48	FT50DL	4300	4	1.02	17,545	16,315	225	222	79	0.46
		0.62/0.45	L58	5200	4	0.97	20,175	18,765	214	213	95	0.46
		0.51/0.37	FPC55	4000	4	0.88	14,080	13,095	181	175	80	0.50
		0.51/0.37	FP54T5HO	5000	3	1.03	15,450	14,370	178	177	87	0.58
		0.48/0.35	FP54/50W/SS	5000	3	1.02	15,300	14,230	165	164	93	0.62
		0.45/0.33	**FP54/47W/SS**	**4575**	**3**	**1.04**	**14,275**	**13,275**	**156**	**155**	**92**	**0.67**
		0.48/0.35	FT55DL	4800	3	0.92	13,250	12,320	165	163	81	0.56
		0.49/0.36	FT50DL	4300	3	1.03	13,285	12,355	170	167	80	0.62
		0.47/0.34	L58	5200	3	0.97	15,130	14,075	162	162	93	0.60
		0.41/0.30	FPC55	4000	3	0.92	11,040	10,265	144	141	78	0.65
		0.33/0.24	FP54T5HO	5000	2	1.03	10,300	9580	118	116	89	0.89
		0.32/0.24	FP54/50W/SS	5000	2	1.02	10,200	9485	108	106	96	0.96
		0.30/0.23	**FP54/47W/SS**	**4575**	**2**	**1.03**	**9425**	**8765**	**103**	**101**	**93**	**1.02**
		0.31/0.24	FT55DL	4800	2	0.93	8930	8305	107	106	84	0.88
		0.33/0.24	FT50DL	4300	2	1.04	8945	8320	112	109	82	0.95
		0.31/0.23	L58	5200	2	0.97	10,090	9380	106	106	95	0.92
		0.27/0.20	FPC55	4000	2	0.90	7200	6695	91	89	81	1.01
		0.17/0.13	FP54T5HO	5000	1	1.05	5250	4885	59	58	91	1.81
		0.17/0.13	FP54/50W/SS	5000	1	1.03	5150	4790	56	55	94	1.87
		0.16/0.13	**FP54/47W/SS**	**4575**	**1**	**1.04**	**4760**	**4425**	**53**	**53**	**90**	**1.96**
		0.17/0.13	FT55DL	4800	1	0.90	4320	4020	56	55	79	1.64
		0.17/0.14	FT50DL	4300	1	1.04	4470	4160	57	57	78	1.82
		0.17/0.13	L58	5200	1	0.98	5095	4740	58	57	89	1.72
		0.14/0.12	FPC55	4000	1	0.95	3800	3535	55	53	72	1.79

1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value.
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*

Item Number — **51485 QHE 2 x 54 T5HO / 347-480 PSN HT MCL** — Case Size
QUICKTRONIC High Efficiency — High Ambient Temperature (Case)
Number of Lamps — Starting/Ballast Factor
Primary Lamp Wattage — Line Voltage (347-480V)

Specifications subject to change without notice.

NEW

Normal Ballast Factor

T5HO PROStart®

High Efficiency

Performance Guide

Data based upon SYLVANIA PENTRON® HO lamps shown. QUICKTRONIC® 347-480V T5HO HT ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[4]

Starting Method: Programmed Rapid Start
Ballast Factor: 1.00 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: -20°F (-29°C)[5]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor,
UL Type CC Rated
CSA Certified
High Ambient Applications:
90°C Max. Case Temp. (3 yr. warranty)
Standard Ambient Applications:
70°C Max. Case Temp. **(5 yr. warranty)**
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[6]
ANSI C62.41 Cat. A Transient Protection
QUICKSENSE® Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet. Remote red leads up to 18 feet. Keep blue leads <10 feet.

4 Data based on PENTRON HO lamp types for primary ballast application.

5 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

6 Complies with European Union Restriction of Hazardous Substances Directive. (Directive 2002/95/EC)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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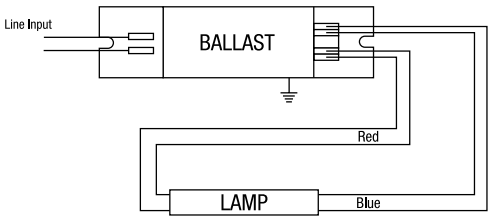
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

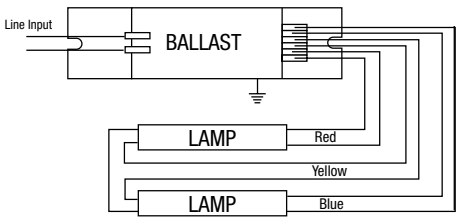
2 Lamp, High Efficiency, Type CC, High Ambient (347-480V)

RoHS compliant

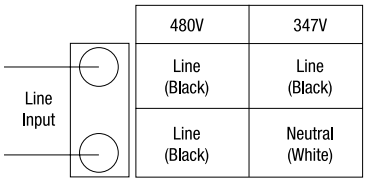
Wiring Diagrams



1 Lamp



2 Lamp

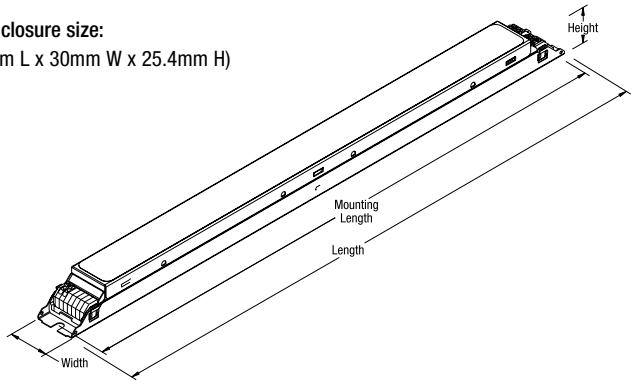


480V	347V
Line (Black)	Line (Black)
Line (Black)	Neutral (White)

Dimensions:
Model QHE2x54T5HO/347-480 PSN-HT enclosure size:
Overall: 16.73"L x 1.18"W x 1.00"H (425mm L x 30mm W x 25.4mm H)
Mounting: 16.34" (415mm)

Wiring:
51486: Push-in connectors
51485: Push-in connectors with leads
Use 18AWG solid copper wire only

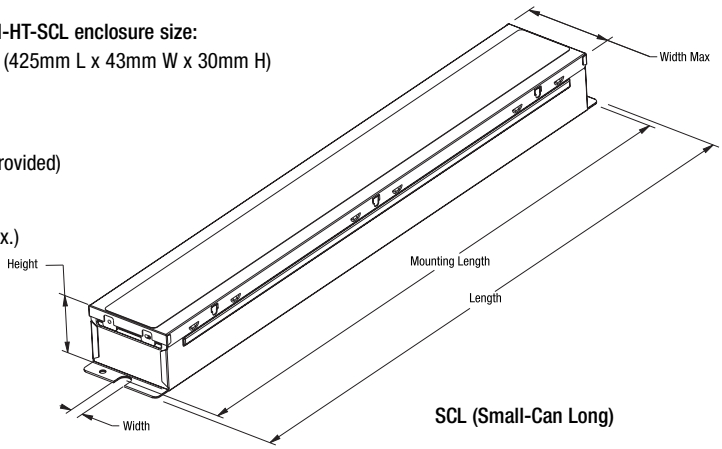
Product Weight:
51486: 0.88 lb (0.40kg) each (approx.)
51485: 1.0 lb (0.45kg) each (approx.)



Dimensions:
Model QHE4x54T5HO/347-480 PSN-HT-SCL enclosure size:
Overall: 16.73"L x 1.68"W x 1.18"H (425mm L x 43mm W x 30mm H)
Mounting: 16.34" (415mm)

Wiring:
51481: Leads only (no connectors provided)

Product Weight:
51481: 2.4 lbs (1.08kg) each (approx.)



SCL (Small-Can Long)

T5HO 2 Lamp 347-480V HT Fixed Output Ballast

High Efficiency

Lamp / Ballast Guide

Installation Notes

- For 480V applications connect two phases (line and line) to the input.
- For 347V applications connect line and neutral to the input as shown (**DO NOT CONNECT** two phases of 347V to the same ballast)
- Switching: Simultaneously disconnect all ungrounded line conductors per NEC codes (i.e. switch both hot legs)
- Ground ballast case
- Insulate unused leads for 600V
- Install in accordance with the National Electrical Code

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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

4 Lamp, High Efficiency, Type CC, High Ambient (347-480V)

RoHS compliant

Wiring Diagrams

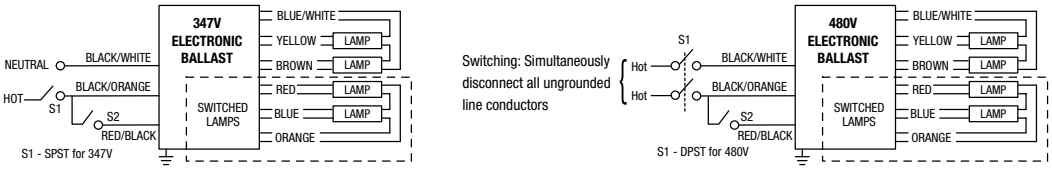
High Ambient Switchable Model (90°C case temp.)
51481 QHE4x54T5HO/347-480 PSN-HT-SCL

4-Lamp Switching Wiring Diagram (4L to 2L)

S1	S2	4/2
ON	ON	4
ON	OFF	2

For fixed output, S2 not used.
Connect red/black lead to black/orange lead.

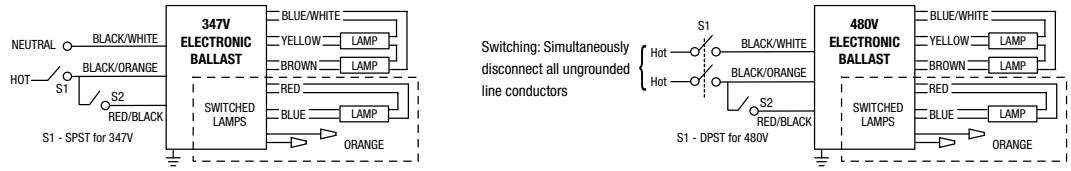
Operates 4 or 2 Lamps



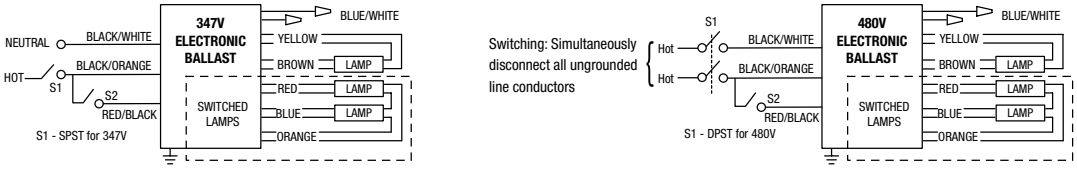
3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

S1	S2	3/2	3/1
ON	ON	3	3
ON	OFF	2	1

Operates 3 or 2 Lamps



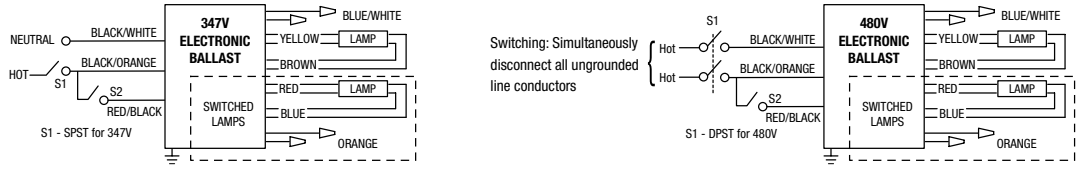
Operates 3 or 1 Lamps



2-Lamp Switching Wiring Diagram (2L to 1L)

S1	S2	2/1
ON	ON	2
ON	OFF	1

Operates 2 or 1 Lamps



T5HO 4 Lamp 347-480V HT Switchable Ballast

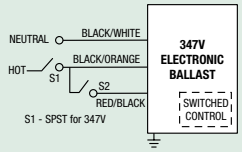
High Efficiency

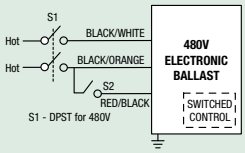
Lamp / Ballast Guide

Installation Notes

- Install in accordance with National & Local Electric Code
- Ground ballast case
- Switching: Simultaneously disconnect all ungrounded line conductors
- For 480V applications connect two phases (line and line) to the input
- For 347V applications connect line and neutral to the input as shown (**DO NOT CONNECT** two phases of 347V to the same ballast)
- Insulate unused leads for 600V

Input wiring for occupancy sensor
Bi-level control
(*S2 is the* occupancy sensor)





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QHE T5HO 347-480V HT

Specifications subject to change without notice.

QUICKTRONIC® PROStart® T5 Universal Voltage Systems

RoHS compliant

<10% THD Electronic T5 Fluorescent Programmed Rapid Start Systems

Extra Low Ballast Factor

Professional Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps
2-lamp QTP2x21T5/UNV PS51-SC

Primary Lamp Type:
FP21

Also operates:
FP14, FP28

2-lamp model operate PENTRON lamps
- 36W @ 0.49 Ballast Factor FP28T5
- 29W @ 0.51 Ballast Factor FP21T5
- 21W @ 0.57 Ballast Factor FP14T5

Key System Features

- Extra Low BF (~0.50)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- 50°F (10°C) starting temperature
- Universal voltage (120-277V)
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart Extra Low Ballast Factor ballasts are ideally suited for:
- Cove lighting
- Stairways
- Hallways
- Display cases
- Wall wash
- Back lighting
- Menu Boards
- Signage

SYLVANIA QUICKTRONIC PROStart Extra Low Ballast Factor ballasts operate PENTRON T5 lamps with optimum energy savings at lower light levels.

These ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

The QUICKTRONIC PROStart Extra Low Ballast Factor ballasts are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5 UNV systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC PROStart System advantages:

- Operate from 120V through 277V
  - Eliminates “wrong voltage” errors
  - Reduces ballast inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Longer life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW
F40T12 - Standard Magnetic	96	5795	60
Energy Saver Magnetic	86	5795	67
F34T12 - Energy Saver Magnetic	72	4750	66
QTP2x32ISL - FO32/800XP	51	4680	92
QTP2x32ISL - FO28/SS	45	4250	94
QTP2x21T5 UNV PS51-SC - FP28/800	36	2840	79

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

<10% THD Electronic T5 Fluorescent Systems Extra Low Ballast Factor

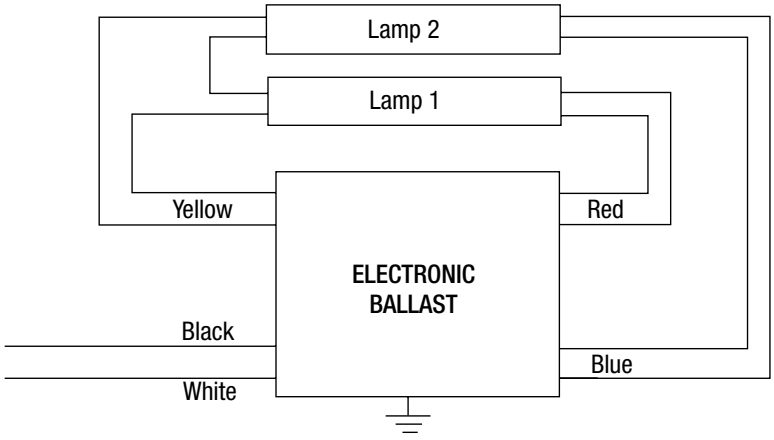
RoHS compliant

Item Number	Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (Watts)	System Efficacy (lm/W)	BEF[2]
49187	QTP2x21T5/UNV PS51-SC	0.31/0.13	FP28T5	2900	2	0.49	2840	2645	36	79	1.36
		0.24/0.11	FP21T5	2100	2	0.51	2140	1990	29	74	1.76
		0.18/0.08	FP14T5	1350	2	0.57	1535	1430	21	73	2.71

1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case

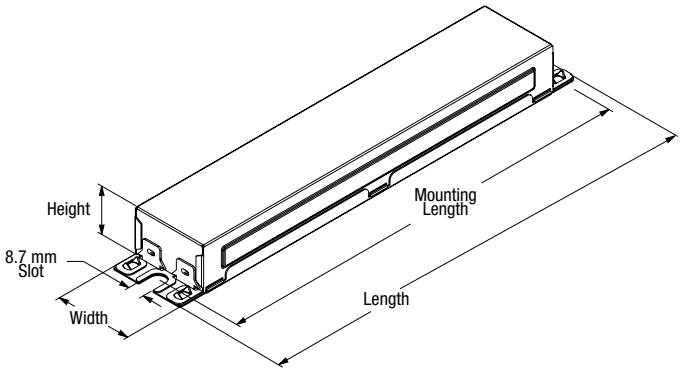


2-Lamp QTP
Fixed output only

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49187 QTP 2 x 21 T5/UNV PS51 - SC** — Case Size
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps — Line Voltage
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® PROStart T5 Extra Low Ballast Factor ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI standards.

Specifications

Starting Method: Programmed Rapid Start
Ballast Factor: 0.51 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: 50°F (10°C) min.
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor
CSA Certified
70°C Max. Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 8 feet

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QUICKTRONIC® PROStart® T5 Universal Voltage Systems

RoHS compliant

Type CC
Programmed Rapid Start
Normal Ballast Factor

Professional Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps
1-lamp QTP1x28T5/UNV PSN or
QTP2x28T5/UNV PSN*
2-lamp QTP2x28T5/UNV PSN

Primary Lamp Type:
FP28

Also operates:
FP14, FP21, FP35

*Two lamp model can be wired for one lamp operation.

Key System Features

- Universal voltage (120-277V)
- Low-profile (0.87" High)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- UL type CC rated
- 0°F (-18°C) Starting
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T5 ballasts
are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC PROStart T5 ballasts operate PENTRON T5 lamps with full lumen output and optimal system performance.

QUICKTRONIC PROStart T5 ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

QUICKTRONIC PROStart T5 UNV Systems are available as a two lamp model which can be wired for one lamp operation to cover a wide range of applications.

Setting the standard for quality, QUICKTRONIC PROStart T5 UNV systems are covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

System Information

QUICKTRONIC PROStart T5 UNV Systems operate from 120V through 277V, 50/60 Hz, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

PROStart ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systesms.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

The two lamp unit can be wired for one lamp operation, allowing for an additional 50% reduction in inventory model numbers.

System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW
F40T12 - Standard Magnetic	96	5795	60
Energy Saver Magnetic	86	5795	67
F34T12 - Energy Saver Magnetic	72	4750	66
QT2x32IS - FO32/800	59	5310	90
QTP2x28T5/UNV PSN - FP28/800	65/63	5800	89/92

QUICKTRONIC PROStart T5 UNV Systems are in a 0.87"H x 1.18"W profile, and PENTRON lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Type CC & Universal Voltage (120-277V)

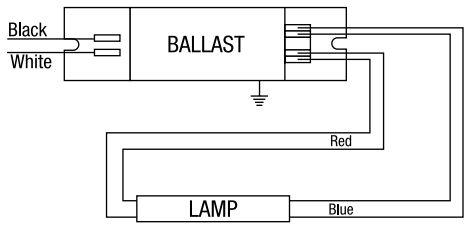
RoHS compliant

Item Number	Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (Watts)	System Efficacy (lm/W)	BEF[2]
49181 *(49180)**	QTP2x28T5/UNV PSN	0.55/0.23	FP28T5	2900	2 1	1.00 1.00	5800 2900	5395 2695	65/63 32	89/92 90	1.59 3.13
49171 *(49170)**	QTP1x28T5/UNV PSN	0.28/0.12	FP28T5	2900	1	1.00	2900	2695	32	90	3.13

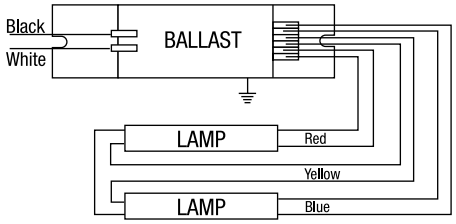
1 At 35°C lamp ambient temperature.

2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

**(Item Number) = Item Number/NAED in parentheses are models with leads/wires. Ballast with leads/wires contains 10 pieces each. Ballast without leads contain 20 pieces each*



1 LAMP

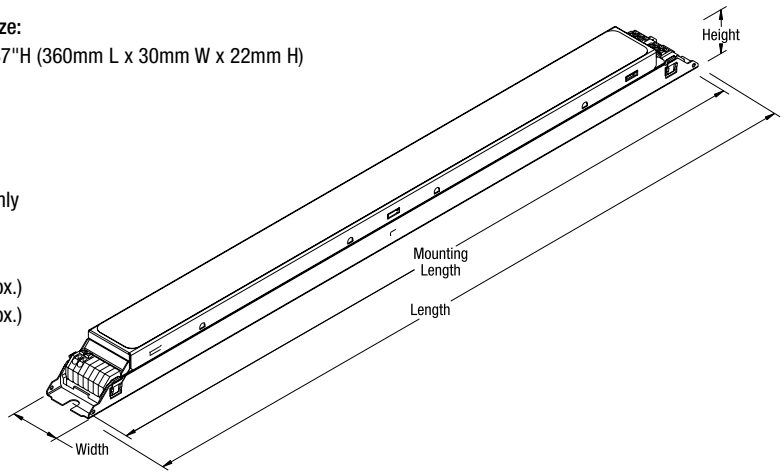


2 LAMP

Dimensions:
1 & 2 lamp model enclosure size:
Overall: 14.17"L x 1.18"W x 0.87"H (360mm L x 30mm W x 22mm H)
Mounting: 13.74" (349mm)

Wiring:
Push-in connectors
Use 18AWG solid copper wire only

Product Weight:
1L: 0.68 lb (0.31kg) each (approx.)
2L: 0.88 lb (0.40kg) each (approx.)



Item Number — **49181 QTP 2 x 28 T5/UNV PSN** — Starting/Ballast Factor
QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)
Number of Lamps (1, 2) — Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® PROStart T5 ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[3]

Starting Method: Programmed Rapid Start
Ballast Factor: 1.00
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: 0°F (-18°C) min.[4]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor,
UL Rated Type CC
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[5]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet

3 Data based on PENTRON 28W lamp types for primary ballast application. See QUICKSYSTEMS in the SYLVANIA Ballast Technology & Specification Guide for other PENTRON combinations.

4 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition. Remote red leads up to 18 feet. Keep blue leads <10 feet.

5 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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QUICKTRONIC® PROStart® T5
347 Voltage – Canada

RoHS compliant

T5 Fluorescent
Programmed Rapid Start

Professional Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps
2-lamp QTP2x28T5/347 PS-SC

Primary Lamp Type:
FP28/ECO

Also operates:
FP14, FP21 T5 lamps

Key System Features

- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Min. Starting Temp:
  - 0°F (-18°C)
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T5 347 Voltage ballasts are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC PROStart ballasts operate PENTRON T5 lamps with full lumen output and optimal system performance.

QUICKTRONIC PROStart T5 ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5 Systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

QUICKTRONIC PROStart T5 ballasts deliver optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Type (2-lamp)	Input Power (W)	Initial System Lumens	System Efficacy LPW
F40T12 - Standard Magnetic	96	5795	60
Energy Saver Magnetic	86	5795	67
F34T12 - Energy Saver Magnetic	72	4750	66
QT2x32IS - FO32/800	59	5310	90
QTP2x28T5/347 PS-SC - FP28/800	60	5510	92

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic T5 Fluorescent 347V Systems

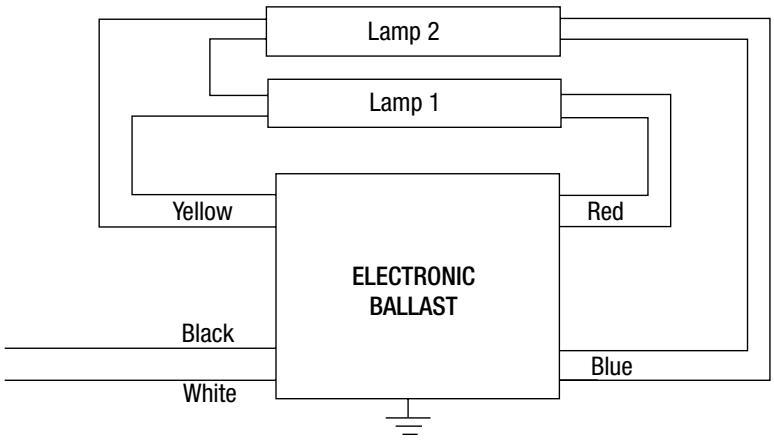
Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System[1] Lumens	Input[1] Power (Watts)	System Efficacy (lm/W)	BEF[2]
QTP Fixed Output										
49185	QTP2x28T5/347 PS-SC	0.18	FP28T5/ECO	2900	2	0.95	5510	60	92	1.58
		0.135	FP21T5/ECO	2100	2	0.98	4115	46	89	2.13
		0.10	FP14T5/ECO	1350	2	1.00	2700	32	84	3.13

1 At 35°C lamp ambient temperature.

2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case

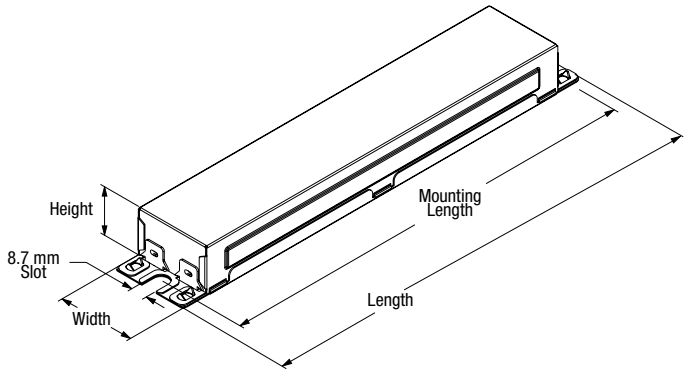


2-Lamp QTP
Fixed output only

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49185 QTP 2 x 28 T5/347 PS - SC** — Case Size
QUICKTRONIC PROFESSIONAL — Starting
Number of Lamps — Line Voltage
Primary Lamp Wattage

Specifications subject to change without notice.

T5 PROStart®
Professional Series

Performance Guide

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® PROStart T5 347 Voltage ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI standards.

Specifications

Starting Method: Programmed Rapid Start
Ballast Factor: 0.95 - 1.00
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: 0°F (-18°C)
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 8 feet

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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CANADA QTP T5 347V

QUICKTRONIC® PROStart® T5HO 0.80BF Universal Ballast

RoHS compliant

Programmed Rapid Start
0.80BF QUICKSTEP® Series

Professional Series

Lamp / Ballast Guide

54W T5HO - PENTRON® lamps*
2-lamp: QTP2x54T5HO/UNVPS80SC
QS2x54T5HO/UNVPS80SC

Also operates:
FT55DL

* Not to be used with Energy Saving T5HO lamps

Key System Features

- QUICKSTEP Stepped Switching bi-level dimming
- Universal voltage (120-277V)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- <10% THD total harmonic distortion at full power
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC T5HO ballasts
are ideally suited for:

- Office
- Schools
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Renovations

The SYLVANIA QUICKTRONIC PROStart T5HO 0.80BF ballasts operate PENTRON T5HO ECOLOGIC lamps. The ballast is tuned to provide a unique 0.80 ballast factor, providing 20% energy savings over conventional 2 lamp 54W T5HO systems. The system includes SYLVANIA's new line of QUICKSTEP stepped switching ballasts. QUICKSTEP ballasts are specially designed to meet California Energy Commission's Title 24 requirements for multi-level lighting controls (Section 131). The combined lamp and ballast system offers high performance features that are standard on SYLVANIA's Professional Series of ballasts.

QUICKTRONIC PROStart T5HO ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

These ballasts are also RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5HO Professional and QUICKSTEP series are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

QUICKTRONIC PROStart T5HO 0.80BF is available as a two-lamp model in either a Professional or QUICKSTEP version, to cover a wide range of applications.

System Information

QUICKTRONIC PROStart T5HO 0.80BF Systems operate from 120V through 277V, 50/60 Hz, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

The QUICKSTEP system has two AC line inputs in addition to the neutral wire. These AC line inputs must be connected to the same phase of the line voltage. The two line inputs can be configured to provide a bi-level light output system by wiring the system with two switches. Each switch provides 50% power to the ballast. When both switches are on, the lamps operate at full light output.

When either switch is off, the lamps operate in a dimmed mode and the ballast factor is reduced by 50%. In addition, system power is reduced to levels that are compliant with Section 131b-California Title 24.

System Comparisons	Input Power (W)	Initial System Lumens	System Efficacy LPW
QS2x54T5HO/UNV PS80SC - FP54T5HO (2 lamp)	96	8000	83
QTP2x54T5HO/UNV PSN - FP54T5HO (2 lamp)	121	10,000	83
F32T8- 3 lamp Instant Start Electronic	88	7525	86

Alternatively, QUICKSTEP ballasts can be controlled by occupancy sensors allowing for customized zone controls and various energy saving configurations.

PROStart ballasts deliver optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

0.80BF Fixed Output and QUICKSTEP® (Bi-Level) Dimming Systems (120-277V)

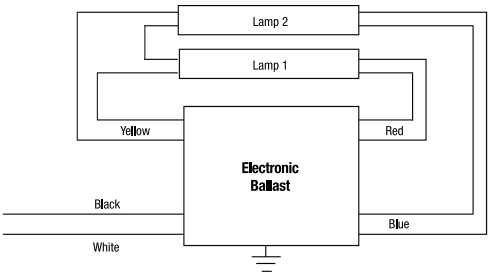
RoHS compliant

Item Number	Description	Input Current (AMPS)	Lamp Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W)	System Efficacy (lm/W)	BEF[2]
QTP Fixed Output BF 0.80											
49418	QTP2x54T5HO/UNV PS80SC	0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
QUICKSTEP Bi-Level Switchable Model											
49419	QS2x54T5HO/UNV PS80SC	0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
		0.44/0.19	FP54T5HO	5000	2	0.40	4000	3720	52/51	77/78	0.78

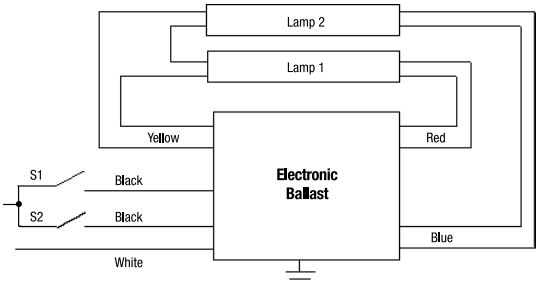
1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case
- For QUICKSTEP ballasts, the AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of QUICKSTEP ballasts, the ballast will be damaged and not covered by warranty



2-Lamp QTP
Fixed output only

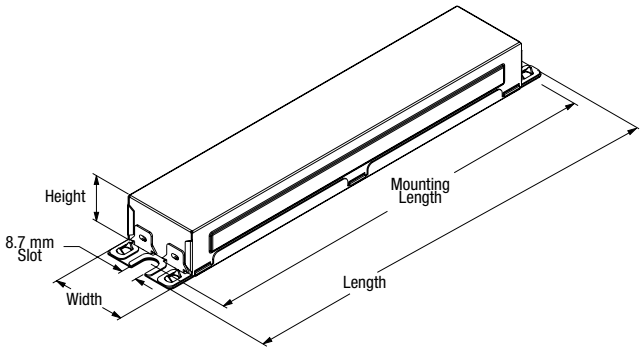


2-Lamp QS (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode S1 or S2 open (off)

Dimensions:
Small Can (SC) enclosure size:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Wiring:
Leads only

Packaging:
Quantity: 10 pcs
Weight: 1.6 lbs each (approx.)



Item Number — **49419 QS 2 x 54 / T5HO/UNV PS80 SC** — Case Size
QUICKSTEP — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® HO lamps shown. QUICKTRONIC® T5HO 0.80BF and QUICKSTEP ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI standards. **Not to be used with Energy Saving T5HO lamps.**

Specifications

Data based on FP54T5HO

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F (10°C) min.
Input Frequency: 50/60 Hz
Low THD: <10% (Full power) <20% THD (@50% power)
Power Factor: >98% (Full power)
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor, CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A+ Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 10ft

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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Specifications subject to change without notice.

QUICKTRONIC® PROStart® T5HO UNV High Ambient Temp. Systems

RoHS compliant

Type CC

Programmed Rapid Start Systems

Normal Ballast Factor HT

Professional Series

Lamp / Ballast Guide

54W T5HO - PENTRON® lamps
1 or 2 lamp
QTP2x54T5HO/UNV PSN HT
4 lamp Switchable:
QTP4x54T5HO/UNV PSN HT W
Also operates:
FP54/SS, FT50DL, FT55DL, FPC55, L58T8
1 or 2 lamps on 2L ballast
1, 2, 3, or 4 lamps on 4L ballast

Key System Features

- 90°C maximum case temp.
- Universal voltage (120-277V)
- Low-profile (1.00" High)
- 100% ballast factor (see table)
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- UL type CC rated
- -20°F (-29C) Min. Starting Temp.
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC T5HO HT ballasts
are ideally suited for:

- Industrial high-bay
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC PROStart T5HO High Ambient Temperature (HT) electronic ballasts operate PENTRON HO, PENTRON HO Circline, and DULUX® L T5 lamps with full lumen output and optimal system performance. The ballasts are available in two and four lamp models to cover a wide range of applications.

These QUICKTRONIC PROStart T5HO ballasts are specifically designed for applications where the ballast is subjected to higher ambient temperatures, as in high bay industrial installations. The four lamp UNV (120-277V) ballast system provides 18,600 mean lumens, which, when factoring in lumen maintenance and typical T5HO fixture efficiency, can be considered as a direct replacement for standard 400W MH. As such, the family is ideally suited to replace 250W to 400W metal halide installations.

Unique to the family is the 120-277V 4-lamp "switching" ballast, designed to switch from 4- to 2-, 3- to 2-, 3- to 1- or 2- to 1-lamps. The switching feature can be accessed through a second input power terminal. This feature allows for a range of control interfaces, including an occupancy sensor, mounted inside a fixture.

These ballasts are also RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5HO HT systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

QUICKTRONIC PROStart T5HO HT ballasts operate on 120V through 277V, 50/60 Hz current, eliminating "wrong voltage" wiring errors and reducing the number of ballast models in inventory by half.

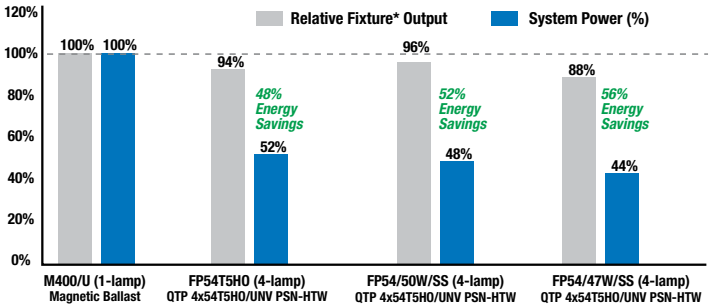
PROStart programmed rapid starting provides optimum starting conditions to yield up to 100,000 switching cycles for use on occupancy sensors and building control systems.

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the lamp glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when spent lamps are replaced with new ones.

System Type	Input System Power (W)	Initial Fixture* LPW	Mean Fixture* Lumens	Relative Fixture* Output	Energy Savings (%)
M400/U (1-lamp) Magnetic Ballast	452	61	17,784	Baseline	Baseline
FP54T5HO (4-lamps) QTP4x54T5HO/UNV PSN-HTW	236	76	16,740	94%	48%
FP54/50W/SS (4-lamps) QTP4x54T5HO/UNV PSN-HTW	215	85	17,075	96%	52%
FP54/47W/SS (4-lamps) QTP4x54T5HO/UNV PSN-HTW	200	84	15,625	88%	56%

*Based on Fixture Efficiency: 76% for M400 and 90% for FP54T5HO
*277V input voltage
*Lumen Output for T5HO @ 35°C/95°F



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Type CC, High Ambient, Universal Voltage (120-277V)

RoHS compliant

Item Number	Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120V	277V	System Efficacy (lm/W)	BEF[2]
QTP 2x54 T5HO Fixed Output BF 1.0												
49136 *(49135)**	QTP2x54T5HO/UNV PSN-HT	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	121	118	85	0.85
		0.96/0.41	FP54/50W/SS	5000	2	1.02	10,200	9485	115	112	91	0.91
		0.89/0.38	**FP54/47W/SS**	**4575**	**2**	**1.02**	**9335**	**8680**	**106**	**103**	**91**	**0.99**
		0.53/0.24	FP54T5HO	5000	1	1.05	5250	4885	62	61	86	1.72
		0.50/0.21	FP54/50W/SS	5000	1	1.05	5250	4885	59	58	91	1.81
		0.45/0.21	**FP54/47W/SS**	**4575**	**1**	**1.03**	**4710**	**4380**	**54**	**53**	**89**	**1.94**
QTP 4x54 T5HO Switchable Model												
49161	QTP4x54T5HO/UNV PSN-HTW	2.05/0.90	FP54T5HO	5000	4	1.00	20,000	18,600	241	236	85	0.42
		1.85/0.80	FP54/50W/SS	5000	4	1.02	20,400	18,970	221	215	95	0.47
		1.72/0.75	**FP54/47W/SS**	**4575**	**4**	**1.02**	**18,665**	**17,360**	**205**	**200**	**93**	**0.51**
		1.51/0.65	FP54T5HO	5000	3	1.00	15,000	13,950	183	181	83	0.55
		1.46/0.62	FP54/50W/SS	5000	3	1.04	15,600	14,510	175	170	92	0.61
		1.34/0.58	**FP54/47W/SS**	**4575**	**3**	**1.04**	**14,275**	**13,275**	**161**	**158**	**90**	**0.66**
		1.00/0.45	FP54T5HO	5000	2	1.00	10,000	9300	121	118	85	0.85
		0.95/0.42	FP54/50W/SS	5000	2	1.03	10,300	9580	114	111	93	0.93
		0.88/0.39	**FP54/47W/SS**	**4575**	**2**	**1.03**	**9425**	**8765**	**105**	**104**	**91**	**0.99**
		0.51/0.25	FP54T5HO	5000	1	1.00	5000	4650	61	61	82	1.64
		0.50/0.25	FP54/50W/SS	5000	1	1.06	5300	4930	60	58	91	1.83
		0.47/0.25	**FP54/47W/SS**	**4575**	**1**	**1.06**	**4850**	**4510**	**55**	**54**	**90**	**1.96**

1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value
**(Item Number) = Item Number/NAED in parentheses are models with leads/wires. Ballast with leads/wires contains 10 pieces each. Ballast without leads contain 20 pieces each.*

Installation Notes

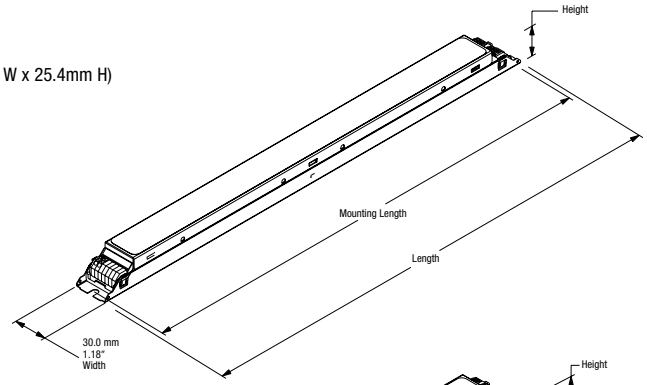
Switching: Simultaneously disconnect all ungrounded line conductors.
Install in accordance with National & Local Electrical Code. Ground ballast case.

Dimensions:
Model QTP2x54T5HO/UNV PSN-HT enclosure size:
Overall: 16.73"L x 1.18"W x 1.0"H (425mm L x 30mm W x 25.4mm H)
Mounting: 16.34" (415mm)

Wiring:
Push-in connectors
Use 18AWG solid copper wire only

Quantity:
49136: 20 (no leads)
49135: 10 (with leads)

Product Weight:
0.88lbs (0.40kg) each (approx.)

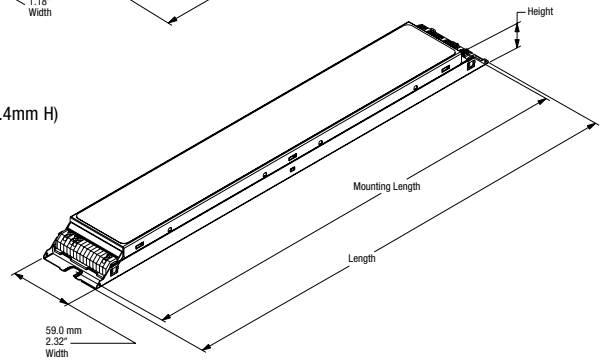


Dimensions:
Model QTP4x54T5HO/UNV PSN-HT-W enclosure size:
Overall: 16.73"L x 2.32"W x 1.0"H (425mm L x 59mm W x 25.4mm H)
Mounting: 16.34" (415mm)

Wiring:
Push-in connectors
Use 18AWG solid copper wire only

Quantity:
10 (leaded and non-leaded)

Product Weight:
1.68lbs (0.40kg) each (approx.)



Item Number — **49161 QTP 4 x 54 T5HO / UNV PSN HTW** — High Ambient Temperature (Case)
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® HO lamps shown. QUICKTRONIC® PHO HT ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Starting Method: Programmed Rapid Start
Ballast Factor: 1.00 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: -20°F (-29°C) min.[4]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1, Outdoor,
UL Type CC Rated
CSA Certified
High Ambient Applications:
90°C Max. Case Temp. (3 yr. warranty)
Standard Ambient Applications:
70°C Max. Case Temp. **(5 yr. warranty)**
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet
RoHS Compliant[5]

4 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition. Remote red and brown leads up to 18 feet. Keep blue and yellow (for 4-lamp model only) leads <10 ft

5 Complies with European Union Restriction of Hazardous Substances Directive (Directive 2002/95/EC)

System Life / Warranty

QUICKTRONIC® products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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SPECIFICATION DATA

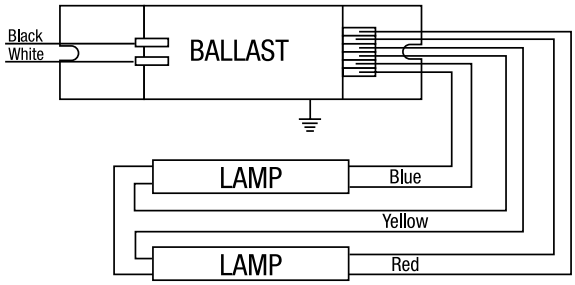
Catalog #	Date	Type
Project	Prepared by	
Comments		

2 Lamp, Type CC, High Ambient, Universal Voltage (120-277V)

RoHS compliant

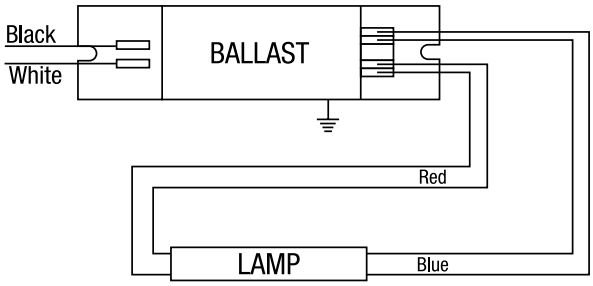
High ambient model (90°C case temp.)
49136 QTP 2x54T5HO/UNV PSN HT

Wiring diagram for 2-Lamp model



2 LAMP

2-Lamp model can be wired for one lamp operation.



1 LAMP

Item Number — **49136 QTP 2 x 54 T5HO / UNV PSN HT** — High Ambient Temperature (Case)
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps (1, 2) — Line Voltage (120-277V)
Primary Lamp Wattage

2 LAMP T5HO UNV HT Fixed Output Ballast

Professional Series

Lamp / Ballast Guide

Installation Notes

- Install in accordance with National & Local Electric Code
- Ground ballast case
- Switching: Simultaneously disconnect all ungrounded line conductors
- Insulate unused leads for 600V

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SPECIFICATION DATA

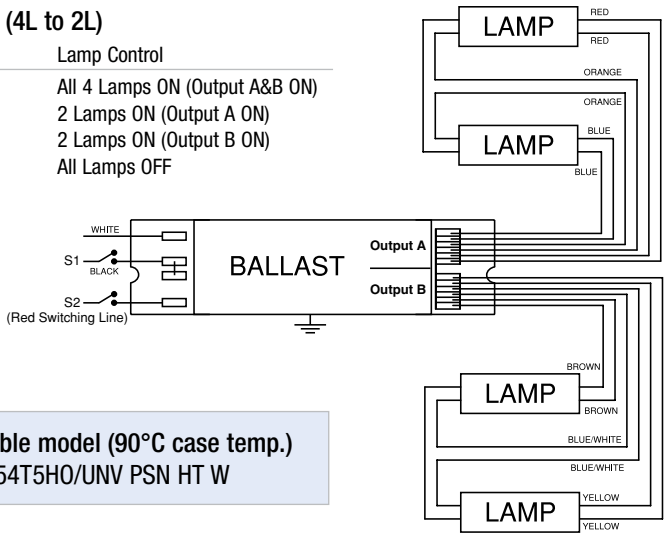
Catalog #	Date	Type
Project	Prepared by	
Comments		

4 Lamp, Type CC, High Ambient, Universal Voltage (120-277V)

RoHS compliant

4-Lamp Switching Wiring Diagram (4L to 2L)

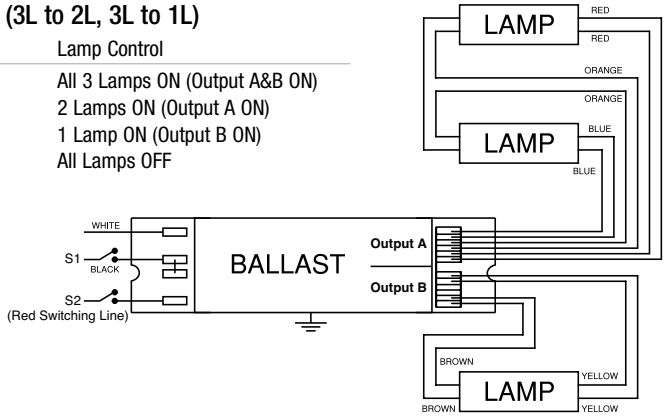
S1 (Output A)	S2 (Output B)	Lamp Control
Closed (ON)	Closed (ON)	All 4 Lamps ON (Output A&B ON)
Closed (ON)	Open (OFF)	2 Lamps ON (Output A ON)
Open (OFF)	Closed (ON)	2 Lamps ON (Output B ON)
Open (OFF)	Open (OFF)	All Lamps OFF



High ambient switchable model (90°C case temp.)
49161 QTP 4x54T5HO/UNV PSN HT W

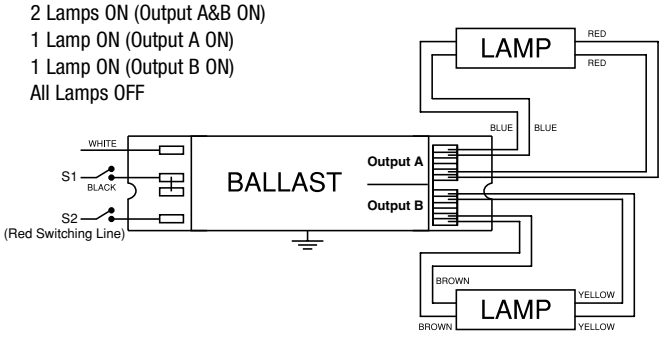
3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

S1 (Output A)	S2 (Output B)	Lamp Control
Closed (ON)	Closed (ON)	All 3 Lamps ON (Output A&B ON)
Closed (ON)	Open (OFF)	2 Lamps ON (Output A ON)
Open (OFF)	Closed (ON)	1 Lamp ON (Output B ON)
Open (OFF)	Open (OFF)	All Lamps OFF



2-Lamp Switching Wiring Diagram (2L to 1L)

S1 (Output A)	S2 (Output B)	Lamp Control
Closed (ON)	Closed (ON)	2 Lamps ON (Output A&B ON)
Closed (ON)	Open (OFF)	1 Lamp ON (Output A ON)
Open (OFF)	Closed (ON)	1 Lamp ON (Output B ON)
Open (OFF)	Open (OFF)	All Lamps OFF



Item Number — **49161 QTP 4 x 54 T5HO / UNV PSN HTW** — High Ambient Temperature (Case)
QUICKTRONIC PROFESSIONAL — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

4 LAMP T5HO UNV HT Switchable Ballast

Professional Series

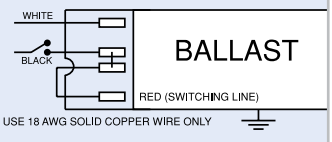
Switching Schematics

QTP T5HO PSN HT

Installation Notes

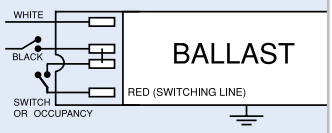
- Install in accordance with National & Local Electric Code
- Ground ballast case
- Switching: Simultaneously disconnect all ungrounded line conductors
- The AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of the ballast

Input wiring for non-switching operation
(Install jumper between black & red switching line terminals)



USE 18 AWG SOLID COPPER WIRE ONLY

Input wiring for occupancy sensors
(Install occupancy sensor/switch between black & red line terminals)



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Specifications subject to change without notice.

QUICKTRONIC® PROStart® T5HO Universal Voltage Systems

RoHS compliant

Type CC
Programmed Rapid Start
Normal Ballast Factor

Professional Series

Lamp / Ballast Guide

54W T5 - PENTRON® HO lamps
1-lamp QTP1x54T5HO/UNV
2-lamp QTP2x54T5HO/UNV
Also operates:
FT55DL, FT50DL, FPC55, L58T8

80W T5 - PENTRON HO lamps
1-lamp QTP1x80T5HO/UNV
Also operates:
FT80DL

Two lamp models can be wired for one lamp operation.

Key System Features

- Universal voltage (120-277V)
- Low Profile (0.87" height for 49142)
- 1.0 Ballast factor
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- UL type CC rated
- Min. Starting Temp:
  - 0°F (-18°C)
  - -20°F (-29°C) for QTP 2x54T5HO Models
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T5HO ballasts
are ideally suited for:

- Commercial & retail
- Hospitality & institutional
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC Professional Series (QTP) PROStart T5HO electronic ballasts operate PENTRON HO, PENTRON HO Circline, and DULUX® L T5 lamps with full lumen output and optimal system performance.

QUICKTRONIC Professional Series (QTP) PROStart T5HO ballasts provides nearly twice the light output (188%) of T8 systems, with the same number of lamps, allowing many new design options. One lamp fixtures can now be used in place of two lamp models.

QUICKTRONIC Professional Series (QTP) PROStart T5HO ballasts contains QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

QUICKTRONIC PROStart T5HO Systems are available in one and two lamp models to cover a wide range of applications.

Setting the standard for quality, QUICKTRONIC PROStart T5HO Systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

QUICKTRONIC Professional Series (QTP) PROStart T5HO ballasts operate from 120V through 277V, 50/60 Hz, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

PROStart ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW
F40T12 - E.S. Magnetic Ballast (4-lamp)	172	11,590	67
F34T12 - E.S. Magnetic Ballast (4-lamp)	144	9500	66
FO32T8/XP - QT4x32IS (4-lamp)	114	10,800	95
FP54T5HO - QTP2x54T5HO/UNV PSN (2-lamp)	121	10,000	83
FO32T8/XP - QT2x32IS (2-lamp)	59	5400	92
FP54T5HO - QTP1x54T5HO/UNV PSN (1-lamp)	62	5000	81

The two lamp unit can be wired for one lamp operation, allowing for an additional 50% reduction in inventory model numbers.

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

SPECIFICATION DATA

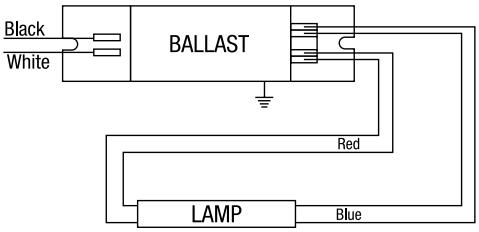
Catalog #	Date	Type
Project	Prepared by	
Comments		

Universal Voltage (120-277V)

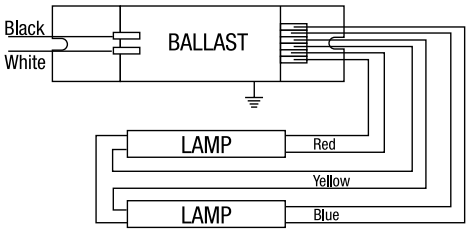
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W)	System Efficacy (lm/W)	BEF[2]
49121 *(49120)**	QTP1x54T5HO/UNV PSN	0.51/0.21	FP54T5HO	5000	1	1.00	5000	4650	62/60	81/83	1.67
49131 *(49130)**	QTP2x54T5HO/UNV PSN	1.00/0.43	FP54T5HO FP54T5HO	5000 5000	2 1	1.00 1.00	10,000 5000	9300 4650	121/118 61	83/85 82	0.85 1.64
49142	QTP2x54T5HO/UNV PSN (NL) .87"	1.00/0.43	FP54T5HO	5000	2	1.00	10,000	9300	121/118	83/85	0.85
*(49150)**	QTP1x80T5HO/UNV PSN	0.74/0.32	FP80T5HO FT80T5DL	7000 6000	1 1	1.00 1.00	7000 6000	6510 5580	90 90	78 67	1.11 1.11

1 T5/T5HO at 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
(Item Number) = Item Number/NAED in parentheses are models with leads/wires. No parenthesis = Ballasts with connectors only/no leads.*



1 LAMP



2 LAMP

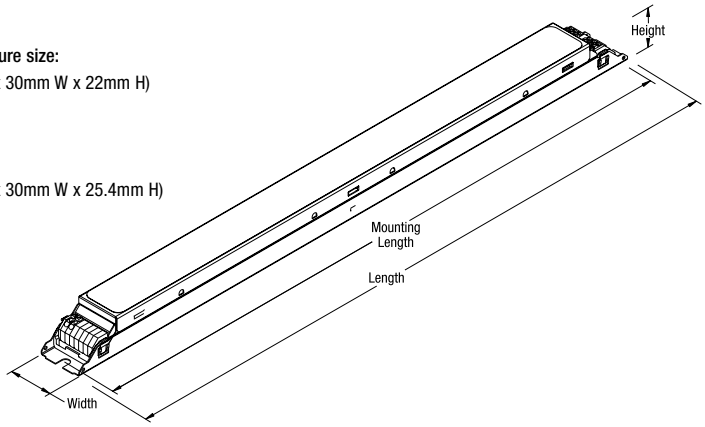
Dimensions:
Model QTP1x54T5HO/UNV PSN and QTP1x80T5HO/UNV PSN enclosure size:
Overall: 14.17"L x 1.18"W x 0.87"H (360mm L x 30mm W x 22mm H)
Mounting: 13.74" (349mm)

Model QTP2x54 T5HO/UNV PSN (49142) enclosure size:
Overall: 16.73"L x 1.18"W x 0.87"H (425mm L x 30mm W x 22mm H)
Mounting: 16.34" (415mm)

Model QTP2x54 T5HO/UNV PSN enclosure size:
Overall: 16.73"L x 1.18"W x 1.00"H (425mm L x 30mm W x 25.4mm H)
Mounting: 16.34" (415mm)

Wiring:
Push-in connectors
Use 18AWG solid copper wire only

Product Weight:
1L: 0.68 lb each (approx.)
2L: 0.88 lb each (approx.)



Item Number — **49131 QTP 2 x 54 T5HO/UNV PSN** — Starting/Ballast Factor
QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)
Number of Lamps (1, 2) — Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® PROStart T5HO Systems are compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[4]

Starting Method: Programmed Rapid Start
Ballast Factor: 1.00
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: 0°F (-18°C) minimum[5]
-20°F (-29°C) Starting for QTP2x54T5HO Models
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1, Outdoor, Type CC[3]
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[6]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 18 feet

3 UL Type CC compliant ballasts utilize a micro-controller based circuit to reduce arcing caused by loose connections or improper lamp pin to socket connections.

4 Data based on PENTRON HO lamp types for primary ballast application. See QUICKSYSTEMS in the SYLVANIA Ballast Technology & Specification Guide for Pentron Circline, DULUX® L/F and other combinations.

5 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition. Remote red leads up to 18 feet. Keep blue leads <10 feet.

6 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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the system solution®

Specifications subject to change without notice.

DULUX® L SUPERSAVER® 25W System

Energy-saving T5 compact fluorescent lamps

SYLVANIA QUICKTRONIC High Efficiency (QHE) instant start DULUX L ballasts save up to 6 to 9% over standard electronic ballasts without compromising light output or lamp life. These systems provide over 30% more lumen output than 34T12 U-bend systems at nearly the same power input. The small lamp diameter and ballast profile provide compact luminaire design options with improved aesthetics and performance. When paired with DULUX L SUPERSAVER lamps, these systems save an additional 14-33% over full wattage systems.

Features

- Direct replacement for 40W DULUX L lamps
  – No ballast change required
- High efficacy
  – 100 lumens per watt
- Long life
  – 20,000 hrs.

Applications

- 2ft x 2ft fixtures
- Cove lighting
- Wall washing

Benefits

- SUPERSAVER lamps maximize energy savings compared to 40W T5 DULUX L lamps
  – Reduce operating cost
  – Facilitates compliance with lighting power density (W/ft^2) requirements

Market Segments

- Education
- Healthcare
- Hospitality
- Office
- Retail

Product Specifications

Watts	Lumens	Average Rated Life (hrs.)	CRI	CCT
25W	2500	20,000	82	3000K, 3500K, 4100K

the system solution®

CF Dual Entry Universal Voltage

MULTI-WATT, MULTI-LAMP … MULTI-MOUNT

Features

Dual Entry, Color Coded Connectors:

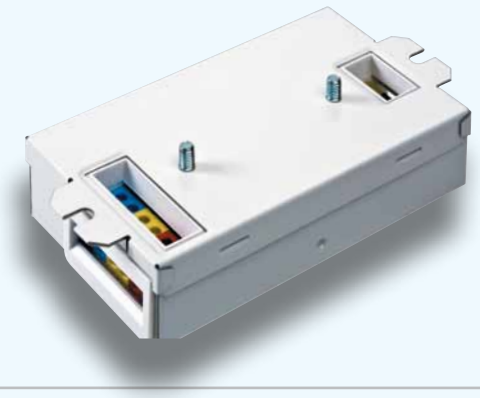
- Located on the side and bottom, these allow for increased mounting flexibility with one ballast and also increase ease of installation

MULTI-WATT … MULTI-LAMP Models:

- Operates one or two 13, 18, 26, 32 or 42 Watt DULUX® Compact Fluorescent Lamps
- Also operate one 57 or 70W lamp

Metal Enclosure Styles:

- Dual entry metal
- Side & bottom mount capabilities



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QUICKTRONIC® Instant Start DL40 Universal Voltage Systems

RoHS compliant

Normal Ballast Factor

High Efficiency Series

Lamp / Ballast Guide

40W T5 - DULUX® L lamps
1 lamp QHE 1x40DL/UNV ISN-SC
2 lamp QHE 2x40DL/UNV ISN-SC
3-lamp QHE 3x40DL/UNV ISN-SC

Primary Lamp Type:
FT40DL

Also operates:
FT40DL/28W/SS
FT40DL/25W/SS

Key System Features

- High Efficiency Systems over 90% efficient
- Universal voltage (120-277V)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- Min. Starting Temp:
  0°F (-18°C) for FT40DL and FT40DL/**28W**/SS
  50°F (10°C) for FT40DL/**25W**/SS
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA
- Auto Reset
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC DL40 ballasts
are ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New construction
- Direct lighting
- Indirect lighting
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC High Efficiency (QHE) instant start DULUX L 40W ballasts save up to 6 to 9% over standard electronic ballasts without compromising light output or lamp life. These systems provide over 30% more lumen output than 34T12 U-bend systems at nearly the same power input. The small lamp diameter and ballast profile provide compact luminaire design options with improved aesthetics and performance. When paired with DULUX L SUPERSAVER® lamps, these systems save an additional 14-33% over full wattage systems.

QUICKTRONIC QHE DL ballasts are available in a one lamp, two lamp and three lamp models, with universal input voltage (120-277V). They are also RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC QHE DL systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

QUICKTRONIC QHE DL ballasts instant start operation to provide the highest system efficacy and to assure low temperature starting capability. Instant start also provides for maximum remote wiring distances.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the lamps are replaced with new ones.

SYLVANIA QUICKTRONIC High Efficiency (QHE) ballasts operate on input voltage from 120V through 277V, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

2-Lamp System (2 x 2)	Input Power (W)	Initial System Lumens	System[1] Efficacy LPW
FB40T12 - Std. Magnetic Ballast	96	5795	60
E.S. Magnetic Ballast	86	5795	67
FB34T12 - E.S. Magnetic Ballast	72	4575	66
FBO32T8 - Magnetic	71	5415	76
DL40 - QHE2x40DL/UNV ISN-SC	68/67	5670	85
DL40/28W/SS - QHE2x40DL/UNV ISN-SC	64/63	5990	95
DL40/25W/SS - QHE2x40DL/UNV ISN-SC	50/49	4750	97
3-Lamp System (2 x 2)	**Input Power (W)**	**Initial System Lumens**	**System[1] Efficacy LPW**
DL40- Std. Electronic ISN Ballast (0.96 BF)	110	9070	82
DL40 - QHE3x40DL/UNV ISN-SC	100/99	8505	86
DL40/28W/SS - QHE3x40DL/UNV ISN-SC	95/94	8990	96
DL40/25W/SS - QHE3x40DL/UNV ISN-SC	74/73	7125	98

1 System Efficacy calculation based on lowest input power value

SAME LIGHT, LESS POWER
Saves 14% … 15W with the new 3-Lamp QHE DL40/28W/IS SUPERSAVER System!

EVEN LESS POWER!
Saves 33% … 36W with the new 3-Lamp QHE DL40/25W/IS SUPERSAVER System!

SPECIFICATION DATA

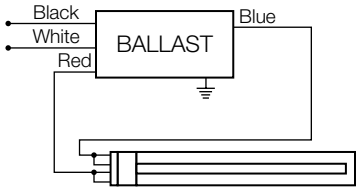
Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Universal Voltage (120-277V)

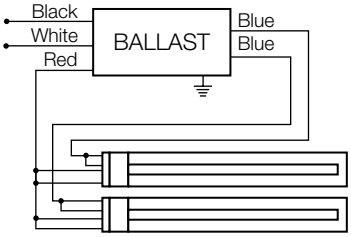
RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)*	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] System Lumens	Input Wattage (W)	System[3] Efficacy (lm/W)	BEF[2]
49428	QHE1x40DL/UNV ISN-SC	0.30/0.13	FT40T5	3150	1	0.90	2835	2440	35/35	81	2.57
		0.27/0.12	FT40DL/28W/SS	2800	1	1.07	2995	2695	32/32	94	3.34
		0.22/0.11	**FT40DL/25W/SS**	**2500**	**1**	**0.96**	**2400**	**2160**	**27/26**	**92**	**3.69**
49429	QHE2x40DL/UNV ISN-SC	0.56/0.26	FT40T5	3150	2	0.90	5670	4875	68/67	85	1.34
		0.54/0.24	FT40DL/28W/SS	2800	2	1.07	5990	5395	64/63	95	1.70
		0.41/0.18	**FT40DL/25W/SS**	**2500**	**2**	**0.95**	**4750**	**4275**	**50/49**	**97**	**1.94**
49430	QHE3x40DL/UNV ISN-SC	0.84/0.36	FT40T5	3150	3	0.90	8505	7315	100/99	86	0.91
		0.79/0.35	FT40DL/28W/SS	2800	3	1.07	8990	8090	95/94	96	1.14
		0.62/0.27	**FT40DL/25W/SS**	**2500**	**3**	**0.95**	**7125**	**6415**	**74/73**	**98**	**1.30**

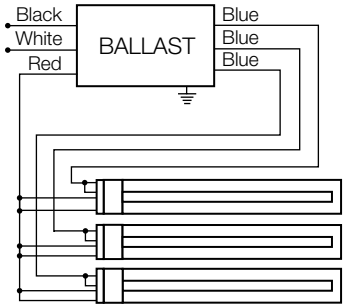
1 Ballast factor based upon 225mA nominal lamp current for FT40DL and FT40DL/25W/SS and 190mA nominal lamp current for FT40DL/28W/SS.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Wattage (Note: calculation based on lowest input wattage).
3 System Efficacy calculation based on lowest input power value
** Data based on Input Voltage of 120-277V.*



QUICKTRONIC® 1x40DL/UNV ISN-SC



QUICKTRONIC® QHE 2x40DL/UNV ISN-SC

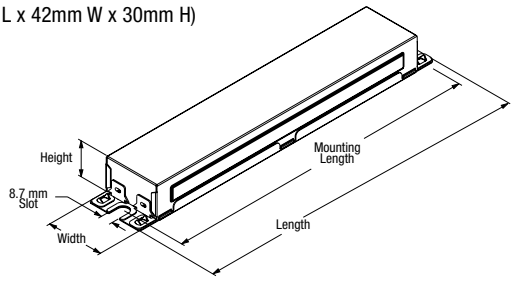


QUICKTRONIC® QHE 3x40DL/UNV ISN-SC

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H (241mm L x 42mm W x 30mm H)
Mounting: 8.90" (226mm)

Packaging:
Quantity: 10 pieces
Pallet Pack: 500 pieces
Weight: 1.6 lbs each (approx.)

Wiring:
Leads only (no connectors provided)



Item Number — **49430 QHE 3 x 40DL / UNV ISN SC**
QUICKTRONIC High Efficiency
Number of Lamps
Case Size
Starting/Ballast Factor
Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA DL40 lamps shown. QUICKTRONIC® DL40 is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on FT40T5

Starting Method: Instant Start
Ballast Factor: 0.90 - 1.07
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[4] 0°F (-18°C) for FT40DL and FT40DL/28W/SS
50°F (10°C) for FT40DL/25W/SS
Input Frequency: 60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
RoHS Compliant[5]
Remote Mounting (Max. wire length from ballast case to lampholder):
18 ft: full wattage FT40DL
6 ft: energy saving FT40DL/SS

4 Operation below 50°F (10°C) may affect light output or lamp operation. SUPERSAVER lamps operate at temperatures greater than 60°F (16°C)

5 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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Specifications subject to change without notice.

QUICKTRONIC® PROStart® DL40 Systems

RoHS compliant

Programmed Rapid Start
Normal Ballast Factor

Professional Series

Lamp / Ballast Guide

40W T5 - DULUX® L lamps
1-lamp QTP1x40TT5 PSN-F
2-lamp QTP2x40TT5 PSN-F
3-lamp QTP3x40TT5 PSN-B

Primary Lamp Type:
FT40DL

Also operates:
FT40DL/28W/SS

Key System Features

- PROStart Programmed Rapid Start Ballast
- 0.88 Ballast factor
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- 0°F (-18°C) Starting Temp.
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- Auto Reset
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart DL40 ballasts
are ideally suited for:

- Occupancy sensors
- Building control systems
- Any applications where maximum lamp life is required to reduce maintenance costs

SYLVANIA QUICKTRONIC PROStart DL40 ballasts operate DULUX L 40 lamps with maximum efficacy and high lumen output.

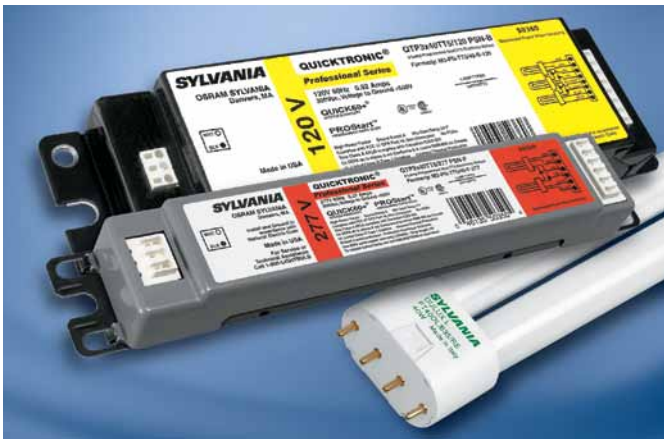
PROStart DL40 ballasts provide over 20% more lumen output than 34T12 systems. Also, the small lamp diameter and sleek profile provide new design options and improved fixture optics.

SYSTEM DL40 ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when the lamps have reached their end-of-life.

SYSTEM PROStart DL40 is available in one, two, and three lamp models in 120V and 277V to cover a wide range of applications.

These ballasts are also RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart DL40 Systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.



System Information

QUICKTRONIC PROStart ballasts provide optimum starting conditions to provide over 50,000 switching cycles for occupancy sensor and building control system applications.

QUICKSENSE ballast technology helps to protect against over-heated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the lamps are replaced with new ones.

System Type (2 x 2)	Input Power (W)	Initial System Lumens	System Efficacy LPW
FB40T12 - Std. Magnetic Ballast	96	5795	60
E.S. Magnetic Ballast	86	5795	67
FB34T12 - E.S. Magnetic Ballast	72	4575	66
FBO32T8 - Magnetic	71	5415	76
FTDL40 - QTP2x40TT5-PSN	76	5545	73
FT40DL/28W/SS - QTP2x40TT5-PSN	70	5600	80
FTDL40 - QTP3x40TT5-PSN	110	8315	76
FT40DL/28W/SS - QTP3x40TT5-PSN	102	8400	82

SPECIFICATION DATA

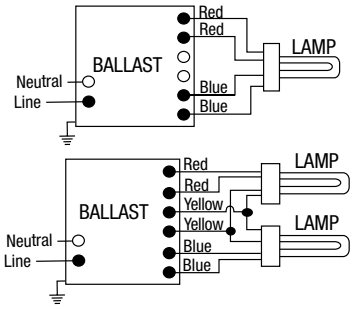
Catalog #	Date	Type
Project	Prepared by	
Comments		

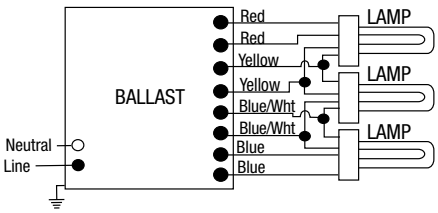
THD Electronic TT5 Compact Fluorescent Systems

RoHS compliant

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast[2] Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
50330	QTP1x40TT5/277 PSN-F	277	0.13 0.13	FT40T5 FT40DL/ 28W/SS	3150 2800	1 1	0.88 1.00	2770 2800	2485 2520	37 34	75 82	2.38 2.94
50340	QTP2x40TT5/120 PSN-F	120	0.63 0.59	FT40T5 FT40DL/ 28W/SS	3150 2800	2 2	0.88 1.00	5545 5600	4990 5040	76 70	73 80	1.16 1.43
50350	QTP2x40TT5/277 PSN-F	277	0.27 0.25	FT40T5 FT40DL/ 28W/SS	3150 2800	2 2	0.88 1.00	5545 5600	4990 5040	73 67	76 84	1.21 1.49
50360	QTP3x40TT5/120 PSN-B	120	0.92 0.85	FT40T5 FT40DL/ 28W/SS	3150 2800	3 3	0.88 1.00	8315 8400	7485 7560	110 102	76 82	0.80 0.98
50370	QTP3x40TT5/277 PSN-B	277	0.39 0.38	FT40T5 FT40DL/ 28W/SS	3150 2800	3 3	0.88 1.00	8315 8400	7485 7560	108 100	77 84	0.81 1.00

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power.
2 Ballast Factor based upon 225mA nominal lamp current for FT40DL lamp and 190mA nominal lamp current for FT40DL/28W/SS lamp.
Note: For a 1 lamp, 120V ballast option please see item number 49428 on page 95.





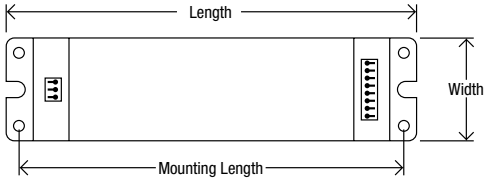
Dimensions "B" Enclosure:
Overall: 9.5" L x 2.38" W x 1.25" H
Mounting: 8.91"

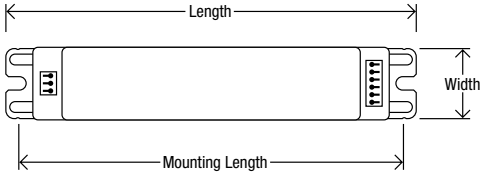
Packaging:
Quantity: 20 pieces
Weight: 1.3 lbs each

Wiring:
Leads only

Dimensions "F" Enclosure
Overall: 9.5" L x 1.6" W x 1.0" H
Mounting: 8.91"

Packaging:
Quantity: 20 pieces
Weight: 0.75 lbs each





Item Number — **50350 QTP 2 x 40TT5 / 277 PSN F** — Enclosure Type (F)
QUICKTRONIC PROFESSIONAL — Starting Type/Ballast Factor
Number of Lamps (1, 2, 3) — Line Voltage
Primary Lamp Type (FT40T5)

Specifications subject to change without notice.

Normal Ballast Factor

DL40 PROStart®

Professional Series

Performance Guide

Data based upon SYLVANIA DL40 lamps shown. QUICKTRONIC® PROStart DL40 is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on DL40

Starting Method: Programmed Rapid Start
Ballast Factor: 0.88
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.5
Starting Temp: 0°F (-18°C)[3]
Input Frequency: 60 Hz
Low THD: <10%
Power Factor: >99%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat. A Transient Protection
Remote Mounting (Max. wire length from ballast case to lampholder):
- up to 10 feet for FTDL40T5
- No remote mounting for FT40DL/SS

3 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

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QUICKTRONIC® PROStart® CF Universal Dual Entry Systems

<10% THD Electronic T4 Compact Fluorescent Programmed Rapid Start Systems Normal Ballast Factor

RoHS compliant

Professional Series

Lamp / Ballast Guide

Primary Systems

13W T4 – DULUX D/E, T/E lamps
1-lamp or 2-lamp QTP1/2x13CF/UNV

18W T4 – DULUX D/E, T/E lamps
1-lamp or 2-lamp QTP1/2x18CF/UNV

26W T4 – DULUX D/E, T/E lamps
1-lamp QTP2x26CF/UNV
2-lamp QTP2x26CF/UNV

32 or 42W T4 – DULUX T/E lamps
1-lamp QTP2x26CF/UNV
2-lamp QTP2x26/32/42CF/UNV

57W or 70W T4 – DULUX T/E lamp
1-lamp QTP2x26/32/42CF/UNV

For other lamp types, refer to the Performance Guide section on the next page.

Key System Features

- Universal Input Voltage (120-277V)
- Dual entry, color coded connectors
- PROStart Ballasts program rapid start
- QUICKSENSE ballast technology
- High Power Factor
- Low Harmonic Distortion
- Small size and lightweight
- Metal enclosure
- UL, CSA, FCC
- QUICK 60+ warranty
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC CF ballasts
are ideally suited for:

- Recessed downlights
- Wall sconces
- Ceiling fixtures
- Commercial
- Retail, hospitality, institutional

SYLVANIA QUICKTRONIC PROStart CF ballasts operate DULUX® D/E and T/E lamps with full lumen output and optimal system performance.

QUICKTRONIC CF ballasts feature one mounting style of low profile, lightweight enclosures to provide simple assembly for any fixture application.

Universal input voltage (120–277V) and multi-lamp multi-watt capability allow for fewer SKUs to support a wide range of applications.

Dual entry, color coded connectors located on the side and bottom allow for increased mounting flexibility with one ballast and also increased ease of installation.

These ballasts are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart CF Systems are covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

PROStart programmed rapid start is the optimum starting method, providing up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE® end-of-lamp-life sensing technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall. QUICKSENSE ballast technology uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods and will auto-reset when the end-of-life lamps are replaced with new ones.

QUICKTRONIC CF ballasts come with wire-trap connectors for quick and easy installation.

Small Metal Case

Dual Entry Metal with and without PEM Studs

Side & Bottom Mount Capabilities

QTP2x26/32/42CF/UNV Metal Case Models

Dual Entry Metal with and without PEM Studs

Side & Bottom Mount Capabilities

SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

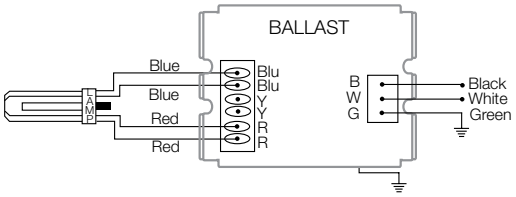
Universal Voltage (120-277V)

RoHS compliant

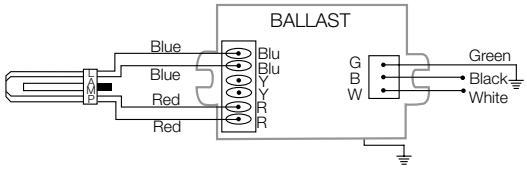
Item Number	Description[3]	Input Current (AMPS)	Lamp[1] Type	Rated[2] Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (Watts)	System Efficacy (lm/W)	BEF[4]
51818	QTP1/2x13CF/UNV DM	0.25/0.11	13W DD/E,T/E	900	1	1.00	900	775	16	56	6.25
			13W DD/E,T/E	900	2	1.00	1800	1550	29	62	3.45
51823	QTP1/2x18CF/UNV DM	0.32/0.14	18W DD/E,T/E	1200	1	1.00	1200	1030	20	60	5.00
			18W DD/E,T/E	1200	2	1.00	2400	2065	38	63	2.63
51833	QTP2x26CF/UNV DM	0.50/0.22	26W DD/E,T/E	1800	1	1.00	1800	1550	28	64	3.57
			26W DD/E,T/E	1800	2	1.00	3600	3095	54	67	1.85
51898	QTP2x26CF/UNV DM PEM		32W DT/E	2400	1	0.98	2350	2025	35	67	2.80
			42W DT/E	3200	1	0.96	3070	2640	45	68	2.13
51843	QTP2x26/32/42CF/UNV DM	0.90/0.40	26W DT/E	1800	2	1.02	3670	3155	54	68	1.89
			32W DT/E	2400	2	0.96	4610	3965	69	67	1.39
51863	QTP2x26/32/42CF/UNV DM PEM		42W DT/E	3200	2	0.95	6080	5230	94	65	1.01
		0.53/0.23	57W DT/E	4300	1	1.00	4300	3700	62	69	1.61
		0.57/0.25	70W DT/E	5200	1	0.92	4780	4115	71	67	1.30

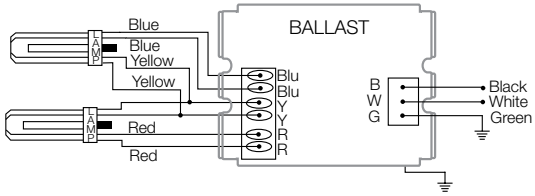
1 Also compatible with other manufacturers' equivalent 4 pin lamp types that meet ANSI specifications.
2 Rated lamp lumens and performance data based on DULUX T/E series 4 pin lamps.
3 Data is for all models within the brackets. The maximum input current is shown for maximum input power.
4 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

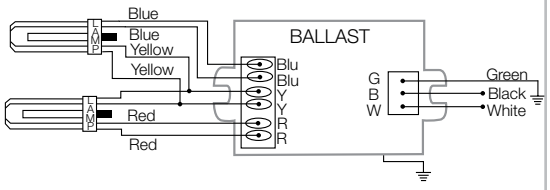
Metal Case (51843 & 51863)



Small Metal Case (51818, 51823, 51833 & 51898)







Dimensions:
Metal case (51843 & 51863): 4.95" L x 2.93" W x 1.35" H
Small Metal case (51818, 51823, 51833 & 51898): 4.95" L x 2.37" W x 1.10" H
Mounting: Utilize flanges (4.57" L), or (2) #8-32 x 0.375" Long
PEM studs on 2" centers

Packaging:
Quantity: 20 pieces per case
16 pieces per case for Item Number 51898
18 pieces per case for Item Number 51863
Weight: 0.40 lbs ea. (Small Metal case)
0.90 lbs ea. (Metal case)

Wiring:
Push-in connectors (no leads provided)
Use 18AWG solid copper wire only

Item Number — **51843 QTP 2 x 26/32/42 CF / UNV DM** — Case Type (Dual Mount)
QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)
Number of Lamps (1, 2) — Primary Lamp Wattage

Performance Guide

QTP 2x26CF/UNV models also operates:
1-lamp: CF28/2D, CF38/2D, FPC40/T5, FT40DL

1- or 2-lamp: FPC22/T5, FT24DL, FT24DF

2-lamp: CF13DSE, FT18DL, FT18DF, CF21/2D

QTP 2x26/32/42CF/UNV models also operates:
2-lamp: FT36DL, FT40DL, FPC40T5

1+1: FPC22/T5 / FPC40/T5

Specifications

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: -5°F/-20°C min.[5]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 Outdoor
CSA or C/UL Certified
75°C Max Case Temp. (5 yr. warranty)
80°C Max Case Temp. (3 yr. warranty)
FCC 47CFR Part 18 Non-Consumer Sound Rated A
RoHS Compliant[6]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 15 feet for one lamp and up to 6 feet for two lamp.

5 Operation below 50°F (10°C) may affect light output or lamp operation – see Low Temperature Starting definition.

6 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® QUICKSTEP® T8, T5 and T5HO Systems

High efficiency, bi-level dimming

EXCLUSIVE

SYLVANIA QUICKTRONIC High Efficiency PROStart® QUICKSTEP bi-level dimming ballasts are programmed rapid start electronic T8 ballasts that will easily switch from 100% to 50% power with standard wall switches. The ballast will operate the family of linear and U-bend equivalent lamps at high efficiency. QUICKSTEP bi-level step dimming ballasts are specifically designed to meet California's Energy Efficiency Standards (Title 24*) for multi-level lighting controls (Section 131).

**California's Energy Efficiency Standards 2008 Title 24 Section 131.*

Features

- Two-lamp PROStart models for T8, T5 and T5HO lamps
  – T8 type now operates one or two OCTRON® and OCTRON SUPERSAVER® lamps
- Easily switch from 100% to 50% power T8 types:

Low Ballast Factor (PSL)

- 48W at 0.77BF (100% power)
- 24W at 0.25BF (50% power)

Normal Ballast Factor (PSN)

- 55W at 0.87BF (100% power)
- 27W at 0.34BF (50% power)

T5 types:

- 55W at 0.90BF
- 27W at 0.35BF
- High efficiency
- Universal voltage (120-277V)

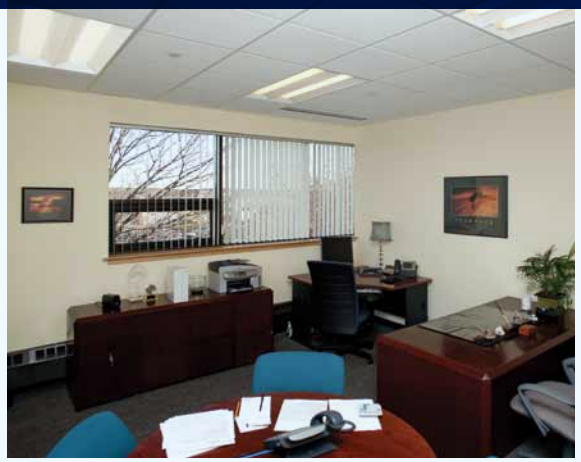
T5HO types:

- 96W at 0.80BF
- 52W at 0.40BF
- High efficiency
- Universal voltage (120-277V)

the system solution®

QUICKTRONIC® QUICKSTEP® T8, T5 and T5HO Systems

High efficiency, bi-level dimming



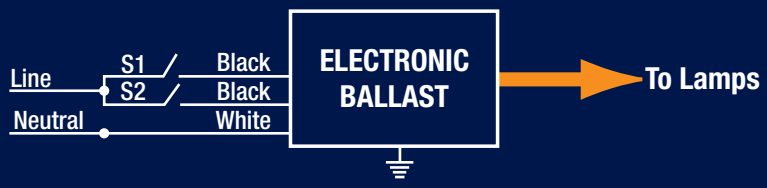
EXCLUSIVE

Benefits

- Meets energy code switching requirements
  – California Title 24 compliant
  – ASHRAE
  – EPAct
- Bi-level control with standard wall switches
- Integrates with building control systems
- Suitable for offices, schools and conference rooms
- Economic daylight harvesting

Market Segments

- Education
- Healthcare
- Institutional
- Office



Two-Lamp QUICKSTEP

Full light output (full power) S1 & S2 closed (on)
Bi-level mode (50% power) S1 or S2 open (off)

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QUICKTRONIC® PROStart® T8 QUICKSTEP® Bi-Level Dimming Systems

NEMA Premium

RoHS compliant

Lamp Striation Control
Low Ballast Factor

High Efficiency Series

Lamp / Ballast Guide

Primary Systems
32W T8 - OCTRON® lamps
1 or 2 lamp
QHES2x32T8/UNV PSL-SC

Also operates:
FB032, FB031, F025, FB024, F017, FB016 & energy saving equivalents

Key System Features

- QUICKSTEP Stepped Switching, bi-level dimming (0.77 BF to 0.25 BF)
- High Efficiency Systems – over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- California Title 24 compliant
- PROStart Programmed Rapid Start
  - Extends lamp life
- LSC (Lamp Striation Control)
- Universal input voltage (120-277V)
- RoHS Compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T8 QUICKSTEP ballasts are ideally suited for:

- Office
- Schools
- Commercial
- Retail
- Occupancy sensor usage
- Building control systems
- Institutional
- Load shedding

SYLVANIA QUICKTRONIC High Efficiency PROStart T8 QUICKSTEP Bi-Level Dimming ballasts are programmed rapid start electronic ballasts that will easily switch from 100% to 50% power with standard wall switches. The ballast operates linear and U-bend equivalent T8 lamps at high efficiency. QUICKSTEP bi-level step dimming ballasts are specifically designed to meet California's Energy Efficiency Standards (Title 24*) for multi-level lighting controls (Section 131). The combined lamp and ballast system offers a high efficiency system for T8 luminaires along with high performance features that are standard on SYLVANIA High Efficiency Series ballasts.

The QUICKTRONIC PROStart QUICKSTEP ballasts are RoHS Compliant featuring lead-free solder and manufacturing process and meet the requirements for the NEMA Premium Electronic Ballast program. The NEMA Premium program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency).

For additional information on this program go to: ***www.cee1.org or www.nema.org.***

**California's Energy Efficiency Standards 2008 Title 24 Section 131.*

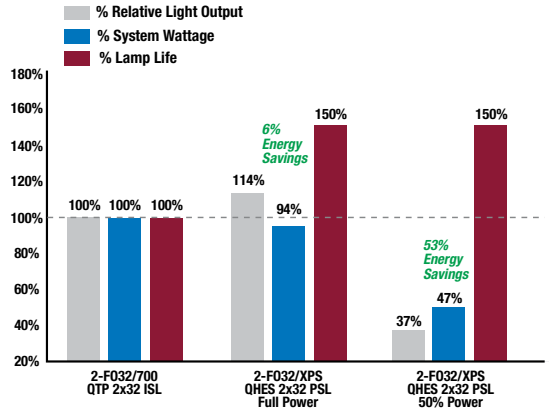
System Information

SYLVANIA QUICKTRONIC PROStart QUICKSTEP High Efficiency ballasts operate from 120V through 277V, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by 50%.

QUICKTRONIC QHE PROStart ballast delivers an optimized programmed rapid start technology which extends T8 lamp life and allows over 100,000 switching cycles for occupancy sensor and building control systems applications. These ballasts have two AC line inputs in addition to the neutral wire. These AC line inputs must be connected to the same phase of the line voltage. The two line inputs can be configured to provide a bi-level light output system by wiring with two switches. When both switches are on, the lamps operate at full light output. When either switch is off, the lamps operate in a dimmed mode and the ballast wattage is reduced by 50%.

Alternatively, the ballasts can be controlled by occupancy sensors allowing for customized zone controls and various energy saving configurations.

Lamp & Ballast Type	BF	Input Power (W)	Initial LPW	Mean System Lumens	Relative Mean Light Output	% System Power	% Energy Savings	% Lamp Life @3hrs/ Start
2-F032/700 QTP2x32 ISL	0.78	51	86	3930	100%	100%	0%	100%
2-F032/XPS QHES2x32 PSL Full Power	0.77	48	99	4490	114%	94%	6%	150%
2-F032/XPS QHES2x32 PSL 50% Power	0.25	24	65	1455	37%	47%	53%	150%



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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency QUICKSTEP® (Bi-Level) T8 Dimming Systems (120-277V)

RoHS compliant

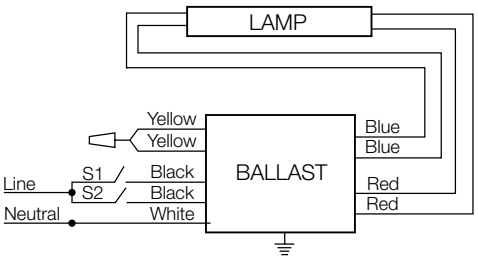
NEMA Premium

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W) 120V	Input Power (W) 277V	System[1] Efficacy (lm/W)	BEF[2]
49158 ❂	QHES2x32T8/UNV PSL-SC *Banded Pack*	(@100%)	0.40/0.18	F032XPS	3100	2	0.77	4775	4490	48	48	99	1.60
		(@50%)	0.20/0.09	F032XPS	3100	2	0.25	1550	1455	24	24	65	1.04
		(@100%)	0.39/0.17	F030SS	2850	2	0.77	4390	4125	46	46	95	1.67
		(@50%)	0.20/0.09	F030SS	2850	2	0.25	1425	1340	23	23	62	1.09
		(@100%)	0.36/0.16	F028SS	2725	2	0.77	4195	3945	42	42	100	1.83
		(@50%)	0.19/0.09	F028SS	2725	2	0.25	1365	1280	22	22	62	1.14
		(@100%)	0.32/0.14	F025SS	2475	2	0.77	3810	3585	38	38	100	2.03
		(@50%)	0.18/0.08	F025SS	2475	2	0.25	1240	1165	21	21	59	1.19
		(@100%)	0.31/0.14	F025XPS	2200	2	0.77	3390	3185	37	37	92	2.08
		(@50%)	0.17/0.08	F025XPS	2200	2	0.25	1100	1035	20	20	55	1.25
		(@100%)	0.20/0.10	F017XPS	1400	2	0.77	2155	2025	24	24	90	3.21
		(@50%)	0.13/0.07	F017XPS	1400	2	0.26	730	685	16	16	46	1.63
		(@100%)	0.21/0.10	F032XPS	3100	1	0.78	2420	2275	25	25	97	3.12
		(@50%)	0.12/0.06	F032XPS	3100	1	0.25	775	730	15	15	52	1.67
		(@100%)	0.20/0.09	F030SS	2850	1	0.78	2225	2090	24	24	93	3.25
		(@50%)	0.12/0.06	F030SS	2850	1	0.25	715	670	15	15	48	1.67
		(@100%)	0.18/0.09	F028SS	2725	1	0.78	2125	2000	22	22	97	3.55
		(@50%)	0.12/0.06	F028SS	2725	1	0.25	680	640	14	14	49	1.79
		(@100%)	0.17/0.07	F025SS	2475	1	0.78	1930	1815	20	20	97	3.90
		(@50%)	0.11/0.05	F025SS	2475	1	0.25	620	580	13	13	48	1.92
		(@100%)	0.16/0.08	F025XPS	2200	1	0.78	1715	1615	20	20	86	3.90
		(@50%)	0.12/0.06	F025XPS	2200	1	0.25	550	515	14	14	39	1.79
		(@100%)	0.11/0.06	F017XPS	1400	1	0.78	1090	1025	14	14	78	5.57
		(@50%)	0.09/0.05	F017XPS	1400	1	0.26	365	340	12	12	30	2.17

Banded Pack contains 10 pieces each, (add "-B" to description). 1 System Efficacy is based on the lowest Input Power
2 BEF (Ballast Efficiency Factor) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest input power)
❂ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*

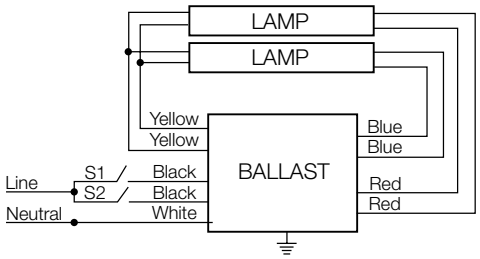
Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground Ballast Case
- The AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of QUICKSTEP ballasts, the ballast will be damaged and not covered by warranty



1-Lamp QHES (QUICKSTEP)

Full light output (full power) — S1 & S2 closed (on)
Bi-level mode (50% power) — S1 or S2 open (off)



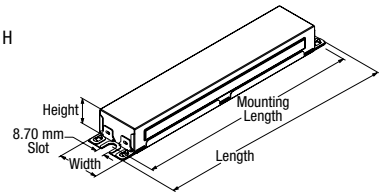
2-Lamp QHES (QUICKSTEP)

Full light output (full power) — S1 & S2 closed (on)
Bi-level mode (50% power) — S1 or S2 open (off)

Special Note: *This ballast has LSC (Lamp Striation Control) which minimizes or eliminates striating lamps. Under certain conditions however, T8 lamps may still striate. This condition will not affect the life or light output of the lamp and will not affect the ballast. Consult lamp manufacturers for additional details.*

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)



Wiring:
Leads only
(no connectors provided)

Item Number — **49158 QHES 2 x 32T8 / UNV PSL - SC**
QUICKTRONIC High Efficiency — Enclosure Size: Small Can
Step Dim, QUICKSTEP (bi-level) — Starting Type/PROStart/Low Ballast Factor
Number of Lamps (2) — Line Voltage (120-277V)
Primary Lamp Wattage & Type

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE QUICKSTEP PROStart ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on F32T8

Starting Method: Programmed Rapid Start
Ballast Factor: 0.77/0.25 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[3]
0°F (-18°C) for OCTRON T8 lamps;
32°F/0°C in dimmed mode;
60°F (16°C) for SUPERSAVER® T8 lamps
Input Frequency: 50/60 Hz
THD: <10% (full power)
<20% (@50% power)
Power Factor: >97% (full power)
Voltage Range: ±10%

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max. Case Temp. (5 yr. warranty)
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat A. Transient Protection
Remote Mounting (Max. wire length from ballast case to lampholder): up to 7 feet for all lamps except 4 feet for energy saving T8 lamps (keep blue wires short, ie. lamp(s) attached to the blue leads to remain in the fixture that houses the ballast).
Lamp Seasoning: For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice — Lamp Seasoning for Fluorescent Dimming Systems

3 Operation below 50°F/10°C may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive.

OSRAM SYLVANIA
National Customer Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.

QUICKTRONIC® PROStart® T8 QUICKSTEP® Bi-Level Dimming Systems

NEMA Premium | RoHS compliant

Lamp Striation Control
Normal Ballast Factor

High Efficiency Series

Lamp / Ballast Guide

Primary Systems
32W T8 - OCTRON® lamps
1 or 2-lamp QHES2x32T8/UNV PSN-SC

Also operates:
FB032, FB031, FO25, FB024, FO17, FB016 & energy saving equivalents

Key System Features

- QUICKSTEP Stepped Switching, bi-level dimming (0.87 BF to 0.34BF)
- High Efficiency Systems - over 90% efficient
- NEMA Premium Electronic Ballast Program compliant
- PROStart Programmed Rapid Start
  - Extends lamp life
- LSC (Lamp Striation Control)
- Universal input voltage (120-277V)
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PROStart T8 QUICKSTEP ballasts
are ideally suited for:

- Office
- Schools
- Commercial
- Retail
- Occupancy sensor usage
- Building control systems
- Institutional
- Load shedding

SYLVANIA QUICKTRONIC High Efficiency PROStart QUICKSTEP bi-level dimming ballasts are programmed rapid start electronic T8 ballasts that will easily switch from 100% to 50% power with standard wall switches. The ballast will operate the family of linear and U-bend equivalent T8 lamps at high efficiency. QUICKSTEP bi-level step dimming ballasts are specifically designed to meet California's Energy Efficiency Standards (Title 24*) for multi level-lighting controls (Section 131). The combined lamp and ballast system offers a high efficiency system for T8 luminaires along with high performance features that are standard on SYLVANIA High Efficiency Series ballasts.

QUICKTRONIC High Effiiciency PROStart QUICKSTEP ballasts are RoHS Compliant featuring lead-free solder and manufacturing process and also meet the requirements for the NEMA Premium Electronic Ballast program. The NEMA Premium Electronic Ballast Program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org.***

QUICKTRONIC High Efficiency PROStart QUICKSTEP systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

**California's Energy Efficiency Standards 2008 Title 24 Section 131.*

System Information

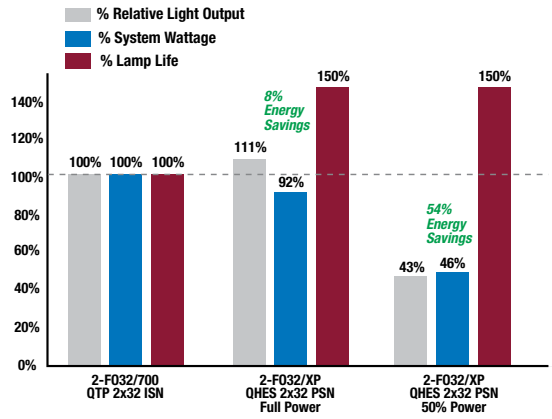
SYLVANIA QUICKTRONIC High Efficiency PROStart QUICKSTEP ballasts operate from 120V through 277V, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by 50%.

PROStart technology delivers an optimized programmed rapid start method that extends T8 lamp life and allows over 100,000 switching cycles for occupancy sensor and building control systems applications.

QUICKTRONIC High Efficiency PROStart QUICKSTEP systems have two AC line inputs in addition to the neutral wire. These AC line inputs must be connected to the same phase of the line voltage. The two line inputs can be configured to provide a bi-level light output system by wiring with two switches. When both switches are on, the lamps operate at full light output. When either switch is off, the lamps operate in a dimmed mode and the ballast wattage is reduced by 50%.

Alternatively, QUICKSTEP ballasts can be controlled by occupancy sensors allowing for customized zone controls and various energy saving configurations.

Lamp & Ballast Type	BF	Input Power (W)	Initial LPW	Mean System Lumens	Relative Mean Light Output	% System Power	% Energy Savings	% Lamp Life @3hrs/ Start
2-F032/700 QTP2x32 ISN	0.88	59	84	4435	100%	100%	0%	100%
2-F032/XP QHES2x32 PSN Full Power	0.87	54	97	4905	111%	92%	8%	150%
2-F032/XP QHES2x32 PSN 50% Power	0.34	27	76	1920	43%	46%	54%	150%



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency QUICKSTEP® (Bi-Level) T8 Dimming Systems (120-277V)

RoHS compliant

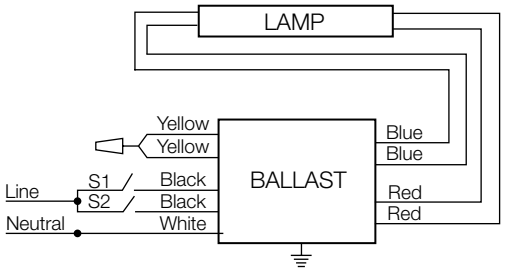
NEMA Premium

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W) 120V	Input Power (W) 277V	System[1] Efficacy (lm/W)	BEF[2]
49157 ✪	QHES2x32T8/UNV PSN-SC *Banded Pack*	(@100%)	0.46/0.20	FO32XPS	3100	2	0.87	5395	5070	55	54	100	1.61
		(@50%)	0.23/0.10	FO32XPS	3100	2	0.34	2110	1980	27	27	78	1.26
		(@100%)	0.44/0.19	FO30SS	2850	2	0.87	4960	4660	53	52	95	1.67
		(@50%)	0.22/0.10	FO30SS	2850	2	0.34	1940	1820	26	26	75	1.31
		(@100%)	0.40/0.18	FO28SS	2725	2	0.88	4795	4510	49	49	98	1.80
		(@50%)	0.22/0.10	FO28SS	2725	2	0.34	1855	1740	25	25	74	1.36
		(@100%)	0.37/0.16	FO25SS	2475	2	0.88	4355	4095	43	43	101	2.05
		(@50%)	0.21/0.10	FO25SS	2475	2	0.34	1685	1580	24	24	70	1.42
		(@100%)	0.34/0.16	FO25XPS	2200	2	0.88	3870	3640	42	41	94	2.15
		(@50%)	0.18/0.09	FO25XPS	2200	2	0.34	1495	1405	22	22	68	1.55
		(@100%)	0.23/0.11	FO17XPS	1400	2	0.88	2465	2315	28	28	88	3.14
		(@50%)	0.15/0.07	FO17XPS	1400	2	0.34	950	895	18	18	53	1.89
		(@100%)	0.21/0.10	FO32XPS	3100	1	0.87	2695	2535	28	29	93	3.00
		(@50%)	0.12/0.06	FO32XPS	3100	1	0.34	1055	990	16	17	62	2.00
		(@100%)	0.21/0.10	FO30SS	2850	1	0.87	2480	2330	26	26	95	3.35
		(@50%)	0.12/0.06	FO30SS	2850	1	0.34	970	910	16	16	61	2.13
		(@100%)	0.21/0.10	FO28SS	2725	1	0.88	2400	2255	25	25	96	3.52
		(@50%)	0.12/0.06	FO28SS	2725	1	0.34	925	870	15	15	62	2.27
		(@100%)	0.20/0.09	FO25SS	2475	1	0.88	2180	2045	23	23	95	3.83
		(@50%)	0.12/0.05	FO25SS	2475	1	0.34	840	790	14	14	60	2.43
		(@100%)	0.16/0.09	FO25XPS	2200	1	0.88	1935	1820	22	23	84	3.83
		(@50%)	0.12/0.06	FO25XPS	2200	1	0.34	750	705	15	15	50	2.27
		(@100%)	0.11/0.08	FO17XPS	1400	1	0.88	1230	1160	16	16	77	5.50
		(@50%)	0.09/0.05	FO17XPS	1400	1	0.34	475	445	13	14	34	2.43

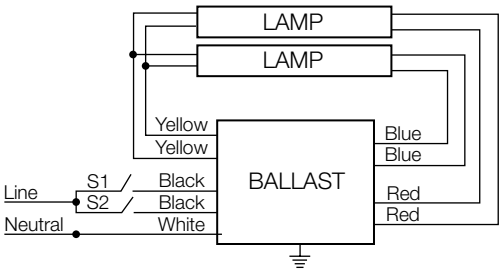
Banded Pack contains 10 pieces each, (add "-B" to description).
1 System Efficacy is based on the lowest Input Power
2 BEF (Ballast Efficiency Factor) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest input power)
✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground Ballast Case
- The AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of QUICKSTEP ballasts, the ballast will be damaged and not covered by warranty



1-Lamp QHES (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode (50% power) S1 or S2 open (off)

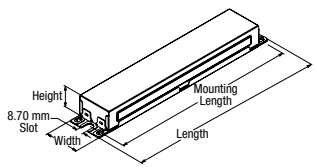


2-Lamp QHES (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode (50% power) S1 or S2 open (off)

Special Note: *This ballast has LSC (Lamp Striation Control) which minimizes or eliminates striating lamps. Under certain conditions however, T8 lamps may still striate. This condition will not affect the life or light output of the lamp and will not affect the ballast. Consult lamp manufacturers for additional details.*

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)



Wiring:
Leads only
(no connectors provided)

Item Number — **49157 QHES 2 x 32T8 / UNV PSN - SC** — Enclosure Size: Small Can
QUICKTRONIC High Efficiency — Starting Type/PROStart/Normal Ballast Factor
Step Dim, QUICKSTEP (bi-level) — Line Voltage (120-277V)
Number of Lamps (2) — Primary Lamp Wattage & Type

Specifications subject to change without notice.

Performance Guide

Data based upon SYLVANIA OCTRON® lamps shown. QUICKTRONIC® QHE PROStart QUICKSTEP ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on F32T8

Starting Method: Programmed Rapid Start
Ballast Factor: 0.87/0.34 (see table)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[3]
0°F (-18°C) for OCTRON T8 lamps;
32°F/0°C in dimmed mode
60°F (16°C) for SUPERSAVER T8 lamps
Input Frequency: 50/60 Hz
THD: <10% (full power)
<20% (@50% power)
Power Factor: >97% (full power)
Voltage Range: ±10%

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max. Case Temp. (5 yr. warranty)
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
NEMA Premium Electronic Ballast Program compliant
RoHS Compliant[4]
ANSI C62.41 Cat A. Transient Protection
Remote Mounting (Max. wire length from ballast case to lampholder): up to 7 feet for all lamps except 4 feet for energy saving T8 lamps. (Keep blue wires short, ie. lamp(s) attached to the blue leads to remain in the fixture that houses the ballast).
Lamp Seasoning: For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice — Lamp Seasoning for Fluorescent Dimming Systems

3 Operation below 50°F/10°C may affect light output or lamp operation – see "Low Temp. Starting" definition.

4 Complies with European Union Restriction of Hazardous Substances Directive

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

QUICKTRONIC® PROStart® T5 Universal Systems

<10% THD Electronic T5 Fluorescent
Programmed Rapid Start
0.90BF & QUICKSTEP Bi-Level Dimming Systems

RoHS compliant

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON®
2-lamp QHE2x28T5/UNV PS90SC
QHES2x28T5/UNV PS90SC

Also operates:
FP14 and FP21T5 lamps

Key System Features

- High Efficiency Systems - over 90% efficient
- First T5 system to achieve up to 104 LPW (lm/w)
- Universal voltage (120-277V)
- QUICKSTEP stepped switching bi-level dimming (0.90BF to 0.35BF)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Suitable for use with occupancy sensors
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- <10% THD total harmonic distortion at full power
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC PREMIER XP T5 ballasts
are ideally suited for:

- Office
- Schools
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Renovations

SYLVANIA QUICKTRONIC High Efficiency PROStart T5 ballasts with a 0.90 ballast factor are optimally paired with high lumen output PENTRON PREMIER XP T5 ECOLOGIC® to deliver comparable light output to standard 1.0 ballast factor T5 systems, but with up to15% energy savings. The offering also includes QUICKSTEP bi-level dimming ballasts. These ballasts are designed to meet California Energy Commission's Title 24* requirements for multi-level lighting controls (Section 131). The combined lamp and ballast system offers a higher efficiency system for T5 luminaires.

QUICKTRONIC QHE PROStart T5 ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

The ballasts are RoHS Compliant, featuring lead-free solder and manufacturing process. Setting the standard for quality, PENTRON PREMIER XP Systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

**California's Energy Efficiency Standards 2008 Title 24 Section 131.*

System Information

QUICKTRONIC PREMIER XP T5 Systems operate from 120V through 277V, 50/60 Hz, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

PROStart programmed rapid start ballasts deliver optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

System Comparisons	Input Wattage	System Lumens	System LPW
QHES2x28T5/UNV PS90SC - FP28T5PM/XP/ECO (2 lamp) Full Power	55/54	5625	102/104
QHES2x28T5/UNV PS90SC - FP28T5PM/XP/ECO (2 lamp) 50% Power	27	2190	81
F34T12 - Energy Saver Magnetic (2 lamp)	72	4660	65
F32T8 - 3 lamp Instant Start Electronic	88	7525	86

The QUICKSTEP system has two AC line inputs in addition to the neutral wire. These AC line inputs must be connected to the same phase of the line voltage. The two line inputs can be configured to provide a bi-level light output system by wiring the system with two switches. Each switch provides 50% power to the ballast. When both switches are on, the lamps operate at full light output.

When either switch is off, the lamps operate in a dimmed mode and the ballast draws 50% of the full light power.

Alternatively, QUICKSTEP ballasts can be controlled by occupancy sensors allowing for customized zone controls and various energy saving configurations.

Performance Guide

Rated lamp lumens and performance data based on PENTRON PREMIER XP ECOLOGIC® lamps.

SPECIFICATION DATA

Catalog # Date Type

Project Prepared by

Comments

0.90 BF Fixed Output & QUICKSTEP® Bi-Level High Efficiency Systems (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description		Input Current (AMPS)	Lamp[1] Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W) 120V	277V	System[3] Efficacy (lm/W)	BEF[2]
QUICKSTEP Bi-Level 100-50% Power Switchable Models (High Efficiency Systems)													
	QHES2x28T5/UNV PS90SC	(@100%)	0.46/0.20	FP28T5XP	3125	2	0.90	5625	5345	55	54	104	1.67
51496 ✪	*10-Pack*	(@50%)	0.23/0.10	FP28T5XP	3125	2	0.35	2190	2080	27	27	81	1.30
49176 ✪	*Pallet Pack*	(@100%)	0.46/0.20	FP28T5PM/ECO	3050	2	0.90	5490	5215	55	54	102	1.67
		(@50%)	0.23/0.10	FP28T5PM/ECO	3050	2	0.35	2135	2030	27	27	79	1.30
		(@100%)	0.46/0.20	FP28T5	2900	2	0.90	5220	4960	55	54	97	1.67
		(@50%)	0.23/0.10	FP28T5	2900	2	0.35	2030	1930	27	27	75	1.30
		(@100%)	0.35/0.16	FP21T5	2100	2	0.92	3865	3595	42	42	92	2.19
		(@50%)	0.18/0.09	FP21T5	2100	2	0.37	1555	1445	22	22	71	1.68
		(@100%)	0.24/0.12	FP14T5	1350	2	0.95	2565	2385	29	29	88	3.28
		(@50%)	0.14/0.07	FP14T5	1350	2	0.37	1000	930	17	17	59	2.18
QHE Fixed Output BF 0.90 (High Efficiency Systems)													
	QHE2x28T5/UNV PS90SC		0.46/0.20	FP28T5XP	3125	2	0.90	5625	5345	55	54	104	1.67
51495 ✪	*10-Pack*		0.46/0.20	FP28T5PM/ECO	3050	2	0.90	5490	5215	55	54	102	1.67
			0.46/0.20	FP28T5	2900	2	0.90	5220	4960	55	54	97	1.67
			0.35/0.16	FP21T5	2100	2	0.92	3865	3595	42	42	92	2.19
			0.24/0.12	FP14T5	1350	2	0.95	2565	2385	29	29	88	3.28

1 At 35°C lamp ambient temperature. Also compatible with equivalent lamp types that meet ANSI standards.

2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

3 System Efficacy calculation based on lowest input power value.

✪ *Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.*

Specifications

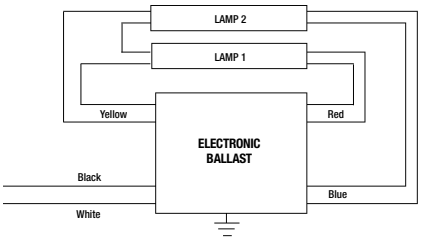
Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.6
Starting Temp: 50°F (10°C) minimum
Input Frequency: 50/60 Hz
Low THD: <10% (Full power)
<20% THD (@50% power)
Power Factor: >98% (Full power)
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor, CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A+ Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting up to 8 feet for QHE models and 7 feet for QHES models.

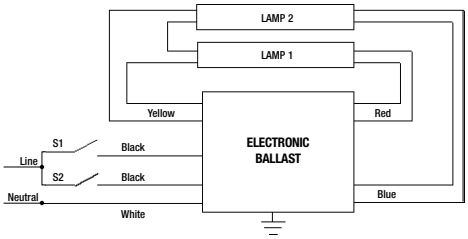
4 Complies with European Union Restriction of Hazardous Substances Directive

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case
- For QUICKSTEP ballasts, the AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of QUICKSTEP ballasts



2-Lamp QHE
Fixed output only

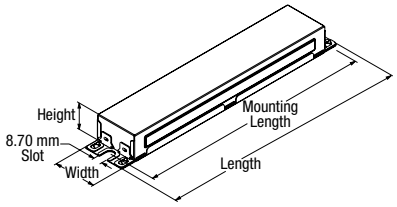


2-Lamp QHES (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode (50% power) S1 or S2 open (off)

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Wiring:
Leads only
(no connectors provided)

Packaging:
Quantity: 840 pc pallet
Weight: 1.6 lbs each (approx.)



Wire Lead Lengths:
Black and White: 18"
Yellow: 14"
Red and Blue: 9"

QUICKTRONIC High Efficiency QHE or also available in QUICKSTEP (QHES) — **QHES 2 x 28T5 / UNV PS 90 SC**
- Number of Lamps
- Primary Lamp Wattage/Type
- Enclosure Type (SC - Small Can)
- Ballast Factor (90)
- Starting Type - PROStart
- Line Voltage (120-277V)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to our QUICK 60+® warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® PROStart® T5HO 0.80BF Universal Ballast

RoHS compliant

Programmed Rapid Start
0.80BF Professional and QUICKSTEP® Series

Professional Series

Lamp / Ballast Guide

54W T5HO - PENTRON® lamps*
2-lamp: QTP2x54T5HO/UNVPS80SC
QS2x54T5HO/UNVPS80SC

Also operates:
FT55DL

* Not to be used with Energy Saving T5HO lamps

Key System Features

- QUICKSTEP Stepped Switching bi-level dimming
- Universal voltage (120-277V)
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart programmed rapid start
- Operates at >42 kHz to reduce potential interference with infrared control systems
- High power factor (>98%)
- <10% THD total harmonic distortion at full power
- UL, CSA, FCC
- Small can enclosure
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC T5HO ballasts
are ideally suited for:

- Office
- Schools
- Commercial
- Retail
- Hospitality
- Institutional
- New construction
- Renovations

The SYLVANIA QUICKTRONIC PROStart T5HO 0.80BF ballasts operate PENTRON T5HO ECOLOGIC lamps. The ballast is tuned to provide a unique 0.80 ballast factor, providing 20% energy savings over conventional 2 lamp 54W T5HO systems. The system includes SYLVANIA's new line of QUICKSTEP stepped switching ballasts. QUICKSTEP ballasts are specially designed to meet California Energy Commission's Title 24 requirements for multi-level lighting controls (Section 131). The combined lamp and ballast system offers high performance features that are standard on SYLVANIA's Professional Series of ballasts.

QUICKTRONIC T5HO ballasts contain QUICKSENSE ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

These ballasts are also RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC PROStart T5HO Professional and QUICKSTEP series are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

QUICKTRONIC T5HO 0.80BF is available as a two-lamp model in either a Professional or QUICKSTEP version, to cover a wide range of applications.

System Information

QUICKTRONIC PROStart T5HO 0.80BF Systems operate from 120V through 277V, 50/60 Hz, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

The QUICKSTEP system has two AC line inputs in addition to the neutral wire. These AC line inputs must be connected to the same phase of the line voltage. The two line inputs can be configured to provide a bi-level light output system by wiring the system with two switches. Each switch provides 50% power to the ballast. When both switches are on, the lamps operate at full light output.

When either switch is off, the lamps operate in a dimmed mode and the ballast factor is reduced by 50%. In addition, system power is reduced to levels that are compliant with Section 131b-California Title 24.

System Comparisons	Input Power (W)	Initial System Lumens	System Efficacy LPW
QS2x54T5HO/UNV PS80SC - FP54T5HO (2 lamp)	96	8000	83
QTP2x54T5HO/UNV PSN - FP54T5HO (2 lamp)	121	10,000	83
F32T8- 3 lamp Instant Start Electronic	88	7525	86

Alternatively, QUICKSTEP ballasts can be controlled by occupancy sensors allowing for customized zone controls and various energy saving configurations.

PROStart ballasts deliver optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto reset when the end-of-life lamps are replaced with new ones.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

0.80BF T5HO Systems and QUICKSTEP® (Bi-Level) T5HO Dimming Systems (120-277V)

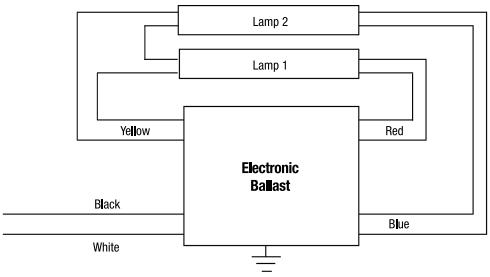
RoHS compliant

Item Number	Description	Input Current (AMPS)	Lamp Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Mean[1] Lumens	Input[1] Power (W)	System Efficacy (lm/W)	BEF[2]
QTP Fixed Output BF 0.80											
49418	QTP2x54T5HO/UNV PS80SC	0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
QUICKSTEP Bi-Level Switchable Model											
49419	QS2x54T5HO/UNV PS80SC	0.80/0.34	FP54T5HO	5000	2	0.80	8000	7440	96/93	83/86	0.86
		0.44/0.19	FP54T5HO	5000	2	0.40	4000	3720	52/51	77/78	0.78

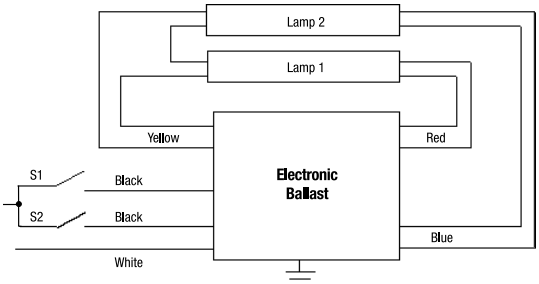
1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case
- For QUICKSTEP ballasts, the AC line inputs must be connected to the same phase of the line voltage
- DO NOT CONNECT two separate phases of line voltage to the input of QUICKSTEP ballasts, the ballast will be damaged and not covered by warranty



2-Lamp QTP
Fixed output only

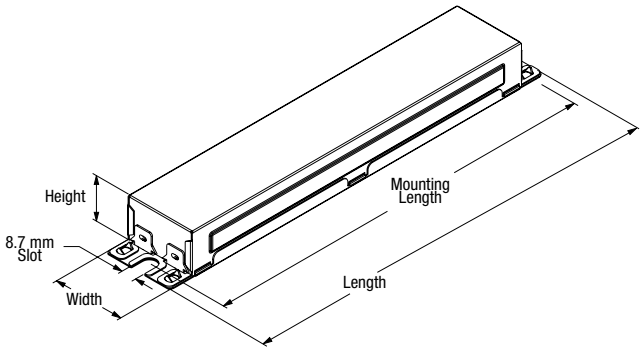


2-Lamp QS (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode S1 or S2 open (off)

Dimensions:
Small Can (SC) enclosure size:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Wiring:
Leads only

Packaging:
Quantity: 10 pcs
Weight: 1.6 lbs each (approx.)



Item Number — **49419 QS 2 x 54 / T5HO/UNV PS80 SC** — Case Size
QUICKSTEP — Starting/Ballast Factor
Number of Lamps — Line Voltage (120-277V)
Primary Lamp Wattage

Performance Guide

Data based upon SYLVANIA PENTRON® HO lamps shown. QUICKTRONIC® T5HO 0.80BF and QUICKSTEP ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI standards. **Not to be used with Energy Saving T5HO lamps.**

Specifications

Data based on FP54T5HO

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F (10°C) min.
Input Frequency: 50/60 Hz
Low THD: <10% (Full power) <20% THD (@50% power)
Power Factor: >98% (Full power)
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1, Outdoor, CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A+ Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 10 feet

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.

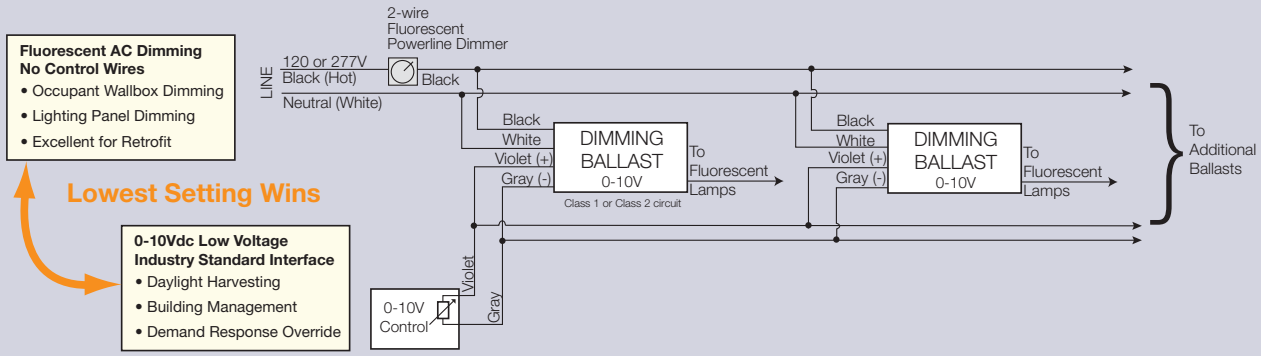
QUICKTRONIC® POWERSENSE® T8, T5, and T5HO Systems and elogic® Lighting Controls

High-efficiency dimming systems

SYLVANIA QUICKTRONIC High Efficiency POWERSENSE electronic ballasts offer a wide dimming range and provide true versatility in controls selection. As the industry's most adaptable dimming ballast, these feature micro-controller technology for compatibility with: low voltage controls, power line fluorescent dimmers, and any line voltage from 120V to 277V.

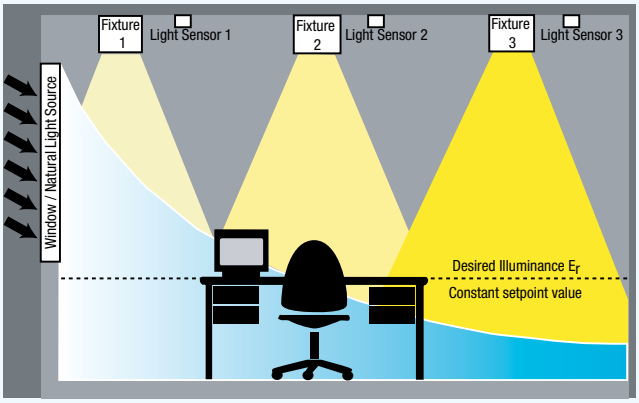
Industry's first ballast that allows power line fluorescent control AND 0-10Vdc control input simultaneously

Two-wire power line *AND* 0-10Vdc Control with POWERSENSE Ballasts



QUICKTRONIC® POWERSENSE® T8, T5, and T5HO Systems and elogic® Lighting Controls

High-efficiency dimming systems



Features

For individual offices or conference rooms, use power line controls:

- Easy install with two-wire power line dimmer
- Easier to retrofit, no additional control wires
- 100-5% dimming range for fluorescent T8 lamps (FO32, 25 and 17T8)
- 100-1% dimming range for fluorescent T5 lamps (FP14, 21, 28, and 35T5)
- 100-1% dimming range for fluorescent T5HO (54W) lamps
- Universal voltage (120-277V)
- It's Sunny—Save Money

Daylight harvesting or building automation applications:

- Use standard low-voltage devices (0-10Vdc, Class 1 or 2) to control the lighting system
- For new construction and retrofits

QUICKTRONIC® POWERSENSE® T8 Universal Voltage Dimming Systems

NEMA Premium

RoHS compliant

Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

32W T8 - SYLVANIA OCTRON® lamps
1-lamp QHE1x32T8/UNV DIM
2-lamp QHE2x32T8/UNV DIM
3-lamp QHE3x32T8/UNV DIM
4-lamp QHE4x32T8/UNV DIM

Primary Lamp Types
FO32, FB032 & FB031

Also operates:
FO30/SS, FO28/SS, FO25/SS, FO25, FO17, FB024 & FB016

Key System Features

- Industry's first ballast that combines dimming inputs from 0-10V and/or two-wire AC dimming providing maximum flexibility
- Compatible with low voltage and power line fluorescent dimmers
- High Efficiency
- NEMA Premium Electronic Ballast Program compliant
- Lamp Detection Technology
- Universal voltage (120-277V)
- 100 - 5% Dimming Range
- PROStart® Programmed Rapid Start
- Anti-flash circuitry - turns on in dimmed mode
- Operates at >42 kHz
- QUICK 60+ ballast and lamp warranty
- RoHS compliant
- Lead-free solder and manufacturing process

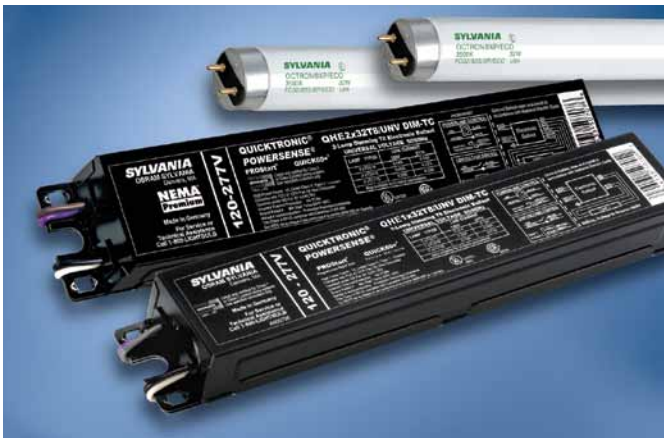
Application Information

SYLVANIA QUICKTRONIC POWERSENSE ballasts are ideally suited for:

- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding
- New construction
- Retrofit

SYLVANIA QUICKTRONIC High Efficiency POWERSENSE T8 electronic ballasts offer several advantages:

- **Wide Dimming Range:** operate linear fluorescent T8 lamps over a 100-5% dimming range and provide true versatility in controls selection.
- **Industry's Most Adaptable Dimming Ballast:** ballasts feature micro-controller technology for compatibility with:
  - low voltage controls
  - power line fluorescent dimmers
  - any line voltage from 120V to 277V
- **Unmatched Performance:** patented lamp detection technology that virtually eliminates variations in brightness from lamp-to-lamp and provides uniform lighting throughout the dimming range. At light levels of >75% unnecessary lamp-coil power is turned off, delivering energy efficiences comparable to non-dimming Instant start electronic ballast. This technology also eases installation and troubleshooting by recognizing failed lamps, faulty wiring or loose connections, and shutting down.



When the problem is corrected, the system restarts automatically.

- **NEMA Premium Electronic Ballast Program compliant.** This program promotes the use of high efficiency T8 electronic ballasts by meeting or exceeding the Ballast Efficiency Factors, (BEF) established by the CEE, (Consortium for Energy Efficiency). For additional information on this program go to: ***www.cee1.org or www.nema.org***

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC POWERSENSE ballasts are covered by the QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

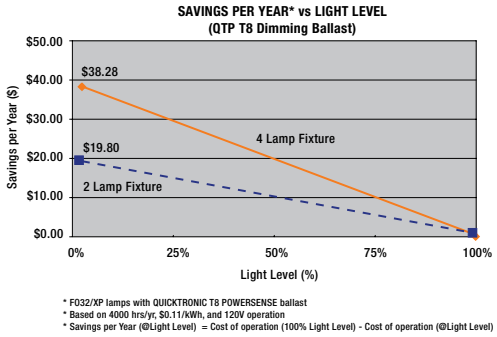
System Information

QUICKTRONIC POWERSENSE ballasts operate from standard low voltage (0-10VDC) fluorescent controllers or compatible 2-wire power line fluorescent dimmers, making them ideal for individual office lighting or automated building applications, both in new construction and retrofit projects.

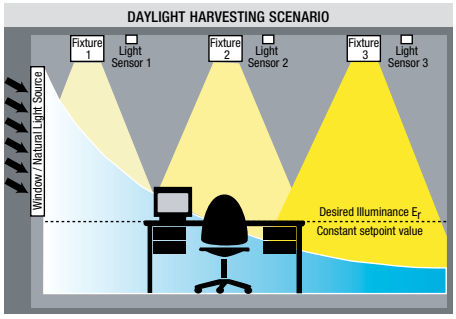
For the individual office or conference room, installation can be streamlined by using a 2-wire power line fluorescent dimmer; eliminating the need for additional control wires.

For more advanced systems, such as daylight harvesting or building automation applications, standard low voltage devices (0-10VDC, Class 1 or 2) are used to control the lighting system. In this daylight harvesting example, each lighting fixture (or fixture row) is controlled by it's own photosensor; regulating the light output to compensate for changes in natural daylight. Depending upon the specific application, energy savings of up to 60% compared to fixed output T8 electronic systems can be realized.

All QUICKTRONIC POWERSENSE ballasts include a line voltage protection circuit, which protects the ballast in the event that line voltage is inadvertently applied to the low voltage control inputs.



* FO32/XP lamps with QUICKTRONIC T8 POWERSENSE ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency, T8 Controllable Lighting Systems, UNV (120-277V)

RoHS compliant

NEMA Premium

Item Number	OSRAM SYLVANIA Description*	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W) 120V	Input Power (W) 277V	System[1] Efficacy (lm/W)	BEF[2]
50705	QHE1x32T8/UNV DIM-TC	**0.27/0.12**	**F032XP**	**3000**	**1**	**0.88 0.05**	**2640 150**	**2480 140**	**30 8**	**30 8**	**88**	**2.93**
		0.24/0.11	F030/SS	2850	1	0.88 0.05	2510 145	2360 135	28 8	28 8	90	3.14
		0.22/0.10	F028/SS	2725	1	0.88 0.05	2400 135	2255 130	25 8	25 8	96	3.52
		0.20/0.09	F025/SS	2475	1	0.88 0.05	2180 125	2045 115	23 7	23 7	95	3.83
50707	QHE2x32T8/UNV DIM-TC	**0.51/0.24**	**F032XP**	**3000**	**2**	**0.88 0.05**	**5280 300**	**4965 280**	**59 14**	**57 14**	**93**	**1.54**
		0.48/0.20	F030/SS	2850	2	0.88 0.05	5015 285	4715 270	55 14	53 14	95	1.66
		0.43/0.18	F028/SS	2725	2	0.88 0.05	4795 275	4510 255	51 13	49 13	98	1.80
		0.39/0.16	F025/SS	2475	2	0.88 0.05	4355 250	4095 235	45 13	44 13	99	2.00
50714	QHE3x32T8/UNV DIM-TCL	**0.73/0.30**	**F032XP**	**3000**	**3**	**0.88 0.05**	**7920 450**	**7445 425**	**87 20**	**84 20**	**94**	**1.05**
		0.68/0.30	F030/SS	2850	3	0.88 0.05	7525 430	7075 400	81 20	78 20	96	1.13
		0.62/0.26	F028/SS	2725	3	0.88 0.05	7195 410	6760 385	73 19	72 19	100	1.22
		0.56/0.24	F025/SS	2475	3	0.88 0.05	6535 370	6140 350	67 19	66 19	99	1.33
50716	QHE4x32T8/UNV DIM-TCL	**0.96/0.40**	**F032XP**	**3000**	**4**	**0.88 0.05**	**10,560 600**	**9925 565**	**114 27**	**110 27**	**96**	**0.80**
		0.92/0.39	F030/SS	2850	4	0.88 0.05	10,030 570	9430 535	107 26	104 26	96	0.85
		0.82/0.35	F028/SS	2725	4	0.88 0.05	9590 545	9015 510	98 25	95 25	101	0.93
		0.74/0.32	F025/SS	2475	4	0.88 0.05	8710 495	8190 465	91 24	89 24	98	0.99

Products are all 10-pack. *Note: Striation might occur with SUPERSAVER lamps.*

1 System Efficacy calculation based on lowest input power value.

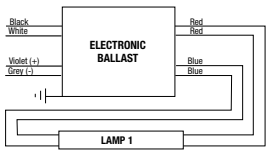
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

**QHE models above were formerly QTP models.*

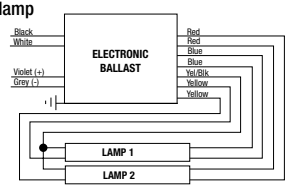
Wiring Diagrams

Output Wiring: Lamp wiring for dimming ballasts can differ significantly from non-dimming ballasts and from other manufacturers dimming ballasts. Take care to connect lamp lead wires as shown on the applicable ballast diagram. Lamp Seasoning: For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice — Lamp Seasoning for Fluorescent Dimming Systems

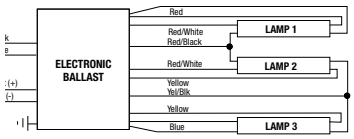
1 lamp



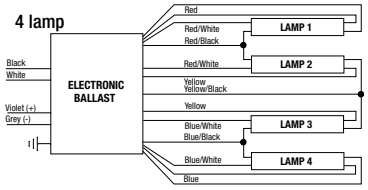
2 lamp



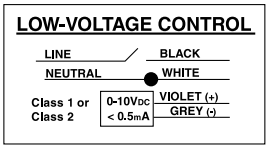
3 lamp

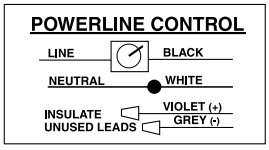


4 lamp



Input & Control Wiring Options:





Refer to pages 118-119 for controls & wiring information

Item Number — **50707 QHE 2 x 32T8 / UNV DIM-TC** — System Type - DIMMING/Case Size

QUICKTRONIC High Efficiency — Line Voltage (120-277V)

Number of Lamps (1, 2, 3, 4) — Primary Lamp Wattage

T8 POWERSENSE®

High Efficiency

Performance Guide

Data based on SYLVANIA OCTRON® lamps shown. QUICKTRONIC® POWERSENSE ballasts are also compatible with other manufacturers equivalent lamp types that meet ANSI specifications, including F17, F25, F32, U-Bend equivalent lamps and SUPERSAVER lamps.

Specifications

Data based on F32T8

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F/10°C minimum for OCTRON T8 lamps
Input Voltage: 120-277V, ±10%
Input Frequency: 50/60 Hz
THD: <10% @ Full Output
Power Factor: >98% @ Full Output
UL Listed Class P, Type 1 Outdoor
CSA or C/UL Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
RoHS compliant[3]
ANSI C62.41 Cat. A Transient Protection
Remote mounting (Max. wire length from ballast case to lampholder)

- up to 8ft for full wattage T8s
- no remote mounting for SUPERSAVER

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

Control Information

QUICKTRONIC POWERSENSE ballasts are compatible with a wide range of low voltage (0-10VDC) and power line fluorescent controllers available from various manufacturers.
Low Voltage Control Specs: Ballast will source up to 0.5mA for 0-10VDC control purposes. May be wired as a Class 1 or Class 2 circuit-consult Local and National Electrical Codes.
Power Line Control Specs: Specification-grade fluorescent controls are available for 120V or 277V operation of controllable analog electronic fluorescent ballasts. Controls must be suitably rated for both the type (e.g. Fluorescent Phase control) and size (e.g. 600W) of the connected load.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

POWERSENSE T8 DIM

Specifications subject to change without notice.

QUICKTRONIC® POWERSENSE® T5 Dimming UNV Systems

RoHS compliant

Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps
1-lamp QHE1x28T5/UNV DIM
2-lamp QHE2x28T5/UNV DIM
Primary Lamp Type
FP28
Also operates:
FP35, FP21, FP14

Key System Features

- Industry's first ballast that combines dimming inputs from 0-10V and/or two-wire AC dimming providing maximum flexibility
- POWERSENSE compatibility with low voltage and power line fluorescent dimmers
- High Efficiency
- Lamp Detection Technology
- Universal voltage (120-277V)
- 100-1% Dimming Range
- PROStart® programmed rapid start
- Anti-flash circuitry – turns on in dimmed mode
- Lightweight and low profile
- Operates at >42 kHz
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- QUICK 60+ ballast and lamp warranty
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC POWERSENSE ballasts
are ideally suited for:

- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding
- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New construction
- Retrofit

SYLVANIA QUICKTRONIC High Efficiency
POWERSENSE T5 electronic ballasts offer several advantages:

- **Wide Dimming Range:** operate linear fluorescent T5 PENTRON lamps over a 100-1% dimming range and provide true versatility in controls selection.
- **Industry's Most Adaptable Dimming Ballast:** ballasts feature micro-controller technology for compatibility with:
  - low voltage controls
  - power line fluorescent dimmers
  - any line voltage from 120V to 277V
- **Unmatched Performance with Patented Lamp Detection Technology:**
  - Eliminates variations in brightness from lamp-to-lamp
  - Provides uniform lighting throughout the dimming range
  - Eases installation and trouble-shooting by recognizing failed lamps, faulty wiring or loose connections and shutting down.

When the problem is corrected, the system restarts automatically.

RoHS Compliant: QUICKTRONIC POWERSENSE T5 ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

QUICK 60+® Warranty: Setting the standard for quality, QUICKTRONIC POWERSENSE T5 ballasts are covered by a QUICK 60+® warranty, the first comprehensive system warranty in the industry.

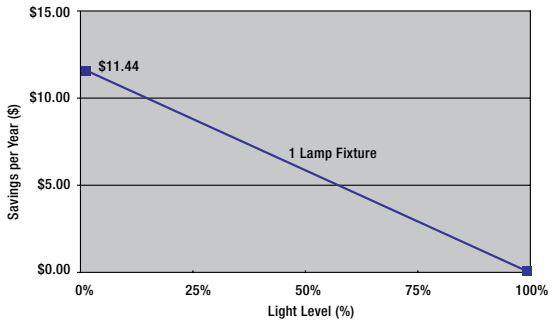
System Information

QUICKTRONIC POWERSENSE ballasts operate from standard low voltage (0-10VDC) fluorescent controllers or compatible 2-wire power line fluorescent dimmers, making them ideal for individual office lighting or automated building applications, both in new construction and retrofit projects.

For the individual office or conference room, installation can be streamlined by using a 2-wire power line dimmer; eliminating the need for additional control wires.

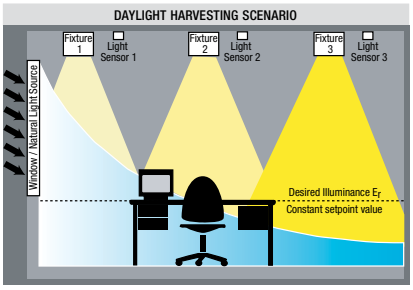
For more advanced systems, such as daylight harvesting or building automation applications, standard low voltage devices (0-10VDC, Class 1 or 2) are used to control the lighting system. In this daylight harvesting example, each lighting fixture (or fixture row) is controlled by it's own photosensor; regulating the light output to compensate for changes in natural daylight. Depending upon the specific application, energy savings of up to 60% compared to fixed output electronic systems can be realized.

SAVINGS PER YEAR* vs LIGHT LEVEL
(QHE T5 POWERSENSE Ballast)



* FP28 lamps with QUICKTRONIC QHE T5 POWERSENSE ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

All QUICKTRONIC POWERSENSE ballasts include a line voltage protection circuit, which protects the ballast in the event that line voltage is inadvertently applied to the low voltage control inputs.



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Electronic T5 Fluorescent Controllable Lighting Systems

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input[2] Power (W) 120V 277V	System Efficacy (lm/W)	BEF[3]
50725 ❂	QHE1x28T5/UNV DIM-TC	0.27/0.12	FP28T5	2900	1	1.00 0.01	2900 29	32 31 6 6	94	3.23
		0.34/0.14	FP35T5	3650	1	1.00 0.01	3650 37	41 40 6 6	91	2.50
		0.21/0.09	FP21T5	2100	1	1.00 0.01	2100 21	25 25 6 6	84	4.00
		0.14/0.06	FP14T5	1350	1	1.00 0.01	1350 14	17 17 5 5	79	5.88
50726 ❂	QHE2x28T5/UNV DIM-TCL*	0.53/0.23	FP28	2900	2	1.00 0.01	5800 58	64 62 10	91/93	1.61
		0.67/0.29	FP35	3650	2	1.00 0.01	7300 73	81 79 10	90/92	1.27
		0.40/0.18	FP21	2100	2	1.00 0.01	4200 42	49 9	86	2.04
		0.29/0.13	FP14	1350	2	1.00 0.01	2700 27	34 8	79	2.94

1 At 35°C lamp ambient temperature.

2 System Efficacy calculation based on lowest input power.

3 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (note: calculation based on lowest wattage value)

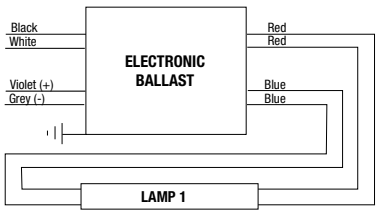
❂ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

**Please note, item number 50726 was formerly QTP 2x28T5/UNV DIM-TCL*

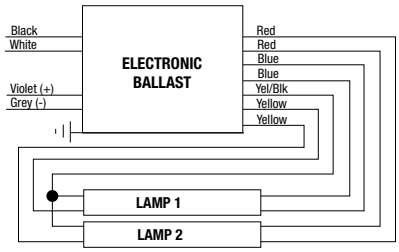
Installation Notes

Output Wiring: Lamp wiring for dimming ballasts can differ significantly from non-dimming ballasts and from other manufacturers dimming ballasts. Take care to connect lamp lead wires as shown on the applicable ballast diagram. **Lamp Seasoning:** For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice - Lamp Seasoning for Fluorescent Dimming Systems

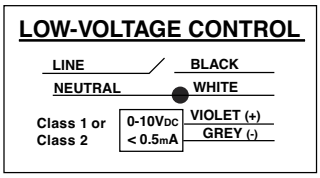
1 lamp

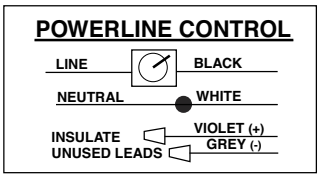


2 lamp



Input & Control Wiring Options:





Refer to pages 118-119 for controls & wiring information

Item Number — **50726 QHE 2 x 28T5 / UNV DIM-TCL** — System Type - DIMMING/Case Size
QUICKTRONIC High Efficiency — Line Voltage (120-277V)
Number of Lamps (2) — Primary Lamp Wattage

Specifications subject to change without notice.

NEW

T5 POWERSENSE®
High Efficiency

Performance Guide

Data shown based upon SYLVANIA PENTRON® lamp(s). QUICKTRONIC® POWERSENSE ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications
Data based on FP28

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F/10°C minimum[5]
Input Voltage: 120-277V, ±10%
Input Frequency: 50/60 Hz
THD: <10% @ Full Output
Power Factor: >98% @ Full Output

UL Listed Class P, Type 1 Outdoor
CSA or C/UL Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat. A Transient Protection
No Remote or Tandem Wiring

4 Complies with European Union Restriction of Hazardous Substances Directive.

5 FP14 lamp starting temperature 60°F (16°C)

Control Information

QUICKTRONIC POWERSENSE ballasts are compatible with a wide range of low voltage (0-10VDC) and power line fluorescent controllers available from various manufacturers.

Low Voltage Control Specs: Ballast will source up to 0.5mA for 0-10VDC control purposes. May be wired as a Class 1 or Class 2 circuit-consult Local and National Electrical Codes.

Power Line Control Specs: Specification-grade fluorescent controls are available for 120V or 277V operation of controllable analog electronic fluorescent ballasts. Controls must be suitably rated for both the type (e.g. Fluorescent Phase-control) and size (e.g. 600W) of the connected load.

OSRAM SYLVANIA
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(1-800-544-4828)
www.sylvania.com

QUICKTRONIC® POWERSENSE® T5HO UNV Dimming Systems

RoHS compliant

Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

54W T5HO - PENTRON® lamps*
1-lamp QHE1x54T5HO/UNV DIM TC
2-lamp QHE2x54T5HO/UNV DIM TCL

Also operates:
FT55DL, FPC55 and L58T8

* Not to be used with Energy Saving T5HO lamps

Key System Features

- Industry's first ballast that combines dimming inputs from 0-10V and/or two-wire AC dimming providing maximum flexibility
- POWERSENSE compatibility with low voltage and power line fluorescent dimmers
- High Efficiency
- Lamp Detection Technology
- Universal voltage (120-277V)
- 100-1% Dimming Range
- PROStart® programmed rapid start
- Anti-flash circuitry – turns on in dimmed mode
- Operates at >42 kHz
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- QUICK 60+ ballast and lamp warranty
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC POWERSENSE ballasts are ideally suited for:

- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding
- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New construction
- Retrofit

SYLVANIA QUICKTRONIC High Efficiency POWERSENSE T5HO electronic ballasts offer several advantages:

- **Wide Dimming Range:** operate linear fluorescent PENTRON HO, PENTRON HO Circline, and DULUX LT5 lamps over a 100-1% dimming range and provide true versatility in controls selection.
- **Industry's Most Adaptable Dimming Ballast:** ballasts feature micro-controller technology for compatibility with:
  - low voltage controls
  - power line fluorescent dimmers
  - any line voltage from 120V to 277V
- **Unmatched Performance:** patented lamp detection technology that virtually eliminates variations in brightness from lamp-to-lamp and provides uniform lighting throughout the dimming range. This technology also eases installation and troubleshooting by recognizing failed lamps, faulty wiring or loose connections, and shutting down.

When the problem is corrected, the system restarts automatically.

RoHS Compliant: QUICKTRONIC POWERSENSE T5HO ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

QUICK 60+® Warranty: Setting the standard for quality, QUICKTRONIC POWERSENSE T5HO ballasts are covered by a QUICK 60+® warranty, the first comprehensive system warranty in the industry.

System Information

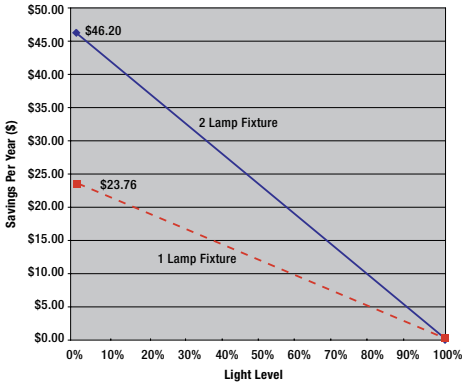
QUICKTRONIC POWERSENSE ballasts operate from standard low voltage (0-10VDC) controllers or compatible 2-wire power line fluorescent dimmers, making them ideal for individual office lighting or automated building applications, both in new construction and retrofit projects.

For the individual office or conference room, installation can be streamlined by using a 2-wire power line fluorescent dimmer; eliminating the need for additional control wires.

For more advanced systems, such as daylight harvesting or building automation applications, standard low voltage devices (0-10VDC, Class 1 or 2) are used to control the lighting system. In this daylight harvesting example, each lighting fixture (or fixture row) is controlled by it's own photosensor; regulating the light output to compensate for changes in natural daylight. Depending upon the specific application, energy savings of up to 60% compared to fixed output electronic systems can be realized.

All QUICKTRONIC POWERSENSE ballasts include a line voltage protection circuit, which protects the ballast in the event that line voltage is inadvertently applied to the low voltage control inputs.

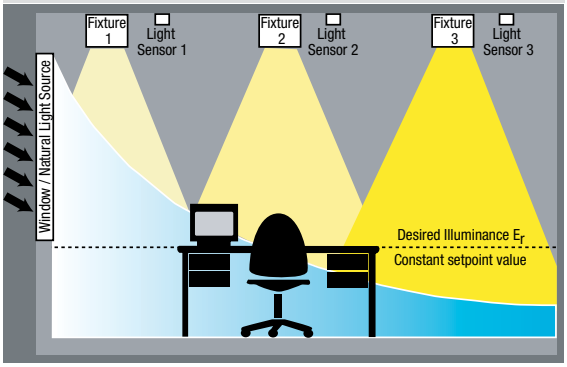
SAVINGS PER YEAR* vs LIGHT LEVEL
(54W T5HO Lamps, QUICKTRONIC QHE POWERSENSE T5HO Ballast)



*Based on 4000 hrs/yr, $0.11/kWh, and 120V operation

*Savings per Year (@Light Level) = Cost of operation (100% Light Level) – Cost of operation (@Light Level)

DAYLIGHT HARVESTING SCENARIO



SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency, T5HO Controllable Lighting Systems, Universal Voltage (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input[2] Power (W) 120V	Input[2] Power (W) 277V	System Efficacy (lm/W)	BEF[3]
51468 ✪	QHE1x54T5HO/UNV DIM-TC *10-pack*	0.51/0.21	FP54T5HO	5000	1	1.00 0.01	5000 50	4650 45	62 8	60 8	83	1.67
		0.51/0.21	FT55DL	4800	1	1.00 0.01	4800 45	4465 40	62 8	60 8	80	1.67
		0.51/0.21	L58	5200	1	1.00 0.01	5200 50	4835 45	62 8	60 8	87	1.67
		0.51/0.21	FPC55	4000	1	1.00 0.01	4000 40	3725 35	62 8	60 8	67	1.67
51467 ✪	QHE2x54T5HO/UNV DIM-TCL *10-pack*	1.00/0.42	FP54T5HO	5000	2	1.00 0.01	10,000 100	9300 95	120 15	116 15	86	0.86
		1.00/0.42	FT55DL	4800	2	1.00 0.01	9600 95	8930 90	120 15	116 15	83	0.86
		1.00/0.42	L58	5200	2	1.00 0.01	10,400 105	9670 95	120 15	116 15	90	0.86
		1.00/0.42	FPC55	4000	2	1.00 0.01	8000 80	7440 75	120 15	116 15	69	0.86

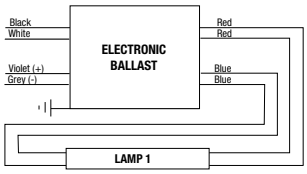
1 At 35°C lamp ambient temperature.
2 System Efficacy calculation based on lowest input power.
3 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (note: calculation based on lowest wattage value)
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

Installation Notes

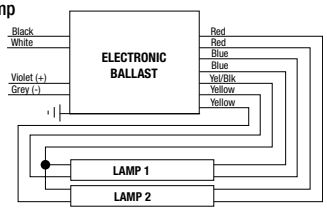
Output Wiring: Lamp wiring for dimming ballasts can differ significantly from non-dimming ballasts and from other manufacturers dimming ballasts. Take care to connect lamp lead wires as shown on the applicable ballast diagram.

Lamp Seasoning: For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice — Lamp Seasoning for Fluorescent Dimming Systems

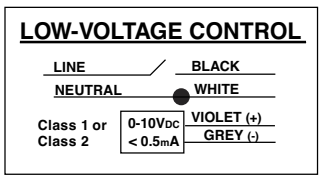
1 lamp

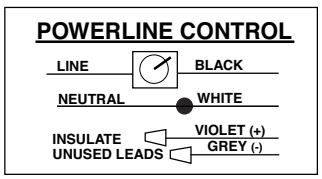


2 lamp



Input & Control Wiring Options:





Refer to pages 118-119 for controls & wiring information

Item Number — **51467 QHE 2 x 54T5HO / UNV DIM-TCL** — System Type - DIMMING/Case Size
QUICKTRONIC High Efficiency — Line Voltage (120-277V)
Number of Lamps (2) — Primary Lamp Wattage

T5HO POWERSENSE®

High Efficiency

Performance Guide

Data shown based upon SYLVANIA PENTRON® lamp(s). QUICKTRONIC® POWERSENSE ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications. **Not to be used with Energy Saving T5HO lamps.**

Specifications

Data based on FP28

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F/10°C minimum[5]
Input Voltage: 120-277V, ±10%
Input Frequency: 50/60 Hz
THD: <10% @ Full Output
Power Factor: >98% @ Full Output

UL Listed Class P, Type 1 Outdoor
CSA or C/UL Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat. A Transient Protection
Remote Mounting (Max. wire length from ballast case to lampholder): up to 4ft

4 Complies with European Union Restriction of Hazardous Substances Directive. (Directive 2002/95/EC)

5 FT55DL starting Temperature 60°F (16°C)

Control Information

QUICKTRONIC POWERSENSE ballasts are compatible with a wide range of low voltage (0-10VDC) and power line fluorescent controllers available from various manufacturers.

Low Voltage Control Specs: Ballast will source up to 0.5mA for 0-10VDC control purposes. May be wired as a Class 1 or Class 2 circuit-consult Local and National Electrical Codes.

Power Line Control Specs: Specification-grade fluorescent controls are available for 120V or 277V operation of controllable analog electronic fluorescent ballasts. Controls must be suitably rated for both the type (e.g. Fluorescent Phase-control) and size (e.g. 600W) of the connected load.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
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1-800-LIGHTBULB
(1-800-544-4828)
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the system solution®

Specifications subject to change without notice.

SPECIFICATION DATA

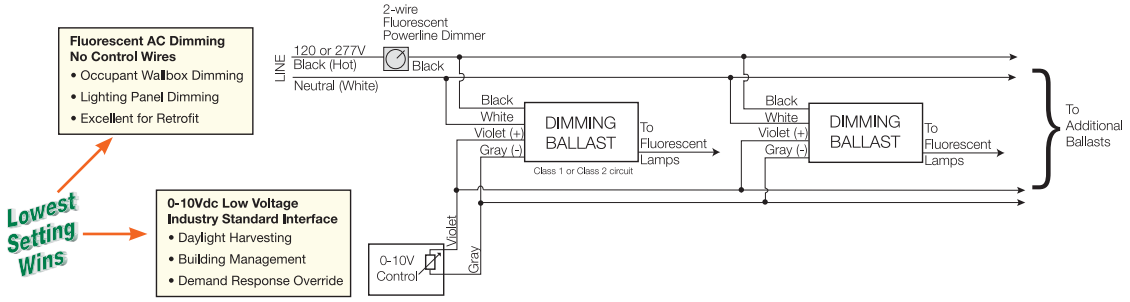
Catalog #	Date	Type
Project	Prepared by	
Comments		

POWERSENSE
High Efficiency

QUICKTRONIC® POWERSENSE® Dimming UNV - Dimming Control Wiring Examples

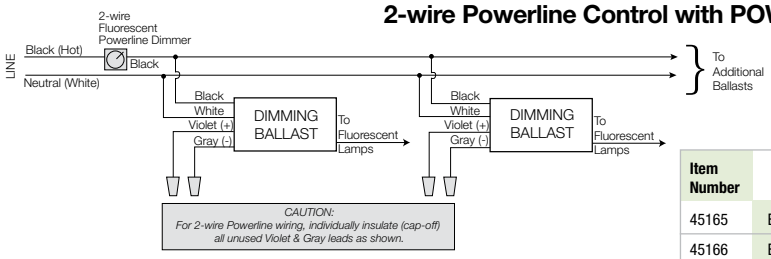
Industry's 1st Ballast That Allows POWERLINE Fluorescent Control *AND* 0-10Vdc Control Input Simultaneously

2-wire Powerline *AND* 0-10Vdc Control with POWERSENSE Ballasts



Wallbox Style 2-wire Powerline Control Wiring Example

2-wire Powerline Control with POWERSENSE Ballasts



Examples: Leviton IPX series operate as single pole or 3-way models. Available in 120V and 277V models. Leviton 6668-1W (white) 120V single pole fluorescent dimmer.

Powerline Control Specs:
Specification-grade controls are available for 120V or 277V operation of controllable analog electronic fluorescent ballasts. Controls must be suitably rated for both the type (e.g. Fluorescent Phase-control) and size (e.g. 600W of the connected load.

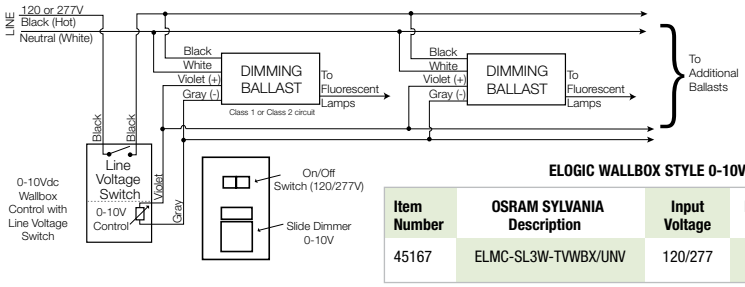
ELOGIC™ MANUAL CONTROL SLIDE FLUORESCENT PHASE CUT DIMMER

Item Number	OSRAM SYLVANIA Description	Voltage Rating	Rating	Type	Wiring
45165	ELMC-SL3WHP-FLPCWBX120	120 VAC	1000VA	Fluorescent Phase cut	Single Pole or 3-way
45166	ELMC-SL3WHP-FLPCWBX277	277 VAC	1200VA		
45163	ELMC-SL3WSP-FLPCWBX120	120 VAC	600VA		
45164	ELMC-SL3WSP-FLPCWBX277	277 VAC	600VA		

**For additional information refer to ELOGIC™ Lighting Controls product information bulletins LMS068.*

Wallbox Style 0-10V Control with Power Switch Wiring Example

0-10V DC Control with POWERSENSE Ballasts



Examples: Lithonia model ISD BC or Leviton IP 710 Series (These 0-10V dc, 120/277V models can be wired for single pole application (shown); these models can also be wired for 3-way applications.)

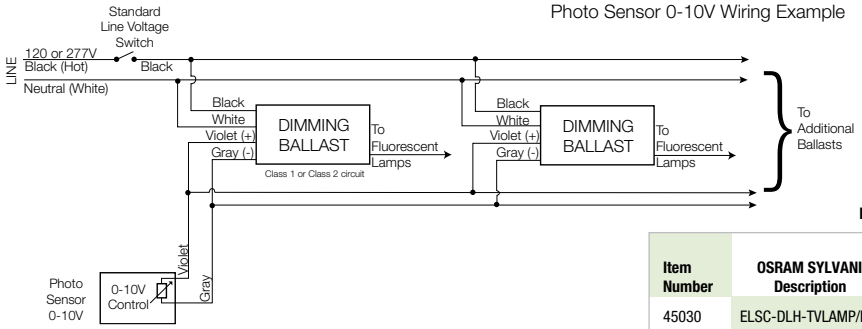
ELOGIC WALLBOX STYLE 0-10V DIMMER WITH POWER SWITCH

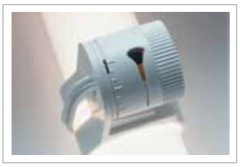
Item Number	OSRAM SYLVANIA Description	Input Voltage	Dimming Control	Maximum Power Rating	Wiring	Color
45167	ELMC-SL3W-TVWBX/UNV	120/277	0-10V	1200VA @120V 1500VA @277V	Single Pole or 3-way	White

Photo Sensor 0-10V Wiring Example

0-10V DC Control with POWERSENSE Ballasts

Photo Sensor 0-10V Wiring Example





ELOGIC DAYLIGHT SENSOR ORDERING INFORMATION

Item Number	OSRAM SYLVANIA Description	Type	Ballast Control Method	Output Voltage (VDC)	Max. Input Current (mA)	Lamp Type
45030	ELSC-DLH-TVLAMP/BUS	Sensor & Control for Daylight Harvesting	Analog	0-10V	6	T8 or T5 or T5HO

Specifications subject to change without notice.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

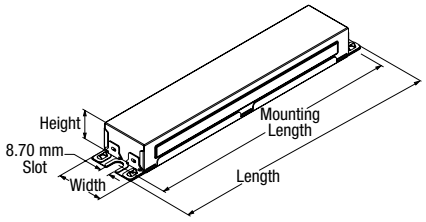
QUICKTRONIC® POWERSENSE® Controls Information

Controls Manufacturer	Fluorescent Powerline Controllers	0-10 VDC Controllers	Photo Cells	Occupancy Sensors	Building Management Systems
SYLVANIA www.sylvania.com/controls	X	X	X	X	X
Acuity Brand Controls www.acuitybrandscontrols.com	X	X	X	X	X
Blue Ridge Technologies www.brtint.com	X	X	X	X	X
Cooper Greengate http://greengate.coopercontrol.com		X	X	X	X
Hunt Dimming www.huntdimming.com	X	X			X
Lehigh Electric Products www.lehighdim.com	X	X			X
Leviton www.leviton.com	X	X	X	X	
Sensor Switch www.sensorswitch.com			X	X	
Siemens Building Technology http://sbt.siemens.com					X
Starfield Controls www.starfieldcorp.com		X	X	X	X
Watt Stopper www.wattstopper.com	X	X	X	X	X

Please contact controls manfacturer to order/specify controls. For the latest controls list go to www.sylvania.com
Also, for more information, refer to the LCA (Lighting Controls Association) site: http://lightingcontrolsassociation.org

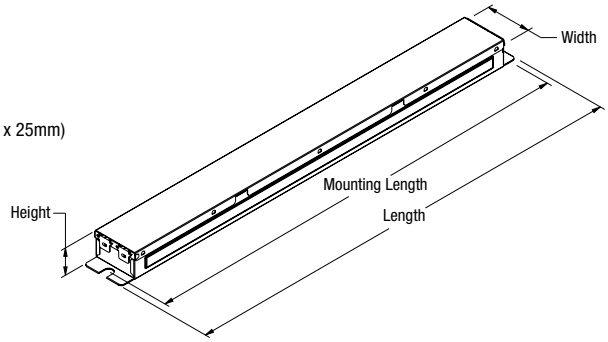
Dimensions:
TC enclosure
Overall: 9.5" L x 1.68" W x 1.0" H (241 x 43 x 25 mm)
Mounting: 8.90" (226 mm)
Weight: 1.1 lbs each (500 g)

Wiring:
Leads Only



Dimensions:
TCL enclosure
Overall: 16.7" L x 1.68" W x 1.0" H (425mm x 43mm x 25mm)
Mounting:16.2" (411 mm)
Weight: 2.1 lbs each (950 g)

Wiring:
Leads Only



Control Specifications/model numbers may change.
Please consult manufacturers listed for their latest control models and to order their controls.

POWERSENSE

High Efficiency

Controls Guide

Contact the companies listed for their 2-wire Fluorescent/Powerline controls and/or 0-10V controls information.

T8 POWERSENSE Dimming Ballast*
50705 QHE 1x32T8/UNV DIM-TC
50707 QHE 2x32T8/UNV DIM-TC
50714 QHE 3x32T8/UNV DIM-TCL
50716 QHE 4x32T8/UNV DIM-TCL

T5 POWERSENSE Dimming Ballast
50725 QHE 1x28T5/UNV DIM-TC
50726 QHE 2x28T5/UNV DIM-TCL*

T5HO POWERSENSE Dimming Ballast
51468 QHE 1x54T5HO/UNV DIM-TC
51467 QHE 2x54T5HO/UNV DIM-TCL

* QHE formerly QTP models

WARNING:
Install and wire these ballast and controls in accordance with the National Electrical Code (NEC), all applicable Federal, State and local electrical codes, as well as the specific instructions provided with the compatible control that you purchased. Installation should be performed by qualified personnel only.

These instructions are guidelines only. Installation may vary for different controls/fixtures/applications. Be sure to follow the control instructions and all applicable codes and standards when installing dimming systems.

Please contact controls manufacturer listed in the OSRAM SYLVANIA Inc. controls cross reference for compatible controls and instruction wiring

NOTES: 1. Dimming ballasts source <0.5mA (0-10VDC control input).
2. Powerline controls must be rated for the type (e.g. Fluorescent Phase-control) and size (e.g. 600W, 1000W, 1500W & 2000W etc.) of the connected load. Do NOT use incandescent powerline controls; incandescent dimmers are not rated for fluorescent loads and are NOT compatible with POWERSENSE ballasts.

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Specifications subject to change without notice.

QUICKTRONIC® HELIOS™ T5HO Controllable Systems

(0–10V) Dimming electronic ballast

SYLVANIA QUICKTRONIC HELIOS T5HO Dimming ballasts operate PENTRON® HO, PENTRON HO Circline, and DULUX® L T5 lamps over a wide (100-1%) dimming range. These ballasts are appropriate for architectural dimming as well as lighting management for energy conservation through daylight harvesting or building automation. They are compatible with common 0-10V dimming controls and provide nearly twice the light output (188%) of T8 systems, with the same number of lamps, allowing many new design options.

Features

- HELIOS 54W T5HO fluorescent dimming "dedicated" voltage ballasts
- Available in 120 or 277V, 1 or 2 lamp models
- Full dimming range (100–1%) with 0–10V controls
- Anti-flash circuitry turns on in dimmed mode
- PROStart® programmed rapid start, universal voltage (120–277V)
- QUICKSENSE® end-of-lamp-life sensing
- Lead-free solder and RoHS compliant

Benefits

- Ideal for applications requiring dimming down to very low light levels
- Suitable for energy management and occupancy sensors
- QUICK 60+® system warranty when paired with PENTRON lamps

QUICKTRONIC® HELIOS™ CF Controllable Systems

(0–10V) Dimming electronic ballast

SYLVANIA QUICKTRONIC HELIOS CF dual entry dimming ballasts operate DULUX® D/E and T/E lamps with full lumen output and optimal system performance over a wide dimming range (100% to 3%). This ballast features one mounting style of low profile, lightweight enclosures to provide simple assembly for any fixture application.

Features

- Multi-lamp ballast for DULUX® compact fluorescent lamps
  – 1 or 2 lamps CF13W, CF18W, CF26W
  – 1 lamp CF32W and CF42W
- Full dimming range (100 – 3%) with 0–10V controls
- Anti-flash circuitry turns on in dimmed mode
- Dual-mount for mounting flexibility and color coded connectors
- PROStart® programmed rapid start, universal voltage (120–277V)
- QUICKSENSE® end-of-lamp-life sensing
- Lead-free solder and RoHS compliant

Applications

- Recessed downlights
- Surface mounted luminaires
- Wall sconces

Benefits

- Ideal for applications requiring dimming down to very low light levels
- Suitable for energy management and occupancy sensors
- QUICK 60+® system warranty when paired with DULUX lamps

the system solution®

QUICKTRONIC® HELIOS™ T5HO Dimming (0-10V) Systems

RoHS compliant

Fluorescent Controllable Lighting Systems

Professional Series

Lamp / Ballast Guide

54W T5 - PENTRON® HO lamps*
1-lamp QT1x54PHO-DIM
2-lamp QT2x54PHO-DIM

Also operates:
FT55DL, FPC55

* Not to be used with Energy Saving T5HO lamps

Key System Features

- 100-1% Dimming range
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- PROStart® programmed rapid start ballast
- QUICK 60+® warranty
- 0-10V Control
- Anti-flash circuitry – turns on in dimmed mode
- High luminous efficacy
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC HELIOS T5HO ballasts
are ideally suited for:

- Architectural dimming
- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding

SYLVANIA QUICKTRONIC HELIOS T5HO
Dimming ballasts operate PENTRON HO, PENTRON HO Circline, and DULUX® L T5 lamps over a wide (100-1%) dimming range.

QUICKTRONIC HELIOS T5HO ballasts are appropriate for architectural dimming as well as lighting management for energy conservation through daylight harvesting or building automation. They are compatible with common 0-10V dimming controls.

These ballasts provide nearly twice the light output (188%) of T8 systems, with the same number of lamps, allowing many new design options. One lamp fixtures can now be used in place of two lamp models.

QUICKTRONIC HELIOS T5HO ballasts are available in one and two lamp models in 120V and 277V to cover a wide range of applications. The ballasts are RoHS compliant, featuring lead free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC HELIOS T5HO systems are also covered by the QUICK 60+ warranty, the first and most comprehensive system warranty in the industry.

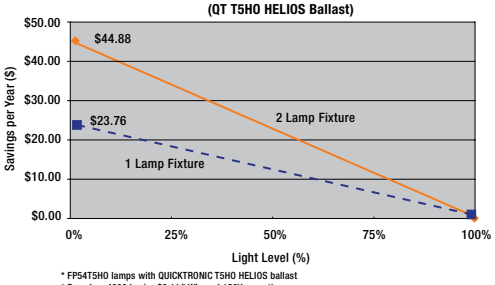
System Information

PROStart ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against over-heated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing, over the entire dimming range, to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto-reset when the end-of-life lamps are replaced with new ones.

QUICKTRONIC HELIOS T5HO ballasts are available in a 30 x 30 mm profile, and PENTRON lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.

SAVINGS PER YEAR* vs LIGHT LEVEL
(QT T5HO HELIOS Ballast)

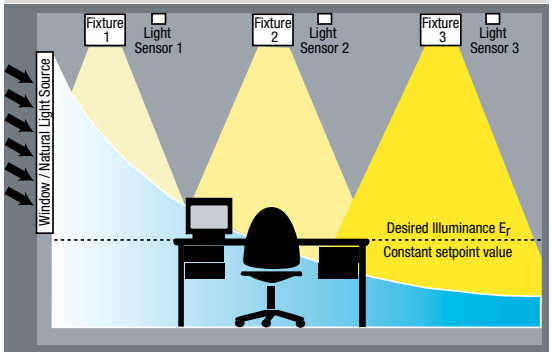


* FP54T5HO lamps with QUICKTRONIC T5HO HELIOS ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

For daylight harvesting or building automation applications, standard low voltage (0-10V, class 1 or 2) are used to control the lighting system. In this daylight harvesting example, each lighting fixture (or fixture row) is controlled by it's own photosensor; regulating the light output to compensate for changes in natural daylight.

A complete OSRAM SYLVANIA System Performance Guide showing performance characteristics of lamps and ballasts is available upon request.

DAYLIGHT HARVESTING SCENARIO



SEE THE WORLD IN A NEW LIGHT SYLVANIA

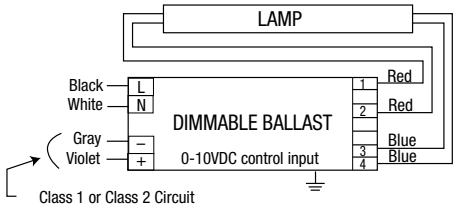
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

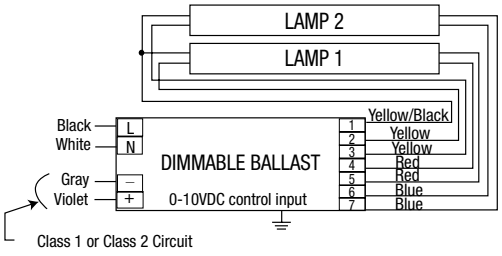
HELIOS™ (0-10V) T5HO Controllable Lighting Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast[1] Factor (BF)	System[1] Lumens	Input[1] Wattage (W)	System Efficacy (lm/W)	BEF[2]
49671	QT1x54/120PHO-DIM *20-Pack*	120	0.54	FP54T5HO	5000	1	1.00 0.01	5000 50	62 8	81	1.61
49672	QT1x54/277PHO-DIM *20-Pack*	277	0.23	FP54T5HO	5000	1	1.00 0.01	5000 50	61 8	82	1.64
49673	QT2x54/120PHO-DIM *20-Pack*	120	1.07	FP54T5HO	5000	2	1.00 0.01	10,000 100	120 18	83	0.83
49674	QT2x54/277PHO-DIM *20-Pack*	277	0.45	FP54T5HO	5000	2	1.00 0.01	10,000 100	117 18	85	0.85

1 At 35°C lamp ambient temperature
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power



QUICKTRONIC 1x54PHO-DIM

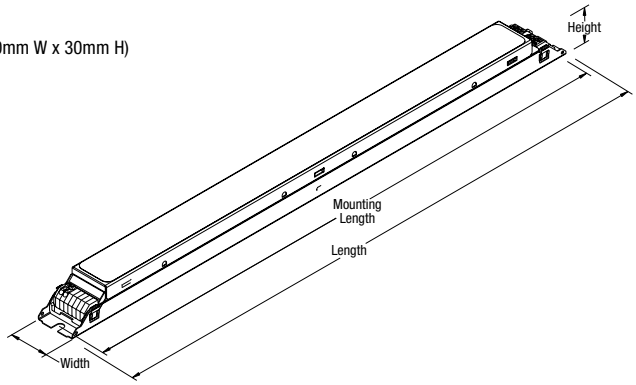


QUICKTRONIC 2x54PHO-DIM

Dimensions:
Overall: 16.73" L x 1.18" W x 1.18" H (425mm L x 30mm W x 30mm H)
Mounting: 16.34" (415mm)

Wiring:
Push-in connectors
Use 18AWG solid copper wire only

Product Weight:
Quantity: 20 pcs./case (no leads provided)
Weight: 1.0 lbs ea. (approx.)



Refer to pages 126-127 for controls & wiring information

Item Number — **49673 QT 2 x 54 / 120 PHO-DIM** — System Type – PHO-DIM
QUICKTRONIC PROFESSIONAL — Line Voltage
Number of Lamps (1, 2) — Primary Lamp Wattage

T5HO HELIOS™ (0-10V)
Professional Series

Performance Guide

Data based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® HELIOS™ dimmable ballasts are also compatible with other lamp manufacturer's equivalent lamp types that meet ANSI standards. **Not to be used with Energy Saving T5HO lamps.**

Specifications[3]

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F (10°C) minimum
Input Frequency: 60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1 Outdoor
CSA Certified
70°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
RoHS Compliant[4]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 7 feet

3 Data based on PENTRON HO lamp type. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology & Specification Guide for other lamp combinations.

4 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

Dimming Control Specs.

Dimming Control: 0-10VDC two wire control (10V = full output, 0V = minimum output)

Line Voltage Protection: Ballast operates at 90% RLO if line voltage is inadvertently applied to control leads. Ballast will source up to 0.5mA for control purposes. May be wired as Class 1 or Class 2 circuit.

QUICKTRONIC HELIOS™ ballasts are compatible with a wide range of 0-10V controllers available from various manufacturers.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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Specifications subject to change without notice.

QUICKTRONIC® HELIOS™ CF UNV Dimming Systems

RoHS compliant

Compact Fluorescent Controllable Lighting Systems

Professional Series

Lamp / Ballast Guide

Primary Systems
26W T4 - DULUX D/E, T/E
1 or 2 lamp QTP2X26CF/UNV DIM-DM

Also operates:
13W T4 - DULUX D/E, T/E (1 or 2 lamps)
18W T4 - DULUX D/E, T/E (1 or 2 lamps)
32W T4 - DULUX T/E (1 lamp)
42W T4 - DULUX T/E (1 lamp)

Key System Features

- Universal input voltage (120-277V)
- Dual entry, color coded connectors
- PROStart® program rapid start ballast
- QUICKSENSE® ballast technology
- High power factor
- Low harmonic distortion
- Small size and lightweight
- Metal enclosure
- UL, CSA, FCC
- QUICK 60+ warranty
- 100%-3% dimming range
- 0-10V control
- Anti-flash circuitry - turns on in dimmed mode
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC CF ballasts are ideally suited for:

- Recessed downlights
- Wall sconces
- Ceiling fixtures
- Commercial
- Retail, hospitality, institutional
- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding

SYLVANIA QUICKTRONIC HELIOS CF dual entry dimming ballasts operate DULUX® D/E and T/E lamps with full lumen output and optimal system performance over a wide dimming range (100% to 3%).

This ballast features one mounting style of low profile, lightweight enclosures to provide simple assembly for any fixture application.

Universal input voltage (120–277V) and multi-lamp multi-watt capability allow for fewer SKUs to support a wide range of applications.

Dual entry, color coded, wire trap connectors located on the side and bottom allow for increased mounting flexibility with one ballast and also increased ease of installation.

QUICKTRONIC HELIOS CF ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC HELIOS CF dual entry dimming systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

QUICKTRONIC HELIOS ballasts operate standard low voltage (0-10VDC) controllers making them ideal for applications such as daylight harvesting or building automation applications where standard low voltage devices (0-10VDC, Class 1 or 2) are used to control the lighting system.

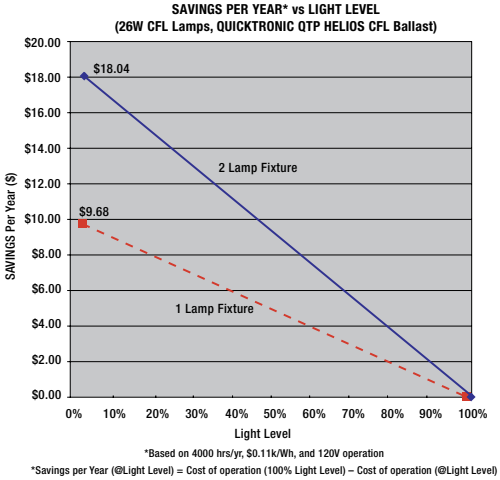
PROStart programmed rapid start is the optimum starting method, providing up to 100,000 switching cycles for use on occupancy sensors and building control systems.

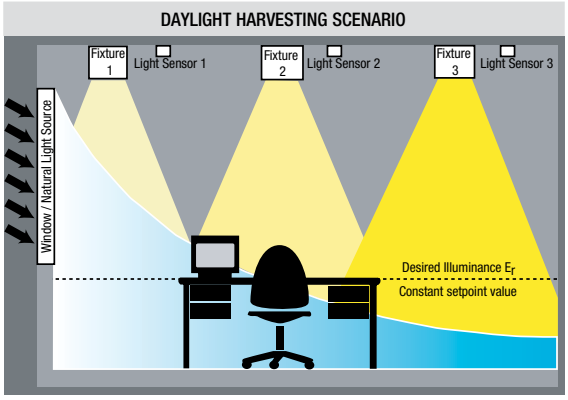
QUICKSENSE® end-of-lamp-life sensing technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall. QUICKSENSE ballast technology uses dynamic end-of-lamp-life sensing to avoid false shutdowns caused by some static sensing methods and will auto-reset when the end-of-life lamps are replaced with new ones.

A complete OSRAM SYLVANIA System Performance Guide showing performance characteristics of lamps and ballasts is available upon request.

QTP2x26CF/UNV DIM-DM Metal Case

Dual Entry Metal with Side & Bottom Mount Capabilities





SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

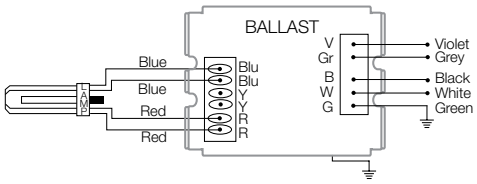
HELIOS™ (0-10V) CF Fluorescent Dimming Systems, UNV (120-277V)

RoHS compliant

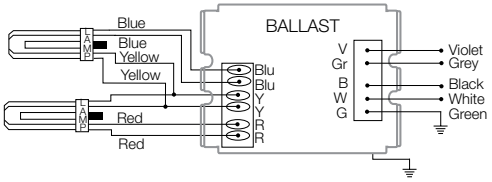
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (W)	System[1] Efficacy (lm/W)	BEF[2]
51836 ✪	QTP2x26CF/UNV DIM-DM *(20-pack)*	0.44/0.19	26W DD/E, DT/E	1800	2	1.00 0.03	3600 110	3095 95	53/53 12/12	68	1.89
		0.32/0.14	18W DD/E, DT/E	1200	2	1.00 0.03	2400 70	2065 60	38/37 10/10	65	2.70
		0.26/0.11	13W DD/E, DT/E	900	2	1.00 0.03	1800 55	1550 45	30/30 8/8	60	3.33
		0.39/0.17	42W DT/E	3200	1	1.00 0.03	3200 95	2750 85	46/46 7/7	70	2.17
		0.29/0.13	32W DT/E	2400	1	1.00 0.03	2400 70	2065 60	34/34 7/7	71	2.94
		0.24/0.11	26W DD/E, DT/E	1800	1	1.00 0.03	1800 55	1550 45	29/29 7/7	62	3.45
		0.17/0.08	18W DD/E, DT/E	1200	1	1.00 0.03	1200 35	1030 30	21/21 6/6	57	4.76
		0.14/0.07	13W DD/E, DT/E	900	1	1.00 0.03	900 25	775 20	17/17 5/5	53	5.88

1 System Efficacy calculation based on lowest input power value.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
✪ Preliminary specification. Please contact OSRAM SYLVANIA.

Metal M Case 1 Lamp



Metal M Case 2 Lamp



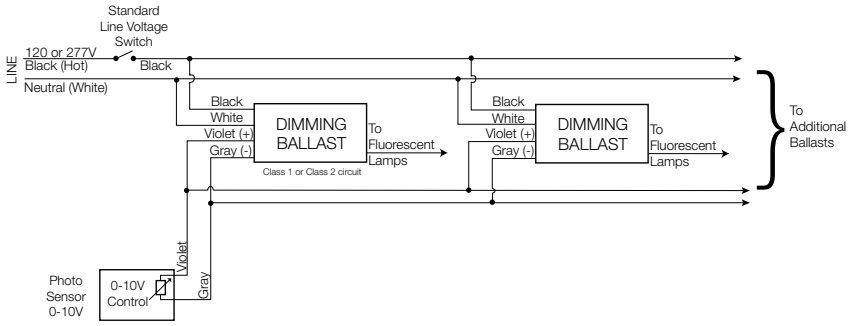
Dimensions:
Metal case: 4.95" L x 2.93" W x 1.35" H (125mm L x 74mm W x 34mm H)
Mounting: Utilize flanges (4.57" L), or (2) #8-32 x 0.375" Long

Packaging:
Quantity: 20 pieces per case
Weight: 1.30 lbs ea. (metal case)

Wiring:
Push-in connectors (no leads provided)
Use 18AWG solid copper wire only

Refer to pages 126-127 for controls & wiring information

Photo Sensor 0-10VDC Wiring Example



Item Number — **51836 QTP 2 x 26 CF / UNV DIM DM** — System Type - Dimming/Dual Mount
QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)
Number of Lamps (1, 2) — Primary Lamp Wattage

Specifications subject to change without notice.

NEW

CF HELIOS™ (0-10V)

Professional Series

Performance Guide

Data provided is based on testing done using SYLVANIA DULUX® T/E series 4 pin lamps shown. QUICKTRONIC CF HELIOS ballasts are compatible with other lamp manufacturers equivalent lamp types that meet ANSI standards.

Specifications

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp: 50°F/10°C min.[3]
Input Frequency: 50/60 Hz
Low THD: <10%
Power Factor: >98%
Voltage Range: ±10% of 120-277V

UL Listed Class P, Type 1 Outdoor
CSA or C/UL Certified
75°C Max Case Temp. (5 yr. warranty)
FCC 47CFR Part 18 Non-Consumer
Sound Rated A
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (max. wire length from ballast case to lampholder) up to 24 inches.
RoHS Compliant[4]

3 Operation below 50°F (10°C) may affect light output or lamp operation – see Low Temperature Starting definition.

4 Complies with European Union Restriction of Hazardous Substances Directive. (Directive 2002/95/EC)

Control Information

Dimming Control: 0-10VDC two wire control (10V = full output, 0V = minimum output)

QUICKTRONIC HELIOS™ ballasts are compatible with a wide range of 0-10V controllers available from various manufacturers.

Low Voltage Control Specs: Ballast will source up to 0.5mA for 0-10VDC control purposes. May be wired as a Class 1 or Class 2 circuit-consult Local and National Electrical Codes.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

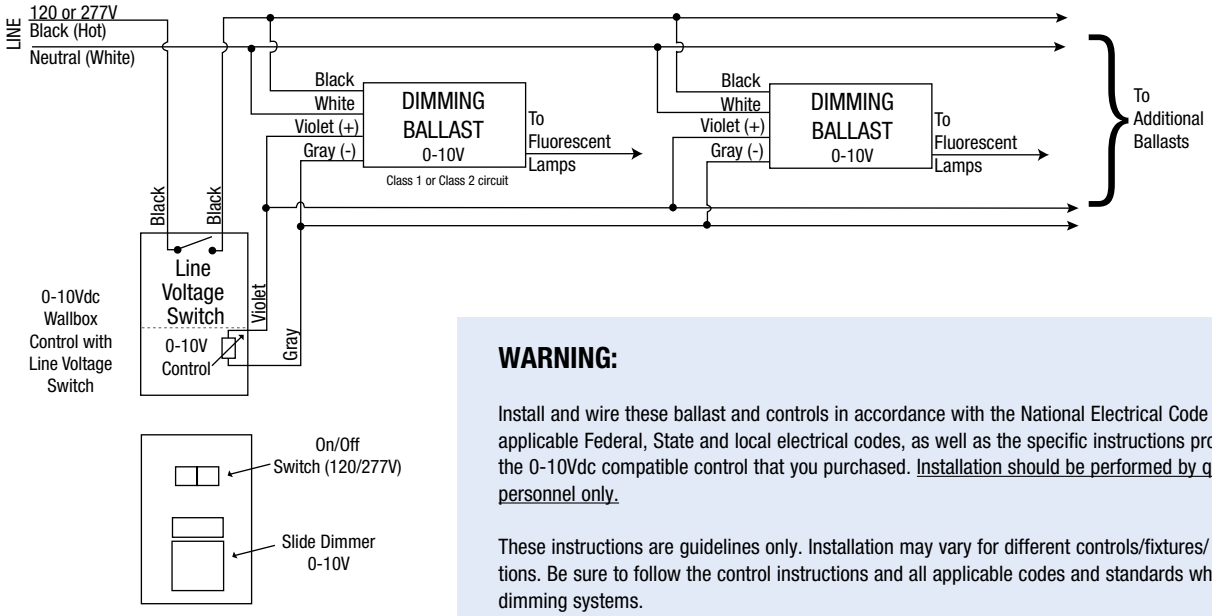
0-10V Dimming Control Wiring for QUICKTRONIC® HELIOS™ Systems

RoHS compliant

Wallbox Style Control Wiring Example

0-10V Dimming Ballasts

Wallbox Style Control Wiring Example



WARNING:

Install and wire these ballast and controls in accordance with the National Electrical Code (NEC), all applicable Federal, State and local electrical codes, as well as the specific instructions provided with the 0-10Vdc compatible control that you purchased. Installation should be performed by qualified personnel only.

These instructions are guidelines only. Installation may vary for different controls/fixtures/ applications. Be sure to follow the control instructions and all applicable codes and standards when installing dimming systems.

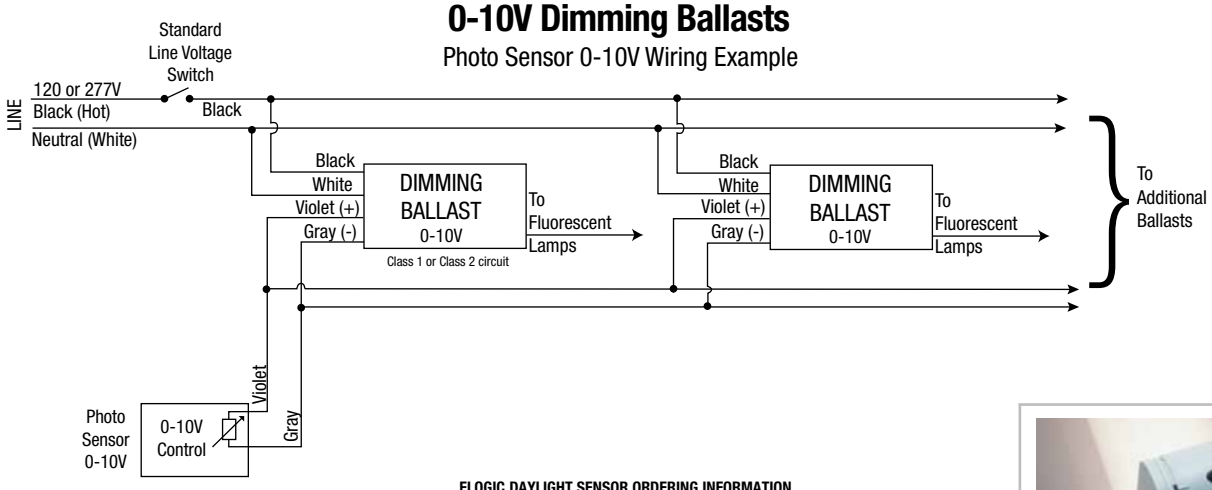
Please contact controls manufacturer listed in the OSRAM SYLVANIA Inc. controls cross reference for compatible controls and instruction wiring

NOTE: HELIOS Dimming ballasts source < 0.5mA (0-10VDC control input)

Photo Sensor 0-10V Wiring Example

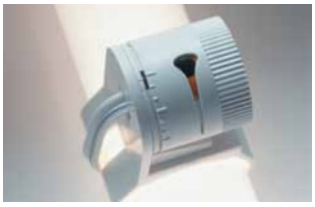
0-10V Dimming Ballasts

Photo Sensor 0-10V Wiring Example



ELOGIC DAYLIGHT SENSOR ORDERING INFORMATION

Item Number	OSRAM SYLVANIA Description	Type	Ballast Control Method	Output Voltage (VDC)	Max. Input Current (mA)	Lamp Type
45030	ELSC-DLH-TVLAMP/BUS	Sensor & Control for Daylight Harvesting	Analog	0-10V	6	T8 or T5 or T5HO



SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

QUICKTRONIC® HELIOS™ 0-10V Controls Information

Controls Manufacturer	0-10 VDC Controls	Photo Cell	Occupancy Sensor	Building Management Systems
SYLVANIA www.sylvania.com/controls	X	X	X	X
Acuity Brand Controls www.acuitybrandscontrols.com	X	X	X	X
Blue Ridge Technologies www.brtint.com	X	X	X	X
Cooper Greengate http://greengate.coopercontrol.com	X	X	X	X
Encelium www.encelium.com	X	X	X	X
Hunt Dimming www.huntdimming.com	X			X
Lehigh Electric Products www.lehighdim.com	X			X
Leviton www.leviton.com	X	X	X	
Sensor Switch www.sensorswitch.com		X	X	
Siemens Building Technology http://sbt.siemens.com				X
Starfield Controls www.starfieldcorp.com	X	X	X	X
Watt Stopper www.wattstopper.com	X	X	X	X

Please contact controls manufacturers to order/specify controls. For the latest controls list go to www.sylvania.com
Also for more information, refer to the LCA (Lighting Controls Association) site: http://lightingcontrolsassociation.org

Control Specifications/model numbers may change.
Please consult manufacturers listed for their latest 0-10V control models and to order their controls.

Controls Guide

These 0-10V controls listed to the left operate in conjunction with SYLVANIA QUICKTRONIC® PROFESSIONAL HELIOS™ Dimming Electronic Ballast:

T5HO Dimming Ballast
49671 QT1x54/120PHO-DIM
49672 QT1x54/277PHO-DIM
49673 QT2x54/120PHO-DIM
49674 QT2x54/277PHO-DIM

CF Dimming Ballast
51836 QTP2x26CF/UNV DIM-DM

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Specifications subject to change without notice.

QUICKTRONIC® High Efficiency DALI Dimming Systems

Digital Addressable Lighting Interface for T8, T5, T5HO lamps

Energy savings

SYLVANIA QUICKTRONIC High Efficiency PROStart® DALI Dimming ballasts combine digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

Features

- Digital Addressable Lighting Interface
- Wide dimming range
  – T5 and T5HO (100-1%)
  – T8 (100-3%)
- High Efficiency
- QUICKSENSE® end-of-lamp-life sensing ballast technology for T5 and T5HO DALI ballasts
- Universal voltage (120–277V)
- Anti-flash circuitry
- Lead-free solder and RoHS compliant

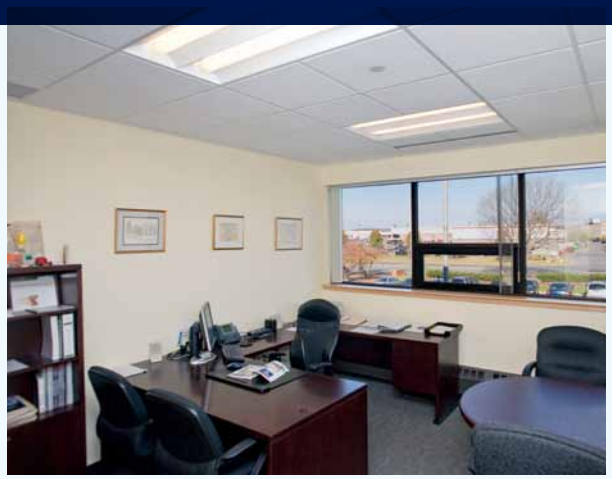
Applications

- Recessed troffers
- Surface mounted luminaires
- Suspended direct/indirect luminaires

QUICKTRONIC® High Efficiency DALI Dimming Systems

Digital Addressable Lighting Interface for T8, T5, T5HO lamps

Energy savings



DALI

Benefits

- Conforms with DALI protocol and helps assure interoperability with controls
- Allows for greater flexibility and reconfiguration in lighting design
- Energy savings with Digital Addressable Lighting Interface sytems
  – Occupancy sensors
  – Energy management systems
- QUICK 60+® system warranty
  – Up to 5 year lamp and ballast warranty

the system solution®

QUICKTRONIC® DALI T8
Universal Voltage Dimming Systems

NEMA Premium | RoHS compliant

Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

32W T8 - SYLVANIA OCTRON® lamps
1-lamp QHE1x32T8/UNV DALI
2-lamp QHE2x32T8/UNV DALI

Also operates:
FB032, FB031, FO30/SS, FB030/SS, FB029/SS, FO28/SS, FB028/SS, FB027/SS, FO25, FO25/SS, FO25/21SS, FB024, FO17, FO17/15SS & FB016

Key System Features

- Digital Addressable Control
  - Individual control of fixtures
  - Up to 16 groups
  - Up to 16 scenes
- 100-3% dimming
- Programmable fade rates
- High Efficiency
- 1.0 ballast factor at full power
- Universal Input Voltage (120/277V)
- PROStart® (programmed rapid start)
  - Extends lamp life
- QUICK 60+® lamp and ballast warranty
- Anti-flash circuitry - turns on at previous light level
- Operates >42 kHz to reduce potential IR interference
- Wiretrap connectors
- Control may be wired for Class 1 or Class 2 applications
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC DALI Dimming ballasts are ideally suited for:

- Offices
- Daylight harvesting
- Energy management
- Load shedding
- A/V presentations
- Conference rooms
- Occupancy sensors
- Zone and scene control

SYLVANIA QUICKTRONIC High Efficiency PROStart T8 DALI Dimming ballasts combine digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

QUICKTRONIC T8 DALI ballasts control OCTRON T8 lamps over a wide (100-3%) range of light level settings, from 1.0 ballast factor to 0.03 ballast factor. Control wiring is simplified by two polarity-free connections that can be routed in the same raceway as power wires.

QUICKTRONIC T8 DALI ballasts are available in one and two lamp models that operate at 120V or 277V input line voltage, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half. These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC T8 DALI systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

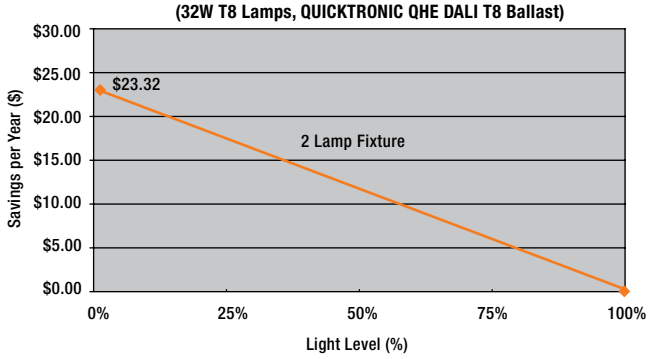
System Information

PROStart (Programmed rapid start) ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensor and building control system applications.

The DALI protocol offers individual addressability and allows the user to dim any particular fixture or groups of fixtures at one time. Simple controller programming steps allow for:

- Fade rates, dim levels, time of day, groups and scenes to be customized.
- Flexibility in grouping fixtures; no need to re-wire fixtures when groups need to be changed.
- Systems are scalable and can be expanded anytime the user needs change, without the need for costly re-wiring. Additional fixtures are added to groupings simply by means of software.

SAVINGS PER YEAR* vs LIGHT LEVEL
(32W T8 Lamps, QUICKTRONIC QHE DALI T8 Ballast)



* F032/XP lamps with QUICKTRONIC T8 DALI ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

DALI offers a two-way communication exchange. The DALI system allows communication to the ballast and the ballast to communicate back via the appropriate controls. Monitoring can be obtained on operating conditions, such as operating hours, light-level or failed lamps. This lamp fault-reporting feature can save significant cost by quickly identifying the location, especially in large facilities or in applications where lamps are concealed by lenses.

QUICKTRONIC T8 DALI lighting systems can also be integrated with Building Management Systems (BMS) by installing gateways that translate between the DALI and BMS systems. Specification of DALI compatible gateways, controls and ballasts ensure flawless operation of the lighting system.

NEW

T8 DALI

High Efficiency

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High-Efficiency, DALI T8 Dimming Systems, Universal Voltage (120-277V)

RoHS compliant

NEMA Premium

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	System Power (W) 120V	System Power (W) 277V	System[1] Efficacy (lm/W)	BEF[2]
51354 ✪	QHE1x32T8/UNV DALI *20-pack*	0.27/0.12	FO32XP	3000	1	1.00 0.03	3000 90	2820 85	33 7	33 7	90	3.08
		0.27/0.12	FO30/SS	2850	1	1.00 0.03	2850 85	2680 80	31 7	31 7	93	3.28
		0.23/0.10	FO28/SS	2725	1	1.00 0.03	2725 83	2535 75	28 6	28 6	96	3.50
		0.21/0.09	FO25/SS	2475	1	1.00 0.03	2475 75	2303 70	27 6	26 6	95	3.84
		0.22/0.10	FO25/XP	2175	1	1.00 0.03	2175 65	2023 60	26 6	26 6	87	4.00
		0.16/0.07	FO17/XP	1375	1	1.00 0.03	1375 43	1280 38	19 6	19 6	76	5.26
51355 ✪	QHE2x32T8/UNV DALI *20-pack*	0.56/0.24	FO32XP	3000	2	1.00 0.03	6000 180	5640 170	66 13	65 13	92	1.54
		0.53/0.23	FO30/SS	2850	2	1.00 0.03	5700 170	5360 160	63 13	61 13	93	1.64
		0.49/0.21	FO28/SS	2725	2	1.00 0.03	5450 165	5070 150	58 13	57 13	96	1.75
		0.45/0.20	FO25/SS	2475	2	1.00 0.03	4950 150	4605 140	53 13	52 13	95	1.92
		0.43/0.19	FO25/XP	2175	2	1.00 0.03	4350 130	4045 120	51 12	50 13	87	2.00
		0.31/0.14	FO17/XP	1375	2	1.00 0.03	2750 85	2560 75	37 12	36 12	76	2.78

1 System Efficacy is based on the lowest System Power.

2 BEF (Ballast Efficiency Factor) shown = (Ballast Factor x 100) divided by System Power (Note: calculation based on lowest system power).

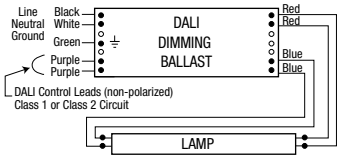
** 51354 QHE1x32T8/UNV DALI replaces 51350 QTP1x32T8/UNV DALI. * 51355 QHE2x32T8/UNV DALI replaces 51352 QTP2x32T8/UNV DALI. Please note new lamp wiring.*

✪ Preliminary specification. Please contact OSRAM SYLVANIA for additional information.

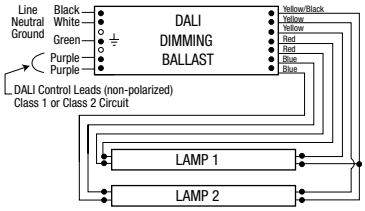
Installation Notes

Output wiring for dimming ballasts can differ significantly from non-dimming ballasts and other manufacturers dimming ballasts. Refer to applicable wiring diagram below or on ballast label. For optimal dimming performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting and low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice - Lamp Seasoning for Fluorescent Dimming Systems. Ballast case or ground terminal must be grounded.

Wiring Diagrams:
Wiring: Push-in (wiretrap) connections (no leads provided)
Use 18 AWG solid copper wire only



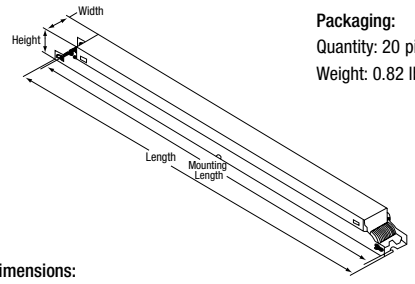
QHE1x32T8/UNV DALI



QHE2x32T8/UNV DALI

DALI Controls Information	
Encelium Lighting Controls	http://www.encelium.com
Siemens Building Technology	http://sbt.siemens.com
Cooper	http://greengate.coopercontrol.com
Crestron	www.crestron.com
Hunt Dimming	www.huntdimming.com
Leviton	www.leviton.com
Starfield Controls	www.starfieldcorp.com
Watt Stopper	www.wattstopper.com

Please contact controls manufacturer to order/specify controls. For the latest controls list go to www.sylvania.com
Also for more information, check out the LCA (Lighting Controls Association) site: www.lightingcontrolsassociation.org



Packaging:
Quantity: 20 pieces
Weight: 0.82 lbs each (approx.)

Dimensions:

units	L	ML	W	H
inches	16.7	16.3	1.18	1.0
mm	425	414	30.0	25.4

Item Number — **51355 QHE 2 x 32T8 / UNV DALI** — System Type - DALI
QUICKTRONIC High Efficiency — Line Voltage (120-277V)
Number of Lamps — Primary Lamp Type (FO32T8)

Performance Guide

Data provided is based on testing done using SYLVANIA OCTRON® T8 lamps shown. QUICKTRONIC® DALI ballasts are compatible with other manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on FO32T8

Starting Method: PROStart (Programmed Rapid Start)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: <1.7
Starting Temp: 55°F (13°C) minimum[4]
Input Frequency: 50/60 Hz
THD: <10% @ full output
Power Factor: >98% @ full output
Voltage Range: ±10% of 120/277 rated voltage

UL Listed Class P, Type 1 Outdoor
RoHS compliant[3]
CSA Certified
70°C Max. Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
Remote Mounting (Max wire length from ballast case to lampholders): 8 ft

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

4 FO25/SS and FBO27/SS starting temperature 60°F (16°C)

Control Information

QUICKTRONIC T8 DALI ballasts are compatible with DALI digital controllers available from various manufacturers.

Control Specifications:
Two wire non-polarized control. May be wired as Class 1 or Class 2 circuit, consult Local and National Electrical Codes.

Refer to pages 142-143 for controls information

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1-800-LIGHTBULB
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Specifications subject to change without notice.

QUICKTRONIC® DALI T5
Universal Voltage Dimming Systems

RoHS compliant

Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps*
1-lamp QHE1x28T5/UNV DALI
2-lamp QHE2x28T5/UNV DALI

Primary Lamp Type:
FP28T5

* Not to be used with Energy Saving T5 lamps

Key System Features

- Digital Addressable Control
  - Individual control of fixtures
  - Up to 16 groups
  - Up to 16 scenes
- 100-1% dimming
- Programmable fade rates
- High Efficiency
- 1.0 ballast factor at full power
- Universal Input Voltage (120/277V)
- PROStart® (programmed rapid start)
  - Extends lamp life
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- QUICK 60+® lamp and ballast warranty
- Anti-flash circuitry - turns on at previous light level
- Operates >42 kHz to reduce potential IR interference
- Wiretrap connectors
- Control may be wired for Class 1 or Class 2 applications
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC DALI Dimming ballasts are ideally suited for:

- Offices
- Daylight harvesting
- Energy management
- Load shedding
- A/V presentations
- Conference rooms
- Occupancy sensors
- Zone and scene control

SYLVANIA QUICKTRONIC High Efficiency PROStart T5 DALI Dimming ballasts combine digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

QUICKTRONIC T5 DALI ballasts control PENTRON T5 lamps over a wide (100-1%) range of light level settings, from 1.0 ballast factor to 0.01 ballast factor. Control wiring is simplified by two polarity-free connections that can be routed in the same raceway as power wires.

QUICKTRONIC T5 DALI ballasts are available in one and two lamp models that operate at 120V or 277V input line voltage, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half. These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, QUICKTRONIC T5 DALI systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

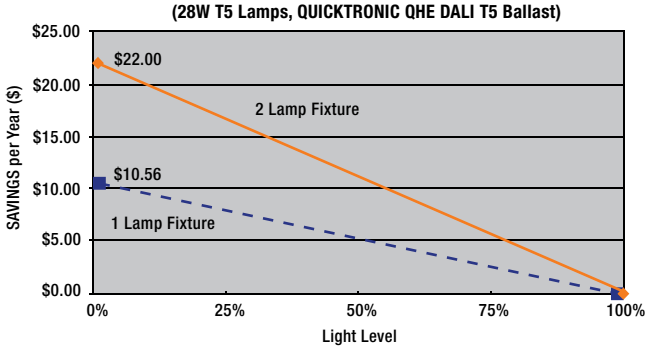
System Information

PROStart (Programmed rapid start) ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensor and building control system applications.

The DALI protocol offers individual addressability and allows the user to dim any particular fixture or groups of fixtures at one time. Simple controller programming steps allow for:

- Fade rates, dim levels, time of day, groups and scenes to be customized.
- Flexibility in grouping fixtures; no need to re-wire fixtures when groups need to be changed.
- Systems are scalable and can be expanded anytime the user needs change, without the need for costly re-wiring. Additional fixtures are added to groupings simply by means of software.

SAVINGS PER YEAR* vs LIGHT LEVEL
(28W T5 Lamps, QUICKTRONIC QHE DALI T5 Ballast)



*FP28T5 lamps with QUICKTRONIC QHE T5 DALI ballast
*Based on 4000 hrs/yr, $0.11/kWh & 120V operation
*Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

DALI offers a two-way communication exchange. The DALI system allows communication to the ballast and the ballast to communicate back via the appropriate controls. Monitoring can be obtained on operating conditions, such as operating hours, light-level or failed lamps. This lamp fault-reporting feature can save significant cost by quickly identifying the location, especially in large facilities or in applications where lamps are concealed by lenses.

QUICKTRONIC T5 DALI lighting systems can also be integrated with Building Management Systems (BMS) by installing gateways that translate between the DALI and BMS systems. Specification of DALI compatible gateways, controls and ballasts ensure flawless operation of the lighting system.

SEE THE WORLD IN A NEW LIGHT SYLVANIA

NEW

T5 DALI
High Efficiency

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High-Efficiency, DALI T5 Dimming Systems, Universal Voltage (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	System Power (W) 120V	System Power (W) 277V	System[1] Efficacy (lm/W)	BEF[2]
51456 ❂	QHE 1x28T5/UNV DALI *20-pack*	0.27/0.12	FP28T5	2900	1	1.00 0.01	2900 30	2725 25	32 8	31 8	94	3.23
51458 ❂	QHE 2x28T5/UNV DALI *20-pack*	0.52/0.22	FP28T5	2900	2	1.00 0.01	5800 60	5450 55	62 12	60 12	97	1.67

QHE1x28T5/UNV DALI and QHE2x28T5/UNV DALI replaces QTP1x28T5/UNV DALI and QTP2x28T5/UNV DALI respectively (Output wiring has changed). Contact OSRAM SYLVANIA for details.

1 System Efficacy is based on the lowest System Power.

2 BEF (Ballast Efficiency Factor) shown = (Ballast Factor x 100) divided by System Power (Note: calculation based on lowest system power).

❂ Preliminary specification. Please contact OSRAM SYLVANIA for additional information.

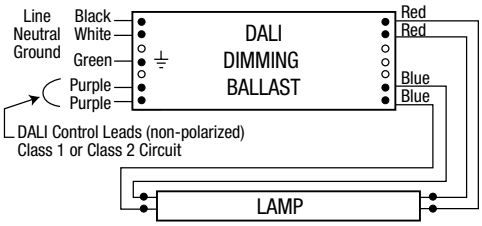
Installation Notes

Output wiring for dimming ballasts can differ significantly from non-dimming ballasts and other manufacturers dimming ballasts. Refer to applicable wiring diagram below or on ballast label. For optimal dimming performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting and low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice - Lamp Seasoning for Fluorescent Dimming Systems. Ballast case or ground terminal must be grounded.

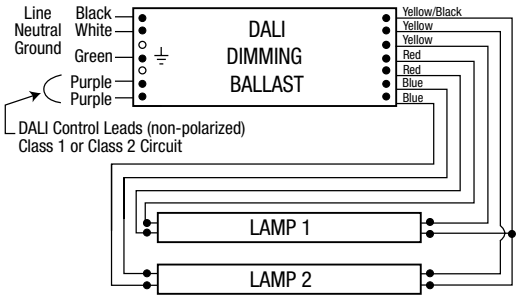
Wiring Diagrams:

Wiring: Push-in (wiretrap) connections (no leads provided)

Use 18 AWG solid copper wire only

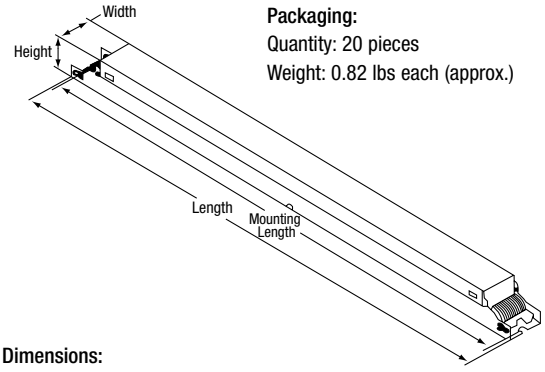


QHE 1x28T5/UNV DALI



QHE 2x28T5/UNV DALI

DALI Controls Information
Siemens Building Technology http://sbt.siemens.com
Cooper http://greengate.coopercontrol.com
Crestron www.crestron.com
Hunt Dimming www.huntdimming.com
Leviton www.leviton.com
Starfield Controls www.starfieldcorp.com
Watt Stopper www.wattstopper.com
Please contact controls manufacturer to order/specify controls. For the latest controls list go to www.sylvania.com Also for more information, check out the LCA (Lighting Controls Association) site: www.lightingcontrolsassociation.org



Packaging:
Quantity: 20 pieces
Weight: 0.82 lbs each (approx.)

Dimensions:

Units	L	ML	W	H
inches	16.7	16.3	1.18	1.0
mm	425	414	30.0	25.4

Item Number — **51458 QHE 2 x 28T5 / UNV DALI** — System Type - DALI

QUICKTRONIC High Efficiency — Line Voltage (120-277V)

Number of Lamps — Primary Lamp Type (FP28T5)

Performance Guide

Data provided is based on testing done using SYLVANIA PENTRON® T5 lamps shown. QUICKTRONIC® DALI ballasts are compatible with other manufacturers equivalent lamp types that meet ANSI specifications. **Not to be used with Energy Savings T5 lamps.**

Specifications

Data based on FP28T5

Starting Method: PROStart® (Programmed Rapid Start)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: <1.7
Starting Temp: 50°F (10°C) min.
Input Frequency: 50/60 Hz
THD: <10% @ full output
Power Factor: >98% @ full output
Voltage Range: ±10% of 120/277 rated voltage

UL Listed Class P, Type 1 Outdoor
RoHS compliant[3]
CSA Certified
70°C Max. Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
Remote Mounting (Max wire length from ballast case to lampholders): 5 ft

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

Control Information

QUICKTRONIC T5 DALI ballasts are compatible with DALI digital controllers available from various manufacturers.

Control Specifications:
Two wire non-polarized control. May be wired as Class 1 or Class 2 circuit, consult Local and National Electrical Codes.

Refer to pages 142-143 for controls information

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QUICKTRONIC® DALI T5HO
Universal Voltage Dimming Systems

RoHS compliant

Fluorescent Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

54W T5HO - PENTRON® lamps*
1-lamp QHE1x54T5HO/UNV DALI
2-lamp QHE2x54T5HO/UNV DALI

Also operates:
FT55DL, FPC55

* Not to be used with Energy Saving T5HO lamps

Key System Features

- Digital Addressable Control
  - Individual control of fixtures
  - Up to 16 groups
  - Up to 16 scenes
- 100-1% dimming
- Programmable fade rates
- High Efficiency
- 1.0 ballast factor at full power
- Universal Input Voltage (120/277V)
- PROStart® (programmed rapid start)
  - Extends lamp life
- QUICKSENSE® ballast technology (end-of-lamp-life sensing)
- QUICK 60+® lamp and ballast warranty
- Anti-flash circuitry – turns on at previous light level
- Operates >42 kHz to reduce potential IR interference
- Control may be wired for Class 1 or Class 2 applications
- Wiretrap connectors
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC DALI Dimming ballasts are ideally suited for:

- Offices
- Daylight harvesting
- Energy management
- Load shedding
- A/V presentations
- Conference rooms
- Occupancy sensors
- Zone and scene control

SYLVANIA QUICKTRONIC High Efficiency PROStart T5HO DALI Dimming ballasts combine digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

QUICKTRONIC T5HO DALI ballasts control PENTRON T5HO lamps over a wide (100-1%) range of light level settings, from 1.0 ballast factor to 0.01 ballast factor. Control wiring is simplified by two polarity-free connections that can be routed in the same raceway as power wires.

QUICKTRONIC T5HO DALI ballasts are available in one and two lamp models that operate at 120V or 277V input line voltage, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

Setting the standard for quality, QUICKTRONIC T5HO DALI systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

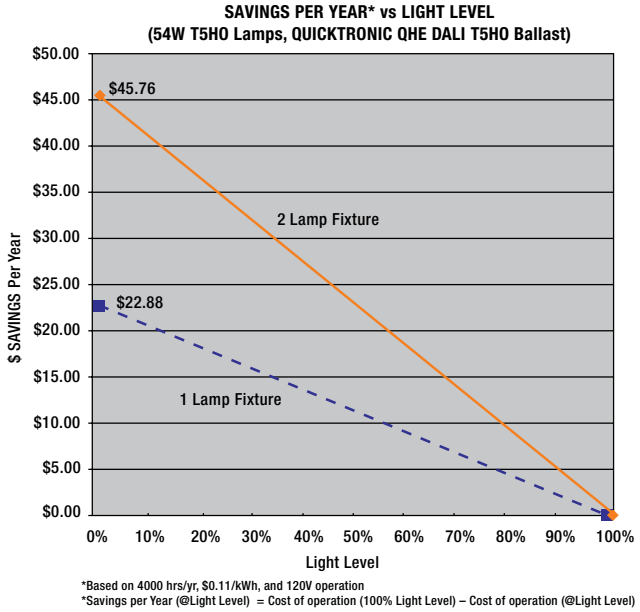
System Information

PROStart (programmed rapid start) ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensor and building control system applications.

The DALI protocol offers individual addressability and allows the user to dim any particular fixture or groups of fixtures at one time. Simple controller programming steps allow for:

1. Fade rates, dim levels, time of day, groups and scenes to be customized.
2. Flexibility in grouping fixtures; no need to re-wire fixtures when groups need to be changed.
3. Systems are scalable and can be expanded anytime the user needs change, without the need for costly re-wiring. Additional fixtures are added to groupings simply by means of software.

DALI offers a two-way communication exchange. The DALI system allows communication to the ballast and the ballast to communicate back via the appropriate controls. Monitoring can be obtained on operating conditions, such as operating hours, light-level or failed lamps. This lamp fault-reporting feature can save significant cost by quickly identifying the location, especially in large facilities or in applications where lamps are concealed by lenses.



QUICKTRONIC T5HO DALI lighting systems can be integrated with Building Management Systems (BMS) by installing gateways that translate between the DALI and BMS systems. Specification of DALI compatible gateways, controls and ballasts ensure flawless operation of the lighting system.

SEE THE WORLD IN A NEW LIGHT SYLVANIA

T5HO DALI

High Efficiency

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High-Efficiency, DALI T5HO Dimming Systems, Universal Voltage (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	Initial System Lumens	Mean System Lumens	Input Power (W) 120V	Input Power (W) 277V	System[1] Eff. (LPW)	BEF[2]
51464 ❂	QHE1x54T5HO/UNV DALI	0.52/0.22	FP54T5HO	5000	1	1.00	5000	4700	62	60	83	1.67
	20-pack					0.01	50	45	10	10		
51466 ❂	QHE2x54T5HO/UNV DALI	1.0/0.42	FP54T5HO	5000	2	1.00	10,000	9400	119	116	86	0.86
	20-pack					0.01	100	95	15	15		

1 System Efficacy is based on the lowest System Power.

2 BEF (Ballast Efficiency Factor) shown = (Ballast Factor x 100) divided by System Power (Note: calculation based on lowest system power).

❂ Preliminary specification. Please contact OSRAM SYLVANIA for additional information.

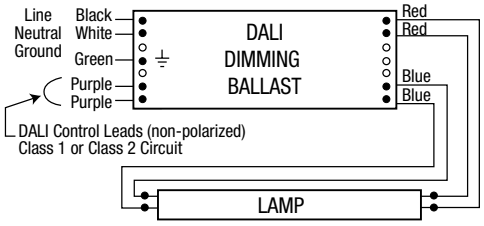
Installation Notes

Output wiring for dimming ballasts can differ significantly from non-dimming ballasts and other manufacturers dimming ballasts. Refer to applicable wiring diagram below or on ballast label. For optimal dimming performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting and low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice - Lamp Seasoning for Fluorescent Dimming Systems. Ballast case or ground terminal must be grounded.

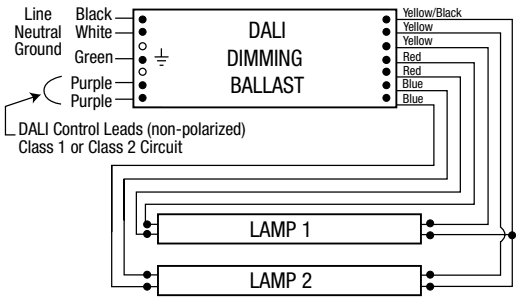
Wiring Diagrams:

Wiring: Push-in (wiretrap) connections

Use 18 AWG solid copper wire only



QHE 1x54T5HO/UNV DALI



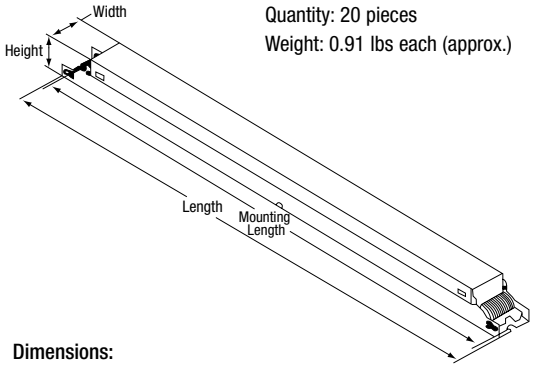
QHE 2x54T5HO/UNV DALI

DALI Controls Information
Siemens Building Technology http://sbt.siemens.com
Cooper http://greengate.coopercontrol.com
Crestron www.crestron.com
Hunt Dimming www.huntdimming.com
Leviton www.leviton.com
Starfield Controls www.starfieldcorp.com
Watt Stopper www.wattstopper.com
Please contact controls manufacturer to order/specify controls. For the latest controls list go to www.sylvania.com Also for more information, check out the LCA (Lighting Controls Association) site: www.lightingcontrolsassociation.org

Packaging:

Quantity: 20 pieces

Weight: 0.91 lbs each (approx.)



Dimensions:

Units	L	ML	W	H
inches	16.7	16.3	1.18	1.00
mm	425	414	30.0	25.4

Item Number — **51466 QHE 2 x 54T5HO / UNV DALI** — System Type - DALI

QUICKTRONIC High Efficiency — Line Voltage (120-277V)

Number of Lamps — Primary Lamp Type (FP54T5HO)

Performance Guide

Data provided is based on testing done using SYLVANIA PENTRON® FP54T5HO lamps. QUICKTRONIC® T5HO DALI ballasts are compatible with other manufacturer's equivalent lamp types that meet ANSI specifications. **Not to be used with Energy Saving T5HO lamps.**

Specifications

Data based on FP54T5HO

Starting Method: PROStart® (Programmed Rapid Start)
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: <1.7
Starting Temp: 50°F (10°C) min.
Input Frequency: 50/60 Hz
THD: <10% @ full output
Power Factor: >98% @ full output
Voltage Range: ±10% of 120/277 rated voltage

UL Listed Class P, Type 1 Outdoor
RoHS compliant[3]
CSA Certified
70°C Max. Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
Remote Mounting (Max wire length from ballast case to lampholders): 5 ft

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

Control Information

QUICKTRONIC T5HO DALI ballasts are compatible with DALI digital controllers available from various manufacturers.

Control Specifications:
Two wire non-polarized control. May be wired as Class 1 or Class 2 circuit, consult Local and National Electrical Codes.

Refer to pages 142-143 for controls information

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the system solution®

Specifications subject to change without notice.

QUICKTRONIC® DALI T8
Universal Voltage Dimming Systems

Fluorescent Controllable Lighting Systems

Professional Series

Lamp/Ballast Guide

32W T8 - OCTRON® lamps*
1-lamp QTP1x32T8/DALI

Operates Lamp Types:
FO32
FBO32
FBO31

***Not to be used with Energy Saving T8 lamps**

Key System Features

- Digital Addressable Control
- Individual control of fixtures
- Up to 16 groups
- Up to 16 scenes
- 100-1% dimming
- Programmable fade rates
- 1.0 ballast factor at full power
- Universal input voltage (120/277V)
- Programmed rapid start
- QUICK 60+® lamp and ballast warranty
- Anti-flash circuitry – turns on at previous light level
- Operates >42 kHz to reduce potential IR interference
- Control may be wired for Class 1 or Class 2 applications
- Wiretrap connectors
- UL, cUL, FCC

Application Information

SYLVANIA QUICKTRONIC DALI T8 Dimming ballasts are ideally suited for:

- Daylight harvesting
- Energy management
- Load shedding
- A/V presentations
- Occupancy sensors
- Creative lighting designs
- Offices
- Conference rooms

For optimal dimming performance, fluorescent lamps may require seasoning up to 100 hours prior to dimming to the lowest light levels.

SYLVANIA QUICKTRONIC DALI Dimming ballasts combine digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

These ballasts control OCTRON T8 lamps over a wide (100-1%) range of light level settings, from 1.0 ballast factor to .01 ballast factor. Control wiring is simplified by two polarity-free connections that can be routed in the same raceway as power wires.

The ballasts are available in one and two lamp models that operate at 120V or 277V input line voltage, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

QUICKTRONIC DALI T8 Dimming ballasts offers full rated lamp output (1.0 ballast factor) at the maximum light setting. Compared to "normal" systems (0.88 ballast factor), this allows for higher light levels when desired and can be used to compensate for lamp lumen depreciation.

Setting the standard for quality, QUICKTRONIC T8 DALI Dimming ballasts are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

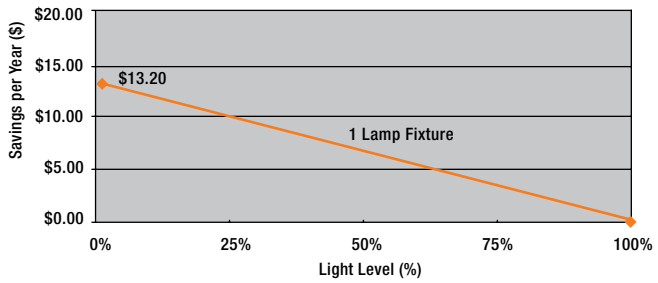
System Information

Programmed rapid start ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensor and building control system applications.

Individual addressability allows the user to dim any particular fixture or groups of fixtures at one time. Simple controller programming steps allow for:

- Fade rates, dim levels, time of day, groups and scenes to be customized.
- Flexibility in grouping fixtures; (no need to re-wire fixtures when groups need to be changed.
- Systems are scalable and can be expanded anytime the user needs change, without the need for costly re-wiring. Additional fixtures are added to groupings simply by means of software.

SAVINGS PER YEAR* vs LIGHT LEVEL
(QTP T8 DALI Ballast)



* FO32/XP lamps with QUICKTRONIC QTP T8 DALI ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

When used in conjunction with appropriate controls, feedback can be obtained on operating conditions, such as operating hours, light-level or failed lamps. This lamp fault-reporting feature can save significant cost by quickly identifying the location, especially in large facilities or in applications where lamps are concealed by lenses.

SYLVANIA QUICKTRONIC T8 DALI Dimming light systems can also be integrated with Building Management Systems (BMS) by installing gateways that translate between the DALI and BMS systems. Specification of DALI compatible gateways, controls and ballasts ensure flawless operation of the lighting system.

SPECIFICATION DATA

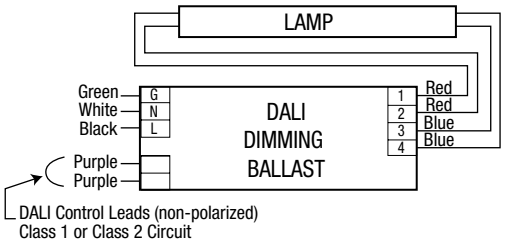
Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic DALI T8 Fluorescent Controllable Lighting Systems (120/277V)

Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (Watts)	System Efficacy (lm/W)	BEF[1]
51350*	QTP1x32T8/UNV DALI	0.31/0.13	F032XP	3000	1	1.00 0.01	3000 30	36 6	83	2.78

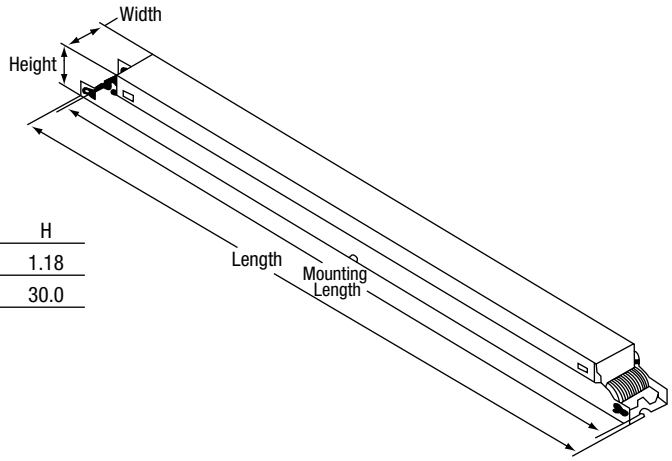
1 Ballast Efficiency Factor (BEF) = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
**Product above is being discontinued. Please see page 131 for replacement options.*

Wiring Diagrams:
Wiring: Push-in (wiretrap) connections
Use 18 AWG solid copper wire only



QTP1x32T8/UNV DALI

Packaging:
Quantity: 25 pieces
Weight: 1.2 lbs each (approx.)



Dimensions:

Units	L	ML	W	H
inches	18.05	17.70	1.18	1.18
mm	458.5	449.6	30.0	30.0

Item Number — **51350 QTP 1 x 32T8 / UNV DALI** — System Type - DALI
QUICKTRONIC PROFESSIONAL — Line Voltage (120/277V)
Number of Lamps — Primary Lamp Type (F32T8)

Performance Guide

Data shown based upon SYLVANIA OCTRON® FO32/XP™ lamps. QUICKTRONIC® DALI T8 ballasts are also compatible with other manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: <1.7
Starting Temp: 50°F (10°C) min.
Input Frequency: 50/60 Hz
THD: <10% @ full output
Power Factor: >98% @ full output
Voltage Range: ±10% of 120/277 rated voltage

UL Listed Class P, Indoor
cUL Certified
Temp. Test Point (Tc) on ballast label:
1 lamp model: 65°C max
All other points on ballast: 75°C max.
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
No remote or tandem wiring.

Control Information

QUICKTRONIC DALI ballasts are compatible with DALI digital controllers available from various manufacturers.

Control Specifications:
Two wire non-polarized control. May be wired as Class 1 or Class 2 circuit, consult Local and National Electrical Codes.

Refer to pages 142-143 for controls information

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Specifications subject to change without notice.

QUICKTRONIC® DALI T5
Universal Voltage Dimming Systems

Electronic T5 Fluorescent Digital Dimming Systems

Professional Series

Lamp / Ballast Guide

14W T5 - PENTRON® lamps*
1-lamp QTP1x14T5/UNV DALI
2-lamp QTP2x14T5/UNV DALI

* Not to be used with Energy Saving T5 lamps

Key System Features

- Digital Addressable Control
- Individual control of fixtures
- Up to 16 groups
- Up to 16 scenes
- 100-1% dimming
- Programmable fade rates
- 1.0 ballast factor at full power
- Universal Input Voltage (120/277V)
- Programmed rapid start
- End-of-Lamp-Life Sensing
- QUICK 60+® lamp and ballast warranty
- Anti-flash circuitry - turns on at previous light level
- Operates >42 kHz to reduce potential IR interference
- Control may be wired for Class 1 or Class 2 applications
- Wiretrap connectors
- UL, cUL, FCC

Application Information

SYLVANIA QUICKTRONIC DALI Dimming ballasts are ideally suited for:

- Daylight harvesting
- Energy management
- Load shedding
- A/V presentations
- Occupancy sensors
- Creative lighting designs

For optimal dimming performance, fluorescent lamps may require seasoning up to 100 hours prior to dimming to the lowest light levels.

SYLVANIA QUICKTRONIC DALI Dimming combines digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

SYSTEM PS-DALI controls PENTRON T5 lamps over a wide (100 - 1%) range of light level settings, from 1.0 ballast factor to .01 ballast factor. Control wiring is simplified by two polarity-free connections that can be routed in the same raceway as power wires.

SYSTEM PS-DALI is available in one and two lamp models that operate at 120V or 277V input line voltage, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, SYSTEM PS-DALI is also covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.

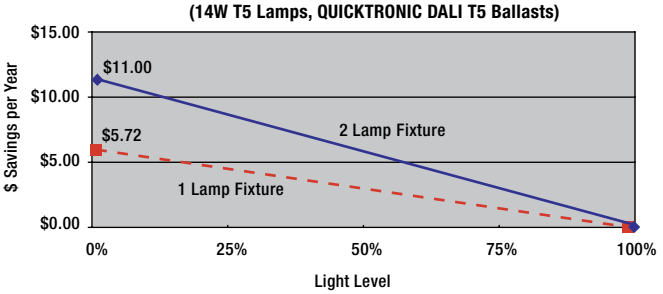
System Information

Programmed rapid start ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensor and building control system applications.

Individual addressability allows the user to dim any particular fixture or groups of fixtures at one time. Simple controller programming steps allow for:

- Fade rates, dim levels, time of day, groups and scenes to be customized.
- Flexibility in grouping fixtures; no need to re-wire fixtures when groups need to be changed.
- Systems are scalable and can be expanded anytime the user needs change, without the need for costly re-wiring. Additional fixtures are added to groupings simply by means of software.

SAVINGS PER YEAR* vs LIGHT LEVEL
(14W T5 Lamps, QUICKTRONIC DALI T5 Ballasts)



* FP14T5 lamps with QUICKTRONIC T5 DALI ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

When used in conjunction with appropriate controls, feedback can be obtained on operating conditions, such as operating hours, light-level or failed lamps. This lamp fault-reporting feature can save significant cost by quickly identifying the location, especially in large facilities or in applications where lamps are concealed by lenses.

SYSTEM PS-DALI lighting systems can also be integrated with Building Management Systems (BMS) by installing gateways that translate between the DALI and BMS systems. Specification of DALI compatible gateways, controls and ballasts ensure flawless operation of the lighting system.

SEE THE WORLD IN A NEW LIGHT SYLVANIA

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic DALI T5 Fluorescent Controllable Lighting Systems

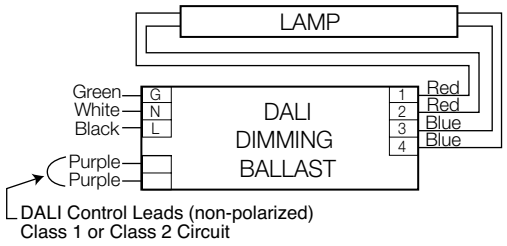
Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (Watts)	System Efficacy (lm/W)	BEF[1]
51357	QTP1x14T5/UNV DALI	120/277	0.15/0.07	FP14	1350	1	1.00 0.01	1350 14	19 6	71	5.26
51359	QTP2x14T5/UNV DALI	120/277	0.29/0.13	FP14	1350	2	1.00 0.01	2700 27	35 10	77	2.86

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

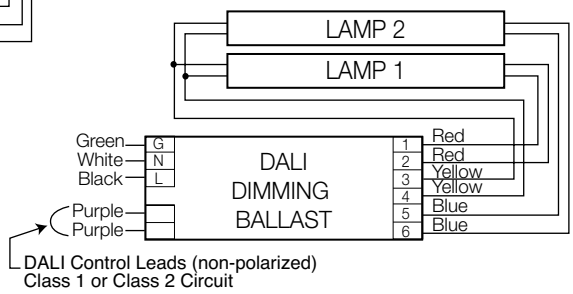
Wiring Diagrams:

Wiring: Push-in (wiretrap) connections (no leads provided)

Use 18 AWG solid copper wire only

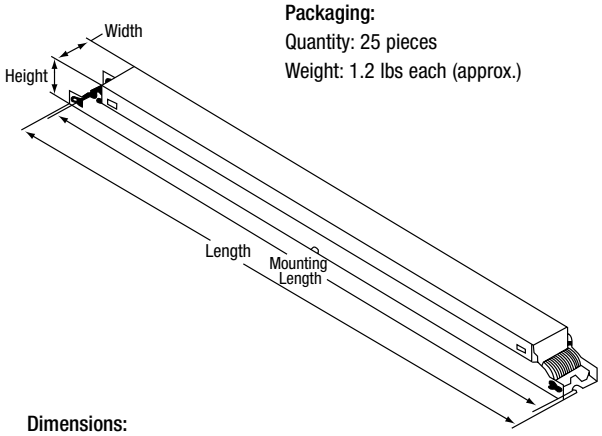


1 Lamp



2 Lamp

DALI Controls Information
Siemens Building Technology http://sbt.siemens.com
Cooper http://greengate.coopercontrol.com
Crestron www.crestron.com
Hunt Dimming www.huntdimming.com
Leviton www.leviton.com
Starfield Controls www.starfieldcorp.com
Watt Stopper www.wattstopper.com
Please contact controls manufacturer to order/specify controls. For the latest controls list go to www.sylvania.com Also for more information, check out the LCA (Lighting Controls Association) site: www.lightingcontrolsassociation.org



Packaging:

Quantity: 25 pieces

Weight: 1.2 lbs each (approx.)

Dimensions:

Units	L	ML	W	H
inches	18.05	17.70	1.18	1.18
mm	458.5	449.6	30.0	30.0

Item Number — **51359 QTP 2 x 14/T5 / UNV DALI** — System Type - DALI

QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)

Number of Lamps — Primary Lamp Type (F28T5)

Specifications subject to change without notice.

T5 DALI

Professional Series

Performance Guide

Data shown based upon SYLVANIA PENTRON® lamps shown. QUICKTRONIC® DALI ballasts are compatible with other manufacturers equivalent lamp types that meet ANSI specifications. Not to be used with Energy Saving T5 lamps.

Specifications

Starting Method: Programmed Rapid Start

Circuit Type: Series

Lamp Frequency: >42 kHz

Lamp CCF: <1.7

Starting Temp: 50°F (10°C) min.

Input Frequency: 50/60 Hz

THD: <10% @ full output

Power Factor: >98% @ full output

Voltage Range: ±10% of 120/277 rated voltage

UL Listed Class P, Indoor

cUL Certified

Temp. Test Point (Tc) on ballast label:

1-lamp model: 70°C max

2-lamp model: 75°C max.

All other points on ballast: 75°C max.

FCC 47CFR Part 18 Non-Consumer Class A Sound Rating

RoHS Compliant[2]

ANSI C62.41 Cat. A Transient Protection

No remote or tandem wiring

2 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

Control Information

QUICKTRONIC DALI ballasts are compatible with DALI digital controllers available from various manufacturers.

Control Specifications:

Two wire non-polarized control. May be wired as Class 1 or Class 2 circuit, consult Local and National Electrical Codes.

Refer to pages 142-143 for controls information

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QUICKTRONIC® DALI CF UNV Dimming Systems

Electronic Compact Fluorescent Digital Dimming Systems

Professional Series

Lamp / Ballast Guide*

18W T4 – DULUX D/E, T/E lamps
1-lamp QTP1x18CF/UNV DALI
2-lamp QTP2x18CF/UNV DALI

26W T4 – DULUX D/E, T/E lamps
1-lamp QTP1x26CF/UNV DALI
2-lamp QTP2x26CF/UNV DALI

32W T4 – DULUX D/E, T/E lamps
1-lamp QTP1x32CF/UNV DALI
2-lamp QTP2x32CF/UNV DALI

42W T4 – DULUX T/E lamps
1-lamp QTP1x42CF/UNV DALI
2-lamp QTP2x42CF/UNV DALI

40W TT5 – DULUX L lamps
1-lamp QTP1x40TT5/UNV DALI
2-lamp QTP2x40TT5/UNV DALI

* Not to be used with Energy Saving lamps

Products shaded in gray above are being discontinued.

Key System Features

- Digital addressable control
- Individual control of fixtures
- Up to 16 groups and scenes
- 100-3% Dimming Range
- Programmable fade rates
- Universal voltage (120/277V)
- Programmed rapid start
- Anti-flash circuitry
- End-of-lamp-life sensing
- Wiretrap connectors
- Control may be wired for Class 1 or Class 2 applications
- UL, cUL, FCC
- QUICK 60+® ballast and lamp warranty

Application Information

SYLVANIA QUICKTRONIC DALI ballasts
are ideally suited for:

- Energy management
- Load shedding
- Daylight harvesting
- Occupancy sensors
- Zone and scene control

For optimal dimming performance, fluorescent lamps may require seasoning up to 100 hours prior to dimming to the lowest light levels.

SYLVANIA QUICKTRONIC DALI Dimming ballasts combine digital control technology with full-range continuous dimming to provide a new level of lighting system performance. This allows for greater flexibility and control of the lighting environment than can be achieved with traditional 0-10VDC dimming systems. The communications protocol is "DALI", an acronym for "Digital Addressable Lighting Interface". This is a worldwide open standard for digital lighting control that has been accepted by all the leading lighting suppliers.

These ballasts operate DULUX® L, D/E and T/E 4-pin compact fluorescent lamps over a wide range of dimming, from 100-3% (ballast factor 1.0-.03). Control wiring is simplified by two polarity-free connections that can be routed in the same raceway as power wires.

The QUICKTRONIC DALI CF Dimming ballasts are available in one and two lamp models that operate at 120V or 277V input line voltage, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

Setting the standard for quality, the QUICKTRONIC DALI CF Dimming Systems are covered by the QUICK 60+ warranty, the first and most comprehensive system warranty in the industry.

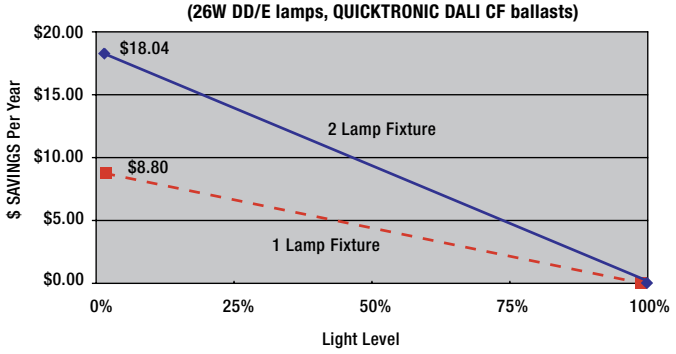
System Information

Programmed rapid start ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensor and building control system applications. The DALI protocol offers individual addressability and allows the user to dim any particular fixture or groups of fixtures at one time. Simple controller programming steps allow for:

- Fade rates, dim levels, time of day, groups and scenes to be customized.
- Flexibility in grouping fixtures; no need to re-wire fixtures when groups need to be changed.
- Systems are scalable and can be expanded anytime the user needs change, without the need for costly re-wiring. Additional fixtures are added to groupings simply by means of software.

QUICKTRONIC DALI systems can be integrated with Building Management Systems (BMS) by installing gateways that translate between the DALI and BMS systems.

SAVINGS PER YEAR* vs LIGHT LEVEL
(26W DD/E lamps, QUICKTRONIC DALI CF ballasts)



* CFL26W DD/E lamps with QUICKTRONIC CFL DALI ballast
* Based on 4000 hrs/yr, $0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

DALI offers a two-way communication exchange. The DALI system allows communication to the ballast and the ballast to communicate back via the appropriate controls. Monitoring can be obtained on operating conditions, such as operating hours, light-level or failed lamps. This lamp fault-reporting feature can save significant cost by quickly identifying the location, especially in large facilities or in applications where lamps are concealed by lenses.

Specification of DALI compatible gateways, controls and ballasts ensure flawless operation of the lighting system.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic DALI CF/DL40 (40TT5) Fluorescent Controllable Lighting Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (Watts)	System Efficacy (lm/W)	BEF[1]
51370	QTP1x18CF/UNV DALI	120/277	0.18/0.08	18W DD/E, T/E	1200	1	1.00 0.03	1200 35	20	60	5.00
51372	QTP2x18CF/UNV DALI	120/277	0.33/0.14	18W DD/E, T/E	1200	2	1.00 0.03	2400 70	39/38	61/63	2.63
51375	QTP1x26CF/UNV DALI	120/277	0.24/0.10	26W DD/E, T/E	1800	1	1.00 0.03	1800 55	28 8	64	3.57
51377	QTP2x26CF/UNV DALI	120/277	0.49/0.22	26W DD/E, T/E	1800	2	1.00 0.03	3600 110	55/54 14	65/67	1.85
51380*	QTP1x32CF/UNV DALI	120/277	0.34/0.15	32W DT/E	2400	1	1.00 0.03	2400 70	38 10/11	63	2.63
51382*	QTP2x32CF/UNV DALI	120/277	0.60/0.26	32W DT/E	2400	2	1.00 0.03	4800 140	70 15/16	69	1.43
51384	QTP1x42CF/UNV DALI	120/277	0.43/0.19	42W DT/E	3200	1	1.00 0.03	3200 95	50 11/13	64	2.00
51386	QTP2x42CF/UNV DALI	120/277	0.82/0.36	42W DT/E	3200	2	1.00 0.03	6400 190	100/98 17/19	64/65	1.10
51390	QTP1x40TT5/UNV DALI	120/277	0.41/0.17	40W DL	3150	1	1.10 0.03	3465 105	45/44	77/79	2.44
51392	QTP2x40TT5/UNV DALI	120/277	0.83/0.37	40W DL	3150	2	1.20 0.03	7565 225	97/94	78/80	1.24

1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Wattage (Note: calculation based on lowest input wattage).

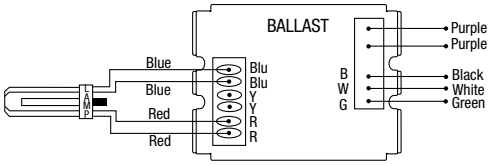
** Products shaded in gray above are being discontinued.*

CF Dimensions, Packaging & Wiring:

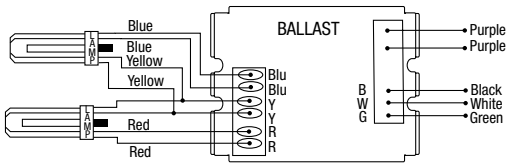
Units	L	ML	W	H
inches	4.95	4.57	2.93	1.35
mm	125.7	116.1	74.4	34.3

Packaging:
Quantity: 10 pieces/case
Weight: 1.1 lbs each (approx.)

Metal Case 1 Lamp



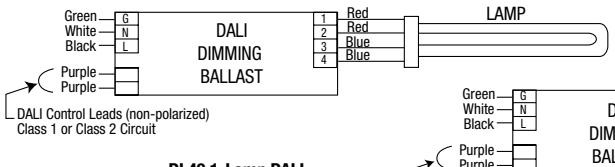
Metal Case 2 Lamp



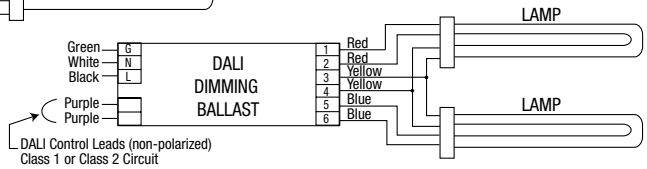
DL Dimensions, Packaging & Wiring:

Units	L	ML	W	H
inches	18.05	17.70	1.18	1.18
mm	458.5	449.6	30.0	30.0

Packaging:
Quantity: 25 pieces/case
Weight: 1.2 lbs each (approx.)



DL40 1-Lamp DALI



DL40 2-Lamp DALI

Item Number — **51377 QTP 2 x 26CF / UNV DALI** — System Type - DALI
QUICKTRONIC PROFESSIONAL — Line Voltage (120/277V)
Number of Lamps — Primary Lamp Wattage

DALI CF/DL40 UNV

Professional Series

Performance Guide

Data shown based upon SYLVANIA DULUX® lamps shown. QUICKTRONIC® DALI ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications. Do not combine QUICKTRONIC® DALI CF/DL40 ballasts with Energy Saving lamps. **Not to be used with Energy Saving lamps.**

Specifications

Starting Method: Programmed Rapid Start
Circuit Type: Series
Lamp Frequency: >42 kHz
Lamp CCF: <1.7
Starting Temp: 50°F (10°C) min.
Voltage Range: ±10% of 120/277 rated voltage
Input Frequency: 50/60 Hz
THD: <10% @ full output
Power Factor: >95% @ full output

UL Listed Class P, Indoor
cUL or CSA Certified
Temp. Test Point (Tc) on ballast label:
All CF models: 75°C max
1-lamp DL model: 70°C max
2-lamp DL model: 75°C max.
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
ANSI C62.41 Cat. A Transient Protection
No remote or tandem wiring

Control Information

QUICKTRONIC DALI ballasts are compatible with DALI digital controllers available from various manufacturers.

Control Specifications:
Two wire non-polarized control. May be wired as a Class 1 or Class 2 circuit, consult Local and National Electrical Codes.

Refer to pages 142-143 for controls information

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CF DALI

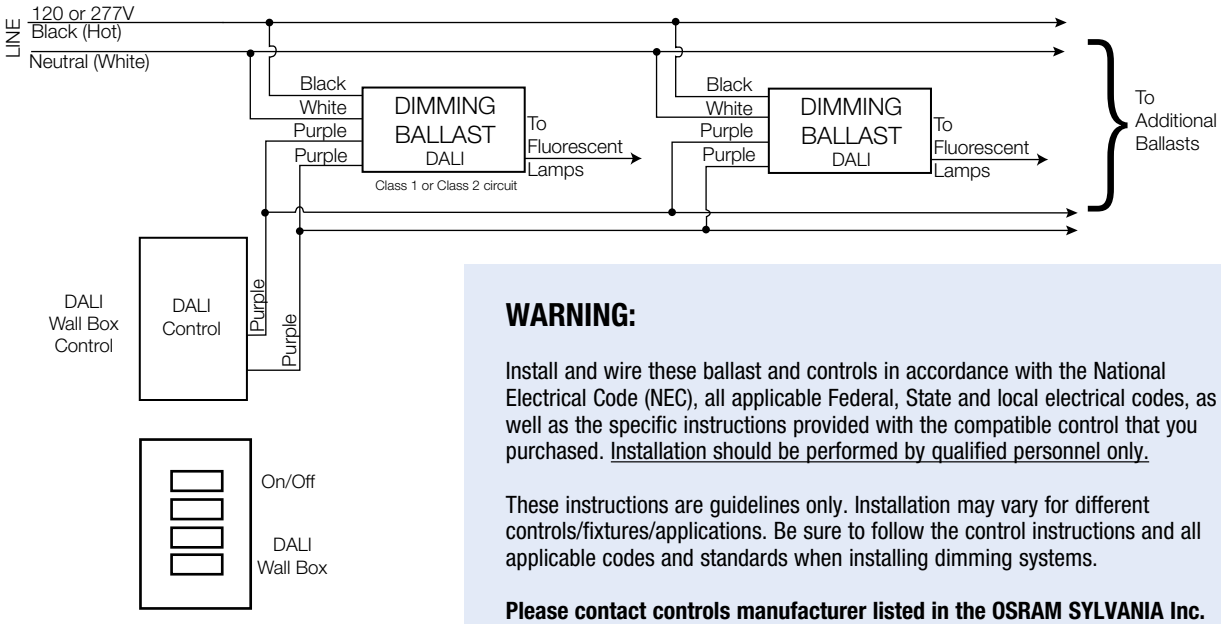
Specifications subject to change without notice.

QUICKTRONIC® DALI DIGITAL DIMMING

DALI Control with DALI Ballasts

Wallbox Style Control Wiring Example

DALI Control with DALI Ballasts



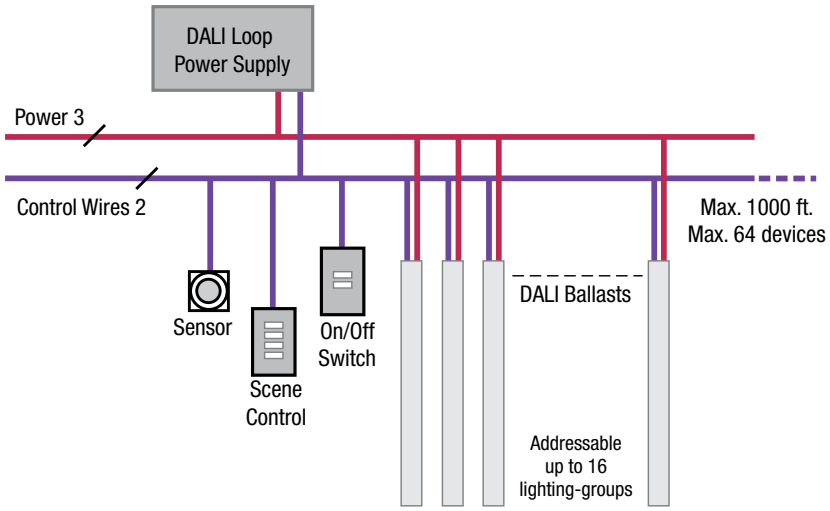
WARNING:

Install and wire these ballast and controls in accordance with the National Electrical Code (NEC), all applicable Federal, State and local electrical codes, as well as the specific instructions provided with the compatible control that you purchased. Installation should be performed by qualified personnel only.

These instructions are guidelines only. Installation may vary for different controls/fixtures/applications. Be sure to follow the control instructions and all applicable codes and standards when installing dimming systems.

Please contact controls manufacturer listed in the OSRAM SYLVANIA Inc. controls cross reference for compatible controls and instruction wiring.

Network - Localized Control

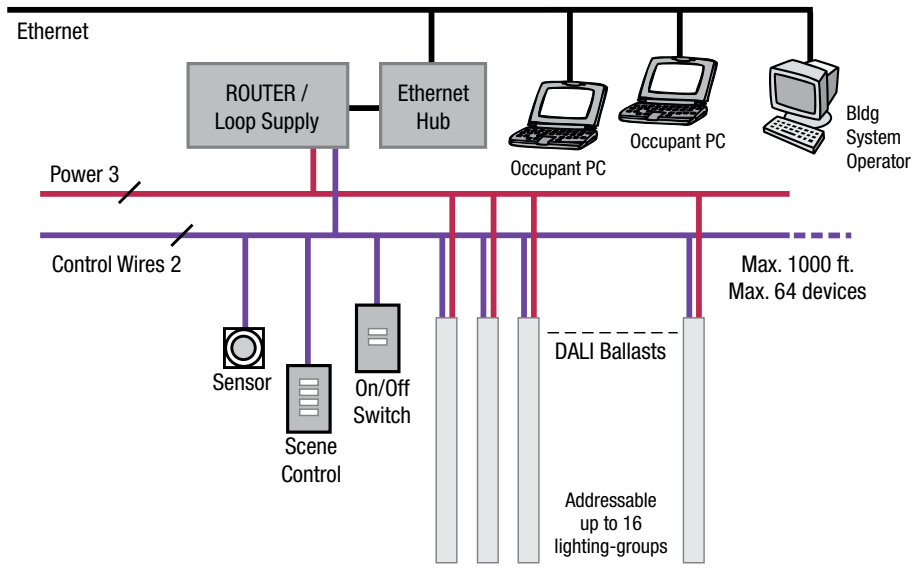


SPECIFICATION DATA

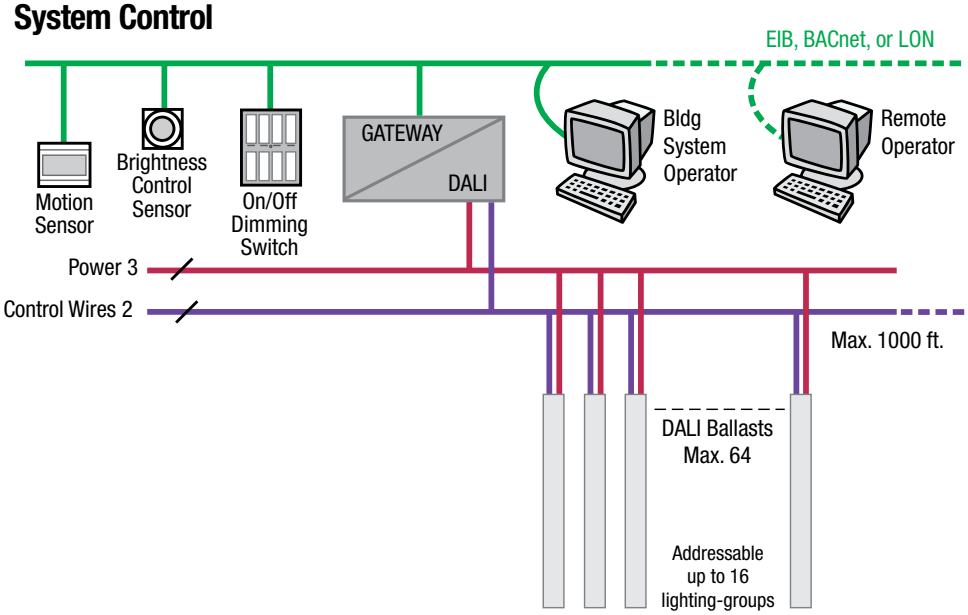
Catalog #	Date	Type
Project	Prepared by	
Comments		

DALI Control Wiring Examples

Network - Localized + LAN control



Network - Localized + Building Management System Control



Control Specifications/model numbers may change. Please consult manufacturers listed for their latest DALI control models and to order their controls.

DALI Control Manufacturers

Controls Guide

Siemens Building Technology
www.sbt.siemens.com

Cooper
http://greengate.coopercontrol.com

Creston
www.creston.com

Hunt Dimming
www.huntdimming.com

Leviton
www.leviton.com

Starfield Controls
www.starfieldcorp.com

Watt Stopper
www.wattstopper.com

Reference

Please contact controls manufacturers to order/specify controls. For the latest controls list go to www.sylvania.com

Also for more information, check out the LCA (Lighting Controls Association) site: www.aboutlightingcontrols.org

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Specifications subject to change without notice.

High Intensity Discharge Systems

SYLVANIA METALARC® POWERBALL® ceramic metal halide lamps feature the industry's first spherical construction ceramic arc tube technology that provides high CRI, excellent red (R9) rendering for vibrant colors and crisp whites in retail and color-critical applications. Our distinctive patented design ensures uniform arc tube temperatures, regardless of operating position, delivering superior color consistency and improved color rendering in a high-efficacy light source. OSRAM SYLVANIA offers the industry's broadest range of ceramic metal halide lamps, providing our customers with the most options for their ceramic metal halide needs.

SYLVANIA QUICKTRONIC® HID ballasts feature a state-of-the-art electronic design with a full line offering from 15W-400W types. These systems allow for more flexible designs and applications and deliver performance levels unattainable with standard magnetic lighting systems. Our electronically controlled system delivers improved lumen maintenance, extended photometric life and highly versatile dimmable ballast systems. All are covered by our industry-leading QUICK 60+® system warranty.

QUICKTRONIC® Outdoor Metal Halide and High Pressure Sodium Dimming Systems

Controllable eHID technology for exterior lighting

Industry first

SYLVANIA QUICKTRONIC Outdoor High Efficiency electronic HID (eHID) Dimming ballasts feature a state-of-the-art design to deliver performance levels unattainable with standard magnetic lighting systems. These ballasts are specifically designed for outdoor lighting applications and operate METALARC®, METALARC POWERBALL® Ceramic or LUMALUX® lamps with maximum efficacy and high lumen output.

Features

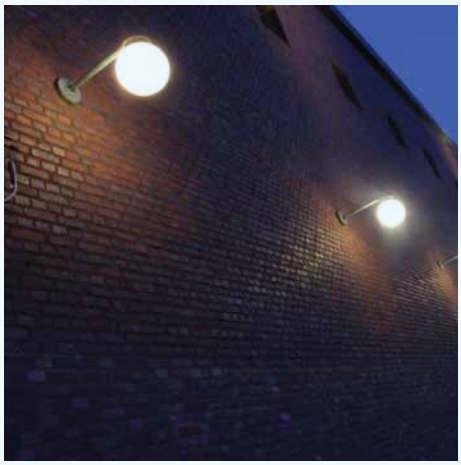
- Designed to meet UL Type 2 wet location listing
- IEEE/ANSI C62.41 CAT. C line transient protection
- Three dimming modes (down to 50% of rated power):
  – Continuous dimming 0–10V
  – Step dim
- Low-frequency square wave
- 100W MH, 150W MH and 200W MH/HPS ballast models
- Universal voltage (120–277V)
- 90°C case temperature
- One-piece vs. four-piece design for magnetic system
- Thermally protected

Applications

- Outdoor signage
- Parking lot
- Street and area lighting

Benefits

- Line transient protection eliminates the need for additional surge protection
- Industry's most adaptable dimming
- Meets California Title 24 bi-level requirements
- Suitable for both quartz and ceramic MH lamps and HPS lamps
- Reduced ballast weight
- Ease of installation
  – Fewer components
- QUICK 60+® system warranty when paired with SYLVANIA lamps
- 2011 LFI Innovation Awards winner in ballast category



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METALARC® POWERBALL® Ceramic 200W ET18 Lamp

Ceramic metal halide lamps

SYLVANIA QUICKTRONIC High Efficiency MH electronic HID (eHID) Dimming ballasts feature the industry's most adaptable dimming, allowing 100% to 50% Bi-level or 0-10V continuous dimming which provides true versatility in controls selection. These ballasts provide unmatched energy efficiency providing up to 94% efficiency when compared to magnetic ballasts.

Features

- White light replacement for HPS and quartz MH lamps
- Distinctive POWERBALL ceramic spherical arc tube technology
- 24,000 hour rated life
  – Same life as standard HPS
  – Up to 60% higher than quartz MH
- Up to 85% mean lumens
- Dimmable to 50% of rated wattage
- Universal operation

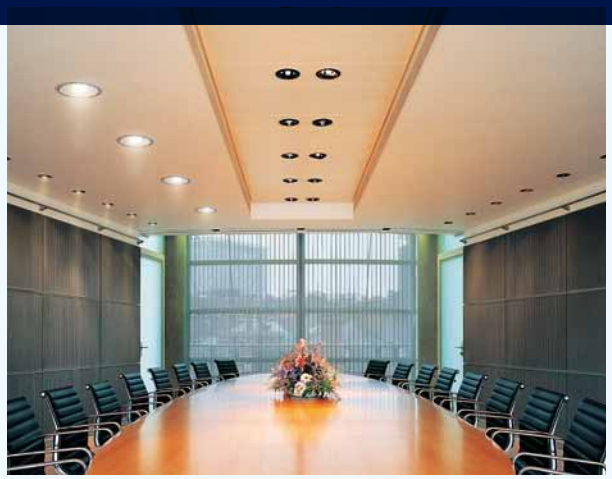
Benefits

- Long life reduces maintenance cost
- High efficacy
- QUICK 60+® system warranty when paired with QUICKTRONIC® electronic MH ballasts
- POWERBALL arc tube advantages
  – Yields more natural and vibrant colors and crisper whites
  – ≤150K color shift and improved lamp-to-lamp color consistency

Applications

- Cobrahead luminaires
- High bay luminaires
- Shoebox luminaires

METALARC® POWERBALL® Ceramic 15W TF and QUICKTRONIC® Super Mini System



Industry exclusive

Features

- Compact, high-light output system
- Distinctive POWERBALL ceramic spherical arc tube technology
- Universal operating position
- Longest compact ceramic lamp life for TF lamps (15,000 hrs.)
- UV filter technology
- Reduced ballast size and weight
- Universal voltage (120–277V)
- End-of-life shut down
- Thermally protected
- Lead-free lamp manufacturing, solder and RoHS compliant

Applications

- Accent luminaires
- Recessed downlights
- Track luminaires

Benefits

- Compact size allows for flexible and efficient fixture design
- POWERBALL arc tube advantages
  - yields more natural and vibrant colors and crisper whites
  - ≤150K color shift and improved lamp-to-lamp color consistency
  - Twist-and-lock GU6.5 base provides stable positioning
- Long life reduces maintenance cost
- QUICK 60+® system warranty

QUICKTRONIC® Outdoor Metal Halide and High Pressure Sodium Dimming Systems

RoHS compliant

Electronic Controllable Outdoor Lighting Systems

High Efficiency Controllable Series

Lamp / Ballast Guide

QTO1X100MH UNV DIM
MH - M90, M140, C90, C140, C191

QTO1X150MH-HPS UNV DIM
MH - M102, C102, C142
HPS - S56

QTO1X200MH-HPS UNV DIM
MH - C190
HPS - S66

Key System Features

- UL Type II wet location listed
- IEEE/ANSI C62.41 Cat. C line transient protection
- Low frequency square wave
- Suitable for both quartz and ceramic MH lamps and HPS lamps
- Constant power regulation
- High power factor
- Continuous dimming (0-10V)
- Step dim to 50% of rated power
- 15 minutes at full power warm-up time delay
- Full light output from 50% in less than 1 minute
- Universal input voltage 120-277V
- High power factor
- Low harmonic distortion
- 90ºC case temperature
- End-of-life shut down
- Internal IDTP (Insulation Detection Thermal Protector)
- QUICK 60+® warranty
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC QTO ballasts
are ideally suited for:

- Roadway
- Parking lot
- Street and area lighting
- Outdoor signage

SYLVANIA QUICKTRONIC Outdoor High Efficiency electronic HID (eHID) Dimming ballasts feature a state-of-the-art design to deliver performance levels unattainable with standard magnetic lighting systems. These ballasts are specifically designed for outdoor lighting applications and operate METALARC®, METALARC POWERBALL® Ceramic or LUMALUX® lamps with maximum efficacy and high lumen output.

Outdoor applications: Ballasts are specifically designed for outdoor lighting applications

- IEEE/ANSI C62.41 Category C line transient protection
- UL Type 2 Outdoor
- 90°C maximum case temperature

Unmatched Energy Efficiency: Ballasts provides over 92% efficiency allowing maximum energy savings

Industry's Most Adaptable Dimming: Ballasts allow 100% to 50% Bi-level or 0-10V continuous dimming which provides true dimming versatility in control selection

- Standard switches (Bi-level control)
- Low voltage controls (Continuous 0-10V dimming control)
- Any line voltage from 120V to 277V

More Energy Management Strategies: Ballasts allow simple energy management strategies

- Occupancy control by using Bi-level dimming
- Daylight harvesting by using 0-10V continuous dimming
- To maximize energy savings, Bi-level and 0-10V continuous dimming can be used simultaneously

RoHS Compliant: QUICKTRONIC MH ballasts are RoHS compliant and feature lead-free solder and manufacturing process

QUICK 60+® Warranty: Setting the standard for quality, QUICKTRONIC MH ballasts are covered by a QUICK 60+ warranty, the first comprehensive system warranty in the industry

System Information

SYLVANIA QUICKTRONIC QTO electronic HID (eHID) Dimming ballasts are perfectly matched with SYLVANIA METALARC®, METALARC POWERBALL® CERAMIC, and LUMALUX® lamps to provide optimal system performance. This electronically controlled system delivers several advantages over conventional systems, including improved lumen maintenance and extended photometric life.

Low frequency square-wave:

- Eliminates acoustic resonance issues typical with high-frequency waveforms (Acoustic resonance issues may cause visual flickering, lamp cycling, shortened lamp life, and in extreme cases may result in non-passive failure)
- Provides a robust approach with respect to acoustic stabilities and is immune to variation in lamp geometry, fill chemistry and mercury dose

Superior constant power regulation design:

- Helps yield consistent light output and color throughout the life of the lamp
- Provides constant light output during periods of fluctuating supply voltage

End-of-lamp life shutdown:

- Prevents continuous starting after lamps extinguish which may cause permanent damage to the ballast

Internal IDTP (Insulation Detection Thermal Protector):

- Affords original equipment manufacturers (OEMs) to remove all external thermal protection devices
- Reduces wiring complexity and installation time (to maximize the benefits of IDTPs, the ballast must be properly installed – See "installation notes" for details)

Enclosure Styles

F = Feet Mount (All leads exit side of ballast, as shown on next page.)

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Outdoor High Efficiency Electronic HID Dimming Systems

RoHS compliant

Item Number	OSRAM SYLVANIA Description[1]	Input Current (AMPS)	Lamp ANSI Code	Lamp* Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy (lm/W)
51954 ✪	QTO1X100MH UNV DIM	0.91/0.39	M90, M140, C90, C140, C191	100W MH	9,700	1	1.0	9,700	108	107	90/91
51955 ✪	QTO1X150MH -HPS UNV DIM	1.35/0.58	M102, C102, C142 S56	150W MH 150W HPS	15,500 16,000	1 1	1.0 1.0	15,500 16,000	162 162	160 160	96/97 99/100
51965 ✪	QTO1X200MH-HPS UNV DIM	1.78/0.76 1.82/0.77	C190 S66	200W MH 200W HPS	21,000 22,000	1 1	1.0 1.0	21,000 22,000	214 217	211 213	99/100 101/103

1 Internal IDTP - Insulation Detection Thermal Protector (see system information for detail).

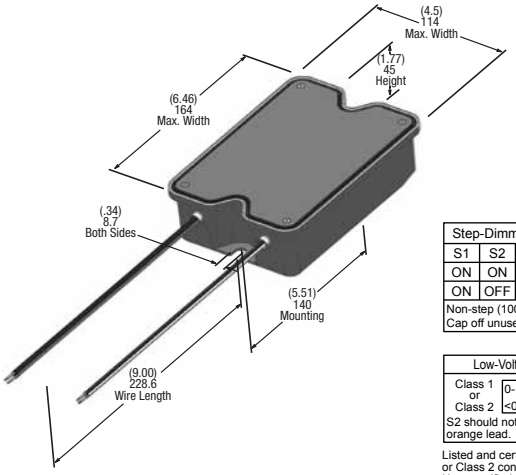
** Performance information based on ceramic lamp types except where noted. (100W E17, 150W T7.5 and 200W E39)*

✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information (reference PIB ECS253).

Installation Notes

1. Proper ballast mounting must be followed to allow for maximum thermal dissipation:
   a. F can ballast should be mounted with the "feet" side placed tightly against the inside of the fixture
2. Lamp holders and conductors:
   a. Use minimum 4kV Pulse Rated Lamp holder.
   b. Use minimum 600Vrms/4kV Pulse Rated Wire to lamp.
   c. The red lead must be connected to center terminal of lamp.
   d. Do not connect any lamp lead to neutral or ground.
3. Grounding:
   a. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.
4. Auto shut down function including end-of-life and thermal protection:
   a. Disconnect power when servicing. Cycle power to reset ballast after auto shutdown.
5. Step or 0-10V dimming can be activated after 15 minutes of warm-up at full power. Recommended by NEMA and lamp manufacturers.
6. If connecting the ballast input to 208V or 240V line with two "hot" leads, be sure to wire per NEC code: Re-Mark (re-identify) the ballast white neutral wire to another color (i.e. black). Be sure to simultaneously disconnect all ungrounded line conductors per NEC codes (i.e. switch both hot legs).

More installation considerations are in the QUICKANSWERS section of the Ballast Technology and Specification Guide.



Step-Dimming Switching		
S1	S2	Output Power
ON	ON	50%
ON	OFF	100%

Non-step (100%): S2 not used. Cap off unused orange lead.

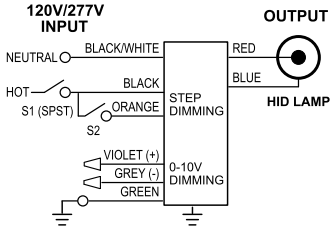
Low-Voltage Control

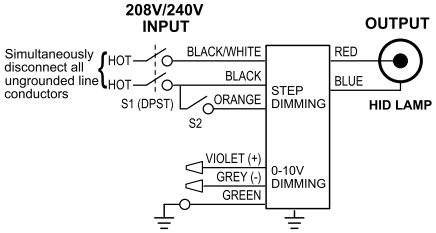
Class 1 or Class 2 — 0-10V DC, <0.5mA — VIOLET(+), GREY(-)

S2 should not be used; cap off orange lead.

Listed and certified for Class 1 or Class 2 control wiring systems. Use specified controllers only.

Cap off all control leads (orange, violet, gray) for fixed wattage operation.





Packaging:
Quantity: 10 pieces per carton
Weight: 15 lbs. per carton
(1.5 lbs each)

Item Number — **51954 QTO 1 x 100 MH UNV DIM**
QUICKTRONIC OUTDOOR
Number of Lamps (1)
System Type - Dimming
Line Voltage (120-277V)
Metal Halide/HPS
Primary Lamp Wattage

Specifications subject to change without notice.

NEW

MH QUICKTRONIC®

High Efficiency Controllable Series

Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast with universal input voltage.

Specifications

Voltage Range: ±10% of 120-277V rated line (108-305V)
Input Frequency: 50/60 Hz
Lamp Frequency: 200-240Hz Square Wave
Power Factor: >98%
Low THD: <10%
Starting Temp: -22°F (-30°C) min.
UL listed and UL listed to Canadian safety standard (CSA), Type 2, Outdoor
90°C Max. Case Temperature,
Thermally Protected
FCC 47CFR Part 18 Non-Consumer Sound Rated A
ANSI C62.41 Cat. C Transient Protection
Remote mounting capability[2]
Lamp current crest factor <1.4
RoHS Compliant[3]

2 Remote Mounting (max. wire length from ballast case to lamp holder): Typically 6 ft but varies by application. For remote mounting distances up to 15 ft, use #18 AWG minimum 4kV pulse rated wire. Output wires should be enclosed in 1/2" metal conduit to minimize EMI (electromagnetic interference). Wire and ground ballast, fixture, conduit & lighting system per NEC (National Electrical Code).

3 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

Max. Case Temp. Measured at

Tc Point	Warranty Period
<70°C	5 years
<90°C	3 years

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the system solution®

QTO MH-HPS 120-277V

QUICKTRONIC® MH
Metal Halide Dimming Systems

RoHS compliant

Electronic Metal Halide Controllable Lighting Systems

High Efficiency Series

Lamp / Ballast Guide

QHE1x200MH 208-277V DIM
M136, C190

QHE1x250MH 208-277V DIM
M138, M153, C153

QHE1x320MH 208-277V DIM
M132, M154, C154

QHE1x350MH 208-277V DIM
M131

QHE1x400MH 208-277V DIM
M135, M155

Key System Features

- Low frequency square wave
- Suitable for both quartz and ceramic lamps
- Constant power regulation
- High power factor
- Continuous dimming (0-10V)
- Step dim to 50% of rated power
- 15 minutes at full power warm-up time delay
- Full light output from 50% in less than 1 minute
- Low harmonic distortion
- Compact size and lightweight
- 90ºC case temperature
- UL, FCC
- End-of-lamp-life shut down
- Internal IDTP (Insulation Detection Thermal Protector)
- QUICK 60+® warranty
- 120V auxillary circuit, up to 200W
- Compliant with Energy Independence and Security Act of 2007
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC High Efficiency MH
dimming ballasts are ideally suited for:

- High bay
- Low bay
- Institutional
- Commercial
- Big box retail

SYLVANIA QUICKTRONIC High Efficiency MH electronic HID (eHID) Dimming ballasts feature a state-of-the-art design to deliver performance levels unattainable with standard magnetic lighting systems. These ballasts operate METALARC® and METALARC POWERBALL® CERAMIC lamps with exceptional features and benefits, listed below:

Unmatched Energy Efficiency:
- Ballasts provides up to 94% efficiency allowing maximum energy savings when compared to magnetic ballasts

Industry's Most Adaptable Dimming:
- Ballasts allow 100% to 50% Bi-level or 0-10V continuous dimming which provides true versatility in controls selection
- Standard switches (Bi-level control)
- Low voltage controls (Continuous 0-10V dimming control)
- Any line voltage from 208V to 277V

More Energy Management Strategies: Ballasts allow simple energy management strategies
- Occupancy control by using Bi-level dimming

- Daylight harvesting by using 0-10V continuous dimming
- To maximize energy savings, Bi-level and 0-10V continuous dimming can be used simultaneously

Simple Installation:
- Installation is simplified by a single-piece ballasts that incorporate the ballast, capacitor, ignitor and mounting brackets of conventional systems.

RoHS Compliant: QUICKTRONIC MH ballasts are RoHS compliant and feature lead-free solder and manufacturing process

QUICK 60+® Warranty: Setting the standard for quality, QUICKTRONIC MH ballasts are covered by a QUICK 60+ warranty, the first comprehensive system warranty in the industry

System Information

SYLVANIA QUICKTRONIC QHE MH electronic HID (eHID) Dimming ballasts are perfectly matched with SYLVANIA METALARC® and METALARC POWERBALL® CERAMIC lamps to provide optimal system performance. This electronically controlled system delivers several advantages over conventional systems, including improved lumen maintenance and extended photometric life.

Low frequency square-wave:
- Eliminates acoustic resonance issues typical with high-frequency waveforms (Acoustic resonance issues may cause visual flickering, lamp cycling, shortened lamp life, and in extreme cases may result in non-passive failure)
- Provides a robust approach with respect to acoustic stabilities and is immune to variation in lamp geometry, fill chemistry and mercury dose

Superior constant power regulation design:
- Helps yield consistent light output and color throughout the life of the lamp
- Provides constant light output during periods of fluctuating supply voltage

End-of-lamp-life shutdown:
- Prevents continuous starting after lamps extinguish which may cause permanent damage to the ballast

15 min. warm-up time:
- Ballasts will operate lamps at full power for the first 15 minutes to allow the lamps to warm up before dimming is permitted in accordance with the NEMA Lighting Systems Division Document LSD 14-2010 - Guidelines on the Application of Dimming to High-Intensity Discharge Lamps

Internal IDTP (Insulation Detection Thermal Protector):
- Affords original equipment manufacturers (OEMs) to remove all external thermal protection devices
- Reduces wiring complexity and installation time (to maximize the benefits of IDTPs, the ballast must be properly installed - See "installation notes" for details)

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency, Dimmable Electronic Metal Halide Systems (208-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description[1]	Input Current (AMPS)	Lamp ANSI Code	Lamp* Type	Rated* Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 208V	Input Power (W) 277V	System Efficacy (lm/W)
51992 ✪	QHE1x200MH 208-277V DIM (100%) (50%)	1.06/0.79	M136/ C190*	200W E39*	21,000	1	1.0	21,000	215 107	214 108	98
51993 ✪	QHE1x250MH 208-277V DIM (100%) (50%)	1.32/0.99	M138/ M153/C153*	250W EX39*	24,000	1	1.0	24,000	267 134	266 135	90
51994 ✪	QHE1x320MH 208-277V DIM (100%) (50%)	1.71/1.29	M132/ M154/C154*	320W EX39*	37,500	1	1.0	37,500	343 170	341 170	109/110
51995 ✪	QHE1x350MH 208-277V DIM (100%) (50%)	1.87/1.40	M131	350W EX39	33,000	1	1.0	33,000	374 187	372 187	88/89
51996 ✪	QHE1x400MH 208-277V DIM (100%) (50%)	2.12/1.58	M135/ M155	400W E39	42,000	1	1.0	42,000	428 212	426 212	98/99

1 Internal IDTP - Insulation Detection Thermal Protector (see system information for detail).
** Performance information based on ceramic equivalent "C".*
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

Installation Notes

1. Proper ballast mounting must be followed to allow for maximum thermal dissipation:
   a. F can ballast should be mounted with the "feet" side placed tightly against the inside of the fixture
2. Lamp holders and conductors:
   a. Use minimum 4kV pulse rated lamp holder.
   b. Use minimum 600Vrms/4kV Pulse Rated Wire to lamp.
   c. The red lead must be connected to center terminal of lamp.
   d. Do not connect any lamp lead to neutral or ground.
3. Grounding:
   a. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.
4. Auto shut down function including end-of-lamp-life and thermal protection:
   a. Disconnect power when servicing. Cycle power to reset ballast after auto shutdown. Allow 10 seconds for reset cycle to complete.
5. Step or 0-10V dimming can be activated after 15 minutes of warm-up at full power. Recommended by NEMA and lamp manufacturers.
6. If connecting the ballast input to 208V/240V line with two "hot" leads, be sure to wire per NEC code: Re-Mark (re-identify) the ballast white neutral wire to another color (i.e. black). Be sure to simultaneously disconnect all ungrounded line conductors per NEC codes (i.e. switch both hot legs).

More installation considerations are in the QUICKANSWERS section of the Ballast Technology and Specification Guide.

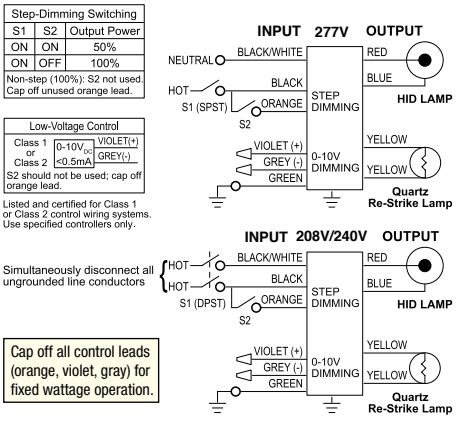
Wiring:
Lead Wires: Min. 6.0"

Packaging:
Quantity: 10 pieces per carton
Weight: 36 lbs per carton
(3.5 lbs each)

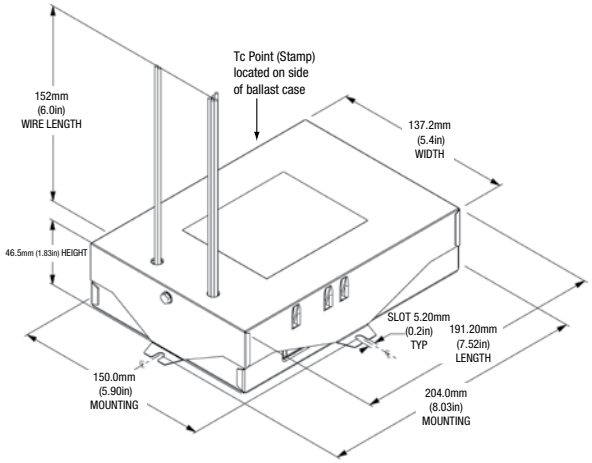
Step-Dimming Switching		
S1	S2	Output Power
ON	ON	50%
ON	OFF	100%
Non-step (100%): S2 not used. Cap off unused orange lead.		

Low-Voltage Control		
Class 1 or Class 2	0-10V, <0.5mA	VIOLET(+) GREY(-)
S2 should not be used; cap off orange lead.		

Listed and certified for Class 1 or Class 2 control wiring systems. Use specified controllers only.



Cap off all control leads (orange, violet, gray) for fixed wattage operation.



Quartz Re-Strike Lamp Requirements
120V ONLY; 200W MAX.
If not used, then cap off/insulate unused leads individually.

Item Number — 51992 QHE 1 x 200 MH 208-277V DIM — Dimming
QUICKTRONIC High Efficiency — Line Voltage
Number of Lamps (1) — Metal Halide
Primary Lamp Wattage

Specifications subject to change without notice.

NEW

MH QUICKTRONIC®
High Efficiency

Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic dimming ballast.

Specifications

Voltage Range: ±10% of 208-277V rated line (187-305V)
Input Frequency: 50/60 Hz
Power Factor: >98%
Low THD: <10%
Starting Temp: -22°F (-30°C) min.
Lamp Frequency: 160Hz Square Wave

No PCBS, UL listed and UL listed to Canadian safety standard, Type 1, Outdoor
90°C Max. Case Temperature, Thermally Protected
FCC 47CFR Part 18 Non-Consumer Sound Rated A
ANSI C62.41 Cat. A Transient Protection
Remote mounting capability[2]
Lamp current crest factor <1.2
Enclosure Type: Metal
0-10V dimming
Step dimming
RoHS Compliant[3]

2 Remote Mounting (max. wire length from ballast case to lampholder): Typically 6 ft but varies by application. For remote mounting distances up to 15 ft, use #18 AWG minimum 600Vrms/4kV Pulse Rated Wire to lamp. Output wires should be enclosed in 1/2" metal conduit to minimize EMI (electromagnetic interference). Wire and ground ballast, fixture, conduit & lighting system per NEC (National Electrical Code).

3 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

Max. Case Temp. Measured at

Tc Point (stamp)	Warranty Period
<70°C	5 years
<90°C	3 years

OSRAM SYLVANIA
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Service and Sales Center
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(1-800-544-4828)
www.sylvania.com

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

QUICKTRONIC® MH Dimming Controls Information

RoHS compliant

Controls Manufacturer	0-10 VDC Controllers	Photo Cells	Occupancy Sensors	Building Management Systems
SYLVANIA ELOGIC™ Controls 1-800-LIGHTBULB www.sylvania.com	X	X	X	
Hunt Dimming 970-484-9048 www.huntdimming.com	X	X	X	X
Lehigh Electronic Products 610-395-3386 www.lehighdim.com	X	X	X	X
Leviton Lighting Controls 800-824-3005 www.leviton.com	X	X	X	
Lightolier Controls 800-526-2731 www.lolcontrols.com	X	X	X	X
Lithonia Controls 800-533-2719 www.lithonia.com	X	X	X	X
Lumisys 800-241-9173 www.lumisys1.com	X			X
PCI 800-767-3674 www.pcilightingcontrols.com	X	X		
Sensorswitch 1-800-PASSIVE www.sensorswitch.com		X	X	
Siemens Energy & Automation 800-427-2256 www.sea.siemens.com				X
Starfield Controls 303-427-1661 www.starfieldcontrols.com	X	X	X	X
The Watt Stopper, Inc 800-879-8585 www.wattstopper.com		X	X	

Please contact controls manufacturers to order/specify controls. For the latest controls list go to www.sylvania.com
Also for more information, check out the LCA (Lighting Controls Association) site: www.aboutlightingcontrols.org

WARNING:

Install and wire these ballast and controls in accordance with the National Electrical Code (NEC), all applicable Federal, State and local electrical codes, as well as the specific instructions provided with the compatible control that you purchased. Installation should be performed by qualified personnel only.

These instructions are guidelines only. Installation may vary for different controls/fixtures/applications. Be sure to follow the control instructions and all applicable codes and standards when installing dimming systems.

Please contact controls manufacturer listed in the OSRAM SYLVANIA Inc. controls cross reference for compatible controls and instruction wiring

NOTES: 1. Dimming ballasts source < 0.5mA (0-10VDC control input).
2. Do NOT use fluorescent or incandescent powerline controls; fluorescent and incandescent dimmers are not rated for HID loads and are NOT compatible with MH dimming ballasts.

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Control Specifications/model numbers may change.
Please consult manufacturers listed for their latest control models and to order their controls.

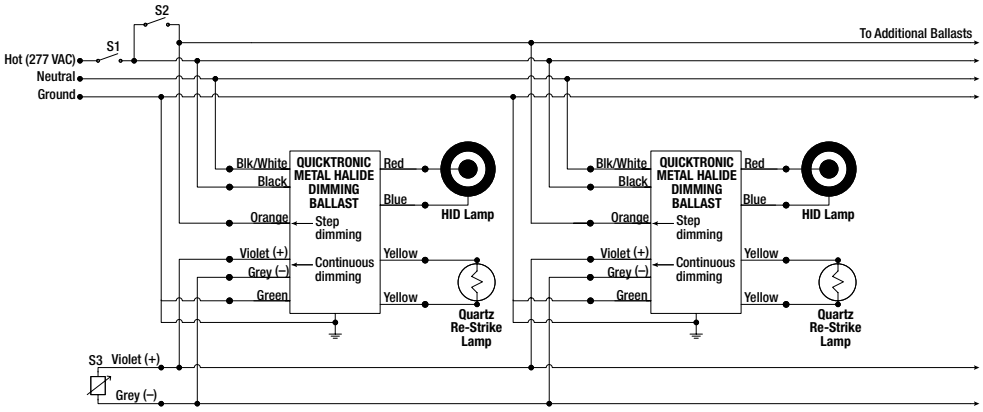
QUICKTRONIC® MH Dimming Ballast – Dimming Control Wiring Examples

RoHS compliant

Industry's 1st Ballast that allows Bi-Level Dimming *AND* 0-10Vdc Control Input simultaneously

Please refer to Installation Notes for additional details.

Bi-Level *AND* 0-10Vdc Control Wiring Diagram

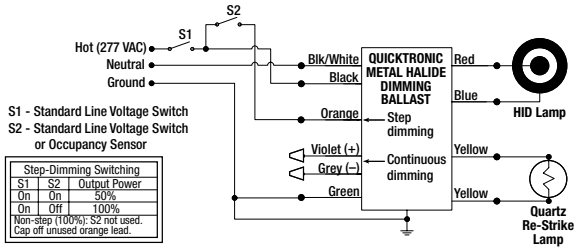


S1 - Standard Line Voltage Switch
S2 - Standard Line Voltage Switch or Occupancy Sensor
S3 - 0-10V Wall-Box or Photo Sensor Low-Voltage Control

EXCLUSIVELY from OSRAM SYLVANIA!

Occupancy Sensor or Wall-Box Step Dimming Control Wiring Example

(Cap off/insulate violet and grey leads individually as shown)



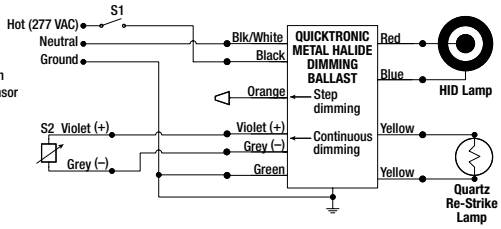
S1 - Standard Line Voltage Switch
S2 - Standard Line Voltage Switch or Occupancy Sensor

Step-Dimming Switching		
S1	S2	Output Power
On	On	50%
On	Off	100%

Non-step (100%): S2 not used. Cap off unused orange lead.

Photo Sensor or Wall-Box 0-10V Continuous Dimming Control Wiring Example

(Cap off/insulate orange lead individually as shown)



S1 - Standard Line Voltage Switch
S2 - 0-10V Wall-Box or Photo Sensor Low-Voltage Control

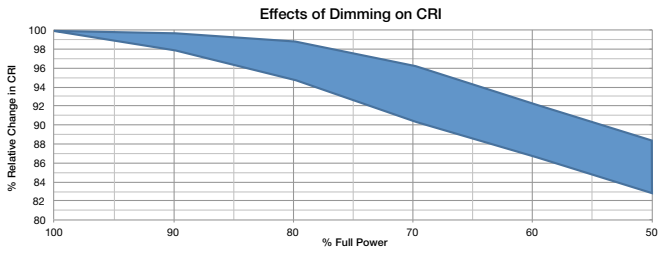
Low-Voltage Control		
Class 1 or Class 2	0-10Vdc <0.5mA	Violet (+) Grey (–)

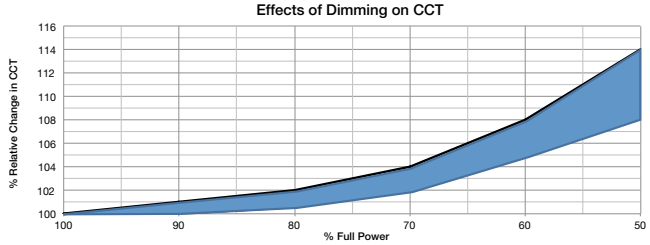
Cap off orange lead.

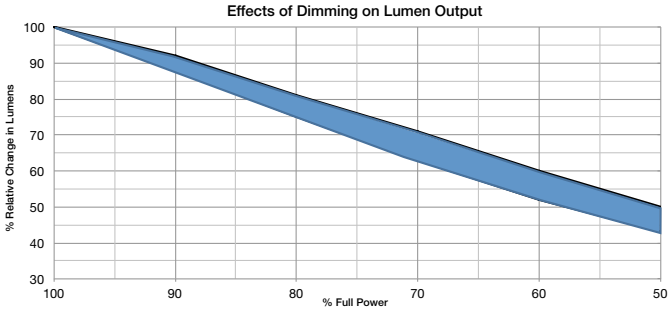
Listed and certified for Class 1 or Class 2 control wiring systems. Use specified controllers only.

Dimming Effects on Lamp Performance

Shaded areas depict output based on lamp type, wattage tolerances, & system variations. – Dimming levels meet &/or exceed the NEMA recommended guidelines. (LSD 14-2010)







Specifications subject to change without notice.

QUICKTRONIC® MH Electronic Metal Halide Systems

RoHS compliant

Super Mini
Normal Ballast Factor

Professional Series

Lamp / Ballast Guide

QTP 1x15MH SM UNV
C186

QTP 1x20MH SM UNV
C156

QTP 1x39MH SM UNV
M130, C130

Key System Features

- Constant power regulation
- Universal input voltage
- High power factor
- Low harmonic distortion
- Small size and lightweight
- 85ºC case temperature
- UL, FCC
- End-of-life shut down
- Internal IDTP (Insulation Detection Thermal Protector)
- QUICK 60+® warranty
- RoHS compliant
- Lead-free solder, printed circuit board and manufacturing process

Application Information

SYLVANIA QUICKTRONIC MH ballasts
are ideally suited for:

- Track lighting
- Downlighting
- Landscape lighting
- Retail
- Hospitality
- Institutional
- Commercial

SYLVANIA QUICKTRONIC MH electronic HID (eHID) ballasts feature a state-of-the-art electronic design to deliver performance levels unattainable with standard magnetic metal halide ballast systems.

Small and efficient, QUICKTRONIC MH ballasts operate silently and provide energy savings up to 15% compared to magnetic ballasts.

New smaller sizes allow for more flexible fixture designs and applications while maintaining the features and system advantages of the standard size ballast. ***The Super Mini is 70% smaller than the standard sized can.*** Installation is simplified by our single-piece ballasts that incorporate the ballast, capacitor, ignitor and mounting brackets of conventional systems. Two lightweight mounting styles allow for easy assembly in any fixture application.

QUICKTRONIC MH eHID ballasts are RoHS compliant and feature lead-free solder, printed circuit boards and manufacturing process.

Setting the standard for quality, QUICKTRONIC MH systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

SYLVANIA QUICKTRONIC MH ballasts and SYLVANIA METALARC® POWERBALL® CERAMIC lamps are perfectly matched to provide optimal system performance.

Our electronically controlled system delivers several advantages over conventional components, including improved lumen maintenance and extended photometric life.

The superior power regulation design produces consistently brilliant light output and color throughout the life of the lamp. This circuitry also provides constant light output during periods of fluctuating supply voltage.

All QUICKTRONIC MH electronic HID (eHID) ballasts are equipped with an end-of-life shut down function. This prevents continuous starting after lamps extinguish which may cause permanent damage to the ballast.

All QUICKTRONIC universal input voltage eHID ballasts are equipped with an internal IDTP (Insulation Detection Thermal Protector). This is a precision temperature gauge that will shut the ballast down at the maximum case temperature to prevent internal damage of electronic components. The internal thermal protection feature affords an original equipment manufacturer (OEM) the ability to remove all external thermal protection devices. In order to maximize the benefits of this unique feature the ballast must be properly installed. (See “installation notes” for detail).

Enclosure Styles

F = Feet Mount for track light fixtures
(All leads exit side of ballast, as shown on next page.)

J = J-Box Mount with PEM studs for recessed downlight fixtures
(All leads exit middle/bottom of ballast, as shown on next page.)

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic Metal Halide Systems Universal Voltage (120-277V)

RoHS compliant

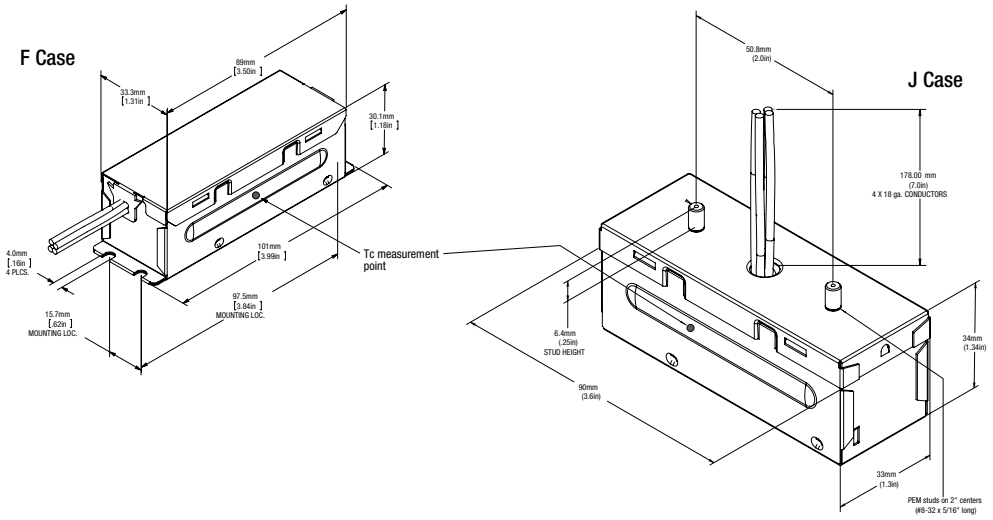
Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type[1]	Rated Lumens (lm)	No. of Lamps	Internal IDTP[2]	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
51991 51986	QTP1x15MH SM UNV J QTP1x15MH SM UNV F	120-277	0.15/0.07	15W T4	1200	1	Yes	1.0	1200	17.5	68.6
51988	QTP1x20MH SM UNV F	120-277	0.19/0.09	20W T4	1700	1	Yes	1.0	1700	23	74
51990	QTP1x39MH SM UNV F	120-277	0.38/0.17	39W T4	3400	1	Yes	1.0	3400	44	77

1 Data based on ceramic lamp types except where noted.
2 Internal IDTP - Insulation Detection Thermal Protector (see system information for detail)

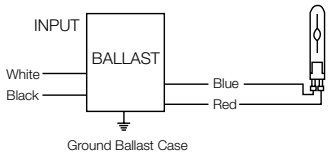
Installation Notes

1. Proper ballast mounting must be followed to allow for maximum thermal dissipation:
   a. **F can ballast** should be mounted with the "feet" side placed tightly against the inside of the fixture
   b. **J can ballast** should be mounted with the PEM Stud side placed tightly against the inside of the fixture
2. Lamp holders and conductors:
   a. Use minimum 4kV pulse rated lamp holder.
   b. Use minimum 4kV pulse rated or UL style 3561 wire for lamp connections. The red lead must be connected to center terminal of lamp. Do not connect any lamp lead to neutral or ground.
3. Grounding:
   a. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.
4. Auto shut down function including end-of-life and thermal protection:
   a. Disconnect power when servicing. Cycle power to reset ballast after auto shutdown.
5. Control: Do not operate with dimmer or occupancy sensor.

More installation considerations are in the QUICKANSWERS section of the Ballast Technology and Specification Guide.



Packaging:
Quantity: 50 pieces per carton
Weight: 20 lbs. per carton
(0.4 lbs each)



Item Number — **51990 QTP 1 x 39 MH SM UNV F** — Mounting Style
QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)
Number of Lamps (1) — Case Type
Primary Lamp Wattage — Metal Halide

Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast with universal input voltage.

Specifications

Voltage Range: ±10% of 120-277V rated line (108-305V)
Input Frequency: 50/60 Hz
Power Factor: >98%
Low THD: <10%
Starting Temp: -22°F (-30°C) min.
Lamp Frequency: 100-120Hz Square Wave

UL listed and UL listed to Canadian safety standards, Type 1, Outdoor Suitable for recessed use
85°C Max. Case Temperature, Thermally Protected
FCC 47CFR Part 18 Non-Consumer Sound Rated A
ANSI C62.41 Cat. A Transient Protection
Remote Mounting capability[3]
Lamp current crest factor: <1.2
RoHS Compliant [4]

3 Remote Mounting (max. wire length from ballast case to lampholder): Typically 6 ft but varies by application. For remote mounting distances up to 15 ft, use #18 AWG minimum 7.5kV pulse rated wire. Output wires should be enclosed in 1/2" metal conduit to minimize EMI (electromagnetic interference). Wire and ground ballast, fixture, conduit & lighting system per NEC (National Electrical Code).

4 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to our QUICK 60+ warranty bulletin.

Max. Case Temp. Measured at

Tc Point	Warranty Period
<85°C	5 years

OSRAM SYLVANIA
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Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.

QUICKTRONIC® MH Electronic Metal Halide Systems

RoHS compliant

Electronic Metal Halide

Professional Series

Lamp / Ballast Guide

QTP 2x20MH/UNV
QTP 1x20MH/UNV SQ
C156

QTP 1x39MH/UNV
QTP 2x39MH/UNV
QTP 1x39MH/UNV SQ
M130; C130

QTP 1x70MH/UNV
QTP 1x70MH/UNV SQ
M98/M139, C98/C139/C143

QTP 1x100MH/UNV
QTP 1x100MH/UNV SLIM
M90, C90, C191

Key System Features

- Low frequency square wave
- Suitable for both quartz and ceramic lamps
- Constant power regulation
- Universal input voltage
- High power factor
- Low harmonic distortion
- Small size and lightweight
- UL, FCC
- End-of-lamp-life shut down
- Internal IDTP (Insulation Detection Thermal Protector)
- QUICK 60+® warranty
- RoHS compliant
  Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC MH
is ideally suited for:

- Track lighting
- Downlighting
- Landscape lighting
- Retail
- Hospitality
- Institutional
- Commercial

SYLVANIA QUICKTRONIC QTP MH electronic HID (eHID) ballasts feature a state-of-the-art design to deliver performance levels unattainable with standard magnetic lighting systems. These ballasts operate METALARC® and METALARC POWERBALL® Ceramic lamps with exceptional features and benefits, listed below:

Unmatched Energy Efficiency:
- Ballasts provides up to 92% efficiency allowing maximum energy savings when compared to magnetic ballasts

New Smaller cases:
- **Mini Slim** and **Mini Square** ballasts are 50% smaller than the standard sized can
- New smaller sizes allow more flexible fixture designs and applications while maintaining the features and system advantages of the standard size ballast

Simple Installation:
- Installation is simplified by a single-piece ballasts that incorporate the ballast, capacitor, ignitor and mounting brackets of conventional systems

- Two lightweight mounting styles allow for easy assembly in any fixture application (F-case and J-case)

RoHS Compliant: QUICKTRONIC MH ballasts are RoHS compliant and feature lead-free solder and manufacturing process

QUICK 60+® Warranty: Setting the standard for quality, QUICKTRONIC MH ballasts are covered by a QUICK 60+ warranty, the first comprehensive system warranty in the industry

System Information

SYLVANIA QUICKTRONIC QTP MH electronic HID (eHID) ballasts are perfectly matched with SYLVANIA METALARC® and METALARC POWERBALL® Ceramic lamps to provide optimal system performance. This electronically controlled system delivers several advantages over conventional systems, including improved lumen maintenance and extended photometric life.

Low frequency square-wave:
- Eliminates acoustic resonance issues typical with high-frequency waveforms (Acoustic resonance issues may cause visual flickering, lamp cycling, shortened lamp life, and in extreme cases may result in non-passive failure)
- Provides a robust approach with respect to acoustic stabilities and is immune to variation in lamp geometry, fill chemistry and mercury dose

Superior constant power regulation design:
- Helps yield consistent light output and color throughout the life of the lamp
- Provides constant light output during periods of fluctuating supply voltage

End-of-lamp-life shutdown:
- Prevents continuous starting after lamps extinguish which may cause permanent damage to the ballast

Internal IDTP (Insulation Detection Thermal Protector):
- Affords original equipment manufacturers (OEMs) to remove all external thermal protection devices
- Reduces wiring complexity and installation time (to maximize the benefits of IDTPs, the ballast must be properly installed - See “installation notes” for details)

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic Metal Halide Systems Mini Square and Mini Slim (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description[1]	Input Current (AMPS)	Lamp ANSI Code	Lamp* Type	Rated* Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy (lm/W)
51959	QTP1x20MH UNV SQ F *Formerly: QT1x20MH UNV SQ* QTP1x20MH UNV SQ J	0.19/0.09	M156/C156	20W T4.5	1700	1	1.0	1700	23	23	74
51956											
51961	QTP1x39MH UNV SQ F *Formerly: QT1x39MH UNV SQ* QTP1x39MH UNV SQ J	0.38/0.17	M130/C130	39W T6	3400	1	1.0	3400	44	44	77
51957											
51963	QTP1x70MH UNV SQ F *Formerly: QT1x70MH 120V SQ*	0.66/0.29	M98/M139/ M143/C98/ C139/C143	70W T6	7000	1	1.0	7000	79	79	89
51948 ✪	QTP1x100MH UNV SLIM F	0.92/0.39	M90/M140/ C90/C191	100W E17	10,000	1	1.0	10,000	109	107	92/93

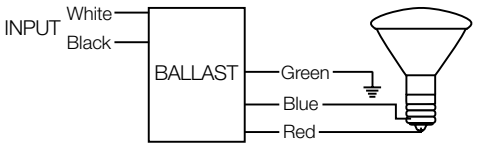
1 Internal IDTP - Insulation Detection Thermal Protector (see system information for detail).
** Performance information based on ceramic equivalent "C".*
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

Installation Notes

1. Proper ballast mounting must be followed to allow for maximum thermal dissipation:
   a. **F can ballast** should be mounted with the "feet" side placed tightly against the inside of the fixture.
   b. **J can ballast** should be mounted with the PEM Stud side placed tightly against the inside of the fixture.
2. Lamp holders and conductors:
   a. Use minimum 4kV Pulse Rated Lamp holder.
   b. Use minimum 600Vrms/4kV Pulse Rated Wire to lamp.
   c. The red lead must be connected to center terminal of lamp.
   d. Do not connect any lamp lead to neutral or ground.
3. Grounding:
   a. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.
4. Auto shut down function including end-of-lamp-life and thermal protection:
   a. Disconnect power when servicing. Cycle power to reset ballast after auto shutdown.
5. Control: Do not operate with dimmer or occupancy sensor.
6. If connecting the ballast input to 208V or 240V line with two "hot" leads, be sure to wire per NEC code: Re-Mark (re-identify) the ballast white neutral wire to another color (i.e. black). Be sure to simultaneously disconnect all ungrounded line conductors per NEC codes (i.e. switch both hot legs).

More installation considerations are in the QUICKANSWERS section of the Ballast Technology and Specification Guide.

Packaging:
Quantity: 40 pieces per carton
Weight: 36 lbs. per carton
(0.9 lbs each)



Item Number — **51961 QTP 1 x 39 MH / UNV SQ F**
QUICKTRONIC PROFESSIONAL
Number of Lamps (1)
Primary Lamp Wattage
Case Type (Mounting Style)
Case Type
Line Voltage (120-277V)
Metal Halide

NEW

MH QUICKTRONIC®
Professional Series

Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast.

Specifications

Voltage Range: ±10% of 120-277V rated line (108-305V)
Input Frequency: 50/60 Hz
Power Factor: >98%
Low THD: <10%
Starting Temp: -22°F (-30°C) min.
Lamp Frequency:
100W Mini-SLIM
200-240Hz Square Wave
20W/39W/70W Mini-Square
165-170Hz Square Wave

UL Listed, Type 1, Outdoor
Suitable for recessed use
20W, 39W, 50W:
85°C Max. Case Temp.
70W, 100W:
90°C Max. Case Temp.
Thermally Protected
FCC 47CFR Part 18 Non-Consumer Sound Rated A
ANSI C62.41 Cat. A Transient Protection
Remote Mounting capability[2]
Lamp current crest factor: <1.2

2 Remote Mounting (max. wire length from ballast case to lampholder): Typically 6ft but varies by application. For remote mounting distances up to 15 ft, use #18 AWG minimum 600Vrms/4kV pulse rated wire. Output wires should be enclosed in 1/2" metal conduit to minimize EMI (electromagnetic interference). Wire and ground ballast, fixture, conduit & lighting system per NEC (National Electrical Code).

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

Max. Case Temp. Measured at Tc Point	Warranty Period
70W, 100W:	
<90°C	3 years
<80°C	5 years
20W, 39W, 50W:	
<85°C	3 years
<75°C	5 years

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Specifications subject to change without notice.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic Metal Halide Systems (120-277V)

RoHS compliant

Item Number	OSRAM SYLVANIA Description[1]	Input Current (AMPS)	Lamp ANSI Code	Lamp* Type	Rated* Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) 120V	Input Power (W) 277V	System Efficacy (lm/W)
51969	QTP2x20MH UNV-J[2]	0.38/0.16	M156/C156	20W T4.5	1700	2	1.0	3400	46	46	74
51910 51911	QTP1x39MH/UNV-F QTP1x39MH/UNV-J	0.39/0.17	M130/C130	39W T6	3400	1	1.0	3400	44	44	77
51970 51971	QTP2x39MH UNV-F[2] QTP2x39MH UNV-J[2]	0.75/0.33	M130/C130	39W T6	3400	2	1.0	6800	89	89	76
51912 51913	QTP1x70MH/UNV-F QTP1x70MH/UNV-J	0.67/0.29	M98/M139/ C98/C139	70W T6	7000	1	1.0	7000	79	79	89
51914	QTP1x100MH/UNV-F	0.96/0.41	M90/C90/C191	100W E17	10,000	1	1.0	10,000	110	110	91

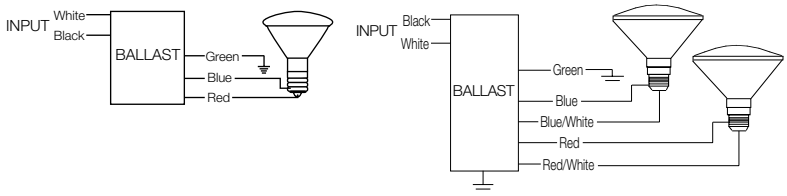
1 Internal IDTP - Insulation Detection Thermal Protector (see system information for detail)
2 Ballast can operate 1 or 2 lamps, cap off unused leads individually for 1 lamp operation.
**Performance information based on ceramic equivalent "C".*

Installation Notes

1. Proper ballast mounting must be followed to allow for maximum thermal dissipation:
   a. **F can ballast** should be mounted with the "feet" side placed tightly against the inside of the fixture.
   b. **J can ballast** should be mounted with the PEM Stud side placed tightly against the inside of the fixture.
2. Lamp holders and conductors:
   a. Use minimum 4kV Pulse Rated Lamp holder.
   b. Use minimum 600Vrms/4kV Pulse Rated Wire to lamp.
   c. The red lead must be connected to center terminal of lamp.
   d. Do not connect any lamp lead to neutral or ground.
3. Grounding:
   a. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.
4. Auto shut down function including end-of-lamp-life and thermal protection:
   a. Disconnect power when servicing. Cycle power to reset ballast after auto shutdown.
5. Control: Do not operate with dimmer or occupancy sensor.
6. If connecting the ballast input to 208V or 240V line with two "hot" leads, be sure to wire per NEC code: Re-Mark (re-identify) the ballast white neutral wire to another color (i.e. black). Be sure to simultaneously disconnect all ungrounded line conductors per NEC codes (i.e. switch both hot legs).

More installation considerations are in the QUICKANSWERS section of the Ballast Technology and Specification Guide.

Packaging:
Quantity: 10 pieces per carton
Weight: 6 lbs. per carton
(0.6 lbs each)



Item Number — **51910 QTP 1 x 39 MH / UNV F** — Case Type (Mounting Style)
QUICKTRONIC PROFESSIONAL — Line Voltage (120-277V)
Number of Lamps (1) — Metal Halide
Primary Lamp Wattage

MH QUICKTRONIC®

Professional Series

Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast with universal input voltage.

Specifications

Voltage Range: ±10% of 120-277V rated line (108-305V)
Input Frequency: 50/60 Hz
Power Factor: >98%
Low THD: <10%
Starting Temp: -22°F (-30°C) min.
Lamp Frequency: 165 Hz Square Wave

UL Listed, Type 1, Outdoor
Suitable for recessed use
80°C Max. Case Temperature, Thermally Protected
FCC 47CFR Part 18 Non-Consumer Sound Rated A
ANSI C62.41 Cat. A Transient Protection
Remote Mounting capability[3]
Lamp current crest factor: <1.2
RoHS Compliant [4]

3 Remote Mounting (max. wire length from ballast case to lampholder): Typically 6 ft but varies by application. For remote mounting distances up to 15 ft, use #18 AWG minimum 600Vrms/4kV pulse rated wire. Output wires should be enclosed in 1/2" metal conduit to minimize EMI (electromagnetic interference). Wire and ground ballast, fixture, conduit & lighting system per NEC (National Electrical Code).

4 Complies with European Union Restriction of Hazardous Substances Directive.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

Max. Case Temp. Measured at Tc Point	Warranty Period
<75°C	5 years
<80°C	3 years

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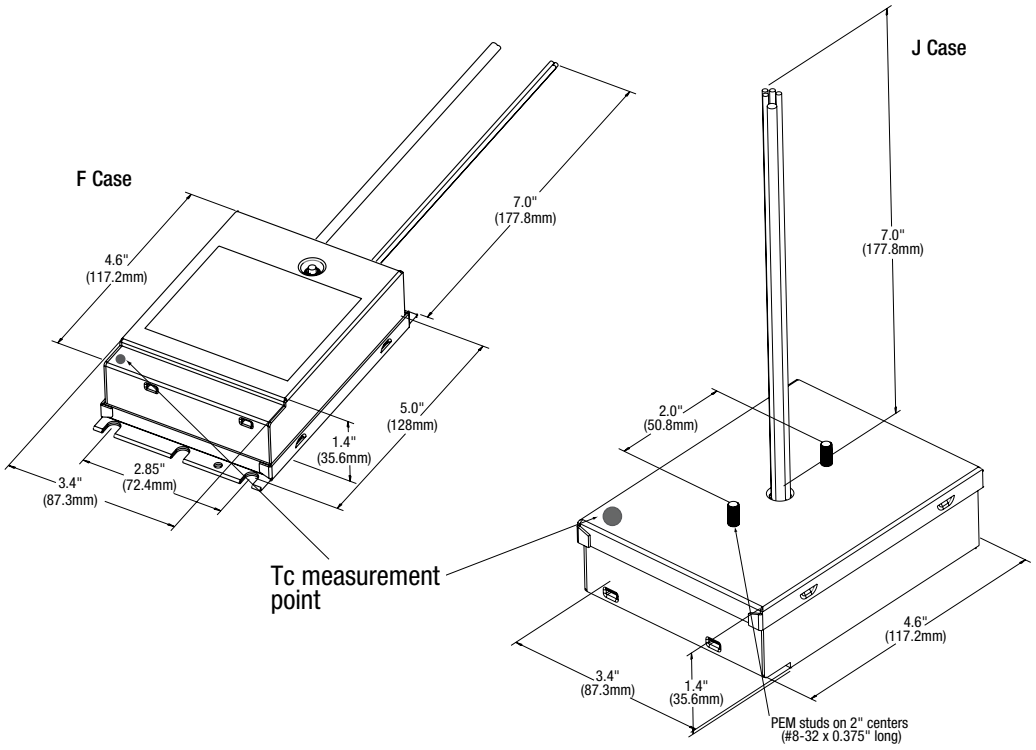
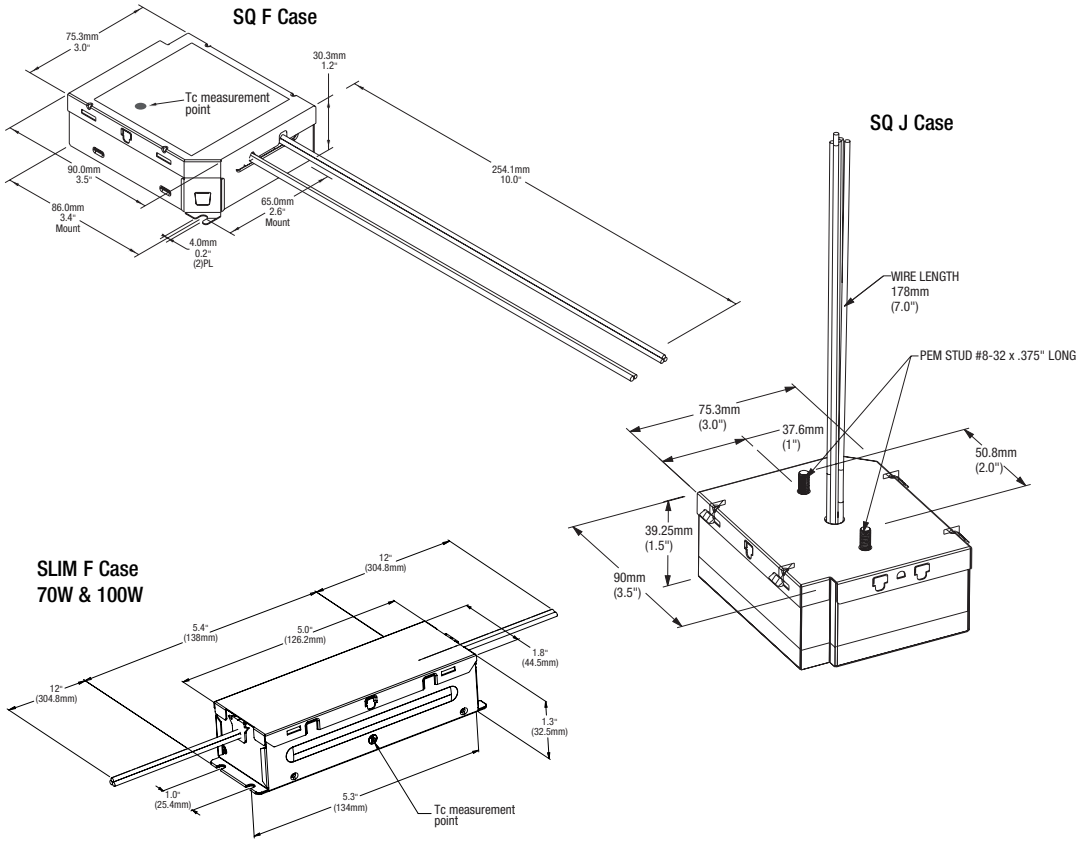
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Electronic Metal Halide Systems Universal Voltage (120-277V)





MH QUICKTRONIC®

Professional Series

Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast with universal input voltage.

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QUICKTRONIC® ICE Universal Voltage Systems

RoHS compliant

Electrodeless Fluorescent Systems

Lamp / Ballast Guide

ICETRON lamp:
ICE 40W
Ballast:
QT1x40ICE/UNV

ICETRON lamp:
ICE 70W
Ballast:
QT1x100ICE/UNV

ICETRON lamps:
ICE 100W
Ballast:
QT1x100ICE/UNV
QT1x150ICE/UNV

ICETRON lamp:
ICE 150W
Ballast:
QT1x150ICE/UNV

Key System Features

- 100,000 Hour lamp life
- Instant on / Instant restrike
- Universal voltage
- 1.00- 1.38 Ballast factor
- High luminous efficacy
- Quiet operation
- High power factor
- Low harmonic distortion
- UL, CSA, FCC
- RoHS compliant - Ballast
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC ICE ballasts
are ideally suited for:

- Commercial
- Retail
- Sign lighting
- Street lighting
- Tunnel lighting

SYLVANIA QUICKTRONIC ICE ballasts offer several advantages:

- **Operate** SYLVANIA ICETRON® electrodeless fluorescent lamps with maximum efficacy and full lumen output.
- **Longest life available** from a fluorescent system – 100,000 hour average rated life:
  - greatly reducing maintenance costs
  - extending relamping cylces.
- **Extensive thermal performance:** rated for operation in environments from – 40ºC (-40ºF) up to 50ºC (122ºF). SYSTEM ICE is suitable for a variety of applications traditionally addressed by HID systems.

(Note: starting temp. -25°C (-13°F) for 40W and 70W lamps)

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

Setting the standard for quality, the ICETRON lamp and ballast System are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

System Information

ICE ballast features:

- Operation from a line voltage of either 120V or 277V
- A special wire/connector system required for inductively coupled systems.
- Inductively coupled lamp design:
  - eliminates the use of filaments inside the lamp, removing one of the life limiting factors of a fluorescent lamp
  - reduces blackening
  - provides an average rated life of 100,000 hours with maximum energy efficiency

Lamp amalgam tip position will affect light output at various temperatures.

System Type	Input Wattage	Initial Lumens	System LPW
Metal Halide 70W	90	5200	58
FBO31 2-lamp	57	4900	86
ICE70W	79/77	6500	82/84
Metal Halide 100W	125	8500	68
FBO31 3-lamp	84	7360	88
ICE100	106/103	8000	75/77
Metal Halide 150W	180	12,900	72
ICE150	161/156	12,000	74/76

QUICKTRONIC ICE ballast is available in two case configurations, UL Type 1 or Type 2 Outdoor rated. The Type 1 models are suitable for general applications and the Type 2 models are ideal for harsh environments, such as damp or wet locations.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

ICETRON®

Electrodeless Fluorescent Systems Universal Voltage (120-277V)

RoHS compliant

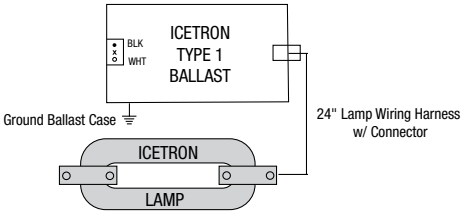
Item Number	OSRAM SYLVANIA Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated[1] Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
49758	QT1x40ICE/UNV-T	120-277	0.36/0.16	ICE40	2800	1	1.00	2800	44	64	2.29
49753	QT1x100 ICE/UNV-T	120-277	0.88/0.37	ICE100	8000	1	1.00	8000	106/103	75/77	0.97
49756	QT1x100 ICE/UNV-W		0.66/0.29	ICE70	6200	1	1.05	6500	79/77	82/84	1.36
49772	QT1x150 ICE/UNV-T	120-277	1.34/0.58	ICE150	12,000	1	1.00	12,000	161/156	74/76	0.64
49773	QT1x150 ICE/UNV-W		1.28/0.54	ICE100	8000	1	1.38	11,000	154/149	71/73	0.93

1 Rated lamp lumens and performance data based on SYLVANIA ICETRON lamps.

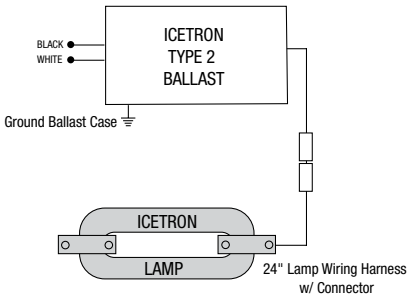
Use only with SYLVANIA ICETRON lamps (for additional lamp types contact OSRAM SYLVANIA).

Item Number	Lamp Description	Item Number	Lamp Description	Item Number	Lamp Description	Item Number	Lamp Description
26310	ICE40/835/RCT/2P	26087	ICE 70/835/2P	26102	ICE100/835/2P	26152	ICE150/835/2P
26311	ICE40/835/CIR/2P	26088	ICE 70/841/2P	26103	ICE100/841/2P	26153	ICE150/841/2P
26312	ICE40/841/RCT/2P	26089	ICE 70/850/2P	26105	ICE100/850/2P	26155	ICE150/850/2P
26313	ICE40/841/CIR/2P						
26314	ICE40/850/RCT/2P						
26315	ICE40/850/CIR/2P						

Type 1 Wiring: Connector (No leads provided)
Input: Use solid copper wire only
18 AWG, strip length 3/8"
Output: Use only output connector with SYLVANIA ICETRON® 2P lamps listed above

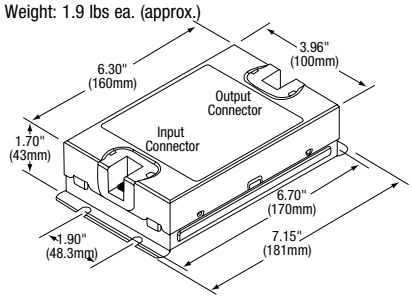


Type 2 Wiring:
Input: Integral lead wires, 600V, 18 AWG solid copper, approx. 24" length
Output: Wire harness, approx. 24" length with mating connector to lamp wiring harness



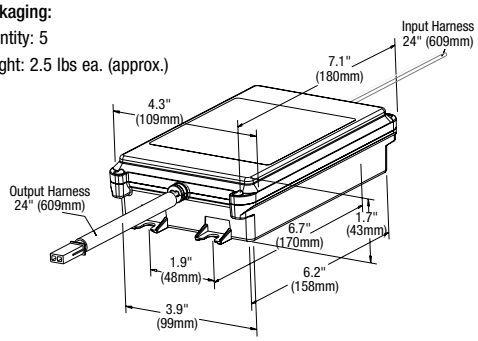
Type 1 Dimensions:
Overall: 7.15" L x 3.96" W x 1.70" H
Mounting: 6.70" L x 1.90" W

Packaging:
Quantity: 5
Weight: 1.9 lbs ea. (approx.)



Type 2 Dimensions:
Overall: 7.10" L x 4.30" W x 1.70" H
Mounting: 6.70" L x 1.90" W

Packaging:
Quantity: 5
Weight: 2.5 lbs ea. (approx.)



Item Number — **49753 QT 1 x 100 ICE / UNV - T** — Case Type (Topmount or Watertight)
QUICKTRONIC — Line Voltage (120-277V)
Number of Lamps — System Type - ICETRON
Primary Lamp Wattage

Performance Guide

*Models rated UL Type 1 ("T" suffix) are designed for general lighting applications. Models rated UL Type 2 ("W" suffix) provide protection from water intrusion and are suitable for damp or wet locations.

Specifications[2]

Starting Method: I.C.E.
Circuit Type: I.C.E.
Lamp Frequency: 200-300kHz
Starting Temp: -40°F (-40°C)
-13°F(-25°C) for 40W and 70W lamps
Input Frequency: 50/60 Hz
Low THD: <15%
Power Factor: >90%
Voltage Range: ±10% of 120-277V rated line (108-305V)

UL Listed Class P, Type 1 or Type 2, Outdoor
CSA Certified
Temp. Test Point (Tc) on ballast label:
70°C Max (150W)
65ºC Max (100W & 40W)
FCC 47CFR Part 18 Non-Consumer Sound Rated A
RoHS Compliant - Ballast[3]
ANSI C62.41 Cat. A Transient Protection
Remote Mounting:
contact OSRAM SYLVANIA

2 Data based on ICETRON lamp types.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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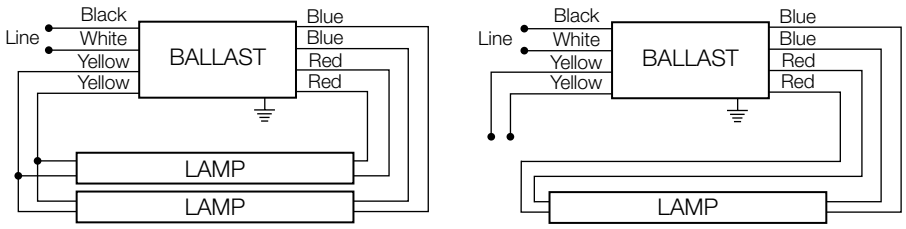
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

QUICKTRONIC® T12HO Rapid Start Electronic Fluorescent Ballasts Universal Voltage (120-277V)

Item Number	OSRAM SYLVANIA Description	Input Current (AMPS) @120/277V	Lamp[1] Type	Rated[2] Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) @120/277V	System Efficacy (lm/W) @120/277V	BEF[3]
50319	QTP2x96T12HO/UNV	1.65/0.71	F96T12HO	9050	2	0.85	15,385	196	78	0.43
		1.38/0.60	F96T12HO/SS	8000	2	0.90	14,400	164	88	0.55
		1.30/0.56	F72T12HO	6250	2	0.90	11,250	154	73	0.58
		1.10/0.47	F60T12HO	5200	2	0.90	9360	132	71	0.68
		0.88/0.38	F48T12HO	4050	2	0.90	7290	104	70	0.87
		0.88/0.38	F96T12HO	9050	1	0.92	8325	104	80	0.88

1 Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.
2 96T12HO rated lamp lumens and performance data based on F96T12CW/HO/SS and F96T12/D41/HO series lamps.
3 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
50319 replaces discontinued item numbers 49883 QT2x96/120 HO and 49884 QT 2x96/277HO



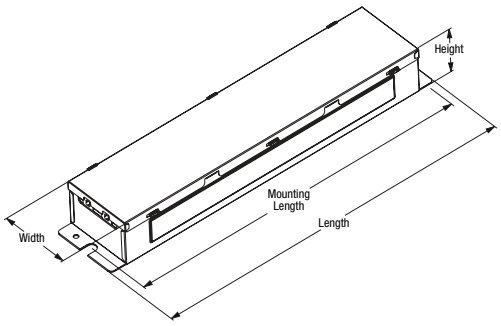
Note: For one lamp application, individually cap each yellow lead. Insulate to 600 volts.

QUICKTRONIC 2x96T12HO

Dimensions:
Overall: 11.8" L x 2.15" W x 1.61" H
Mounting: 11.0"

Packaging:
Quantity: 6 pieces
Weight: 2.77 lbs ea. (1260 grams)

Wiring:
Leads



Item Number — **50319 QTP 2 x 96T12 / HO / UNV** — Line Voltage (120-277V)
QUICKTRONIC — System Type
Number of Lamps — Primary Lamp Type

Normal Ballast Factor

96 T12HO

Professional Series

Performance Guide

Specifications
Data based on F96T12HO

Starting Method: Rapid Start
Circuit Type: Series
Starting Temp:[4] -20°F (-29°C) for F96T12HO; 60°F (16°C) for SUPERSAVER F96T12HO/SS
Lamp CCF: Less than 1.7
Lamp Frequency: >20 kHz
Low THD: <10%
Voltage Range: ±10% of Rated Input
Input Frequency: 50/60 Hz
Power Factor: >98%

cUL Listed Class P, Type 1 Outdoor
75°C Max Case Temperature
FCC 47CFR Part 18 Non-Consumer
ANSI C62.41 Cat A. Transient Protection
Remote Mounting: Contact OSI for remote mounting options.
Class A Sound Rating

4 Operation below 50ºF (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty, a comprehensive warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

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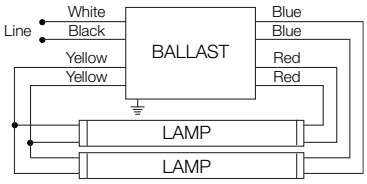
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

QUICKTRONIC® T12 Electronic Fluorescent Ballasts 40T12RS & 96T12IS Universal Voltage (120-277V)

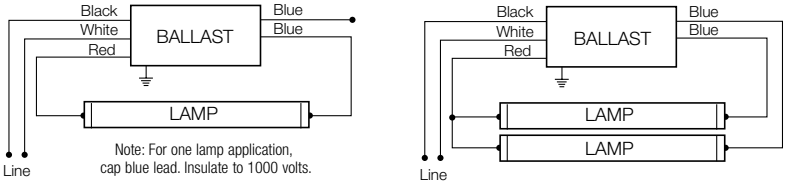
Item Number	OSRAM SYLVANIA Description	Input Current (AMPS) @120/277V	Lamp[1] Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W) @120/277V	System Efficacy[2] (lm/W) @120/277V	BEF[1]
50314	QTP2x40T12/UNV/RS/SC	0.62/0.27	F40T12/D30/ECO	3200	2	0.88	5630	74/74	76	1.19
		0.53/0.23	F34/D830/SS	2900	2	0.85	4930	63/63	78	1.35
50308	QTP2x96/T12/UNV/IS	1.12/0.50	F96T12/D41/ECO	6420	2	0.86	11,040	134/130	82/85	0.66
		0.91/0.40	F96T12/CW/SS	5300	2	0.87	9220	108/106	85/87	0.82
		0.88/0.40	F72T12/CW	4500	2	0.92	8280	105/103	79/80	0.89
		0.62/0.28	F48T12/CW	2820	2	0.92	5190	73/71	71/73	1.30
		0.52/0.24	F48T12/SS/CW	2450	2	0.92	4510	62/61	73/74	1.51
		0.69/0.31	F96T12/D41/ECO	6420	1	1.01	6485	82/81	79/80	1.25
		0.56/0.27	F96T12/CW/SS	5300	1	1.10	5830	67/66	87/88	1.67
		0.55/0.26	F72T12/CW	4500	1	1.07	4815	65/64	74/75	1.67

New 50308 QTP2x96T12/UNV/IS model replaces 50318 that is discontinued.
Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.
1 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
2 System Efficacy calculation based on lowest input power value unless otherwise noted.



Ground Ballast and mount lamps within 1/2" of grounded metal reflector

QTP 2x40T12 RS



Ground Ballast and mount lamps within 1/2" of grounded metal reflector

QTP 2x96T12 IS

Dimensions:
Model QTP2x40T12/UNV/RS/SC enclosure size
Overall: 9.5" L x 1.38" W x 1.18" H
Mounting: 8.9"
Weight: 1.25 lbs ea. (approx.)

Dimensions:
Model QTP2x96/T12/UNV/IS enclosure size
Overall: 11.75" L x 2.15" W x 1.61" H
Mounting: 11"
Weight: 4.67 lbs ea. (approx.)

Item Number — **50314 QTP 2 x 40T12 / UNV / RS SC** — Case Size
QUICKTRONIC PROFESSIONAL — Starting Type / Ballast Factor
Number of Lamps (2) — Line Voltage (120-277V)
Primary Lamp Wattage

Specifications

Data based on F40T12 for RS, F96T12 for IS

Starting Method:
RS - Rapid Start
IS - Instant Start
Circuit Type: RS - Parallel
IS - Parallel
Starting Temp: 0°F (-18°C)
SUPERSAVER® Lamps: 60°F(16°C)
Input Frequency: 60 Hz
THD: QTP40T12/UNV RS: <10%;
QTP2x96T12 IS: <15%
Power Factor:
QTP40T12/UNV RS:>97%
QTP2x96T12 IS >0.96 (for F96T12);
>0.91(for other lamps)
Input Voltage: ±10% of Rated Input
Lamp Crest Factor: <1.8
Lamp Frequency: >20 kHz

UL Listed Class P, Type 1 Outdoor
CSA or CUL Certified
70°C Max. Case Temp.
FCC 47CFR Part 18 Non-Consumer
Class A Sound Rating
ANSI C62.41 Cat A. Transient Protection

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

OSRAM SYLVANIA
National Customer
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1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

the system solution®

Specifications subject to change without notice.

QUICKTRONIC® Residential T8 Instant Start Systems

RoHS compliant

For Residential Use Only
Normal Power Factor

Residential Series

Lamp / Ballast Guide

32W T8 - OCTRON® lamps
2 or 1 lamp QTR2x32T8/120 ISN-SC
4 or 3 lamp QTR4x32T8/120 ISN-SC

Also operates:
FB032, FB031, FO25, FB024, FO17, FB016, FO30/SS, FB030/SS (30W), FB029/SS (29W), FO28/SS (28W) & FO25/SS (25W)

F40T8 operation:
1 lamp on 2L ballast
3 lamp on 4L ballast

Key System Features

- RESIDENTIAL USE ONLY
  - Normal power factor (>0.50)
  - High THD (<200%)
- FCC Consumer Compliant
- Small can housing (SC)
- Normal ballast factor
- 30-40% Energy savings
- 0°F (-18°C) min. starting temp. for OCTRON lamps
- 60°F (16°C) min. starting temperature with energy saving T8 lamps
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- Lightweight
- RoHS compliant
- Lead-free solder and manufacturing process

Application Information

SYLVANIA QUICKTRONIC Residential Systems are ideally suited for Residential Fixtures:

- ENERGY STAR® fixtures
- New residential construction
- Suspended luminaires
- Surface mount
- Cove lighting

SYLVANIA QUICKTRONIC RESIDENTIAL ballasts bring all the energy saving features from standard commercial grade ballasts to an economical design acceptable for residential fixtures. These ballasts comply with FCC Part18 Consumer requirements thereby making them a perfect complement for ENERGY STAR® rated fixtures. QTR ballasts are for residential use only.

SYLVANIA QUICKTRONIC RESIDENTIAL T8 electronic ballasts operates OCTRON T8 lamps with maximum efficacy, high lumen output, and provides up to 30-40% energy savings when compared to F40T12 magnetic systems.

Small can enclosure allows for low profile fixture design and application.

Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

QUICKTRONIC RESIDENTIAL T8 is available in two and four lamp models in 120V to cover a wide range of applications.

These ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

System Information

SYLVANIA QUICKTRONIC RESIDENTIAL T8 uses instant start operation to provide the highest system efficacy and to assure low temperature starting capability. Instant start also provides for maximum remote wiring distances.

System Type 2-lamp ISN-SC		Input Power (W)	Initial Lumens	System LPW
F40T12	Std. Magnetic Ballast	96	5795	60
	E.S. Magnetic Ballast	86	5795	67
F34T12	Std. Magnetic Ballast	82	4750	58
	E.S. Magnetic Ballast	72	4750	66
F32T8/700	Magnetic	71	5320	75
FO32/800XP	**QTR2x32T8/120 ISN-SC**	55	5220	95

System Type 4-lamp ISN		Input Power (W)	Initial Lumens	System LPW
F40T12	Std. Magnetic Ballast	192	11,590	60
	E.S. Magnetic Ballast	172	11,590	67
F34T12	Std. Magnetic Ballast	164	9500	58
	E.S. Magnetic Ballast	144	9500	66
F32T8/700	Magnetic	142	10,640	75
FO32/800XP	**QTR4x32T8/120 ISN-SC**	110	10,080	92

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

Residential Series (Residential Use Only), Fluorescent Electronic T8 Systems 120V

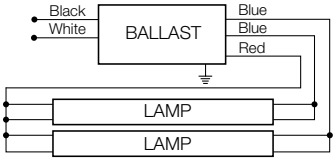
RoHS compliant

Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Power (W)	System Efficacy (lm/W)	BEF[1]
49313	QTR2x32T8/120 ISN-SC *10-Pack*	0.89	F032/XP	3000	2	0.87	5220	55	95	1.58
		0.56		3000	1	1.03	3090	34	91	3.03
		0.74	F025/XP	2175	2	0.90	3915	45	87	2.00
		0.49		2175	1	1.05	2285	28	82	3.75
		0.54	F017/XP	1375	2	0.93	2560	30	85	3.10
		0.36		1375	1	1.07	1470	19	77	5.63
		0.89	FBO32/XP	2900	2	0.87	5045	55	92	1.58
		0.56		2900	1	1.03	2985	34	88	3.03
		0.85	FBO31/XP	2775	2	0.88	4885	54	90	1.63
		0.56		2775	1	1.03	2860	33	87	3.12
		0.68	F040/XP	3750	1	1.02	3825	40	96	2.55
49317	QTR4x32T8/120 ISN-SC *10-Pack*	1.70	F032/XP	3000	4	0.84	10,080	110	92	0.76
		1.46		3000	3	0.96	8640	92	94	1.04
		1.38	F025/XP	2175	4	0.88	7655	86	89	1.02
		1.18		2175	3	1.00	6525	72	91	1.39
		1.00	F017/XP	1375	4	0.92	5060	60	84	1.53
		0.87		1375	3	1.03	4250	51	83	2.02
		1.71	F040/XP	3750	3	0.91	10,235	112	91	0.81
		1.36		3750	2	1.09	8175	86	95	1.27

1 Ballast Efficiency Factor (BEF) = (Ballast Factor x 100) divided by Input Power

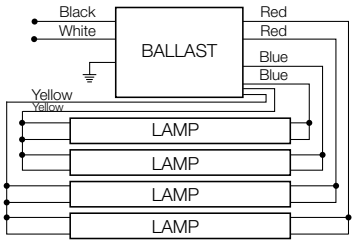
Installation Notes

RESIDENTIAL USE ONLY – QTR electronic ballasts meet FCC consumer limits, have high THD (<200%) and normal power factor (>0.50), therefore are for residential use only and cannot be used in commercial applications. (RESIDENTIAL ONLY: Do not use in commercial/three phase applications, neutral wire/overheating can occur due to high harmonic currents).



Note: For one lamp application, cap blue lead. Insulate to 600 volts.

QUICKTRONIC RESIDENTIAL 2x32



Note: For three lamp application, cap blue lead. Insulate to 600 volts.

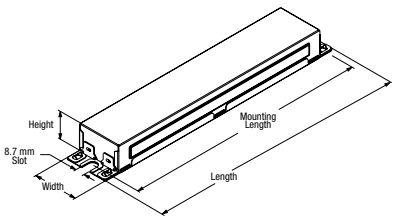
QUICKTRONIC RESIDENTIAL 4x32

For two lamp application, cap both unused blue leads & one yellow lead individually. Insulate to 600 volts.

Dimensions:
Overall: 9.5" L x 1.68" W x 1.18" H
Mounting: 8.90"

Product Weight:
1.6 lbs each (approx.)

Wiring:
Leads only
(no connectors provided)



Item Number — **49313 QTR 2 x 32T8 / 120 ISN-SC** — Case Size
QUICKTRONIC RESIDENTIAL — Starting/Ballast Factor
Number of Lamps — Line Voltage
Primary Lamp Wattage

Performance Guide

Data shown based upon SYLVANIA OCTRON® FO32 lamps. QUICKTRONIC® RESIDENTIAL T8 ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F17, F25 and F32 (and the U-Bend equivalent) T8 lamps.

Specifications

Data based on F32T8 lamp

RESIDENTIAL USE ONLY
Starting Method: Instant Start
Ballast Factor: Normal
Circuit Type: Parallel
Lamp Frequency: >42 kHz
Lamp CCF: Less than 1.7
Starting Temp:[2]
0°F for OCTRON® T8 lamps;
60°F for SUPERSAVER® T8 lamps
Input Frequency: 60 Hz
THD: <200%
Normal Power Factor: >0.50
Voltage Range: ±10% of Rated Input

UL Listed Class P, Type 1 Outdoor
CSA Certified (4L only)
70°C Max Case Temperature
FCC 47CFR Part 18 Consumer
Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
Remote Mounting (Max. wire length from ballast case to lampholder):
up to 18 feet

2 Operation below 50°F (10°C) may affect light output or lamp operation – see "Low Temp. Starting" definition.

3 Complies with European Union Restriction of Hazardous Substances Directive (Directive EC 2002/95)

Residential Ballast Warranty

QUICKTRONIC T8 RESIDENTIAL electronic ballasts are under warranty for 2 years. OSRAM SYLVANIA shall correct any defects, at our option, and replace any ballast determined to be defective under the terms of this warranty. Note: Labor costs are not reimbursed by OSRAM SYLVANIA.

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QUICKSAVINGS

Energy Savings Guide

QUICKTRONIC® high frequency electronic ballasts are more efficient than other ballast types. High performance QUICKTRONIC ballasts save money – year after year.

4-Foot Lamps (2 lamps per system)

OLD SYSTEM

Standard Magnetic with F40T12 lamps Annual Energy Costs: $38.40 per year

SAVINGS EXAMPLE

$38.40
– $16.80
$21.60 Total Energy Cost Savings Per Year (per each 2 lamp system)

NEW SYSTEM

QHE2x32T8/UNV ISL-SC with FO28T8SS lamps Annual Energy Costs: $16.80 per year

Ballast Type	Lamps	Lamp Lumens	Ballast Factor	Initial System Lumens	Mean[1] System Lumens	Mean Relative Light Output	Input* (System) Watts	% System Power	System LPW	Annual Energy Cost
STD MAGNETIC	F40T12CW	3050	0.95	5,795	4,984	100%	96	100%	60	**$38.40**
	F34T12CW	2650	0.88	4,664	4,011	80%	82	85%	57	$32.80
ES MAGNETIC	F40T12CW	3050	0.95	5,795	4,984	100%	86	90%	67	$34.40
	F34T12CW	2650	0.88	4,664	4,011	80%	72	75%	65	$28.80
ES MAGNETIC	F40T12D41	3200	0.95	6,080	5,472	110%	86	90%	71	$34.40
	F34T12D41	2800	0.88	4,928	4,435	89%	72	75%	68	$28.80
ES MAGNETIC	FO32T8/700	2800	0.95	5,320	4,788	96%	74	77%	72	$29.60
QTP2x32T8/UNV ISN-SC	FO32T8/800XP	3000	0.88	5,280	5,016	101%	59	61%	89	$23.60
	FO30T8SS/XP	2850	0.88	5,016	4,765	96%	55	57%	91	$22.00
	FO28T8SS/XP	2725	0.88	4,796	4,556	91%	52	54%	92	$20.80
QHE2x32T8/UNV PSX-MC	FO32T8/XPS	3100	0.72	4,464	4,241	85%	48	50%	93	$19.20
	FO30T8SS/XP	2850	0.72	4,104	3,899	78%	45	47%	91	$18.00
	FO28T8SS/XP	2725	0.72	3,924	3,728	75%	41	43%	96	$16.40
QHE2x32T8/UNV PSN-MC	FO32T8/800XPS	3100	0.88	5,456	5,183	104%	57	59%	96	$22.80
	FO30T8SS/XP	2850	0.88	5,016	4,765	96%	55	57%	91	$22.00
	FO28T8SS/XP	2725	0.88	4,796	4,556	91%	51	53%	94	$20.40
QHE2X32T8/UNV ISN-SC	FO32T8/800XP	3000	0.88	5,280	5,016	101%	55	57%	96	$22.00
	FO30T8SS/XP	2850	0.88	5,016	4,765	96%	52	54%	96	$20.80
	FO28T8SS/XP	2725	0.88	4,796	4,556	91%	48	50%	100	$19.20
QHE2X32T8/UNV ISL-SC	FO32T8/800XP	3000	0.78	4,680	4,446	89%	48	50%	98	$19.20
	FO30T8SS/XP	2850	0.78	4,446	4,224	85%	45	47%	99	$18.00
	FO28T8SS/XP	2725	0.78	4,251	4,038	81%	**42**	44%	101	**$16.80**

SAVINGS EXAMPLE

SAVINGS EXAMPLE

SAVINGS EXAMPLE

4-Foot Lamps (4 lamps per system)

NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of $.10/kWh.

STD MAGNETIC(2)	F40T12CW	3050	0.95	11,590	9,967	100%	192	100%	60	$76.80
	F34T12CW	2650	0.88	9,328	8,022	80%	164	85%	57	$65.60
ES MAGNETIC(2)	F40T12CW	3050	0.95	11,590	9,967	100%	172	90%	67	$68.80
	F34T12CW	2650	0.88	9,328	8,022	80%	144	75%	65	$57.60
ES MAGNETIC(2)	F40T12D41	3200	0.95	12,160	10,944	110%	172	90%	71	$68.80
	F34T12D41	2800	0.88	9,856	8,870	89%	144	75%	68	$57.60
ES MAGNETIC (2)	FO32T8/700	2800	0.95	10,640	9,576	96%	148	77%	72	$59.20
QTP4x32T8/UNV ISN-SC	FO32T8/800XP	3000	0.88	10,560	10,032	101%	112	58%	94	$44.80
	FO30T8SS/XP	2850	0.88	10,032	9,530	96%	105	55%	96	$42.00
	FO28T8SS/XP	2725	0.88	9,592	9,112	91%	98	51%	98	$39.20
QHE4x32T8/UNV PSX-SC	FO32T8/841XPS	3100	0.71	8,804	8,364	84%	90	47%	98	$36.00
	FO30T8SS/XP	2850	0.71	8,094	7,689	77%	86	45%	94	$34.40
	FO28T8SS/XP	2725	0.71	7,739	7,352	74%	79	41%	98	$31.60
QHE4x32T8/UNV PSN-SC	FO32T8/800XPS	3100	0.88	10,912	10,366	104%	111	58%	98	$44.40
	FO30T8SS/XP	2850	0.88	10,032	9,530	96%	105	55%	96	$42.00
	FO28T8SS/XP	2725	0.88	9,592	9,112	91%	98	51%	98	$39.20
QHE4x32T8/UNV PSH-HT	FO32T8/800XP	3000	1.15	13,800	13,110	132%	143	74%	97	$57.20
	FO30T8SS/XP	2850	1.15	13,110	12,455	125%	132	69%	99	$52.80
	FO28T8SS/XP	2725	1.15	12,535	11,908	119%	124	65%	101	$49.60
QHE4X32T8/UNV ISH	FO32T8/800XP	3000	1.15	13,800	13,110	132%	144	75%	96	$57.60
	FO30T8SS/XP	2850	1.15	13,110	12,455	125%	135	70%	97	$54.00
	FO28T8SS/XP	2725	1.15	12,535	11,908	119%	127	66%	99	$50.80
QHE4X32T8/UNV ISN-SC	FO32T8/800XP	3000	0.88	10,560	10,032	101%	108	56%	98	$43.20
	FO30T8SS/XP	2850	0.88	10,032	9,530	96%	102	53%	98	$40.80
	FO28T8SS/XP	2725	0.88	9,592	9,112	91%	95	49%	101	$38.00
QHE4X32T8/UNV ISL-SC	FO32T8/800XP	3000	0.78	9,360	8,892	89%	95	49%	99	$38.00
	FO30T8SS/XP	2850	0.78	8,892	8,447	85%	89	46%	100	$35.60
	FO28T8SS/XP	2725	0.78	8,502	8,077	81%	84	44%	101	$33.60

* For UNV Models, Input Watts/System Watts shown at 120V.

[1] Mean Lumens @ 8000 hours

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Specifications subject to change without notice.

Ballast Type	Lamps	Lamp Lumens	Ballast Factor	Initial System Lumens	Mean[2] System Lumens	Mean Relative Light Output	Input* (System) Watts	% System Power	System LPW	Annual Energy Cost
STD MAGNETIC	FB40T12CW	3000	0.95	5,700	4,902	100%	96	100%	59	$38.40
	FB34T12CW	2600	0.88	4,576	3,935	80%	82	85%	56	$32.80
ES MAGNETIC	FB40T12CW	3000	0.95	5,700	4,902	100%	86	90%	66	$34.40
	FB34T12CW	2600	0.88	4,576	3,935	80%	72	75%	64	$28.80
ES MAGNETIC	FBO32T8/700	2750	0.95	5,225	4,703	96%	71	74%	74	$28.40
QTP2x32T8/UNV ISN-SC	FBO32T8/800XP	2900	0.88	5,104	4,849	99%	59	61%	87	$23.60
	FBO30T8SS/XP	2800	0.88	4,928	4,682	96%	55	57%	90	$22.00
QHE2X32T8/UNV ISN-SC	FBO32T8/800XP	2900	0.88	5,104	4,849	99%	55	57%	93	$22.00
	FBO30T8SS/XP	2800	0.88	4,928	4,682	96%	52	54%	95	$20.80
QHE2x32T8/UNV PSX-MC	FBO32T8/800XP	2900	0.72	4,176	3,967	81%	48	50%	87	$19.20
	FBO30T8SS/XP	2800	0.72	4,032	3,830	78%	45	47%	85	$18.00
QHE2x32T8/UNV PSN-MC	FBO32T8/800XP	2900	0.88	5,104	4,849	99%	57	59%	90	$22.80
	FBO30T8SS/XP	2800	0.88	4,928	4,682	96%	55	57%	90	$22.00
QTP2x32T8/UNV PSN-TC	FBO32T8/700	2750	0.88	4,840	4,356	89%	60	63%	81	$24.00
	FBO32T8/800XP	2900	0.88	5,104	4,849	99%	60	63%	85	$24.00
	FBO30T8SS/XP	2800	0.88	4,928	4,682	96%	56	58%	88	$22.40
STD ELECTRONIC IS	FT40DL/800	3150	0.88	5,544	4,768	97%	70	73%	79	$28.00
QHE2x40DL/UNV-ISN-SC	FT40DL/800	3150	0.90	5,670	4,875	99%	68	71%	83	$27.20
	FT40/28WSS	2800	1.07	5,990	5,150	105%	64	67%	94	$25.60
QTP2x40TT5/120 PSN-F	FT40DL/800	3150	0.88	5,544	4,768	97%	76	79%	73	$30.40
QTP2x40TT5/277 PSN-F	FT40DL/800	3150	0.88	5,544	4,768	97%	73	76%	76	$29.20
STD ELECTRONIC RS	FT50BX/800	4000	0.97	7,760	6,596	135%	106	110%	73	$42.40
QTP2x54T5HO/UNV PSN	FT55DL	4800	0.95	9,120	8,482	173%	116	121%	79	$46.40
MAGNETIC	F96T12CW	6100	0.93	11,346	9,984	100%	160	100%	71	$64.00
	F96T12CW/ES	5300	0.88	9,328	8,209	82%	125	78%	75	$50.00
MAGNETIC	F96T12D41	6420	0.93	11,941	10,986	110%	160	100%	75	$64.00
	F96T12D41/ES	5600	0.88	9,856	9,068	91%	125	78%	79	$50.00
MAGNETIC	F96T12CW/HO	8800	0.95	16,720	13,543	136%	240	150%	70	$96.00
	F96T12CW/HO/ES	8000	0.92	14,720	11,923	119%	210	131%	70	$84.00
MAGNETIC	F96T12D41/HO	9050	0.95	17,195	15,476	155%	240	150%	72	$96.00
	F96T12D41/HO/ES	8350	0.92	15,364	13,828	138%	210	131%	73	$84.00
QHE2X86T8HO/UNV-PSN-HT	F96T8HO/800 (86W)	8200	0.95	15,580	14,645	147%	182	114%	86	$72.80
QTP2x59T8/UNV ISN-SC	FO96T8/800XP (59W)	6100	0.88	10,736	10,307	103%	112	70%	96	$44.80
	FO96T8/XP/SS (54W)	5700	0.88	10,032	9,631	97%	104	65%	96	$41.60
QHE2x59T8/UNV ISN-SC	FO96T8/800XP (59W)	6100	0.88	10,736	10,307	103%	109	68%	98	$43.60
	FO96T8/XP/SS (54W)	5700	0.88	10,032	9,631	97%	102	64%	99	$40.80

CURVALUME® Lamps (2 lamps per system)

NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of $.10/kWh.

8-Foot Lamps (2 lamps per system)

NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of $.10/kWh.

eg. $\frac{\text{Input Watts x Operating Hours per year x \$kWh}}{1000}$ = Annual Energy Cost

QHE2x32T8/UNV PSX-MC with FO28T8SS lamps $\frac{41\text{W x } 4{,}000 \text{ hrs x } \$0.10 \text{ kWh}}{1000}$ = $16.40

* For UNV Models, Input Watts/System Watts shown at 120V.

[2] FB & FBO Types @ 7200 hrs. F96 types @ 4800 hrs. rated life. All other lamps @ 40% rated life.

Specifications subject to change without notice.

QUICKLENGTH

Lead Lengths

Description	Black length	exit	White length	exit	Red length (qty)	exit	Blue length (qty)	exit	Yellow length (qty)	exit	Brown length (qty)	exit	Blue/Wht length (qty)	exit	Red/Wht length (qty)	exit
QHE1x32T8/UNV ISL-SC	24"	L	24"	L	36"x1	L	28"x1	R								
QHE2x32T8/UNV ISL-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QHE3x32T8/UNV ISL-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/UNV ISL-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QHE1x32T8/UNV ISN-SC	24"	L	24"	L	36"x1	L	28"x1	R								
QHE2x32T8/UNV ISN-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QHE3x32T8/UNV ISN-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/UNV ISN-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QHE3x32T8/UNV ISH-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/UNV ISH	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QTP2x32T8/UNV ISL-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QTP3x32T8/UNV ISL-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QTP4x32T8/UNV ISL-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QTP1x32T8/UNV ISN-SC	24"	L	24"	L	36"x1	L	28"x1	R								
QTP2x32T8/UNV ISN-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QTP3x32T8/UNV ISN-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QTP4x32T8/UNV ISN-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QTP 2x32T8/UNV ISH-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QTP 3x32T8/UNV ISH-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QHE1x32T8/UNVPSX-MC	24"	L	24"	L	36"x2	L	30"x2	R								
QHE2x32T8/UNVPSX-MC	24"	L	24"	L	30"x2	R	30"x2	R	36"x2	L						
QHE3x32T8/UNVPSX-SC	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	L			48"x2	R		
QHE4x32T8/UNVPSX-SC	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	L			49"x2	R	48"x2	R
QHE1x32T8/UNVPSN-MC	24"	L	24"	L	36"x2	L	30"x2	R								
QHE2x32T8/UNVPSN-MC	24"	L	24"	L	30"x2	R	30"x2	R	36"x2	L						
QHE3x32T8/UNVPSN-SC	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	L			48"x2	R		
QHE4x32T8/UNVPSN-SC	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	L			49"x2	R	48"x2	R
QHE2x32T8/UNV PSH-HT	24"	L	24"	L	31"x2	R	31"x2	R	36"x2	L						
QHE3x32T8/UNV PSH-HT-SC	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	L			48"x2	R		
QHE4x32T8/UNV PSH-HT	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	L			49"x2	R	48"x2	R
QHE1x32T8/UNV ISL-SC-1	24"	L	24"	L	36"x1	L	28"x1	R								
QHE2x32T8/UNV ISL-SC-1	24"	L	24"	L	36"x1	L	28"x2	R								
QHE3x32T8/UNV ISL-SC-1	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/UNV ISL-SC-1	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QHE1x32T8/UNV ISN-SC-1	24"	L	24"	L	36"x1	L	28"x1	R								
QHE2x32T8/UNV ISN-SC-1	24"	L	24"	L	36"x1	L	28"x2	R								
QHE3x32T8/UNV ISN-SC-1	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/UNV ISN-SC-1	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						

Lead Lengths (+2"), (-1")

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Lead Lengths

Description	Black length	exit	White length	exit	Red length (qty)	exit	Blue length (qty)	exit	Yellow length (qty)	exit	Brown length (qty)	exit	Blue/Wht length (qty)	exit	Red/Wht length (qty)	exit
QUICKSTEP (BI-LEVEL)																
QHES2x32T8/UNV PSL-SC	24" (x2)	L	24"	L	30"x2	R	30"x2	R	36"x2	L						
QHES2x32T8/UNV PSN-SC	24" (x2)	L	24"	L	30"x2	R	30"x2	R	36"x2	L						
2x59																
QHE2x59T8/UNV ISL-SC	24"	L	24"	L	70"x1	L	46"x2	R								
QHE2x59T8/UNV ISN-SC	24"	L	24"	L	70"x1	L	46"x2	R								
QHE2x59T8/UNV ISH	24"	L	24"	L	70"x1	L	46"x2	R								
QTP2x59T8/UNV ISN-SC	24"	L	24"	L	70"x1	L	46"x2	R								
T8HO																
QHE2x86T8HO/UNV-PSN-HT	23"	L	23"	L	46"x2	R	46"x2	R	70"x2	L						

Description	Black length	exit	White length	exit	Red length (qty)	exit	Blue length (qty)	exit	Yellow length (qty)	exit	Brown length (qty)	exit	Blue/Wht length (qty)	exit	Green length (qty)	exit
347V																
QHE1x32T8/347 ISL-SC	24"	L	24"	L	36"x1	L	28"x1	R								
QHE2x32T8/347 ISL-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QHE3x32T8/347 ISL-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/347 ISL-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QHE1x32T8/347 ISN-SC	24"	L	24"	L	36"x1	L	28"x1	R								
QHE2x32T8/347 ISN-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QHE3x32T8/347 ISN-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QHE4x32T8/347 ISN-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QTP2x32T8/347 ISN-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QTP3x32T8/347 ISN-SC	24"	L	24"	L	36"x1	L	28"x3	R								
QTP4x32T8/347 ISN-SC	24"	L	24"	L	26"x2	R	26"x2	R	36"x2	L						
QT2x32T8/347 ISH-SC	24"	L	24"	L	36"x1	L	28"x2	R								
QT2x59/347 IS	24"	L	24"	L	48"x1	L	56"x2	R							14"x1	L
T8 RESIDENTIAL																
QTR2x32T8/120ISN-SC	24"	L	24"	L	45"x1	R	30"x2	R								
QTR4x32T8/120ISN-SC	24"	L	24"	L	30"x2	R	30"x2	R	45"x2	R						

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QUICKLENGTH

Lead Lengths

Description	Black length	exit	White length	exit	Red length (qty)	exit	Blue length (qty)	exit	Yellow length (qty)	exit	Ylw/Blk length (qty)	exit	Blu/Wht length (qty)	exit	Blu/Blk length (qty)	exit	Red/Blk length (qty)	exit	Red/Wht length (qty)	exit	Violet length (qty)	exit	Gray length (qty)	exit
POWERSENSE																								
QHE1x32T8/ UNV DIM-TC	24"	L	24"	L	36"x2	R	36"x2	R													36" x1	L	36"x1	L
QHE2x32T8/ UNV DIM-TC	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	R	42"x1	R									36"x1	L	36"x1	L
QHE3x32T8/ UNV DIM-TCL	24"	L	24"	L	52"x2	R	29"x2	R	52"x2	R	52"x1	R					29"x1	R	29"x2	R	36"x1	L	36"x1	L
QHE4x32T8/ UNV DIM-TCL	24"	L	24"	L	27"x2	R	27"x2	R	27"x2	R	27"x1	R	54"x2	R	54"x1	R	70"x1	R	70"x2	R	36"x1	L	36"x1	L

Description	Black length	exit	White length	exit	Red length (qty)	exit	Blue length (qty)	exit	Yellow length (qty)	exit	Brown length (qty)	exit	Blue/Wht length (qty)	exit	Red/Wht length (qty)	exit
QTP1x40TT5/277 PSN-F	24"	L	24"	L	36"x2	R	36"x2	R								
QTP2x40TT5/120 PSN-F	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	R						
QTP2x40TT5/277 PSN-F	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	R						
QTP3x40TT5/120 PSN-B	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	R			36"x2	R		
QTP3x40TT5/277 PSN-B	24"	L	24"	L	36"x2	R	36"x2	R	42"x2	R			36"x2	R		

Description	Black length	exit	White length	exit	Red length (qty)	exit	Blue length (qty)	exit	Yellow length (qty)	exit	Ylw/Blk length (qty)	exit	Brown length (qty)	exit	Orange length (qty)	exit	Blu/Wht length (qty)	exit	Red/Blk length (qty)	exit	Violet length (qty)	exit	Gray length (qty)	exit
QHE1x40DL/UNV ISN-SC	24"	L	24"	L	36"x1	L	27"x1	R																
QHE2x40DL/UNV ISN-SC	24"	L	24"	L	36"x1	L	27"x2	R																
QHE3x40DL/UNV ISN-SC	24"	L	24"	L	36"x1	L	27"x3	R																
QHE2x28T5/UNV DIM-TCL	24"	L	24"	L	28"x2	R	28"x2	R	48"x2	R	48"x1	R									36" x1	L	36" x1	L
QT1x54/120PHO-DIM	24"	L	24"	L	43"x2	R	28"x2	R													24" x1	L	24" x1	L
QT1x54/277PHO-DIM	24"	L	24"	L	43"x2	R	28"x2	R													24" x1	L	24" x1	L
QT2x54/120PHO-DIM	24"	L	24"	L	28"x2	R	28"x2	R	43"x2	R	43"x1	R									24" x1	L	24" x1	L
QT2x54/277PHO-DIM	24"	L	24"	L	28"x2	R	28"x2	R	43"x2	R	43"x1	R									24" x1	L	24" x1	L
QTP1x28T5/UNV PSN	24"	L	24"	L	42"x2	R	28"x2	R																
QTP2x54T5HO/UNV PS80-SC	31"	L	31"	L	28"x2	R	28"x2	R	43" x2	L														
QS2x54T5HO/UNV PS80-SC	31"x2	L	31"	L	28"x2	R	28"x2	R	43" x2	L														
QTP1x54T5HO/UNV PSN*	24"	L	24"	L	42"x2	R	28"x2	R																
QTP2x54T5HO/UNV PSN	31"	L	31"	L	28'x2	R	28"x2	R	48"x2	R														
QTP1x80T5HO/UNV PSN	24"	L	24"	L	42"x2	R	28"x2	R																
QTP2x28T5/UNV PSN	24"	L	24"	L	35"x2	R	35"x2	R	48"x2	R														
QTP2x54T5HO/UNV PSN-HT	24"	L	24"	L	35"x2	R	35"x2	R	48"x2	R														
QTP4x54T5HO/UNV PSN-HTW	31"	L	31"	L	28"x2	R	28"x2	R	28"x2	R			28"x2	R	48"x2	R	48"x2	R	31"x1	L				
QTP2x54T5HO/347-480 PSN-HT	24"	L	24"	L	35"x2	R	35"x2	R	48"x2	R														

Lead Lengths (+2"), (-1")

**QTP and QHE models where applicable*

Note: eg. 30"(x2) means two 30" wires
30"(x3) means three 30" wires

L = wire(s) exit the ballast from the left side (black and white/line input side)
R = wire(s) exit the ballast from the right side

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Sample System Specification

QUICKSPEC

Section 16500. Electronic Ballast

Ballast shall be a _____ fluorescent SYLVANIA QUICKTRONIC®_____ electronic ballast with a _____ ballast factor and be covered by a lamp and ballast system warranty:

1. Ballasts for lamps of T5, T4 or T2 diameter shall contain dynamic end-of-lamp-life sensing circuitry.
2. See individual product specifications for information required to fill in this form.
3. Comments:_____

_____

Section I Performance Requirements

1.0 Ballast shall operate lamps at a frequency above 42 kHz (or > _____kHz) and lamps shall have no detectable flicker.
1.1 Ballast shall operate from 60 or 50 Hz input source of +/- 10% nominal ballast line voltage.
1.2 Ballast line voltage ____ 120V, ____ 277V, ____ UNV (120-277V), ____ 347V, _____ Other.
1.3 Ballast shall have input power factor above ____ >97% (____ >98% for Professional & QHE Series).
1.4 Ballast shall have Total Harmonic Distortion of ____ <20% (____ <10% for Professional & QHE Series).
1.5 Ballast shall provide lamp starting conditions and operating parameters consistent with lamp manufacturers recommendations.
1.6 Ballast shall be ____ instant start, ____ rapid start, ____ programmed rapid start or dimming models.
1.7 Instant start models shall operate lamps in parallel, such that if one lamp fails, others will remain lit. Some rapid start and programmed start models operate lamps in series (see specs for details). New PROStart® T8 QHE PSX, PSN and PSN-HT models operate lamps in parallel.
1.8 Ballasts shall provide a minimum start temp of: ____°F for instant start models, ____°F for programmed rapid start models, ____°F for other models, 60°F for Energy Saving T8 lamps. (Starting temperatures may vary depending on ballast/lamp types and applications, see actual specifications for details).
1.9 Ballast shall have remote/tandem wiring capability of up to ____ feet maximum depending on installation conditions (see model specifications for remote mounting lengths).
1.10 Ballasts for lamp types of T5, T4 and T2 diameter shall have dynamic end-of-lamp-life sensing helping protect against overheated bases and sockets.
1.11 Ballast shall have a maximum enclosure temperature rating of 70°C or ____°C for other models (see model specifications for maximum case temp.).
1.12 Ballast shall have internal electrical protection to prevent catastrophic failure.

Section II Regulatory Requirements

2.0 The electronic ballast shall be Underwriters Laboratories (UL) listed, Class P, Type 1. CSA or CUL certified (where applicable).
2.1 Ballast shall meet FCC standard for EMI/RFI (FCC 47CFR Part 18 Non-consumer), ensuring suitability for both commercial and industrial installations.
2.2 Ballast shall comply with applicable ANSI/IEEE standards/guides for harmonic distortion and line voltage transient protection.
2.3 Ballast shall have audible noise rating of Class A or Class ____ (see model specifications).
2.4 Leaded and connector style ballasts shall be color-coded to ANSI standard C82.11 (where applicable).
2.5 Ballast shall be NEMA Premium/CEE Program Compliant (for High Efficiency T8 4 Foot Series)

Section III Other

3.0 Lamp and ballast shall be covered by the OSRAM SYLVANIA QUICK 60+® warranty. Covered ballasts shall carry up to a _____ warranty and include a nominal replacement labor allowance.
Covered lamps shall carry up to a _____warranty and will be manufactured by the same company as the ballast. (Note: no labor allowance for lamps).
Refer to OSRAM SYLVANIA warranty for additional details to fill in blanks.
3.1 Ballast size and mounting configuration shall be compatible with existing electromagnetic ballast for same application (see individual product specifications for case dimensions and mounting).
3.2 Ballast shall not contain PCBs (Polychlorinated Biphenyls).

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General Information

GENERAL INFORMATION

Ballast Types: There are three types of lighting ballasts.

1) Magnetic: an inefficient device that uses a core and coil assembly transformer to perform the minimum functions required to start and operate the lamp.
2) Hybrid or "low frequency electronic": essentially a magnetic ballast with a few electronic components that switch off voltage to the lamp coil once the lamp has started. A minimal increase in efficiency is obtained via more expensive magnetic core material and the absence of power to the lamp coils during operation.
3) High frequency electronic: a ballast that operates lamps at frequencies above 20,000 Hz. Maximum efficiency is obtained through the use of electronic circuitry and optimum lamp operating characteristics.

Ballast Basics: Ballasts have two primary functions:
1) start the lamp and
2) control operation of the lamp once it has started.
High frequency electronic ballasts operate lamps more efficiently (30-40% at equivalent light output) and eliminate the hum and visible flicker normally associated with standard magnetic ballasts. Electronic ballasts also typically have better power quality than magnetic ballasts (higher power factor and lower THD).

Where's the Watts?: OSRAM SYLVANIA's two-lamp FO32T8 electronic instant start QTP ballast has an input of 59 watts. This figure is comprised of lamp wattage plus ballast losses (the power that is dissipated as heat instead of being converted to light). Each FO32T8 lamp is rated for 100% light output at 32 watts low frequency rapid start, but only 28 watts when operated on high frequency electronic instant start ballasts (due to the fact that lamps operate more efficiently at high frequency). Therefore, each of the two lamps operates at 28 x 0.88 ballast factor = 26 watts per lamp. The other seven watts in this system are the ballast losses.

"Squiggle": The "sine wave" graphic logo of Electronics & Controls division of OSRAM SYLVANIA. Signifies the transition from old technology to the high frequency, high efficiency electronic systems of the future.

American National Standards Institute (ANSI): An organization that develops voluntary product performance standards for several industries. ANSI C82.11 applies to electronic ballasts.

Performance Certification: The OSRAM SYLVANIA Test and Measurement Laboratory holds accreditation for testing of Energy Efficient Lighting Products under the National Voluntary Laboratory Accreditation Program (NVLAP). This is the same organization that certifies other various test facilities and programs such as ETL, CBM, etc. This assures that our measurements meet strict guidelines for precision and accuracy.

Quality Assurance: All OSRAM SYLVANIA production facilities are ISO 9002 certified, and all production is subject to incremental quality control, assuring the highest quality and reliability. Customer feedback and field reliability data have shown exceptional performance of OSRAM SYLVANIA electronic ballasts.

MTBF — Mean Time Between Failures: A calculation of ballast life based on thermal conditions, component values, and circuit characteristics used to develop relative predictions of ballast life. OSRAM SYLVANIA uses a methodology that typically provides a 1:10 actual life prediction based on MTBF calculations.

Safety: Ballasts should be installed and operated in compliance with the National Electrical Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations. As it is possible to come in contact with potentially hazardous voltages, only qualified personnel should perform ballast installation. All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off.

Grounding: The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.

Fusing: All OSRAM SYLVANIA QUICKTRONIC® ballasts contain inherent electrical protection. Although there is no need to externally fuse the ballast, should code or regulation require one, 3 amp slow blow fuses are recommended.

Fluorescent Lamp: An electric discharge device in which ultraviolet energy excites the lamp's phosphor coating and transforms that energy into visible light. Diameter is measured in eighths of an inch (T8 lamp equals one inch diameter).

Socket Wiring/Lamp Connections: Proper connection to good quality sockets, wired according to the diagram shown on the product label is essential. As some applications may not require the use of all the ballast output leads, unconnected leads should be capped individually and insulated to at least 600 volts.

UL Type CC compliant: Ballasts utilize a microcontroller based circuit to reduce arcing caused by loose connections or improper lamp pin to socket connections.

BALLAST OPERATING CHARACTERISTICS

PROStart® (PS): A programmed rapid start method of starting fluorescent lamps where cathode heat is applied prior to lamp ignition, then removed or reduced once the lamp has ignited (except dimming models which optimize cathode heat). PROStart ballasts maximize the number of lamp starting cycles while maintaining energy efficiency. This is the preferred mode of lamp starting for applications with occupancy sensors and several on/off cycles per day. Additionally, the lamps have the capability to start at temperatures down to -20°F (starting temperatures may vary depending on ballast/lamp types and applications, see actual specifications for details).

Rapid Start (RS): Rapid start ballasts apply a low filament voltage to preheat the cathodes. Simultaneously, a starting voltage (lower than that used in instant start) is also applied to strike the arc. When the cathodes are hot enough, the lamp will strike. The filament voltage continues to be applied throughout the operation of the lamp. Rapid start ballasts appear to have a slight turn on delay compared to instant start. They will typically not be able to start lamps reliably under 50°F.

Instant Start (IS): Instant start ballasts apply high voltage across the lamp with no preheating of the cathode. This is the most energy efficient starting method for fluorescent lamp ballasting. IS ballasts use 1.5 to 2 watts less per lamp than rapid start ballast. Other IS ballast benefits typically include parallel lamp circuitry, longer remote wiring distance, easier installation due to less complicated wiring, and the lamps have the capability to start at temperatures down to -20°F (starting temperatures may vary depending on ballast/lamp types and applications, see actual specifications for details) (versus 50°F for rapid start).

Instant Start (IS) vs. Rapid Start (RS): Instant start (high voltage is applied across the lamp with no preheating of the cathode) is the most energy efficient starting method for fluorescent lamp ballasting. IS ballasts use 1.5 to 2 watts less per lamp than rapid start ballasts (low voltage is applied to the cathodes prior to lamp ignition and is maintained throughout operation). Other IS ballast benefits typically include parallel lamp circuitry, longer remote wiring distance, easier installation due to less complicated wiring, and capability to start lamps at temperatures down to -20°F (starting temperatures may vary depending on ballast/lamp types and applications, see actual specifications for details) (versus 50°F for rapid start).

Glow to Arc Transition: In order to achieve full rated lamp life, a ballast should start a lamp so that the time from when the lamp begins to glow to the time the lamp arc strikes should be short as possible. OSRAM SYLVANIA instant start ballasts typically accomplish this task within 50 msec.

Parallel vs. Series: Wiring configurations for ballasts. Ballasts with parallel lamp circuitry have the benefit of companion lamps remaining lit, even if one of the lamps operated by the ballast should fail. Systems with series lamp wiring (magnetic ballasts and many rapid start and programmed rapid start electronic types) result in all lamps operated on the ballast going out if one should fail.

Lamp Current Crest Factor (LCCF): The ratio of peak lamp current to the RMS (average) lamp current. Lamp manufacturers require a LCCF of less than 1.70 in order to achieve full lamp life. Values less than 1.70 do not achieve higher than rated lamp life.

Lamp Flicker: High frequency electronic ballasts provide a minimal level of lamp flicker. Lamp flicker from magnetic ballasts can cause eye fatigue for some people.

Lamp Striation Control (LSC): T8 energy saving lamps should be operated above 60°F, but under certain conditions the lamps may striate. LSC circuitry may minimize or eliminate this condition; however there are limited applications where LSC circuitry may not entirely mitigate lamp striations. (Please consult lamp manufacturers for additional details.)

Power Factor: A measure of the effectiveness with which an electrical device converts volt-amperes to watts; devices with power factors (>0.90) are “high power factor” devices.

Total Harmonic Distortion (THD): A measure of the distortion of an electrical wave form. Excessive THD (defined by ANSI as greater than 32%) may cause adverse effects to the electrical system. <20% THD ballasts are fine for most applications. However, in buildings with neutral problems caused by high THD loads such as computers, printers, DC supplies, etc., the <10% THD products can help reduce the overall % of Total Harmonic Distortion.

K-Factor: A measurement that quantifies the effect of non-linear equipment, such as lighting ballasts, on an electrical system. Lighting systems should be designed so that the transformer rating is sufficient for the ballasts used (typically K-Factor <4). All OSRAM SYLVANIA ballasts meet this specification.

EMI/RFI: Electronic Ballasts contain circuits that limit electrical noise conducted onto the power line or radiated through the air, otherwise referred to as EMI/RFI. OSRAM SYLVANIA ballasts comply with FCC 47 CFR Part 18, non-consumer limits for commercial applications. Ballasts for residential applications must meet consumer limits. OSRAM SYLVANIA has magnetic ballasts and new QTR electronic ballasts for residential use.

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Ballast Operating Characteristics

Transient Protection: OSRAM SYLVANIA ballasts meet ANSI 62.41 Category A. This helps ensure immunity to electrical disturbances such as power line transients, and temporary line voltage dropouts, surges and sags.

Ballast Losses: Power consumed by a ballast that dissipates as heat instead of being converted into light. Electronic ballasts operate more efficiently than magnetic or hybrid ballasts. A typical ballast loss for a standard two lamp magnetic ballast is 20 watts, while an electronic equivalent would be only 7 watts.

Ballast Factor (**BF**): Relative light output as compared to a reference ballast (i.e. BF of 0.90 would yield 90% of a lamp's rated lumens). OSRAM SYLVANIA offers T8 systems in three ranges of light output: Normal: (0.85-1.0) BF; Low Power (LP): (0.74-0.80) BF; and High Light Output (PLUS): (1.15-1.20) BF.

Ballast Efficacy Factor (**BEF**): Relative light output (ballast factor) divided by input power (watts). Used to measure the level of efficiency of similar ballast models. For example, the OSRAM SYLVANIA QTP2X32T8/UNV ISN which has ballast factor of 0.88 and input watts of 59 (BEF = 1.49).

System Considerations

Maximum Case Temperature: All OSRAM SYLVANIA electronic ballasts have a maximum allowable case temperature of 70°C or ___°C. Applications in which the case temperature exceeds this maximum void all warranties.

Potting Compound: Some OSRAM SYLVANIA ballasts are encapsulated with potting compound. This ensures thermal as well as structural integrity. Ballasts without potting compound may lower maximum allowable case temperature and if not properly thermally designed may shorten ballast life.

Ballast Life: OSRAM SYLVANIA ballasts are designed to have a life expectancy of 60,000 hours. To maximize life, ambient temperature should be kept as low as possible. It is also important to maintain effective dissipation of heat using the lighting fixture as a heatsink for the ballast enclosure.

Enclosure Size: OSRAM SYLVANIA ballasts typically have mounting holes the same as the magnetic type in which it is intended to retrofit. In an effort to aid fixture designers in their ability to create more efficient fixtures, the industry trend is towards narrower and shallower enclosures.

High Voltage Integrated Circuit (**HVIC**): Proprietary microprocessor control that is featured in selected QUICKTRONIC® ballasts. Replaces over one-third of the components used in conventional ballasts while providing enhanced features such as higher efficiency, improved lamp starting, end-of-lamp-life sensing, circuitry to limit in-rush current, and constant light output over a wide range of input voltages.

Audible Noise (**Sound**): All fluorescent lamp ballasts produce some noise. OSRAM SYLVANIA brand ballasts are sound rated A (up to 75% quieter than magnetic types) and are acceptable for most applications. Care should be taken when mounting the ballast to reduce vibration.

Polychlorinated Biphenyls (**PCBs**): This material, formerly used in ballast capacitors, is now considered hazardous and disposal is regulated. A ballast should be assumed to contain PCBs unless stated otherwise on the ballast label (contact manufacturer for confirmation). OSRAM SYLVANIA ballasts do not contain PCBs.

SYSTEM CONSIDERATIONS

SYSTEM SOLUTION: Optimum choice when planning the lighting system for a lighting retrofit or new construction. In the case of OSRAM SYLVANIA, the same manufacturer supplies both lamp and ballast, assuring combinations that have been specifically designed to provide optimal system performance. OSRAM SYLVANIA is the only company in the world that makes its own ballasts and lamps, and has its own lighting services division.

QUICKSENSE®: Patented technology that utilizes "dynamic power sensing" to detect end-of-life for lamps of T5 and less diameter. Dynamic sensing minimizes incidence of false shutdowns and ensures maximum system safety even in low and high line input voltage conditions. If gone unchecked, the heat generated by small diameter lamps at end-of-lamp-life can melt lamp sockets and cause the lamp glass wall to crack and break.

QUICK 60+®: The first and most comprehensive system warranty in the industry. QUICK 60+ offers the end user coverage for both lamp and ballast. This eliminates the common occurrence of "finger pointing" between lamp and ballast manufacturers over whose product failed and which party is responsible. One phone call by the end user to OSRAM SYLVANIA provides problem resolution and customer satisfaction.

Specifications subject to change without notice.

FIXTURESIDE ASSISTANCE®: There are three options for the end user to choose from to service the QUICK 60+® system warranty. OSRAM SYLVANIA is the first lighting company to offer "FIXTURESIDE ASSISTANCE", an option where OSRAM SYLVANIA will send a service technician to the installation and perform the necessary replacements. Other options include coordinating a contractor of the end user's choice to perform the required service, or reimbursing the end user for labor incurred during service. (Note: no labor allowance for lamps – see QUICK 60+ warranty bulletin for details).

Light Level: Light output from a system is a function of rated lamp lumens, ballast factor, fixture efficiency, and ambient temperature. All of these factors must be considered when designing or retrofitting a lighting system.

Fixture Watts: The input wattage shown in the ballast specifications is measured as per ANSI specification (ballast and lamps are measured while placed on benchtop at room temperature). Actual operation in an enclosed fixture, due to the ambient heating of the lamps, is approx.imately 1.5 watts less per lamp than the ANSI input wattage specification.

SYSTEM LP/ISL: Designed to operate OCTRON® T8 lamps at lower power levels, when reduced light output is acceptable. SYSTEM 32 LP is ideally suited to retrofit 34W T12 magnetic ballast systems because it provides equivalent light output at energy savings of 30%.

SYSTEM PLUS/ISH: For applications where maximum light output is desired (i.e. retail, manufacturing, display, etc.), PLUS systems are ideal. A ballast factor of up to 1.20 offers 30% more light output than standard T8 and T12 systems, while maintaining full rated lamp life. Applications with eight-foot lamps that require higher light levels can use 59PLUS and the standard FO96 T8 lamp, simplifying inventory and minimizing cost. All PLUS systems operate standard OCTRON T8 lamps, achieve full rated lamp life, and are covered by the QUICK 60+ comprehensive system warranty.

Connectors: QUICKTRONIC ballasts with push-in/ poke-in/wire trap connectors require use of 18 AWG solid copper wire only.

Infrared Interference: Some infrared controls may be susceptible to interaction with fluorescent systems. This is due to infrared energy from the lamps. Either increasing the distance between the fluorescent lamp and the infrared receiver, or shielding the infrared receiver from the lamp, can alleviate this interaction.

Powerline Carriers: Schools, institutions and some industrial installations utilize powerline carrier control systems (to control time clocks, alarms, etc.) on the same circuit panel as the lighting system. Some electronic ballasts are incompatible with these powerline carriers and inhibit their performance (the electronic circuitry blocks or alters the carrier signal characteristics). Many of these systems have been re-designed to mitigate interaction with electronic ballasts. Contact manufacturer for details.

Low Temperature Starting: SYLVANIA QUICKTRONIC® QTP & QHE instant start and programmed start electronic ballasts have the capability to start fluorescent lamps at temperatures down to -20°F as well as 0°F for F40T8 & F96T8 lamps providing the following conditions are met:

1. The ballast is operated at rated nominal line voltage. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting. Install ballast in accordance with national and local electrical codes.
2. Ballast cannot be tandem/remote wired for low temperature starting applications.

Please note, starting time may increase at low ambient temperatures. Enclosed fixtures are recommended as fluorescent lamps have reduced light output at cooler ambient temperatures. (See specifications for each model's starting temperature rating.) SUPERSAVER® lamps start/operate >60°F.

Lamp Seasoning: Low Temperature and dimming applications – For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Please consult the lamp manufacturer to obtain specific requirements for low temperature or dimming applications. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice — Lamp Seasoning for Fluorescent Dimming Systems.

In-Rush Current: When a lighting system is energized, a momentary surge of current occurs called "in-rush". This current must be limited so that it does not harm auxiliary lighting controls. Most electronic ballasts rated at <20% THD contain a passive front end inductor that typically results in lower levels of in-rush. Ballasts that have <10% THD typically use active power factor correction and, unless limiting circuitry is included, can have 40 amps or more of in-rush current. This may damage mechanical switches and contacts. In-rush current should be considered when designing or retrofitting a lighting system. Zero crossing controls eliminate field issues due to higher inrush current on <10% THD products. Be sure ballast meet NEMA 410 Standard for in-rush current. Also refer to ANSI C82.11.

Remote Wiring Capability: QUICKTRONIC T8 instant start systems can be mounted remotely from the lamp sockets at a distance up to 20 feet. (See ballast specifications for each model.)

OSRAM SYLVANIA
National Customer
Service and Sales Center
1-800-LIGHTBULB
(1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.

DISCONTINUED

Electronic Ballasts

Nearest Equivalent SYLVANIA Replacement

DISCONTINUED BALLASTS			NEAREST REPLACEMENT UNIVERSAL VOLTAGE BALLASTS	
	Item Number	OSRAM SYLVANIA Description	Item Number	OSRAM SYLVANIA Description
T8, 1-Lamp, Instant Start				
	49931	QT1X32T8/120 ISL-SC		
	49932	QT1X32T8/277 ISL-SC		
ISL	49701	QTP1X32T8/UNV ISL-SC-SRNK	49837 *Banded Pack*	QHE1x32T8/UNV ISL-SC
	49832 *Banded Pack*	QTP1x32T8/UNV ISL-SC	49861 *10-Pack*	
	49741 *10-Pack*	QTP1x32T8/UNV ISL-SC		
	49911	QT1X32T8/120 ISN-SC		
	49912	QT1X32T8/277 ISN-SC	49905 *Banded Pack*	QTP1x32T8/UNV ISN-SC
ISN	49811	QT1X32T8/120 ISN-SC SRNK	49941 *10-Pack*	
	49812	QT1X32T8/277 ISN-SC SRNK		
	49901	QTP1x32T8/UNV ISN-SC SRNK		
	49829 *Banded Pack*	QTP1x32T8/UNV ISH-SC		
ISH	49841 *10-Pack*	QTP1x32T8/UNV ISH-SC	49919 *Banded Pack*	QHE1x32T8UNV/ ISH-SC
	49842 *Pallet Pack*	QTP1x32T8/UNV ISH-SC		
	49871 *10-Pack*	QHE1x32T8UNV ISH-SC		
	49919 *Banded Pack*	QHE1x32T8/UNV ISH-SC	49496	QHE1x32T8/UNV ISH-HT-SC
T8, 2-Lamp, Instant Start				
	49933	QT2X32T8/120 ISL-SC		
	49934	QT2X32T8/277 ISL-SC		
ISL	49803	QT2X32T8/120 ISL-SC SRNK	49743 *10-Pack*	QTP2x32T8/UNV ISL-SC
	49804	QT2X32T8/277 ISL-SC SRNK		
	49702	QTP2x32T8/UNV ISL-SC-SRNK		
	49834 *Banded Pack*	QTP2x32T8/UNV ISL-SC		
	49913	QT2X32T8/120 ISN-SC		
	49914	QT2X32T8/277 ISN-SC	49906 *Banded Pack*	QTP2x32T8/UNV ISN-SC
	49813	QT2X32T8/120 ISN-SC SRNK	49943 *10-Pack*	
ISN	49814	QT2X32T8/277 ISN-SC SRNK		
	49902	QTP2x32T8/UNV ISN-SC SRNK		
	49953	QT2X32T8/120 ISN-SC PAL	49944 *Pallet Pack*	QTP2x32T8/UNV ISN-SC
	49954	QT2X32T8/277 ISN-SC PAL		
	49923	QT2X32T8/120 ISH-SC		
ISH	49924	QT2X32T8/277 ISH-SC	49843 *10-Pack*	QTP2x32T8/UNV ISH-SC
	49830 *Banded Pack*	QTP2x32T8/UNV ISH-SC		
	49920 *Banded Pack*	QHE2x32T8/UNV ISH-SC	49498	QHE2x32T8/UNV ISH-HT-SC
T8, 3-Lamp, Instant Start				
	49935	QT3X32T8/120 ISL-SC		
	49936	QT3X32T8/277 ISL-SC		
ISL	49805	QT3X32T8/120 ISL-SC SRNK	49745 *10-Pack*	QTP3x32T8/UNV-ISL-SC
	49806	QT3X32T8/277 ISL-SC SRNK		
	49703	QTP3x32T8/UNV ISL-SC-SRNK		
	49835 *Banded Pack*	QTP3x32T8/UNV ISL-SC		
	49915	QT3X32T8/120 ISN-SC		
	49916	QT3X32T8/277 ISN-SC	49907 *Banded Pack*	QTP3x32T8/UNV ISN-SC
ISN	49815	QT3X32T8/120 ISN-SC SRNK	49945 *10-Pack*	
	49816	QT3X32T8/277 ISN-SC SRNK		
	49903	QTP3x32T8/UNV ISN-SC SRNK		
	49525	QT3x32/120 PLUS		
	49526	QT3x32/277 PLUS	49845 *10-Pack*	QTP3x32T8/UNV ISH-SC
	49831 *Banded Pack*	QTP3x32T8/UNV ISH-SC		
ISH CC HT	49785 *Banded Pack*	QHE3x32T8/UNV ISH-HT-SC-1	49500 *Banded Pack**	QHE3x32T8/UNV ISH-HT-SC

** Please note, this replacement ballast is not Type CC*

Specifications subject to change without notice.

Nearest Equivalent SYLVANIA Replacement

DISCONTINUED BALLASTS			NEAREST REPLACEMENT UNIVERSAL VOLTAGE BALLASTS	
	Item Number	OSRAM SYLVANIA Description	Item Number	OSRAM SYLVANIA Description
T8, 4-Lamp, Instant Start				
ISL	49537	QT4X32/120 LP	49747 *10-Pack*	QTP4x32T8/UNV ISL-SC
	49538	QT4X32/277 LP		
	49307	QT4X32/120 LP SRNK		
	49308	QT4X32/277 LP SRNK		
	49704	QTP4x32T8/UNV ISL-SC-SRNK		
	49836 *Banded Pack*	QTP4x32T8/UNV ISL-SC		
ISN	49917	QT4X32T8/120 ISN-SC	49908 *Banded Pack*	QTP4x32T8/UNV ISN-SC
	49918	QT4X32T8/277 ISN-SC	49947 *10-Pack*	
	49517	QT4X32120 IS		
	49817	QT4X32T8/120 ISN-SC SRNK		
	49818	QT4X32T8/277 ISN-SC SRNK		
	49904	QTP4x32T8/UNV ISN-SC SRNK		
ISH	49521	QHE4x32T8/277 ISH	49922 *Banded Pack*	QHE4X32T8/UNV ISH
T8, 1-Lamp, Programmed Start				
PSX	51224 *Banded Pack*	QTP1x32T8/UNV PSX-TC	51423 *Banded 10-Pack*	QHE1x32T8/UNV PSX-MC
	51420 *10-Pack*	QTP1x32T8/UNV PSX-TC		
PSN	50804	QTP1X32T8/120 PSN-TC	51397 *Banded 10-Pack*	QHE1x32T8/UNV PSN-MC
	50806	QTP1X32T8/277 PSN-TC		
	51399 *Banded Pack*	QTP1x32T8/UNV PSN-TC		
	51400 *10-Pack*	QTP1x32T8/UNV PSN-TC		
	50805	QTP1X32T8/120 PSN-TC PAL		
	50807	QTP1X32T8/277 PSN-TC PAL		
	51401 *Pallet Pack*	QTP1x32T8/UNV PSN-TC	51398 *Pallet Pack*	QHE1x32T8/UNV PSN-MC
T8, 2-Lamp, Programmed Start				
PSX	51225 *Pallet Pack*	QTP2x32T8/UNV PSX-TC	51428 *Banded 10-Pack*	QHE2x32T8/UNV PSX-MC
	51425 *10-Pack*	QTP2x32T8/UNV PSX-TC		
PSN	50814	QTP2X32T8/120 PSN-SC	51408 *Banded 10-Pack*	QHE2x32T8/UNV PSN-MC
	50824	QTP2X32T8/277 PSN-SC		
	51402 *Pallet Pack*	QTP2x32T8/UNV PSN-TC		
	51405 *10-Pack*	QTP2x32T8/UNV PSN-TC		
	50815	QTP2X32T8/120 PSN-SC PAL		
	50825	QTP2X32T8/277 PSN-SC PAL		
	51406 *Pallet Pack*	QTP2x32T8/UNV PSN-TC	51409 *Pallet Pack*	QHE2x32T8/UNV PSN-MC
T8, 3-Lamp, Programmed Start				
PSX	51226 *Pallet Pack*	QTP3x32T8/UNV PSX-TC	51433 *Banded 10-Pack*	QHE3x32T8/UNV PSX-SC*
	51430 *10-Pack*	QTP3x32T8/UNV PSX-TC		
PSX	50830	QTP3X32T8/120 PSN-SC	51413 *Banded 10-Pack*	QHE3x32T8/UNV PSN-SC*
	50840	QTP3X32T8/277 PSN-SC		
	51403 *Banded Pack*	QTP3x32T8/UNV PSN-SC		
	51410 *10-Pack*	QTP3x32T8/UNV PSN-SC		
	50832	QTP3X32T8/120 PSN-SC PAL	51414 *Pallet Pack*	QHE3x32T8/UNV PSN-SC*
	50842	QTP3X32T8/277 PSN-SC PAL		
	51411 *Pallet Pack*	QTP3x32T8/UNV PSN-SC		

**Lamp wiring for 3 lamp QHE PSX & PSN "parallel" models vary from QTP series models. Be sure to wire ballasts per label schematics.*

Specifications subject to change without notice.

DISCONTINUED

Electronic Ballasts

Nearest Equivalent SYLVANIA Replacement

DISCONTINUED BALLASTS			NEAREST REPLACEMENT UNIVERSAL VOLTAGE & 347V BALLASTS	
	Item Number	OSRAM SYLVANIA Description	Item Number	OSRAM SYLVANIA Description
T8, 4-Lamp, Programmed Start				
PSX	51227 *Banded Pack*	QTP4x32T8/UNV PSX-TC	51438 *Banded 10-Pack*	QHE4x32T8/UNV PSX-SC*
	51435 *10-Pack*	QTP4x32T8/UNV PSX-TC		
PSN	50850	QTP4X32T8/120 PSN-SC	51418 *Banded 10-Pack*	QHE4x32T8/UNV PSN-SC*
	50860	QTP4X32T8/277 PSN-SC		
	51404 *Banded Pack*	QTP4x32T8/UNV PSN-SC		
	51415 *10-Pack*	QTP4x32T8/UNV PSN-SC		
	50852	QTP4X32T8/120 PSN-SC PAL	51419 *Pallet Pack*	QHE4x32T8/UNV PSN-SC*
	50862	QTP4X32T8/277 PSN-SC PAL		
	51416 *Pallet Pack*	QTP4x32T8/UNV PSN-SC		
8' T8, 2-Lamp, Instant Start				
ISN	49581	QT2X59T8/120 IS	49590 *Banded Pack* 49598 *10-Pack*	QTP2x59T8/UNV ISN-SC
	49582	QT2X59T8/277 IS		
	49587	QT2X59T8/120 IS-SRNK		
	49588	QT2X59T8/277 IS-SRNK		
	49028	QT2X59T8/120 IS-SRNK-IN 4Pk		
	49597	QTP2x59T8/UNV ISN-SC-SRNK		
ISH	49583	QT2X59T8/120 PLUS	49879 *10-Pack*	QHE2x59T8/UNV ISH
	49584	QT2X59T8/277 PLUS		
	50238 *Banded Pack*	QHE2X59T8/UNV ISH		
T8, 1-Lamp, Instant Start, 347V				
	49711	QTP1x32T8/347 ISN-SC	49461	QHE1x32T8/347 ISN-SC
T8, 2-Lamp, Instant Start, 347V				
	49241	QT2x32T8/347 ISL-SC	49473	QHE2x32T8/347 ISL-SC
T8, 3-Lamp, Instant Start, 347V				
	49993	QT3x32T8/347 ISN-SC	49715	QTP3x32T8/347 ISN-SC
T8, 4-Lamp, Instant Start, 347V				
	49939	QT4x32T8/347 ISL-SC	49477	QHE4x32T8/347 ISL-SC
	49994	QT4x32T8/347 ISN-SC	49717	QTP4x32T8/347 ISN-SC
T5HO, 1-Lamp, Programmed Start				
	49101	QTP1x39-24T5HO/UNV PSN	51478 *10-Pack*	QHE2x39/24T5HO/UNV PSN (1-Lamp)
	49100	QTP1x39-24T5HO/UNV PSN		
	49151	QTP1x80T5HO/UNV PSN NL *(no leads/wires)*	49150	QTP1x80T5HO/UNV PSN (with leads/wires)
T5HO, 2-Lamp, Programmed Start				
	49111	QTP2x39-24T5HO/UNV PSN	51478 *10-Pack*	QHE2x39/24T5HO/UNV PSN
	49110	QTP2x39-24T5HO/UNV PSN		

**Lamp wiring for 4 lamp QHE PSX & PSN "parallel" models vary from QTP series models. Be sure to wire ballasts per label schematics.*

Specifications subject to change without notice.

Nearest Equivalent SYLVANIA Replacement

DISCONTINUED BALLASTS			NEAREST REPLACEMENT UNIVERSAL VOLTAGE BALLASTS	
	Item Number	OSRAM SYLVANIA Description	Item Number	OSRAM SYLVANIA Description
FT40T5, 1-Lamp, Programmed Start				
PSN	50320	QTP1x40TT5/120 PSN-F	49428	QHE1x40DL/UNV ISN-SC
FT40T5, 1-Lamp, Instant Start				
ISN	49641	QT 1X40/120 DL	49428	QHE1x40DL/UNV ISN-SC
	49642	QT 1X40/277 DL		
FT40T5, 2-Lamp, Instant Start				
ISN	49643	QT 2X40/120 DL	49429	QHE2x40DL/UNV ISN-SC
	49644	QT 2X40/277 DL		
FT40T5, 3-Lamp, Instant Start				
ISN	49645	QT 3X40/120 DL	49430	QHE3x40DL/UNV ISN-SC
	49646	QT 3X40/277 DL		
T4, 1 and 2-Lamp, Programmed Rapid Start				
	51778	QTP1/2x13CF/UNV QS		
	51718	QTP1/2x13CF/UNV BS	51818	QTP1/2x13CF/UNV DM
	51748	QTP1/2x13CF/UNV TS		
	51783	QTP1/2x18CF/UNV QS		
	51723	QTP1/2x18CF/UNV BS	51823	QTP1/2x18CF/UNV DM
	51753	QTP1/2x18CF/UNV TS		
	51793	QTP2x26CF/UNV QS		
	51733	QTP2x26CF/UNV BS		
	51763	QTP2x26CF/UNV TS	51833	QTP2x26CF/UNV DM
	51738	QTP1/2xCF/UNV BM		
	51768	QTP1/2xCF/UNV TM		
	51798	QTP1/2xCF/UNV PM	51898	QTP2x26CF/UNV DM PEM
	51743	QTP2x26/32/42CF/UNV BM		
	51773	QTP2x26/32/42CF/UNV TM	51843	QTP2x26/32/42CF/UNV DM
	51740	QTP1x57CF/UNV BM		
	51800	QTP1x57CF/UNV PM		
	51803	QTP2x26/32/42CF/UNV PM	51863	QTP2x26/32/42CF/UNV DM PEM
T8, 1-Lamp, Dimming Systems				
	50700	QTP1x32T8/120 DIM5-B		
	50701	QTP1x32T8/120 DIM5-B NL	50705	QTP1x32T8/UNV DIM-TC
	50710	QTP1x32T8/277 DIM5-B		
	50711	QTP1x32T8/277 DIM5-B NL		
T8, 2-Lamp, Dimming Systems				
	50720	QTP2x32T8/120 DIM5-B		
	50721	QTP2x32T8/120 DIM5-B NL	50707	QTP2x32T8/UNV DIM-TC
	50730	QTP2x32T8/277 DIM5-B		
	50731	QTP2x32T8/277 DIM5-B NL		

Specifications subject to change without notice.

DISCONTINUED

Electronic Ballasts

Nearest Equivalent SYLVANIA Replacement

DISCONTINUED BALLASTS		NEAREST REPLACEMENT UNIVERSAL VOLTAGE BALLASTS	
Item Number	OSRAM SYLVANIA Description	Item Number	OSRAM SYLVANIA Description
T8, 3-Lamp, Dimming Systems			
50750	QTP 3x32T8/120 DIM5-B		
50751	QTP 3x32T8/120 DIM5-B NL	50714	QHE3x32T8/UNV DIM-TCL
50760	QTP 3x32T8/277 DIM5-B		
50761	QTP 3x32T8/277 DIM5-B NL		
T8, 4-Lamp, Dimming Systems			
50770	QTP 4x32T8/120 DIM10-Q		
50771	QTP 4x32T8/120 DIM10-Q NL		
50780	QTP 4x32T8/277 DIM10-Q	50716	QHE4x32T8/UNV DIM-TCL
50781	QTP 4x32T8/277 DIM10-Q NL		
50718	QTP 4x32T8/277 DIM PLUS-TCL		
F96T12, 2-Lamp, Instart Start			
49881	QT 2x96/120IS		
49882	QT 2x96/277IS	50308	QTP2x96/T12/UNV/IS
50318	QTP2x96/T12/UNV/IS		
F40T12, 1 and 2-Lamp, Rapid Start (Series Circuitry)		**(Replacement Ballasts are Parallel Circuitry)**	
50684	QT 1x40T12/120 RSN-SC	50314	QTP2x40T12/UNV/RS/SC (1-Lamp)
50685	QT 1x40T12/277 RSN-SC		
50686	QT 2x40T12/120 RSN-SC	50314	QTP2x40T12/UNV/RS/SC
50687	QT 2x40T12/277 RSN-SC		

Specifications subject to change without notice.

Notes

QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® HIGH EFFICIENCY 32 T8 INSTANT START UNIVERSAL VOLTAGE SYSTEMS					
Low Ballast Factor*					
49837	QHE1X32T8/UNV ISL-SC	IOPA-1P32-LW-SC	B132IUNVEL-A	GE-132-MAX-L/ULTRA	N/A
49838	QHE2X32T8/UNV ISL-SC	IOPA-2P32-LW-N	B232IUNVEL-A	GE-232-MAX-L/ULTRA	EPL2/32IS/MV/SC/HE
49839	QHE3X32T8/UNV ISL-SC	IOPA-3P32-LW-SC	B332IUNVEL-A	GE-332-MAX-L/ULTRA	EPL3/32IS/MV/SC/HE
49840	QHE4X32T8/UNV ISL-SC	IOPA-4P32-LW-SC	B432IUNVEL-A	GE-432-MAX-L/ULTRA	EPL4/32IS/MV/SC/HE
Normal Ballast Factor*					
49968	QHE1X32T8/UNV ISN-SC	IOPA-1P32-SC	B132IUNVHE-A	GE-132-MAX-N/ULTRA	N/A
49969	QHE2X32T8/UNV ISN-SC	IOPA-2P32-SC	B232IUNVHE-A	GE-232-MAX-N/ULTRA	EP2/32IS/MV/MC/HE
49970	QHE3X32T8/UNV ISN-SC	IOPA-3P32-SC	B332IUNVHE-A	GE-332-MAX-N/ULTRA	EP3/32IS/MV/MC/HE
49971	QHE4X32T8/UNV ISN-SC	IOPA-4P32-SC	B432IUNVHE-A	GE-432-MAX-N/ULTRA	EP4/32IS/MV/MC/HE
Medium Ballast Factor*					
49248	QHE2x32T8/UNV ISM-SC	N/A	N/A	GE232MAX-N+	N/A
49249	QHE3x32T8/UNV ISM-SC	N/A	N/A	GE332MAX-N+	N/A
49491	QHE4x32T8/UNV ISM-SC	N/A	N/A	GE432MAX-N+	N/A
High Ballast Factor, (90°C Case Temperature)*					
49496	QHE1X32T8/UNV ISH-HT-SC	N/A	N/A	N/A	N/A
49498	QHE2X32T8/UNV ISH-HT-SC	N/A	N/A	N/A	N/A
49500	QHE3X32T8/UNV ISH-HT-SC	IOP-3P32-HL-90C-SC	B332IHRVHB-E	N/A	N/A
High Ballast Factor*					
49919	QHE1X32T8/UNV ISH-SC	IOPA-1P32-HL-SC	N/A	N/A	N/A
49920	QHE2X32T8/UNV ISH-SC	IOPA-2P32-HL-SC	B232IUNVHEH-A	GE-232-MAX-H/ULTRA	EPH2/32IS/MV/MC/HE
49875	QHE3X32T8/UNV ISH-SC	IOPA-3P32-HL-SC	B332IUNVHEH-A	GE-332-MAX-H/ULTRA	EPH3/32IS/MV/MC/HE
49922	QHE4X32T8/UNV ISH	IOPA-4P32-HL	N/A	GE-432-MAX-H/ULTRA	N/A
QUICKTRONIC® HIGH EFFICIENCY 32 T8 INSTANT START UNIVERSAL VOLTAGE SYSTEMS – TYPE CC & LAMP STRIATION CONTROL					
Low Ballast Factor*					
49199	QHE1X32T8/UNV ISL-SC-1	IOP-1P32-LW-SC	N/A	GE-132-MAX-L/ULTRA	N/A
49200	QHE2X32T8/UNV ISL-SC-1	IOP-2P32-LW-SC	N/A	GE-232-MAX-L/ULTRA	N/A
49367	QHE3X32T8/UNV ISL-SC-1	IOP-3P32-LW-SC	N/A	GE-332-MAX-L/ULTRA	N/A
49368	QHE4X32T8/UNV ISL-SC-1	IOP-4P32-LW-SC	N/A	GE-432-MAX-L/ULTRA	N/A
Normal Ballast Factor*					
49381	QHE1X32T8/UNV ISN-SC-1	IOP-1P32-SC	N/A	GE-132-MAX-N/ULTRA	N/A
49383	QHE2X32T8/UNV ISN-SC-1	IOP-2P32-SC	N/A	GE-232-MAX-N/ULTRA	N/A
49385	QHE3X32T8/UNV ISN-SC-1	IOP-3P32-SC	N/A	GE-332-MAX-N/ULTRA	N/A
49387	QHE4X32T8/UNV ISN-SC-1	IOP-4P32-SC	N/A	GE-432-MAX-N/ULTRA	N/A
High Ballast Factor, (90°C Case Temperature)*					
49783	QHE2x32T8/UNV ISH-HT-SC-1	N/A	N/A	N/A	N/A
49785	QHE3x32T8/UNV ISH-HT-SC-1	IOP-3P32-HL-90C-SC	N/A	N/A	N/A
49787	QHE4x32T8/UNV ISH-HT-1	IOP-4P32-HL-90C-G	N/A	N/A	N/A
QUICKTRONIC® PROFESSIONAL 32 T8 INSTANT START UNIVERSAL VOLTAGE SYSTEMS					
Low Ballast Factor*					
49832	QTP1x32T8/UNV ISL-SC	ICN-1P32-LW-SC	N/A	N/A	N/A
49834	QTP2x32T8/UNV ISL-SC	ICN-2P32-LW-SC	N/A	GE-232-MV-L	EPL2/32IS/MV/MC
49745	QTP3x32T8/UNV ISL-SC	ICN-3P32-LW-SC	N/A	GE-332-MV-L	EPL3/32IS/MV/MC
49747	QTP4x32T8/UNV ISL-SC	ICN-4P32-LW-SC	N/A	GE-432-MV-L	EPL4/32IS/MV/MC
Normal Ballast Factor*					
49905	QTP1x32T8/UNV ISN-SC	ICN-1P32-N	B132IUNVHP-B	GE-132-MV-N	N/A
49906	QTP2x32T8/UNV ISN-SC	ICN-2P32-N	B232IUNVHP-B	GE-232-MV-N	EP2/32IS/MV/MC
49907	QTP3x32T8/UNV ISN-SC	ICN-3P32-SC	B332IUNVHP-A	GE-332-MV-N	N/A
49908	QTP4x32T8/UNV ISN-SC	ICN-4P32-SC	B432IUNVHP-A	GE-432-MV-N	N/A
High Ballast Factor*					
49829	QTP1x32T8/UNV ISH-SC	N/A	N/A	N/A	N/A
49843	QTP2x32T8/UNV ISH-SC	N/A	N/A	GE-232-MV-H	N/A
49845	QTP3x32T8/UNV ISH-SC	N/A	N/A	GE-332-MV-H	N/A

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Specifications subject to change without notice.

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® 32 T8 PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Xtreme Low Ballast Factor, (Parallel Operation)*					
51423	QHE1x32T8/UNV PSX-MC	N/A	N/A	GE132-MVPS-L	N/A
51428	QHE2x32T8/UNV PSX-MC	N/A	N/A	GE232-MVPS-L	N/A
51433	QHE3x32T8/UNV PSX-SC	N/A	N/A	GE332-MVPS-L	N/A
51438	QHE4x32T8/UNV PSX-SC	N/A	N/A	GE432-MVPS-L	N/A
High Efficiency, Normal Ballast Factor, (Parallel Operation)*					
51397	QHE1x32T8/UNV PSN-MC	N/A	N/A	GE132-MVPS-N	N/A
51408	QHE2x32T8/UNV PSN-MC	IOP-2PSP32-SC	B232PUNVHE-A	GE-232-MVPS-N	EP2/32PRS/MV/MC/HE
51413	QHE3x32T8/UNV PSN-SC	IOP-3PSP32-SC	N/A	GE-332-MVPS-N	N/A
51418	QHE4x32T8/UNV PSN-SC	IOP-4PSP32-SC	N/A	GE-432-MVPS-N	N/A
High Efficiency, High Ballast Factor, (90°C Case Temperature - Parallel Operation)*					
49450	QHE2x32T8/UNV-PSH-HT	N/A	N/A	GE-232-MV-PS-H	N/A
49520	QHE3x32T8/UNV-PSH-HT-SC	N/A	N/A	GE-332-MV-PS-H	N/A
49455	QHE4x32T8/UNV-PSH-HT	N/A	N/A	GE-432-MV-PS-H	N/A
High Efficiency, Low Ballast Factor*					
51224	QTP1x32T8/UNV PSX-TC	IOP-1S32-LW-SC	N/A	GE132-MVPS-L	N/A
51225	QTP2x32T8/UNV PSX-TC	IOP-2S32-LW-SC	N/A	GE232-MVPS-L	N/A
51226	QTP3x32T8/UNV PSX-SC	IOP-3S32-LW-SC	N/A	GE332-MVPS-L	N/A
51227	QTP4x32T8/UNV PSX-SC	IOP-4S32-LW-SC	N/A	GE432-MVPS-L	N/A
QUICKTRONIC® 59 T8 & 8 FOOT INSTANT START UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Low Ballast Factor*					
49869	QHE2x59T8/UNV-ISL-SC	N/A	N/A	GE259MAX-L/ULTRA	N/A
High Efficiency, Normal Ballast Factor*					
50237	QHE2x59T8/UNV-ISN-SC	IOP-2P59-SC	N/A	GE-259-MAX-N/ULTRA	N/A
High Efficiency, High Ballast Factor*					
49879	QHE2x59T8/UNV-ISH	N/A	N/A	N/A	N/A
Professional Series, Normal Ballast Factor*					
49590	QTP2X59T8/UNV ISN-SC	N/A	B259IUNVHP-A	GE-259-MV-N	EP2/59IS/MV/MC
QUICKTRONIC® 86 T8HO PROStart (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor, (90°C Case Temperature)*					
50304	QHE2x86T8HO/UNV-PSN-HT-SCL	ICN-2S86	N/A	N/A	N/A
QUICKTRONIC® 32 T8 INSTANT START 347 VOLT SYSTEMS - CANADA					
High Efficiency, Low Ballast Factor*					
49471	QHE1x32T8/347 ISL-SC	GOPA-1P32-LW-SC	N/A	N/A	N/A
49473	QHE2x32T8/347 ISL-SC	GOPA-2P32-LW-SC	N/A	GE232MAX347-L	N/A
49475	QHE3x32T8/347 ISL-SC	GOPA-3P32-LW-SC	N/A	GE332MAX347-L	N/A
49477	QHE4x32T8/347 ISL-SC	GOPA-4P32-LW-SC	N/A	GE432MAX347-L	N/A
High Efficiency, Normal Ballast Factor*					
49461	QHE1x32T8/347 ISN-SC	GOPA-1P32-SC	N/A	N/A	N/A
49463	QHE2x32T8/347 ISN-SC	GOPA-2P32-SC	N/A	GE232MAX347-N	N/A
49465	QHE3x32T8/347 ISN-SC	GOPA-3P32-SC	N/A	GE332MAX347-N	N/A
49467	QHE4x32T8/347 ISN-SC	GOPA-4P32-SC	N/A	GE432MAX347-N	N/A
Professional Series, Normal Ballast Factor*					
49711	QTP1x32T8/347 ISN-SC	N/A	B132I347HP	GE132-N-347	N/A
49713	QTP2x32T8/347 ISN-SC	N/A	B232I347HP	GE232-N-347	N/A
49716	QTP3x32T8/347 ISN-SC	N/A	B332I347HP	GE332-N-347	N/A
49718	QTP4x32T8/347 ISN-SC	N/A	B432I347HP	GE432-N-347	N/A
Standard Series, Low Ballast Factor, <20% THD*					
49241	QT 2x32T8/347 ISL-SC	N/A	N/A	N/A	N/A
49939	QT 4x32T8/347 ISL-SC	N/A	N/A	N/A	N/A
Standard Series, High Ballast Factor, <20% THD*					
49927	QT 2x32T8/347 ISH-SC	N/A	N/A	N/A	N/A

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QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® 59 T8 8 FOOT 347 VOLT SYSTEMS - CANADA					
Standard Series, Normal Ballast Factor, <20% THD*					
49217	QT2x59/347IS	N/A	N/A	GE259-N-347	N/A
QUICKTRONIC® T5 PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor (BI-LEVEL)*					
51496	QHES 2X28T5/UNV PS90SC	IOP-2S28-95-SC	N/A	GE228MVPS-A	N/A
High Efficiency, Normal Ballast Factor (BF 0.90)*					
51495	QHE2X28T5/UNV PS90SC	IOP-2S28-95-SC	N/A	GE228MVPS-A	N/A
High Efficiency, Normal Ballast Factor*					
51473	QHE2X28T5/UNV PSN	IOP-2S28-95-SC	N/A	GE228MVPS-A	N/A
Professional Series, Extra-Low Ballast Factor*					
49187	QTP2X21T5/UNV PS51-SC	N/A	N/A	N/A	N/A
Professional Series, Normal Ballast Factor*					
49171	QTP1X28T5UNVPSN	N/A	N/A	N/A	N/A
49181	QTP2x28T5/UNVPSN	ICN-2S28	B228PUNV-C	B228PUNV-C0G1C	N/A
Professional Series, 347V*					
49185	QTP1X28T5/347 PS-SC	N/A	N/A	N/A	N/A
QUICKTRONIC® T5HO PROStart® (Programmed Rapid Start) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor, High Temperature*					
51476	QHE2X54T5HO/UNV PSN-HT	ICN-2S54-90C (Non-high-efficiency)	B254PUNVHB-D (Non-high-efficiency)	GE254MVPS90-F	N/A
51480	QHE4X54T5/HO UNV PSN-HT-SCL	ICN-4S54-90C-2LS (Non-high-efficiency)	B454PUNVHB-E B454PUNV-E (Non-high-efficiency)	GE454MVPS90-G GE454MVPS90-E	N/A N/A
High Efficiency, Normal Ballast Factor*					
51471	QHE2x54T5HO-UNV PSN	ICN-2S54 (Non-high-efficiency)	B254PUNV-D	GE254MVPS-D	N/A
51479	QHE2x39-24T5HO/UNV PSN	N/A	N/A	N/A	N/A
High Efficiency, Normal Ballast Factor, High Temperature, 347-480V*					
51486	QHE2x54T5HO-347-480 PSN-HT	N/A	N/A	N/A	N/A
51481	QHE4X54T5HO/347-480 PSN-HT-SCL	N/A	N/A	N/A	N/A
Professional Series, (BI-LEVEL)*					
49419	QS 2X54T5HO/UNV PS80SC	N/A	N/A	N/A	N/A
Professional Series, (BF 0.80)*					
49418	QTP2X54T5HO/UNV PS80SC	N/A	N/A	N/A	N/A
Professional Series, Normal Ballast Factor, High Temperature*					
49136	QTP2x54T5HO/UNV PSN HT	ICN-2S54-90C	B254PUNVHB-D	N/A	EP2/54HO/PRS/MV/90CW
49161	QTP4x54T5HO/UNV PSN HTW	ICN-4S54-90C-2LS	B454PUNVHB-E B454PUNV-E	N/A	N/A
Professional Series, Normal Ballast Factor*					
49111	QTP2x39-24T5HO/UNVPSN (FP39T5HO)	ICN-2S39	B239PUNV-D	B239PUNV-D0G1C	N/A
49111	QTP2x39-24T5HO/UNVPSN (FP24T5HO)	ICN-2S24	B224PUNV-C	N/A	N/A
49131	QTP2x54T5HO/UNVPSN	ICN-2S54	B254PUNV-D	N/A	N/A
49150	QTP1x80T5HO/UNVPSN	ICN-1S80	ES4515K	N/A	N/A
Professional Series, Normal Ballast Factor, High Temperature, 347-480V*					
49146	QTP2x54T5HO/347-480 PSN HT	HCN-2S54-90C-WL	B254PHRVHB-E	N/A	N/A
QUICKTRONIC® HIGH EFFICIENCY INSTANT START DL40 (40W TT5) UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, Normal Ballast Factor*					
49428	QHE1x40DL/UNV ISN-SC	ICN-1TTP40-SC (Non-high-efficiency)	N/A	GEC140MAX-A	N/A
49429	QHE2x40DL/UNV ISN-SC	ICN-2TTP40-SC (Non-high-efficiency)	N/A	GEC240MAX-A	EP2/40IS-TT/MV/SC
49430	QHE3x40DL/UNV ISN-SC	ICN-3TTP40-SC (Non-high-efficiency)	N/A	GEC340MAX-A	EP3/40IS-TT/MV/SC

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Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	GE	Howard
QUICKTRONIC® PROFESSIONAL PROStart® (Programmed Rapid Start) DL40 (40W TT5) SYSTEMS					
Professional Series, Normal Ballast Factor*					
50320	QTP1x40TT5/120PSN-F	REL-1TTS40	N/A	N/A	N/A
50330	QTP1x40TT5/277PSN-F	VEL-1TTS40	N/A	N/A	N/A
50340	QTP2x40TT5/120PSN-F	REL-2TTS40	N/A	GEC240MVPS-A	N/A
50350	QTP2x40TT5/277PSN-F	VEL-2TTS40	N/A	GEC240MVPS-A	N/A
50360	QTP3x40TT5/120PSN-B	N/A	N/A	N/A	N/A
50370	QTP3x40TT5/277PSN-B	N/A	N/A	N/A	N/A
QUICKTRONIC® 59 T8 & 8 FOOT INSTANT START UNIVERSAL VOLTAGE SYSTEMS					
Professional Series, Normal Ballast Factor*	**CFL products run multiple lamp combinations and have various mounting/case styles - please refer to actual product specifications**				
51818	QTP1/2x13CF/UNV DM	ICF-2S13-H1-LD	C213UNV-BE C213UNV-SE	GEC213-MVPS-SE	PSM213CQMVDW
51823	QTP1/2x18CF/UNV DM	ICF-2S18-H1-LD	C218UNV-BE C218UNV-SE	GEC218-MVPS-SE	PSM218CQMVDW
51833	QTP2x26CF/UNV DM	ICF-2S26-H1-LD	C2642UNV-BE C2642UNV-SE	GEC226-MVPS-SE	PSM226CQMVDW
51898	QTP2x26CF/UNV DM PEM	ICF-2S26-M1-BS ICF-2S26-M1-BS-QS	C2642UNV-BES	GEC226-MVPS-3W	PSM226CQMVDSW
51843	QTP2x26/32/42CF/UNV DM	ICF- 2S42-M2-LD	C242UNV-BE C242UNV-SE	GEC242-MVPS-SE	PSP242TRMVDW
51863	QTP2x26/32/42CF/UNV DM PEM	ICF-2S42-M2-BS	C242UNV-BES	GEC242-MVPS-3W	PSP242TRMVDSW
QUICKTRONIC® PROFESSIONAL RAPID START 40T12 SYSTEMS					
Professional Series, Normal Ballast Factor*					
50314	QTP2x40T12/UNV/RS/SC	ICN-2S40-N	B240R120HP B240R277HP	GE240RS-MV-N	N/A
QUICKTRONIC® PROFESSIONAL INSTANT START 8 FOOT T12 UNIVERSAL VOLTAGE SYSTEMS					
Professional Series, Normal Ballast Factor, <20% THD*					
50308	QTP2x96/T12/UNV/IS	ICN-2P60-SC	B260IUNVHP	GE-260IS-MV-N	N/A
QUICKTRONIC® RAPID START 8 FOOT T12HO SYSTEMS					
Professional Series, Normal Ballast Factor, <20% THD*					
50319	QTP2x96T12HO/UNV	ICN-2S110-SC	B295SRUNVHP	GE296HO-MV-N	EP2/110RS-MV
QUICKTRONIC® RESIDENTIAL 32 T8 INSTANT START 120 VOLT SYSTEMS, (For Residential Use Only)					
Residential Series, Normal Ballast Factor*					
49313	QTR2x32T8/120 ISN-SC	N/A	B232I120RES-A	GE232-120-RES	N/A
49317	QTR4x32T8/120 ISN-SC	N/A	B432I120RES-A	GE432-120-RES	N/A

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	Lutron	GE (Dedicated Voltage)
QUICKTRONIC® QUICKSTEP (Bi-Level), UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, 32W T8*					
49157	QHES2X32T8/UNV PSN-SC	N/A	B232PUS50-A	N/A	N/A
49158	QHES2x32T8/UNV PSL-SC	N/A	N/A	N/A	N/A
High Efficiency, 28W T5*					
51496	QHES2x28T5/UNV PS90SC	N/A	N/A	N/A	N/A

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QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA POWERSENSE® (2 wire Powerline & 0-10V) (120-277V)	Advance Mark 10® (2 wire) Powerline (Dedicated Voltage)	Advance Mark 7® (0-10V) (120-277V)	U.L.T. (formerly Magnetek) Universal Lighting Technologies Ballastar® (0-10V) (Dedicated Voltage)	U.L.T. (formerly Magnetek) Universal Lighting Technologies Superdim® (0-10V) (120-277V)	LUTRON Tu-wire® (Powerline) Dedicated Voltage Models Only	LUTRON Eco-10 TVE™ (0-10V) Dedicated Voltage Models Only	GE UltraStart (0-10V)
QUICKTRONIC® POWERSENSE® (2-Wire Powerline & 0-10V) UNIVERSAL VOLTAGE SYSTEMS								
High Efficiency, 32W T8 (QUICKTRONIC® is Dual Control, Competitors are 0-10VDC or Phase Cut)*								
50705	QHE1x32T8/UNV DIM-TC†		IZT-132-SC		B132PUNVSV3-A ES5821B ES5835K ES5833B ES5818K			GE132MVPS-N-V03
		REZ-132-SC (120V)		B132R120V5		2W-T832-120-1	TVE-T832-120-1 TVE-T825-120-1 TVE-T817-120-1	
		VEZ-132-SC (277V)		B132R277V5				
50707	QHE2x32T8/UNV DIM-TC†		IZT-2S32-SC		B232PUNVSV3-A ES5822B ES5836K ES5834B ES5817K			GE232MVPS-N-V03
		REZ-2S32-SC(120V)		B232SR120V5		2W-T832-120-2	TVE-T832-120-2	
		VEZ-2S32-SC (277V)		B232SR277V5			TVE-T832-277-2	
50714	QHE3x32T8/UNV DIM-TCL†		IZT-3S32-SC		N/A	N/A		GE332MVPS-N-V03
		REZ-3S32-SC (120)		B332SR120V5			TVE-T832-120-3	
		VEZ-3S32-SC (277V)		B332SR277V5			TVE-T832-277-3	
50716	QHE4x32T8/UNV DIM-TCL†	N/A	IZT-4S32		N/A	N/A	N/A	GE432-MVPS-N-V03
			VZT-4S32-G	B432P277V5H-E				
			VZT-4S32-HL	B432P277V5-E				
High Efficiency, 28W T5 (QUICKTRONIC® is Dual Control, Competitors are 0-10VDC or Phase Cut)*								
50725	QHE1x28T5/UNV DIM-TC	N/A	N/A	N/A	B128PUNVSV3-D	N/A	N/A	N/A
50726	QHE2x28T5/UNV DIM-TCL†	N/A	IZT-2S28-D	N/A	B228PUNVSV3-D ES5851K ES5861K ES5847K	N/A	N/A	N/A
High Efficiency, 54W T5HO (QUICKTRONIC® is Dual Control, Competitors are 0-10VDC or Phase Cut)*								
51468	QHE1x54T5HO/UNV DIM-TC	REZ-1S54 VEZ-1S54	RZT-1S54 VZT-1S54	N/A	N/A	N/A	N/A	N/A
51467	QHE2x54T5HO/UNV DIM-TCL	REZ-2S54 VEZ-2S54	RZT-2S54 VZT-2S54	N/A	N/A	N/A	N/A	N/A
QUICKTRONIC® HELIOS™ (0-10V)								
Professional Series, 54 T5/HO Dimming Systems (0-10Vdc control) - 100-1% Dimming Range*								
49671	QT1x54/120PHO-DIM	RZT-154			N/A			N/A
49672	QT1x54/277PHO-DIM	VZT-154			N/A			N/A
49673	QT2x54/120PHO-DIM	RZT-2S54			N/A			N/A
49674	QT2x54/277PHO-DIM	VZT-2S54			N/A			N/A
Professional Series, CF Dimming Systems (0-10Vdc control) - 100-3% Dimming Range*								
51836	QTP2x26CF/UNV DIM DM	IZT-2S26-M5-LD			C213UNVSV3ME C218UNVSV3ME C226UNVSV3ME			N/A

†*QHE models above were formerly QTP models.*

Items shaded in gray have been discontinued.

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Specifications subject to change without notice.

Item Number	OSRAM SYLVANIA	Advance	U.L.T. Universal Lighting Technologies (formerly Magnetek)	Lutron	GE (Dedicated Voltage)
QUICKTRONIC® DALI, UNIVERSAL VOLTAGE SYSTEMS					
High Efficiency, 32W T8†					
51354	QHE1X32T8/UNV DALI	N/A	N/A	N/A	N/A
51355	QHE2X32T8/UNV DALI	N/A	N/A	N/A	N/A
High Efficiency, T5†					
51456	QHE1X28T5/UNV DALI	N/A	N/A	N/A	N/A
51458	QHE2X28T5/UNV DALI	N/A	N/A	N/A	N/A
High Efficiency, T5HO†					
51464	QHE1X54T5HO/UNV DALI	N/A	N/A	N/A	N/A
51466	QHE2X54T5HO/UNV DALI	N/A	N/A	N/A	N/A
Professional Series, T8*					
51350	QTP1x32T8/UNV DALI	IDA-132-SC	B132PUNVDV1	N/A	N/A
51352	QTP2x32T8/UNV DALI	IDA-2S32-SC	B232PUNVDV1	N/A	N/A
Professional Series, T5†					
51357	QTP1x14T5/UNV DALI	N/A	B114PUNVDV1	N/A	N/A
51359	QTP2x14T5/UNV DALI	N/A	B214PUNVDV1	N/A	N/A
51356	QTP1x28T5/UNV DALI	IDA-128-D	B128PUNVDV1	N/A	N/A
51358	QTP2x28T5/UNV DALI	IDA-2S28-D	B228PUNVDV1	N/A	N/A
51360	QTP1x35T5/UNV DALI	N/A	N/A	N/A	N/A
51361	QTP2x35T5/UNV DALI	N/A	N/A	N/A	N/A
Professional Series, T5HO†					
51364	QTP1x54T5HO/UNV DALI	IDA-154	B154PUNVDV1	N/A	N/A
51366	QTP2x54T5HO/UNV DALI	IDA-2S54	B254PUNVDV1	N/A	N/A
Professional Series, CFL (TT5 / T4)†					
51370	QTP1x18CF/UNV DALI	N/A	C118PUNVDV3	N/A	N/A
51372	QTP2x18CF/UNV DALI	N/A	C218PUNVDV3	N/A	N/A
51375	QTP1x26CF/UNV DALI	N/A	C126PUNVDV3	N/A	N/A
51377	QTP2x26CF/UNV DALI	IDL-2S26-M5-LD	C226PUNVDV3	N/A	N/A
51380	QTP1x32CF/UNV DALI	N/A	C132PUNVDV3	N/A	N/A
51382	QTP2x32CF/UNV DALI	N/A	C232PUNVDV3	N/A	N/A
51384	QTP1x42CF/UNV DALI	N/A	C142PUNVDV3	N/A	N/A
51386	QTP2x42CF/UNV DALI	IDL-2T42-M5-LD	C242PUNVDV3	N/A	N/A
51390	QTP1x40TT5/UNV DALI	N/A	C140PUNVDV3	N/A	N/A
51392	QTP2x40TT5/UNV DALI	N/A	C240PUNVDV3	N/A	N/A

†Ballast Can Size, wiring diagrams and performance specifications may vary between manufacturers. Please refer to specifications for details.

Item Number	OSRAM SYLVANIA	Mount	Advance	Metrolight	Aromat/ULT/VS	Hatch
QUICKTRONIC® SUPER MINI MH						
Electronic Metal Halide- Universal Voltage*						
51986	QTP1X15MH SM 4.0 x 1.3 x 1.18	F	N/A	N/A	N/A	N/A
51987	QTP1X15MH SM 3.5 x 1.3 x 1.18	J	N/A	N/A	N/A	N/A
51988	QTP1X20MH SM 4.0 x 1.3 x 1.18	F	RMH-G20-K-LF 4.74 x 1.1 x 1.2	N/A	M2012CK-7EUN-F 4.12 x 1.32 x 1.22	MC20-1-F-120X 4.36 x 1.71 x 1.12
51989	QTP1X20MH SM 3.5 x 1.3 x 1.18	J	N/A	N/A	M2012CK-7EUN-J 3.81 x 1.32 x 1.5	MC20-1-J-120X 3.79 x 1.71 x 1.12
51990	QTP1X39MH SM 4.0 x 1.3 x 1.18	F	RMH-39-K-LF 4.4 x 1.1 x 1.2	N/A	M3912CK-7EUN-F 4.12 x 1.32 x 1.22	MC39-1-F-120X 4.36 x 1.71 x 1.12
51991	QTP1X39MH SM 3.5 x 1.3 x 1.18	J	RMH-39-K-BLS 4.1 x 1.1 x 1.2	N/A	M3912CK-7EUN-J 3.81 x 1.32 x 1.5	MC39-1-J-120X 3.79 x 1.71 x 1.12

Items shaded in gray have been discontinued.

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National Customer
Service and Sales Center
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QUICKCROSS

Cross Reference Guide

The smart electronics in SYLVANIA QUICKTRONIC® ballasts allow them to outperform the competition.

Item Number	OSRAM SYLVANIA	Mount	Advance	Metrolight	Aromat/ULT/VS	Hatch
QUICKTRONIC® PROFESSIONAL MH						
METALARC® Metal Halide Universal Voltage - Operates Ceramic and Most Quartz MH Lamp*						
51968	QTP2X20MH/UNV 5.0 x 3.4 x 1.4	F	N/A	N/A	N/A	MC20-2-F-UNNU 5.52 x 3.62 x 1.35
51969	QTP2X20MH/UNV 4.6 x 3.4 x 1.4	J	N/A	N/A	N/A	MC20-2-J-UNNU 4.8 x 3.62 x 1.61
51910	QTP1X39MH/UNV 5.0 x 3.4 x 1.4	F	IMH-50-A-LF 5.5 x 3.6 x 1.5	N/A	M3912-27CK-5EUF 5.51 x 3.62 x 1.57	N/A
51911	QTP1X39MH/UNV 4.6 x 3.4 x 1.4	J	IMH-50-A-BLS 5.5 x 3.6 x 1.5	N/A	M3912-27CK-5EUJ 4.81 x 3.62 x 1.57	N/A
51970	QTP2X39MH/UNV 5.0 x 3.4 x 1.4	F	IMH-239-A-LF 5.5 x 3.6 x 1.5	N/A	N/A	MC39-2-F-UNNU 5.52 x 3.62 x 1.35
51971	QTP2X39MH/UNV 4.6 x 3.4 x 1.4	J	IMH-239-A-BLS 4.7 x 3.6 x 1.5	N/A	N/A	MC39-2-J-UNNU 4.8 x 3.62 x 1.61
51912	QTP1X70MH/UNV 5.0 x 3.4 x 1.4	F	IMH-70-D-LF 5.0 x 3.0 x 1.5	N/A	M7012-27CK-5EUF 5.51 x 3.62 x 1.57	N/A
51913	QTP1X70MH/UNV 4.6 x 3.4 x 1.4	J	IMH-70-D-BLS 4.6 x 3.0 x 1.5	N/A	M7012-27CK-5EUJ 4.81 x 3.62 x 1.57	N/A
51914	QTP1X100MH/UNV 5.0 x 3.4 x 1.4	F	IMH-100-D-LF 5.0 x 3.0 x 1.5	N/A	M10012-27CK-5EUF 5.51 x 3.62 x 1.57	MC100-1-F-UNIU 5.52 x 3.62 x 1.35
51915	QTP1X100MH/UNV 4.6 x 3.4 x 1.4	J	IMH-100-D-BLS 4.6 x 3.0 x 1.5	N/A	M10012-27CK-5EUJ 4.81 x 3.62 x 1.57	MC100-1-J-UNIU 4.8 x 3.62 x 1.61
For use with external IDTP						
51911	QTP1X39MH/UNV 4.6 x 3.4 x 1.4	J	MH-39-A-BLS-ID 4.72 x 3.62 x 1.50	N/A	M3912-27CK-5EUJT2 5.02 x 3.62 x 1.57	N/A
51913	QTP1X70MH/UNV 4.6 x 3.4 x 1.4	J	IMH-70-A-BLS-ID 4.72 x 3.62 x 1.50	N/A	M7012-27CK-5EUJT2 5.02 x 3.62 x 1.57	N/A
51915	QTP1X100MH/UNV 4.6 x 3.4 x 1.4	J	IMH-100-A-BLS-ID 4.72 x 3.62 x 1.50	N/A	M10012-27CK-5EUJT2 5.02 x 3.62 x 1.57	N/A
QUICKTRONIC® SQUARE and SLIM MH						
METALARC® Metal Halide - Operates Ceramic and Most Quartz MH Lamp*						
51959	QT1x20MH SQ 3.5 x 3.0 x 1.2	F	IMH-G20-G-LF 3.8 x 3.0 x 1.2	N/A	M2012CK-6EU-F 3.75 x 3.0 x 1.2	MC20-1-F-UNNU 4.04 x 3 x 1.21
51956	QT1x20MH SQ 3.5 x 3.0 x 1.54	J	IMH-G20-G-BLS 3.5 x 3.0 x 1.2	N/A	M2012CK-6EU-J 3.3 x 3.0 x 1.56	MC20-1-J-UNNU 3.45 x 3.13 x 1.27
51961	QT1x39MH SQ 3.5 x 3.0 x 1.2	F	IMH-39-G-LF 3.8 x 3.0 x 1.2	N/A	M3912CK-6EU-F 3.75 x 3.0 x 1.2	MC39-1-F-UNNU 4.04 x 3 x 1.21
51957	QT1x39MH SQ 3.5 x 3.0 x 1.54	J	IMH-39-G-BLS 3.5 x 3.0 x 1.2	N/A	M3912CK-6EU-J 3.3 x 3.0 x 1.56	MC39-1-J-UNNU 3.45 x 3.13 x 1.27
51963	QT1x70MH SQ 3.5 x 3.0 x 1.2	F	IMH-70-G-LF 3.8 x 3.0 x 1.2	N/A	M7012CK-6EU-F 3.75 x 3.1 x 1.3	MC70-1-F-UNNU 4.04 x 3 x 1.21
51964	QT1x70MH SQ 3.5 x 3.0 x 1.54	J	IMH-70-G-BLS 3.5 x 3.0 x 1.2	N/A	M7012CK-6EU-J 3.3 x 3.0 x 1.56	MC70-1-J-UNNU 3.45 x 3.13 x 1.27
51946	QTP1X70MH UNV SLIM F 5.0 x 1.8 x 1.3	F	N/A	N/A	N/A	MC70-1F-UNNS-HB 7.74 x 1.74 x 1.47
51947	QTP1X70MH UNV SLIM J 5.0 x 1.8 x 1.3	J	N/A	N/A	N/A	MC70-1J-UNNS-HB 7.74 x 1.74 x 1.47
51948	QTP1X100MH UNV SLIM F 5.0 x 1.8 x 1.3	F	N/A	N/A	N/A	MC100-1F-UNNS-HB 7.74 x 1.74 x 1.47
51949	QTP1X100MH UNV SLIM J 5.0 x 1.8 x 1.3	J	N/A	N/A	N/A	MC100-1J-UNNS-HB 7.74 x 1.74 x 1.47

Items shaded in gray have been discontinued.

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Specifications subject to change without notice.

Item Number	OSRAM SYLVANIA	Mount	Advance	Metrolight	Universal Lighting Technologies	GE
QUICKTRONIC® HIGH EFFICIENCY MH†						
Electronic Metal Halide - Universal Voltage*						
51954	QTO1X100MH UNV DIM 6.46 x 4.5 x 1.77	F	N/A	N/A	N/A	N/A
51955	QTO1X150MH-HPS UNV DIM 6.46 x 4.5 x 1.77	F	N/A	N/A	N/A	N/A
51965	QTO1X200MH-HPS UNV DIM 6.46 x 4.5 x 1.77	F	N/A	N/A	N/A	N/A
QUICKTRONIC® HIGH EFFICIENCY MH†						
Electronic Metal Halide - 208-277V*						
51980	QHE1X200MH 208-277V 8.03 x 5.9 x 1.95	F	N/A	N/A	N/A	N/A
51981	QHE1X250MH 208-277V 8.03 x 5.9 x 1.95	F	N/A	N/A	N/A	GE-MH-250-400-MA 14.91 x 14.91 x 13.35
51982	QHE1X320MH 208-277V 8.03 x 5.9 x 1.95	F	N/A	N/A	N/A	GE-MH-250-400-MA 14.91 x 14.91 x 13.35
51983	QHE1X350MH 208-277V 8.03 x 5.9 x 1.95	F	N/A	N/A	N/A	GE-MH-250-400-MA 14.91 x 14.91 x 13.35
51984	QHE1X400MH 208-277V 8.03 x 5.9 x 1.95	F	N/A	N/A	N/A	GE-MH-250-400-MA 14.91 x 14.91 x 13.35
QUICKTRONIC® HIGH EFFICIENCY DIMMING MH†						
Electronic Metal Halide - 208-277V*						
51992	QHE1x200MH 208-277 DIM 8.03 x 5.9 x 1.95	F	N/A	SmartHID™ 200W 8.46 x 3.43 x 2.16	N/A	N/A
51993	QHE1x250MH 208-277 DIM 8.03 x 5.9 x 1.95	F	N/A	SmartHID™ 250W 8.46 x 3.43 x 2.16	N/A	GEMH250-400M-V50 14.91 x 14.91 x 13.35
51994	QHE1x320MH 208-277 DIM 8.03 x 5.9 x 1.95	F	IZTEMH4003PS-F 11.7 x 5.0 x 2.6	SmartHID™ 320W 8.46 x 3.43 x 2.16	N/A	GEMH250-400M-V50 14.91 x 14.91 x 13.35
51995	QHE1x350MH 208-277 DIM 8.03 x 5.9 x 1.95	F	IZTEMH4003PS-F 11.7 x 5.0 x 2.6	SmartHID™ 350W 8.46 x 3.43 x 2.16	N/A	GEMH250-400M-V50 14.91 x 14.91 x 13.35
51996	QHE1x400MH 208-277 DIM 8.03 x 5.9 x 1.95	F	IZTEMH4003PS-F 11.7 x 5.0 x 2.6	SmartHID™ 400W 8.46 x 3.43 x 2.16	N/A	GEMH250-400M-V50 14.91 x 14.91 x 13.35

†Line voltage, case size, wiring diagrams and performance specifications may vary; please refer to manufacturer's specifications.

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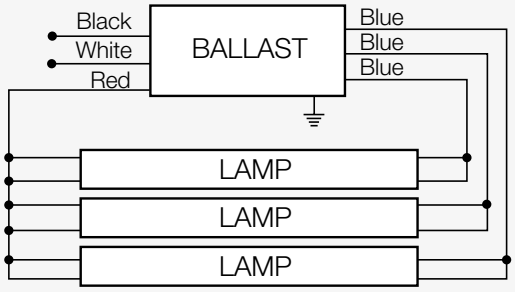
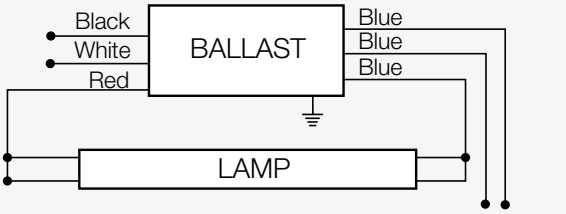
SYLVANIA 3 Lamp Instant Start Ballast Wired For 3, 2 or 1 Lamp

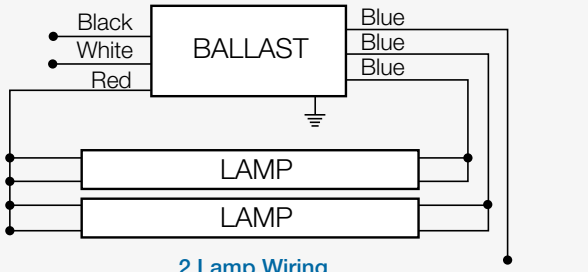


QUICKTRONIC 3x32



1 Lamp Wiring
Cap any two blue leads.

QUICKTRONIC 3x32



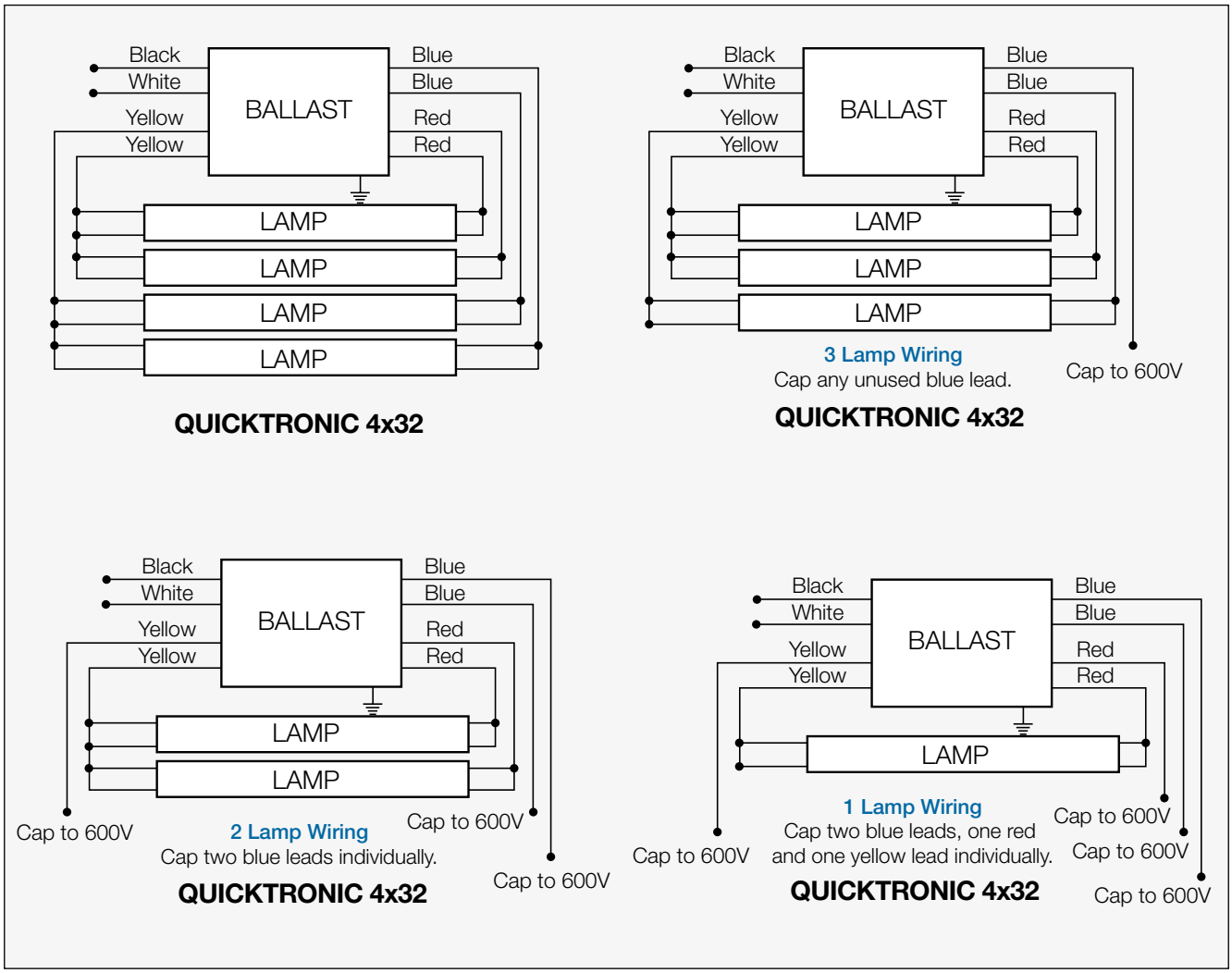
2 Lamp Wiring
Cap any blue lead.

QUICKTRONIC 3x32

SYLVANIA's QUICKTRONIC® Professional & High Efficiency Series UNIVERSAL VOLTAGE Instant Start electronic fluorescent 3 lamp T8 (normal & low ballast factor) ballasts can be used with 32WT8, 25WT8 & 17WT8 lamps (also U-bent and SS equivalent) in a 3, 2 and 1 lamp configuration when approved combinations are shown in QUICKSYSTEMS section of the Electronic Ballast Technology Applications & Specification Guide. Be sure to cap off (insulate to 600 volts) with wire connectors any unused leads as shown. Wire per the ballast schematic and be sure that all leads are wired properly and sockets are shunted as shown (or use shunted sockets).

Specifications subject to change without notice.

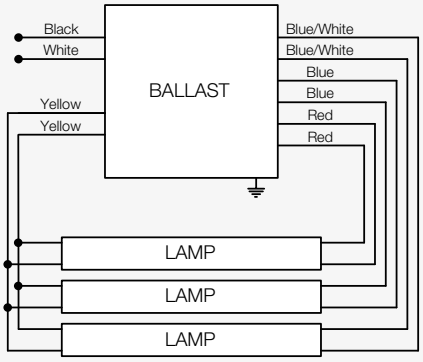
SYLVANIA 4 Lamp Instant Start Ballast Wired For 4, 3, 2 or 1 Lamp



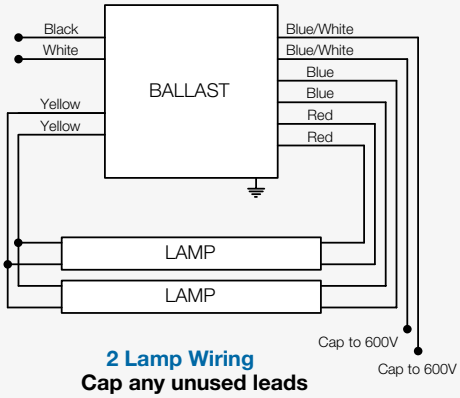
SYLVANIA's QUICKTRONIC® Professional & High Efficiency Series UNIVERSAL VOLTAGE Instant Start electronic fluorescent 4 lamp T8 (normal & low ballast factor) ballasts can be used with 32WT8, 25WT8 & 17WT8 lamps (also U-bent and SS equivalent) in a 4, 3, 2 and 1 lamp configuration when approved combinations are shown in QUICKSYSTEMS section of the Electronic Ballast Technology Applications & Specification Guide. Be sure to cap off (insulate to 600 volts) with wire connectors any unused leads as shown. Wire per the ballast schematic and be sure that all leads are wired properly and sockets are shunted as shown (or use shunted sockets).

Specifications subject to change without notice.

SYLVANIA 3-Lamp PROStart® Ballasts – Parallel Wiring Wired For 3, 2 or 1 Lamp

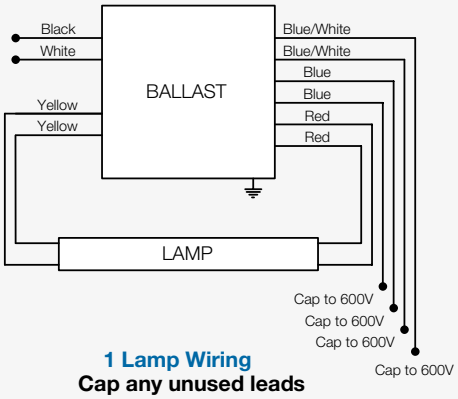


QUICKTRONIC 3x32



2 Lamp Wiring
Cap any unused leads

QUICKTRONIC 3x32



1 Lamp Wiring
Cap any unused leads

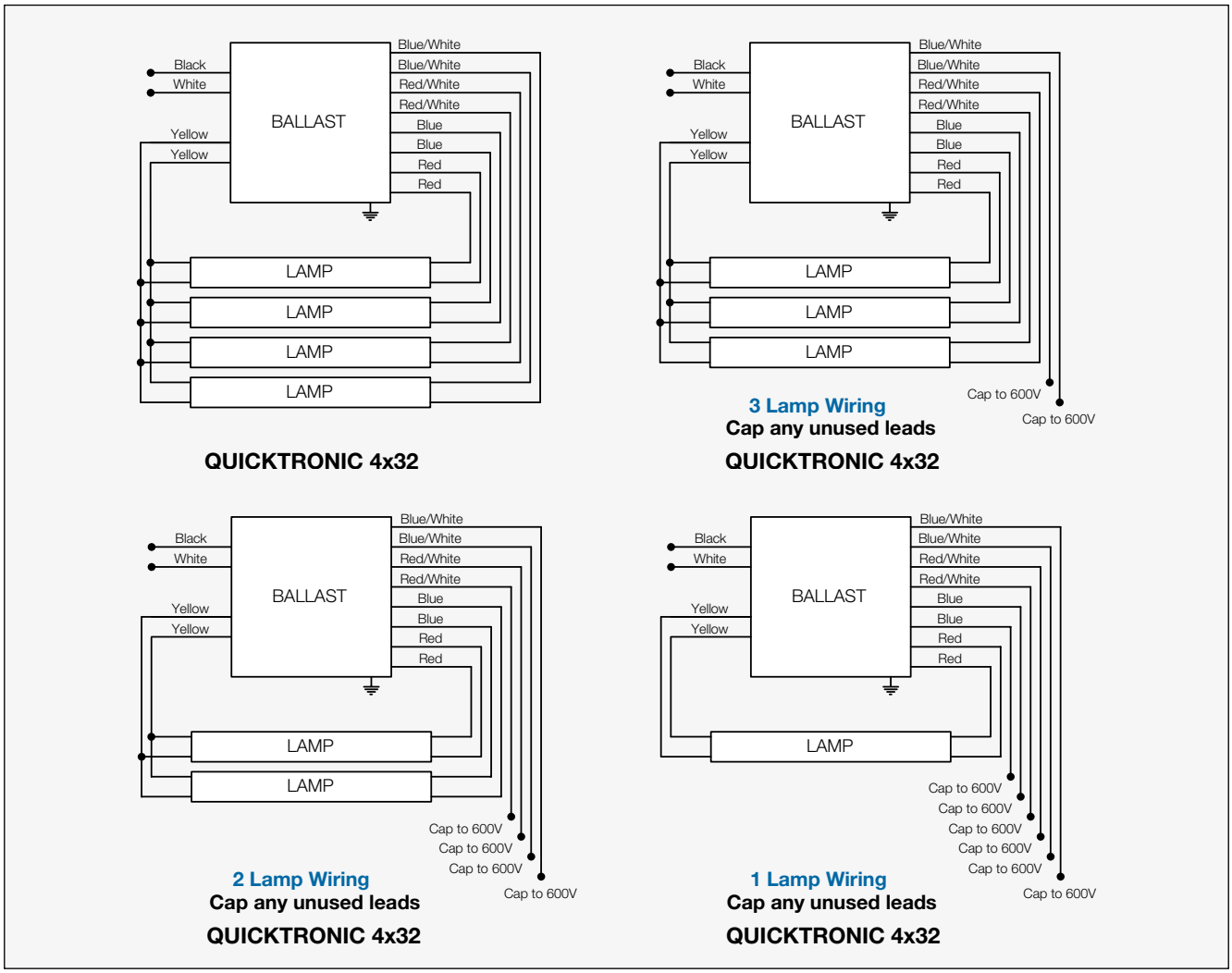
QUICKTRONIC 3x32

SYLVANIA's QUICKTRONIC® High Efficiency Series UNIVERSAL VOLTAGE PROStart® PSX & PSN Parallel Wiring electronic fluorescent 3-Lamp T8 ballasts can be used with 32WT8, 25WT8 & 17WT8 lamps (also U-bent and SS equivalent) in a 3, 2 and 1 lamp configuration when approved combinations are shown in QUICKSYSTEMS section of the Electronic Ballast Technology Applications & Specification Guide.

Be sure to cap off (insulate to 600 volts) with wire connectors any unused leads as shown. Wire per the ballast schematic and be sure that all leads are wired properly and sockets are RS/PS non-shunted lampholders. These are alternative approved delamping schematics, other schematics shown on specification pages.

Specifications subject to change without notice.

SYLVANIA 4-Lamp PROStart® Ballasts – Parallel Wiring Wired For 4, 3, 2 or 1 Lamp



SYLVANIA's QUICKTRONIC® High Efficiency Series UNIVERSAL VOLTAGE PROStart® PSX & PSN Parallel Wiring electronic fluorescent 4-Lamp T8 ballasts can be used with 32WT8, 25WT8 & 17WT8 lamps (also U-bent and SS equivalent) in a 4, 3, 2 and 1 lamp configuration when approved combinations are shown in QUICKSYSTEMS section of the Electronic Ballast Technology Applications & Specification Guide.

Be sure to cap off (insulate to 600 volts) with wire connectors any unused leads as shown. Wire per the ballast schematic and be sure that all leads are wired properly and sockets are RS/PS non-shunted lampholders. These are alternative approved delamping schematics, other schematics shown on specification pages.

Specifications subject to change without notice.

F032XV

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
F032XV	1	2900	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.78	2260
F032XV	1	2900	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.78	2260
F032XV	1	2900	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2550
F032XV	1	2900	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2550
F032XV	1	2900	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	120	0.32	>.98	<10%	1.20	3480
F032XV	1	2900	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	277	0.14	>.98	<10%	1.20	3480
F032XV	1	2900	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.26	>.98	<10%	0.88	2550
F032XV	1	2900	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<10%	0.88	2550
F032XV	1	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.27	>.95	<10%	0.95	2755
F032XV	1	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<10%	0.95	2755
F032XV	1	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.27	>.95	<10%	1.05	3045
F032XV	1	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.95	<10%	1.05	3045
F032XV	1	2900	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.15	3335
F032XV	1	2900	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	277	0.15	>.95	<15%	1.15	3335
F032XV	1	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.30	>.98	<10%	0.90	2610
F032XV	1	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.97	<10%	0.90	2610
F032XV	1	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.95	<10%	1.04	3015
F032XV	1	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.95	<10%	1.04	3015
F032XV	1	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.30	>.98	<15%	1.02	2960
F032XV	1	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.96	<20%	1.02	2960
F032XV	1	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.20	3480
F032XV	1	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	277	0.15	>.92	<15%	1.20	3480
F032XV	1	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	120	0.29	>.98	<10%	1.03	2985
F032XV	1	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	277	0.13	>.96	<20%	1.03	2985
F032XV	1	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.34	>.95	<15%	1.19	3450
F032XV	1	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.15	>.98	<10%	1.19	3450
F032XV	1	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	120	0.33	>.98	<15%	1.17	3395
F032XV	1	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	277	0.15	>.93	<20%	1.17	3395
F032XV	1	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.06	3075
F032XV	1	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.15	>.92	<30%	1.06	3075
F032XV	1	2900	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.26	>.98	<10%	0.88	2550
F032XV	1	2900	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	29	277	0.11	>.98	<10%	0.88	2550
F032XV	1	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	120	0.30	>.98	<10%	1.07	3105
F032XV	1	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	277	0.13	>.98	<15%	1.07	3105
F032XV	1	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3295
F032XV	1	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	40	277	0.16	>.95	<15%	1.14	3295
F032XV	1	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.34	>.98	<10%	1.20	3480
F032XV	1	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.90	<15%	1.20	3480
F032XV	1	2900	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.72	2090
F032XV	1	2900	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.98	<10%	0.72	2090
F032XV	2	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4525
F032XV	2	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4525
F032XV	2	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.47	>.98	<10%	0.88	5105
F032XV	2	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	5105
F032XV	2	2900	QHE2x32T8/UNV ISM-SC	Instant	Parallel	63	120	0.54	>.98	<10%	1.00	5800
F032XV	2	2900	QHE2x32T8/UNV ISM-SC	Instant	Parallel	62	277	0.23	>.98	<10%	1.00	5800
F032XV	2	2900	QHE2X32T8/UNV ISH-SC	Instant	Parallel	74	120	0.65	>.98	<10%	1.20	6960
F032XV	2	2900	QHE2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.28	>.98	<10%	1.20	6960
F032XV	2	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.44	>.98	<10%	0.78	4525
F032XV	2	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.98	<10%	0.78	4525
F032XV	2	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.88	5105
F032XV	2	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.88	5105
F032XV	2	2900	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	120	0.65	>.98	<10%	1.20	6960
F032XV	2	2900	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	277	0.28	>.98	<10%	1.20	6960
F032XV	2	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.46	>.97	<15%	0.90	5220
F032XV	2	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.20	>.97	<15%	0.90	5220
F032XV	2	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	63	120	0.50	>.97	<15%	0.99	5740
F032XV	2	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.22	>.97	<15%	0.99	5740
F032XV	2	2900	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.60	>.98	<10%	1.08	6265
F032XV	2	2900	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.08	6265
F032XV	2	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.45	>.98	<10%	0.88	5105
F032XV	2	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.20	>.98	<10%	0.88	5105
F032XV	2	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.97	<15%	1.02	5915
F032XV	2	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	277	0.24	>.97	<15%	1.02	5915
F032XV	2	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.98	5685
F032XV	2	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<15%	0.98	5685

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XV	2	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.60	>.97	<15%	1.08	6265
FO32XV	2	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.08	6265
FO32XV	2	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	120	0.62	>.98	<10%	1.16	6730
FO32XV	2	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	277	0.27	>.98	<15%	1.16	6730
FO32XV	2	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	120	0.50	>.98	<10%	0.93	5395
FO32XV	2	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	277	0.23	>.97	<10%	0.93	5395
FO32XV	2	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.59	>.98	<15%	1.07	6205
FO32XV	2	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.07	6205
FO32XV	2	2900	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	57	120	0.48	>.98	<10%	0.88	5105
FO32XV	2	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	277	0.21	>.98	<10%	0.88	5105
FO32XV	2	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.98	5685
FO32XV	2	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64	277	0.24	>.98	<10%	0.98	5685
FO32XV	2	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.06	6150
FO32XV	2	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.06	6150
FO32XV	2	2900	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	72	120	0.60	>.98	<10%	1.15	6670
FO32XV	2	2900	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	70	277	0.27	>.98	<10%	1.15	6670
FO32XV	2	2900	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.72	4175
FO32XV	2	2900	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	47	277	0.17	>.98	<10%	0.72	4175
FO32XV	3	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.61	>.98	<10%	0.78	6785
FO32XV	3	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	72	277	0.27	>.98	<10%	0.78	6785
FO32XV	3	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	83	120	0.69	>.98	<10%	0.88	7655
FO32XV	3	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	82	277	0.30	>.98	<10%	0.88	7655
FO32XV	3	2900	QHE3x32T8/UNV ISM-SC	Instant	Parallel	90	120	0.76	>.98	<10%	0.98	8525
FO32XV	3	2900	QHE3x32T8/UNV ISM-SC	Instant	Parallel	89	277	0.40	>.98	<10%	0.98	8525
FO32XV	3	2900	QHE3X32T8/UNV ISH-SC	Instant	Parallel	111	120	0.93	>.98	<10%	1.18	10265
FO32XV	3	2900	QHE3X32T8/UNV ISH-SC	Instant	Parallel	109	277	0.40	>.98	<10%	1.18	10265
FO32XV	3	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.65	>.98	<10%	0.78	6785
FO32XV	3	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	6785
FO32XV	3	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.72	>.98	<10%	0.88	7655
FO32XV	3	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.31	>.98	<10%	0.88	7655
FO32XV	3	2900	QTP3X32T8/UNV ISH-SC	Instant	Parallel	114	120	0.95	>.98	<10%	1.18	10265
FO32XV	3	2900	QTP3X32T8/UNV ISH-SC	Instant	Parallel	111	277	0.41	>.98	<10%	1.18	10265
FO32XV	3	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.68	>.98	<10%	0.85	7395
FO32XV	3	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.28	>.98	<10%	0.85	7395
FO32XV	3	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	120	0.71	>.98	<15%	0.96	8350
FO32XV	3	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	277	0.31	>.98	<15%	0.96	8350
FO32XV	3	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.05	9135
FO32XV	3	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	99	277	0.36	>.98	<10%	1.05	9135
FO32XV	3	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.66	>.98	<10%	0.84	7310
FO32XV	3	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.29	>.97	<10%	0.84	7310
FO32XV	3	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	120	0.77	>.98	<15%	0.96	8350
FO32XV	3	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	277	0.33	>.98	<15%	0.96	8350
FO32XV	3	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	7655
FO32XV	3	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	7655
FO32XV	3	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	8350
FO32XV	3	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	8350
FO32XV	3	2900	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	110	120	0.94	>.98	<10%	1.15	10005
FO32XV	3	2900	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	108	277	0.40	>.98	<10%	1.15	10005
FO32XV	3	2900	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	69	120	0.58	>.98	<10%	0.71	6175
FO32XV	3	2900	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.71	6175
FO32XV	4	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.78	9050
FO32XV	4	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.78	9050
FO32XV	4	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	108	120	0.91	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	277	0.39	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4x32T8/UNV ISM-SC	Instant	Parallel	122	120	1.02	>.98	<10%	0.98	11370
FO32XV	4	2900	QHE4x32T8/UNV ISM-SC	Instant	Parallel	120	277	0.44	>.98	<10%	0.98	11370
FO32XV	4	2900	QHE4X32T8/UNV ISH	Instant	Parallel	144	120	1.21	>.98	<10%	1.15	13340
FO32XV	4	2900	QHE4X32T8/UNV ISH	Instant	Parallel	141	277	0.52	>.98	<10%	1.15	13340
FO32XV	4	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.80	>.98	<10%	0.78	9050
FO32XV	4	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.78	9050
FO32XV	4	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	120	0.95	>.98	<10%	0.88	10210
FO32XV	4	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	277	0.40	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	111	120	0.93	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.39	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	143	120	1.22	>.98	<10%	1.15	13340
FO32XV	4	2900	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	141	277	0.53	>.98	<10%	1.15	13340
FO32XV	4	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.76	>.98	<10%	0.71	8235
FO32XV	4	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	89	277	0.32	>.98	<10%	0.71	8235

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO30/XV/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO30/XV/SS	1	2750	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.20	>.98	<10%	0.78	2145
FO30/XV/SS	1	2750	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.09	>.98	<10%	0.78	2145
FO30/XV/SS	1	2750	QHE1X32T8/UNV ISN-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE1X32T8/UNV ISN-SC	Instant	Parallel	26	277	0.09	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE1X32T8/UNV ISH-SC	Instant	Parallel	36	120	0.30	>.98	<10%	1.20	3300
FO30/XV/SS	1	2750	QHE1X32T8/UNV ISH-SC	Instant	Parallel	36	277	0.13	>.96	<15%	1.20	3300
FO30/XV/SS	1	2750	QTP1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QTP1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE2X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.25	>.98	<10%	0.95	2615
FO30/XV/SS	1	2750	QHE2X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.10	>.98	<15%	0.95	2615
FO30/XV/SS	1	2750	QHE2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.05	2890
FO30/XV/SS	1	2750	QHE2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.11	>.98	<15%	1.05	2890
FO30/XV/SS	1	2750	QHE2X32T8/UNV ISM-SC	Instant	Parallel	37	120	0.31	>.95	<10%	1.15	3165
FO30/XV/SS	1	2750	QHE2X32T8/UNV ISM-SC	Instant	Parallel	37	277	0.15	>.85	<15%	1.15	3165
FO30/XV/SS	1	2750	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	0.90	2475
FO30/XV/SS	1	2750	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.96	<15%	0.90	2475
FO30/XV/SS	1	2750	QTP2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.28	>.98	<10%	1.04	2860
FO30/XV/SS	1	2750	QTP2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.13	>.98	<15%	1.04	2860
FO30/XV/SS	1	2750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.28	>.98	<15%	1.02	2805
FO30/XV/SS	1	2750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.02	2805
FO30/XV/SS	1	2750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.31	>.95	<10%	1.20	3300
FO30/XV/SS	1	2750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.15	>.86	<15%	1.20	3300
FO30/XV/SS	1	2750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.27	>.98	<10%	1.03	2835
FO30/XV/SS	1	2750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	35	277	0.13	>.92	<25%	1.03	2835
FO30/XV/SS	1	2750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.19	3275
FO30/XV/SS	1	2750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	38	277	0.14	>.96	<15%	1.19	3275
FO30/XV/SS	1	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.29	>.98	<15%	1.17	3220
FO30/XV/SS	1	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.14	>.93	<20%	1.17	3220
FO30/XV/SS	1	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.29	>.98	<10%	1.06	2915
FO30/XV/SS	1	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	35	277	0.14	>.91	<25%	1.06	2915
FO30/XV/SS	1	2750	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	28	120	0.24	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	26	277	0.10	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	120	0.29	>.98	<10%	1.07	2955
FO30/XV/SS	1	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	277	0.13	>.98	<15%	1.07	2955
FO30/XV/SS	1	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.13	3115
FO30/XV/SS	1	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.95	<15%	1.13	3115
FO30/XV/SS	1	2750	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	120	0.21	>.98	<10%	0.72	1980
FO30/XV/SS	1	2750	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.72	1980
FO30/XV/SS	2	2750	QHE2X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.78	4290
FO30/XV/SS	2	2750	QHE2X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.16	>.98	<10%	0.78	4290
FO30/XV/SS	2	2750	QHE2X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.44	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QHE2X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QHE2x32T8/UNV ISM-SC	Instant	Parallel	58	120	0.49	>.98	<10%	1.00	5500
FO30/XV/SS	2	2750	QHE2x32T8/UNV ISM-SC	Instant	Parallel	58	277	0.21	>.98	<10%	1.00	5500
FO30/XV/SS	2	2750	QHE2X32T8/UNV ISH-SC	Instant	Parallel	70	120	0.59	>.98	<10%	1.20	6600
FO30/XV/SS	2	2750	QHE2X32T8/UNV ISH-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.20	6600
FO30/XV/SS	2	2750	QTP2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4290
FO30/XV/SS	2	2750	QTP2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4290
FO30/XV/SS	2	2750	QTP2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QTP2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QTP2X32T8/UNV ISH-SC	Instant	Parallel	73	120	0.61	>.98	<10%	1.20	6600
FO30/XV/SS	2	2750	QTP2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.26	>.98	<10%	1.20	6600
FO30/XV/SS	2	2750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	53	120	0.43	>.98	<10%	0.90	4950
FO30/XV/SS	2	2750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	53	277	0.19	>.97	<15%	0.90	4950
FO30/XV/SS	2	2750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	60	120	0.47	>.98	<10%	0.99	5445
FO30/XV/SS	2	2750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.20	>.98	<15%	0.99	5445
FO30/XV/SS	2	2750	QHE3X32T8/UNV ISM-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.08	5940
FO30/XV/SS	2	2750	QHE3X32T8/UNV ISM-SC	Instant	Parallel	65	277	0.24	>.98	<15%	1.08	5940
FO30/XV/SS	2	2750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	55	120	0.43	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	55	277	0.19	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.99	5445
FO30/XV/SS	2	2750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.23	>.97	<15%	0.99	5445
FO30/XV/SS	2	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.98	5390
FO30/XV/SS	2	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.95	<20%	0.98	5390

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO30/XV/SS	2	2750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.08	5940
FO30/XV/SS	2	2750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.24	>.96	<15%	1.08	5940
FO30/XV/SS	2	2750	QHE4X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.58	>.98	<10%	1.13	6215
FO30/XV/SS	2	2750	QHE4X32T8/UNV ISM-SC	Instant	Parallel	70	277	0.26	>.95	<15%	1.13	6215
FO30/XV/SS	2	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.93	5115
FO30/XV/SS	2	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.96	<15%	0.93	5115
FO30/XV/SS	2	2750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.59	>.98	<15%	1.07	5885
FO30/XV/SS	2	2750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.25	>.98	<15%	1.07	5885
FO30/XV/SS	2	2750	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	55	120	0.46	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	53	277	0.20	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	0.98	5405
FO30/XV/SS	2	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.22	>.98	<10%	0.98	5405
FO30/XV/SS	2	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	1.06	5835
FO30/XV/SS	2	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	277	0.24	>.95	<15%	1.06	5835
FO30/XV/SS	2	2750	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	69	120	0.57	>.98	<10%	1.15	6325
FO30/XV/SS	2	2750	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	67	277	0.25	>.98	<10%	1.15	6325
FO30/XV/SS	2	2750	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	45	120	0.40	>.98	<10%	0.72	3960
FO30/XV/SS	2	2750	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	43	277	0.17	>.98	<10%	0.72	3960
FO30/XV/SS	3	2750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	68	120	0.58	>.98	<10%	0.78	6435
FO30/XV/SS	3	2750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	68	277	0.25	>.98	<10%	0.78	6435
FO30/XV/SS	3	2750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	78	120	0.66	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	77	277	0.28	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE3x32T8/UNV ISM-SC	Instant	Parallel	83	120	0.67	>.98	<10%	0.98	8085
FO30/XV/SS	3	2750	QHE3x32T8/UNV ISM-SC	Instant	Parallel	83	277	0.30	>.98	<10%	0.98	8085
FO30/XV/SS	3	2750	QHE3X32T8/UNV ISH-SC	Instant	Parallel	104	120	0.87	>.98	<10%	1.18	9735
FO30/XV/SS	3	2750	QHE3X32T8/UNV ISH-SC	Instant	Parallel	103	277	0.38	>.98	<10%	1.18	9735
FO30/XV/SS	3	2750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	71	120	0.60	>.98	<10%	0.78	6435
FO30/XV/SS	3	2750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	71	277	0.26	>.98	<10%	0.78	6435
FO30/XV/SS	3	2750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	120	0.69	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	277	0.30	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QTP3X32T8/UNV ISH-SC	Instant	Parallel	107	120	0.89	>.98	<10%	1.18	9735
FO30/XV/SS	3	2750	QTP3X32T8/UNV ISH-SC	Instant	Parallel	104	277	0.39	>.98	<10%	1.18	9735
FO30/XV/SS	3	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.64	>.98	<10%	0.85	7015
FO30/XV/SS	3	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	277	0.26	>.98	<15%	0.85	7015
FO30/XV/SS	3	2750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.67	>.98	<10%	0.96	7920
FO30/XV/SS	3	2750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	277	0.29	>.98	<15%	0.96	7920
FO30/XV/SS	3	2750	QHE4X32T8/UNV ISM-SC	Instant	Parallel	93	120	0.78	>.98	<10%	1.04	8580
FO30/XV/SS	3	2750	QHE4X32T8/UNV ISM-SC	Instant	Parallel	93	277	0.34	>.98	<10%	1.04	8580
FO30/XV/SS	3	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.62	>.98	<10%	0.84	6930
FO30/XV/SS	3	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.97	<10%	0.84	6930
FO30/XV/SS	3	2750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.74	>.98	<10%	0.96	7920
FO30/XV/SS	3	2750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.32	>.98	<15%	0.96	7920
FO30/XV/SS	3	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	80	120	0.68	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	78	277	0.28	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	87	120	0.73	>.98	<15%	0.96	7940
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	85	277	0.31	>.98	<10%	0.96	7940
FO30/XV/SS	3	2750	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	104	120	0.88	>.98	<10%	1.15	9490
FO30/XV/SS	3	2750	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	101	277	0.37	>.98	<10%	1.15	9490
FO30/XV/SS	3	2750	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.71	5860
FO30/XV/SS	3	2750	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	63	277	0.23	>.98	<10%	0.71	5860
FO30/XV/SS	4	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	89	120	0.75	>.98	<10%	0.78	8580
FO30/XV/SS	4	2750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	89	277	0.32	>.98	<10%	0.78	8580
FO30/XV/SS	4	2750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	102	120	0.86	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	101	277	0.37	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4x32T8/UNV ISM-SC	Instant	Parallel	114	120	0.95	>.98	<10%	0.98	10780
FO30/XV/SS	4	2750	QHE4x32T8/UNV ISM-SC	Instant	Parallel	112	277	0.41	>.98	<10%	0.98	10780
FO30/XV/SS	4	2750	QHE4X32T8/UNV ISH	Instant	Parallel	135	120	1.13	>.98	<10%	1.15	12650
FO30/XV/SS	4	2750	QHE4X32T8/UNV ISH	Instant	Parallel	133	277	0.49	>.98	<10%	1.15	12650
FO30/XV/SS	4	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	92	120	0.78	>.98	<10%	0.78	8580
FO30/XV/SS	4	2750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	92	277	0.34	>.98	<10%	0.78	8580
FO30/XV/SS	4	2750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	105	120	0.91	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	105	277	0.39	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	105	120	0.89	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	103	277	0.38	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	132	120	1.13	>.98	<10%	1.15	12650
FO30/XV/SS	4	2750	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	130	277	0.49	>.98	<10%	1.15	12650
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	86	120	0.72	>.98	<10%	0.71	7810
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	84	277	0.32	>.98	<10%	0.71	7810

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO28/XV/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28/XV/SS	1	2600	QHE1X32T8/UNV ISL-SC	Instant	Parallel	22	120	0.19	>.98	<10%	0.78	2030
FO28/XV/SS	1	2600	QHE1X32T8/UNV ISL-SC	Instant	Parallel	22	277	0.08	>.98	<10%	0.78	2030
FO28/XV/SS	1	2600	QHE1X32T8/UNV ISN-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE1X32T8/UNV ISN-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE1X32T8/UNV ISH-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.20	3120
FO28/XV/SS	1	2600	QHE1X32T8/UNV ISH-SC	Instant	Parallel	33	277	0.12	>.95	<15%	1.20	3120
FO28/XV/SS	1	2600	QTP1X32T8/UNV ISN-SC	Instant	Parallel	26	120	0.23	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QTP1X32T8/UNV ISN-SC	Instant	Parallel	26	277	0.10	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	27	120	0.23	>.98	<10%	0.95	2470
FO28/XV/SS	1	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.10	>.98	<15%	0.95	2470
FO28/XV/SS	1	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.25	>.98	<10%	1.05	2730
FO28/XV/SS	1	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<15%	1.05	2730
FO28/XV/SS	1	2600	QHE2X32T8/UNV ISM-SC	Instant	Parallel	34	120	0.29	>.98	<10%	1.15	2990
FO28/XV/SS	1	2600	QHE2X32T8/UNV ISM-SC	Instant	Parallel	34	277	0.13	>.95	<15%	1.15	2990
FO28/XV/SS	1	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.23	>.98	<10%	0.90	2340
FO28/XV/SS	1	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.96	<15%	0.90	2340
FO28/XV/SS	1	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.04	2705
FO28/XV/SS	1	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.97	<15%	1.04	2705
FO28/XV/SS	1	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<15%	1.02	2650
FO28/XV/SS	1	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<20%	1.02	2650
FO28/XV/SS	1	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.30	>.95	<10%	1.20	3120
FO28/XV/SS	1	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.14	>.85	<15%	1.20	3120
FO28/XV/SS	1	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.25	>.98	<15%	1.03	2680
FO28/XV/SS	1	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.12	>.88	<30%	1.03	2680
FO28/XV/SS	1	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.98	<10%	1.20	3120
FO28/XV/SS	1	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.13	>.96	<15%	1.20	3120
FO28/XV/SS	1	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	120	0.27	>.98	<15%	1.17	3040
FO28/XV/SS	1	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.92	<20%	1.17	3040
FO28/XV/SS	1	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.06	2755
FO28/XV/SS	1	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.13	>.90	<30%	1.06	2755
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSN-MC	PROStart®	Parallel	26	120	0.22	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSN-MC	PROStart	Parallel	25	277	0.10	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	33	120	0.28	>.98	<10%	1.08	2810
FO28/XV/SS	1	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	32	277	0.12	>.95	<15%	1.08	2810
FO28/XV/SS	1	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.14	2965
FO28/XV/SS	1	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.95	<15%	1.14	2965
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	120	0.18	>.98	<10%	0.72	1870
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	277	0.08	>.98	<10%	0.72	1870
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	42	120	0.35	>.98	<10%	0.78	4055
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	42	277	0.15	>.98	<10%	0.78	4055
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	48	120	0.40	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISM-SC	Instant	Parallel	53	120	0.44	>.98	<10%	1.00	5200
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISM-SC	Instant	Parallel	53	277	0.19	>.98	<10%	1.00	5200
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISH-SC	Instant	Parallel	65	120	0.55	>.98	<10%	1.20	6240
FO28/XV/SS	2	2600	QHE2X32T8/UNV ISH-SC	Instant	Parallel	64	277	0.23	>.98	<15%	1.20	6240
FO28/XV/SS	2	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.78	4055
FO28/XV/SS	2	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.98	<10%	0.78	4055
FO28/XV/SS	2	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.43	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QTP2X32T8/UNV ISH-SC	Instant	Parallel	69	120	0.57	>.98	<10%	1.20	6240
FO28/XV/SS	2	2600	QTP2X32T8/UNV ISH-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.20	6240
FO28/XV/SS	2	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.41	>.98	<10%	0.90	4680
FO28/XV/SS	2	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.18	>.97	<15%	0.90	4680
FO28/XV/SS	2	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	0.99	5150
FO28/XV/SS	2	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<15%	0.99	5150
FO28/XV/SS	2	2600	QHE3X32T8/UNV ISM-SC	Instant	Parallel	59	120	0.50	>.98	<10%	1.03	5355
FO28/XV/SS	2	2600	QHE3X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.96	<20%	1.03	5355
FO28/XV/SS	2	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.40	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.93	<10%	0.88	4575
FO28/XV/SS	2	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	58	120	0.49	>.98	<10%	0.98	5095
FO28/XV/SS	2	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	58	277	0.22	>.95	<15%	0.98	5095
FO28/XV/SS	2	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.43	>.98	<10%	0.98	5095
FO28/XV/SS	2	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	52	277	0.20	>.95	<20%	0.98	5095

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28/XV/SS	2	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	61	120	0.50	>.98	<10%	1.08	5615
FO28/XV/SS	2	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.22	>.96	<20%	1.08	5615
FO28/XV/SS	2	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	64	120	0.54	>.98	<10%	1.10	5720
FO28/XV/SS	2	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	64	277	0.24	>.95	<15%	1.10	5720
FO28/XV/SS	2	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	53	120	0.44	>.97	<10%	0.93	4835
FO28/XV/SS	2	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	53	277	0.19	>.95	<15%	0.93	4835
FO28/XV/SS	2	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	61	120	0.59	>.98	<15%	1.07	5565
FO28/XV/SS	2	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.25	>.98	<15%	1.07	5565
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSN-MC	PROStart®	Parallel	51	120	0.43	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	50	277	0.18	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	56	120	0.48	>.98	<10%	0.98	5095
FO28/XV/SS	2	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	56	277	0.21	>.98	<10%	0.98	5095
FO28/XV/SS	2	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	1.06	5510
FO28/XV/SS	2	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.23	>.95	<15%	1.06	5510
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	63	120	0.53	>.98	<10%	1.15	5980
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	62	277	0.23	>.98	<10%	1.15	5980
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	41	120	0.34	>.98	<10%	0.72	3745
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	40	277	0.15	>.98	<10%	0.72	3745
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	63	120	0.53	>.98	<10%	0.78	6085
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	63	277	0.23	>.98	<10%	0.78	6085
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.61	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISM-SC	Instant	Parallel	76	120	0.64	>.98	<10%	0.98	7645
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISM-SC	Instant	Parallel	76	277	0.28	>.98	<10%	0.98	7645
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISH-SC	Instant	Parallel	98	120	0.82	>.98	<10%	1.18	9205
FO28/XV/SS	3	2600	QHE3X32T8/UNV ISH-SC	Instant	Parallel	96	277	0.35	>.98	<10%	1.18	9205
FO28/XV/SS	3	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	67	120	0.57	>.98	<10%	0.78	6085
FO28/XV/SS	3	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	67	277	0.25	>.98	<10%	0.78	6085
FO28/XV/SS	3	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	76	120	0.65	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	76	277	0.28	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QTP3X32T8/UNV ISH-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.18	9205
FO28/XV/SS	3	2600	QTP3X32T8/UNV ISH-SC	Instant	Parallel	98	277	0.36	>.98	<10%	1.18	9205
FO28/XV/SS	3	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.59	>.98	<10%	0.85	6630
FO28/XV/SS	3	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.26	>.98	<15%	0.85	6630
FO28/XV/SS	3	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	78	120	0.66	>.98	<10%	0.96	7490
FO28/XV/SS	3	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	78	277	0.28	>.98	<15%	0.96	7490
FO28/XV/SS	3	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	85	120	0.71	>.98	<10%	1.02	7955
FO28/XV/SS	3	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	85	277	0.31	>.98	<10%	1.02	7955
FO28/XV/SS	3	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.57	>.98	<10%	0.84	6550
FO28/XV/SS	3	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.25	>.97	<10%	0.84	6550
FO28/XV/SS	3	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	80	120	0.70	>.98	<10%	0.96	7490
FO28/XV/SS	3	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	80	277	0.30	>.98	<15%	0.96	7490
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	73	120	0.62	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	72	277	0.27	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	81	120	0.68	>.98	<10%	0.96	7490
FO28/XV/SS	3	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	79	277	0.29	>.98	<10%	0.96	7490
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	95	120	0.81	>.98	<10%	1.15	8970
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	93	277	0.34	>.98	<10%	1.15	8970
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	60	120	0.50	>.98	<10%	0.71	5540
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	59	277	0.22	>.98	<10%	0.71	5540
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	84	120	0.71	>.98	<10%	0.78	8110
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	84	277	0.31	>.98	<10%	0.78	8110
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	107	120	0.89	>.98	<10%	0.98	10190
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	105	277	0.38	>.98	<10%	0.98	10190
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISH	Instant	Parallel	127	120	1.02	>.98	<10%	1.15	11960
FO28/XV/SS	4	2600	QHE4X32T8/UNV ISH	Instant	Parallel	124	277	0.44	>.98	<10%	1.15	11960
FO28/XV/SS	4	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	86	120	0.73	>.98	<10%	0.78	8110
FO28/XV/SS	4	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	86	277	0.32	>.97	<10%	0.78	8110
FO28/XV/SS	4	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	98	120	0.85	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	98	277	0.37	>.98	<15%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	98	120	0.83	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	95	277	0.35	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	124	120	1.06	>.98	<10%	1.15	11960
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	123	277	0.46	>.98	<10%	1.15	11960
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	79	120	0.66	>.98	<10%	0.71	7385
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	77	277	0.28	>.98	<10%	0.71	7385

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

FO32/25W/XV/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	120	0.17	>.98	<10%	0.78	1870
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	277	0.08	>.98	<10%	0.78	1870
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV ISN-SC	Instant	Parallel	22	120	0.19	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV ISN-SC	Instant	Parallel	22	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV ISH-SC	Instant	Parallel	30	120	0.26	>.98	<10%	1.20	2880
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV ISH-SC	Instant	Parallel	30	277	0.12	>.95	<15%	1.20	2880
FO32/25W/XV/SS	1	2400	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	120	0.20	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.95	2280
FO32/25W/XV/SS	1	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.10	>.92	<20%	0.95	2280
FO32/25W/XV/SS	1	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.23	>.98	<10%	1.03	2470
FO32/25W/XV/SS	1	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.94	<20%	1.03	2470
FO32/25W/XV/SS	1	2400	QHE2X32T8/UNV ISM-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.15	2760
FO32/25W/XV/SS	1	2400	QHE2X32T8/UNV ISM-SC	Instant	Parallel	32	277	0.12	>.95	<10%	1.15	2760
FO32/25W/XV/SS	1	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.95	2280
FO32/25W/XV/SS	1	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	26	277	0.10	>.92	<20%	0.95	2280
FO32/25W/XV/SS	1	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.24	>.98	<10%	1.05	2520
FO32/25W/XV/SS	1	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.97	<10%	1.05	2520
FO32/25W/XV/SS	1	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.24	>.98	<10%	1.00	2400
FO32/25W/XV/SS	1	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.95	<20%	1.00	2400
FO32/25W/XV/SS	1	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.13	2710
FO32/25W/XV/SS	1	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.94	<20%	1.13	2710
FO32/25W/XV/SS	1	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.26	>.98	<10%	1.00	2400
FO32/25W/XV/SS	1	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.95	<20%	1.00	2400
FO32/25W/XV/SS	1	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.14	2735
FO32/25W/XV/SS	1	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	277	0.13	>.95	<20%	1.14	2735
FO32/25W/XV/SS	1	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	1.17	2810
FO32/25W/XV/SS	1	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.92	<20%	1.17	2810
FO32/25W/XV/SS	1	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.28	>.98	<10%	1.17	2810
FO32/25W/XV/SS	1	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.14	>.92	<20%	1.17	2810
FO32/25W/XV/SS	1	2400	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23	120	0.20	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	120	0.25	>.98	<10%	1.08	2590
FO32/25W/XV/SS	1	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.95	<15%	1.08	2590
FO32/25W/XV/SS	1	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	32	120	0.27	>.98	<10%	1.14	2740
FO32/25W/XV/SS	1	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	33	277	0.13	>.90	<15%	1.14	2740
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	20	120	0.16	>.98	<10%	0.72	1730
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1730
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.32	>.98	<10%	0.78	3745
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.98	<10%	0.78	3745
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.36	>.98	<10%	0.88	4225
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.16	>.98	<10%	0.88	4225
FO32/25W/XV/SS	2	2400	QHE2x32T8/UNV ISM-SC	Instant	Parallel	50	120	0.41	>.98	<10%	1.00	4800
FO32/25W/XV/SS	2	2400	QHE2x32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.98	<10%	1.00	4800
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV ISH-SC	Instant	Parallel	58	120	0.50	>.98	<10%	1.20	5760
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV ISH-SC	Instant	Parallel	57	277	0.22	>.98	<15%	1.20	5760
FO32/25W/XV/SS	2	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.34	>.98	<10%	0.78	3745
FO32/25W/XV/SS	2	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.98	<10%	0.78	3745
FO32/25W/XV/SS	2	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	46	120	0.39	>.98	<10%	0.88	4225
FO32/25W/XV/SS	2	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	46	277	0.16	>.98	<10%	0.88	4225
FO32/25W/XV/SS	2	2400	QTP2X32T8/UNV ISH-SC	Instant	Parallel	61	120	0.51	>.98	<10%	1.20	5760
FO32/25W/XV/SS	2	2400	QTP2X32T8/UNV ISH-SC	Instant	Parallel	61	277	0.22	>.98	<10%	1.20	5760
FO32/25W/XV/SS	2	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.90	4320
FO32/25W/XV/SS	2	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.97	<15%	0.90	4320
FO32/25W/XV/SS	2	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.42	>.98	<10%	0.97	4655
FO32/25W/XV/SS	2	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.19	>.98	<10%	0.97	4655
FO32/25W/XV/SS	2	2400	QHE3X32T8/UNV ISM-SC	Instant	Parallel	55	120	0.46	>.98	<10%	1.03	4945
FO32/25W/XV/SS	2	2400	QHE3X32T8/UNV ISM-SC	Instant	Parallel	55	277	0.21	>.95	<15%	1.03	4945
FO32/25W/XV/SS	2	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.84	4030
FO32/25W/XV/SS	2	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.18	>.98	<10%	0.84	4030
FO32/25W/XV/SS	2	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.44	>.98	<10%	0.98	4705
FO32/25W/XV/SS	2	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.95	<15%	0.98	4705
FO32/25W/XV/SS	2	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.40	>.98	<10%	1.00	4800
FO32/25W/XV/SS	2	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.19	>.95	<20%	1.00	4800

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/XV/SS	2	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	1.04	4990
FO32/25W/XV/SS	2	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.21	>.95	<20%	1.04	4990
FO32/25W/XV/SS	2	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	120	0.50	>.98	<10%	1.10	5280
FO32/25W/XV/SS	2	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.95	<15%	1.10	5280
FO32/25W/XV/SS	2	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.40	>.98	<10%	0.91	4370
FO32/25W/XV/SS	2	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.95	<15%	0.91	4370
FO32/25W/XV/SS	2	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<15%	1.01	4850
FO32/25W/XV/SS	2	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<15%	1.01	4850
FO32/25W/XV/SS	2	2400	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	45	120	0.38	>.98	>.98	0.88	4225
FO32/25W/XV/SS	2	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44	277	0.16	>.98	>.98	0.88	4225
FO32/25W/XV/SS	2	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	52	120	0.44	>.98	>.98	0.98	4720
FO32/25W/XV/SS	2	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	51	277	0.19	>.95	<10%	0.98	4720
FO32/25W/XV/SS	2	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	120	0.46	>.98	>.98	1.06	5090
FO32/25W/XV/SS	2	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	277	0.21	>.95	<15%	1.06	5090
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	56	120	0.47	>.98	<10%	1.15	5520
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	277	0.20	>.98	<10%	1.15	5520
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	38	120	0.31	>.98	<10%	0.72	3455
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	37	277	0.14	>.98	<10%	0.72	3455
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.48	>.98	<10%	0.78	5615
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.98	<10%	0.78	5615
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.55	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	64	277	0.23	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QHE3x32T8/UNV ISM-SC	Instant	Parallel	70	120	0.59	>.98	<10%	0.98	7055
FO32/25W/XV/SS	3	2400	QHE3x32T8/UNV ISM-SC	Instant	Parallel	70	277	0.26	>.98	<10%	0.98	7055
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV ISH-SC	Instant	Parallel	87	120	0.72	>.98	<10%	1.18	8495
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV ISH-SC	Instant	Parallel	86	277	0.31	>.98	<10%	1.18	8495
FO32/25W/XV/SS	3	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.78	5615
FO32/25W/XV/SS	3	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.78	5615
FO32/25W/XV/SS	3	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.58	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.25	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QTP3X32T8/UNV ISH-SC	Instant	Parallel	89	120	0.75	>.98	<10%	1.18	8495
FO32/25W/XV/SS	3	2400	QTP3X32T8/UNV ISH-SC	Instant	Parallel	88	277	0.32	>.98	<10%	1.18	8495
FO32/25W/XV/SS	3	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	65	120	0.53	>.98	<10%	0.85	6120
FO32/25W/XV/SS	3	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.24	>.96	<15%	0.85	6120
FO32/25W/XV/SS	3	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.60	>.98	<10%	0.93	6695
FO32/25W/XV/SS	3	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<15%	0.93	6695
FO32/25W/XV/SS	3	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	80	120	0.67	>.98	<10%	1.04	7490
FO32/25W/XV/SS	3	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	80	277	0.29	>.98	<10%	1.04	7490
FO32/25W/XV/SS	3	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	64	120	0.54	>.98	<10%	0.82	5905
FO32/25W/XV/SS	3	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.24	>.97	<10%	0.82	5905
FO32/25W/XV/SS	3	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.60	>.98	<10%	0.92	6625
FO32/25W/XV/SS	3	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<15%	0.92	6625
FO32/25W/XV/SS	3	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	67	120	0.56	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	66	277	0.24	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	75	120	0.63	>.98	<10%	0.96	6940
FO32/25W/XV/SS	3	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	74	277	0.27	>.98	<10%	0.96	6940
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	85	120	0.72	>.98	<10%	1.15	8280
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	84	277	0.31	>.98	<10%	1.15	8280
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	56	120	0.47	>.98	<10%	0.71	5110
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	55	277	0.20	>.98	<10%	0.71	5110
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	76	120	0.62	>.98	<10%	0.78	7490
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	7490
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.71	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	277	0.30	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV ISM-SC	Instant	Parallel	99	120	0.83	>.98	<10%	0.98	9410
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV ISM-SC	Instant	Parallel	98	277	0.36	>.98	<10%	0.98	9410
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV ISH	Instant	Parallel	112	120	0.94	>.98	<10%	1.15	11040
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV ISH	Instant	Parallel	111	277	0.41	>.98	<10%	1.15	11040
FO32/25W/XV/SS	4	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	120	0.63	>.98	<10%	0.78	7490
FO32/25W/XV/SS	4	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	277	0.28	>.97	<10%	0.78	7490
FO32/25W/XV/SS	4	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	120	0.74	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	277	0.31	>.98	<15%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	112	120	0.95	>.98	<10%	1.15	11040
FO32/25W/XV/SS	4	2400	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	110	277	0.41	>.98	<10%	1.15	11040
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	73	120	0.61	>.98	<10%	0.71	6815
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	71	277	0.26	>.98	<10%	0.71	6815

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO32XP/XL

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XP/XL	1	2950	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.78	2300
FO32XP/XL	1	2950	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.78	2300
FO32XP/XL	1	2950	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2595
FO32XP/XL	1	2950	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2595
FO32XP/XL	1	2950	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	120	0.32	>.98	<10%	1.20	3540
FO32XP/XL	1	2950	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	277	0.14	>.98	<10%	1.20	3540
FO32XP/XL	1	2950	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.26	>.98	<10%	0.88	2595
FO32XP/XL	1	2950	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<10%	0.88	2595
FO32XP/XL	1	2950	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.27	>.95	<10%	0.95	2805
FO32XP/XL	1	2950	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<10%	0.95	2805
FO32XP/XL	1	2950	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.27	>.95	<10%	1.05	3100
FO32XP/XL	1	2950	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.95	<10%	1.05	3100
FO32XP/XL	1	2950	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.15	3395
FO32XP/XL	1	2950	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	277	0.15	>.95	<15%	1.15	3395
FO32XP/XL	1	2950	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.30	>.98	<10%	0.90	2655
FO32XP/XL	1	2950	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.97	<10%	0.90	2655
FO32XP/XL	1	2950	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.95	<10%	1.04	3070
FO32XP/XL	1	2950	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.95	<10%	1.04	3070
FO32XP/XL	1	2950	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.30	>.98	<15%	1.02	3010
FO32XP/XL	1	2950	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.96	<20%	1.02	3010
FO32XP/XL	1	2950	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.20	3540
FO32XP/XL	1	2950	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	277	0.15	>.92	<15%	1.20	3540
FO32XP/XL	1	2950	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	120	0.29	>.98	<10%	1.03	3040
FO32XP/XL	1	2950	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	277	0.13	>.96	<20%	1.03	3040
FO32XP/XL	1	2950	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.34	>.95	<15%	1.19	3510
FO32XP/XL	1	2950	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.15	>.98	<10%	1.19	3510
FO32XP/XL	1	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	120	0.33	>.98	<15%	1.17	3450
FO32XP/XL	1	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	277	0.15	>.93	<20%	1.17	3450
FO32XP/XL	1	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.06	3125
FO32XP/XL	1	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.15	>.92	<30%	1.06	3125
FO32XP/XL	1	2950	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.26	>.98	<10%	0.88	2595
FO32XP/XL	1	2950	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	29	277	0.11	>.98	<10%	0.88	2595
FO32XP/XL	1	2950	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	120	0.30	>.98	<10%	1.07	3160
FO32XP/XL	1	2950	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	277	0.13	>.98	<15%	1.07	3160
FO32XP/XL	1	2950	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3355
FO32XP/XL	1	2950	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	40	277	0.16	>.95	<15%	1.14	3355
FO32XP/XL	1	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.34	>.98	<10%	1.20	3540
FO32XP/XL	1	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.90	<15%	1.20	3540
FO32XP/XL	1	2950	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.72	2125
FO32XP/XL	1	2950	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.98	<10%	0.72	2125
FO32XP/XL	2	2950	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4600
FO32XP/XL	2	2950	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4600
FO32XP/XL	2	2950	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.47	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QHE2x32T8/UNV ISM-SC	Instant	Parallel	63	120	0.54	>.98	<10%	1.00	5900
FO32XP/XL	2	2950	QHE2x32T8/UNV ISM-SC	Instant	Parallel	62	277	0.23	>.98	<10%	1.00	5900
FO32XP/XL	2	2950	QHE2X32T8/UNV ISH-SC	Instant	Parallel	74	120	0.65	>.98	<10%	1.20	7080
FO32XP/XL	2	2950	QHE2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.28	>.98	<10%	1.20	7080
FO32XP/XL	2	2950	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.44	>.98	<10%	0.78	4600
FO32XP/XL	2	2950	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.98	<10%	0.78	4600
FO32XP/XL	2	2950	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	120	0.65	>.98	<10%	1.20	7080
FO32XP/XL	2	2950	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	277	0.28	>.98	<10%	1.20	7080
FO32XP/XL	2	2950	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.46	>.97	<15%	0.90	5310
FO32XP/XL	2	2950	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.20	>.97	<15%	0.90	5310
FO32XP/XL	2	2950	QHE3X32T8/UNV ISN-SC	Instant	Parallel	63	120	0.50	>.97	<15%	0.99	5840
FO32XP/XL	2	2950	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.22	>.97	<15%	0.99	5840
FO32XP/XL	2	2950	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.60	>.98	<10%	1.08	6370
FO32XP/XL	2	2950	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.08	6370
FO32XP/XL	2	2950	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.45	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.20	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.97	<15%	1.02	6020
FO32XP/XL	2	2950	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	277	0.24	>.97	<15%	1.02	6020

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XP/XL	2	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.98	5780
FO32XP/XL	2	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<15%	0.98	5780
FO32XP/XL	2	2950	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.60	>.97	<15%	1.08	6370
FO32XP/XL	2	2950	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.08	6370
FO32XP/XL	2	2950	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	120	0.62	>.98	<10%	1.16	6845
FO32XP/XL	2	2950	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	277	0.27	>.98	<15%	1.16	6845
FO32XP/XL	2	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	120	0.50	>.98	<10%	0.93	5485
FO32XP/XL	2	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	277	0.23	>.97	<10%	0.93	5485
FO32XP/XL	2	2950	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.59	>.98	<15%	1.07	6315
FO32XP/XL	2	2950	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.07	6315
FO32XP/XL	2	2950	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	57	120	0.48	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	277	0.21	>.98	<10%	0.88	5190
FO32XP/XL	2	2950	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.98	5785
FO32XP/XL	2	2950	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64	277	0.24	>.98	<10%	0.98	5785
FO32XP/XL	2	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.06	6255
FO32XP/XL	2	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.06	6255
FO32XP/XL	2	2950	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	72	120	0.60	>.98	<10%	1.15	6785
FO32XP/XL	2	2950	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	70	277	0.27	>.98	<10%	1.15	6785
FO32XP/XL	2	2950	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.72	4250
FO32XP/XL	2	2950	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	47	277	0.17	>.98	<10%	0.72	4250
FO32XP/XL	3	2950	QHE3X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.61	>.98	<10%	0.78	6905
FO32XP/XL	3	2950	QHE3X32T8/UNV ISL-SC	Instant	Parallel	72	277	0.27	>.98	<10%	0.78	6905
FO32XP/XL	3	2950	QHE3X32T8/UNV ISN-SC	Instant	Parallel	83	120	0.69	>.98	<10%	0.88	7790
FO32XP/XL	3	2950	QHE3X32T8/UNV ISN-SC	Instant	Parallel	82	277	0.30	>.98	<10%	0.88	7790
FO32XP/XL	3	2950	QHE3x32T8/UNV ISM-SC	Instant	Parallel	90	120	0.76	>.98	<10%	0.98	8675
FO32XP/XL	3	2950	QHE3x32T8/UNV ISM-SC	Instant	Parallel	89	277	0.40	>.98	<10%	0.98	8675
FO32XP/XL	3	2950	QHE3X32T8/UNV ISH-SC	Instant	Parallel	111	120	0.93	>.98	<10%	1.18	10445
FO32XP/XL	3	2950	QHE3X32T8/UNV ISH-SC	Instant	Parallel	109	277	0.40	>.98	<10%	1.18	10445
FO32XP/XL	3	2950	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.65	>.98	<10%	0.78	6905
FO32XP/XL	3	2950	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	6905
FO32XP/XL	3	2950	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.72	>.98	<10%	0.88	7790
FO32XP/XL	3	2950	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.31	>.98	<10%	0.88	7790
FO32XP/XL	3	2950	QTP3X32T8/UNV ISH-SC	Instant	Parallel	114	120	0.95	>.98	<10%	1.18	10445
FO32XP/XL	3	2950	QTP3X32T8/UNV ISH-SC	Instant	Parallel	111	277	0.41	>.98	<10%	1.18	10445
FO32XP/XL	3	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.68	>.98	<10%	0.85	7525
FO32XP/XL	3	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.28	>.98	<10%	0.85	7525
FO32XP/XL	3	2950	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	120	0.71	>.98	<15%	0.96	8495
FO32XP/XL	3	2950	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	277	0.31	>.98	<15%	0.96	8495
FO32XP/XL	3	2950	QHE4X32T8/UNV ISM-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.05	9295
FO32XP/XL	3	2950	QHE4X32T8/UNV ISM-SC	Instant	Parallel	99	277	0.36	>.98	<10%	1.05	9295
FO32XP/XL	3	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.66	>.98	<10%	0.84	7435
FO32XP/XL	3	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.29	>.97	<10%	0.84	7435
FO32XP/XL	3	2950	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	120	0.77	>.98	<15%	0.96	8495
FO32XP/XL	3	2950	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	277	0.33	>.98	<15%	0.96	8495
FO32XP/XL	3	2950	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	7790
FO32XP/XL	3	2950	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	7790
FO32XP/XL	3	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	8495
FO32XP/XL	3	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	8495
FO32XP/XL	3	2950	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	110	120	0.94	>.98	<10%	1.15	10180
FO32XP/XL	3	2950	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	108	277	0.40	>.98	<10%	1.15	10180
FO32XP/XL	3	2950	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	69	120	0.58	>.98	<10%	0.71	6285
FO32XP/XL	3	2950	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.71	6285
FO32XP/XL	4	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.78	9205
FO32XP/XL	4	2950	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.78	9205
FO32XP/XL	4	2950	QHE4X32T8/UNV ISN-SC	Instant	Parallel	108	120	0.91	>.98	<10%	0.88	10385
FO32XP/XL	4	2950	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	277	0.39	>.98	<10%	0.88	10385
FO32XP/XL	4	2950	QHE4x32T8/UNV ISM-SC	Instant	Parallel	122	120	1.02	>.98	<10%	0.98	11565
FO32XP/XL	4	2950	QHE4x32T8/UNV ISM-SC	Instant	Parallel	120	277	0.44	>.98	<10%	0.98	11565
FO32XP/XL	4	2950	QHE4X32T8/UNV ISH	Instant	Parallel	144	120	1.21	>.98	<10%	1.15	13570
FO32XP/XL	4	2950	QHE4X32T8/UNV ISH	Instant	Parallel	141	277	0.52	>.98	<10%	1.15	13570
FO32XP/XL	4	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.80	>.98	<10%	0.78	9205
FO32XP/XL	4	2950	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.78	9205
FO32XP/XL	4	2950	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	120	0.95	>.98	<10%	0.88	10385
FO32XP/XL	4	2950	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	277	0.40	>.98	<10%	0.88	10385
FO32XP/XL	4	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	111	120	0.93	>.98	<10%	0.88	10385
FO32XP/XL	4	2950	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.39	>.98	<10%	0.88	10385
FO32XP/XL	4	2950	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	143	120	1.22	>.98	<10%	1.15	13570
FO32XP/XL	4	2950	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	141	277	0.53	>.98	<10%	1.15	13570
FO32XP/XL	4	2950	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.76	>.98	<10%	0.71	8380
FO32XP/XL	4	2950	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	89	277	0.32	>.98	<10%	0.71	8380

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO28XP/XL/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV ISL-SC	Instant	Parallel	22	120	0.19	>.98	<10%	0.78	2030
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV ISL-SC	Instant	Parallel	22	277	0.08	>.98	<10%	0.78	2030
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV ISN-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.88	2290
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV ISN-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.88	2290
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV ISH-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.20	3120
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV ISH-SC	Instant	Parallel	33	277	0.12	>.95	<15%	1.20	3120
FO28XP/XL/SS	1	2600	QTP1X32T8/UNV ISN-SC	Instant	Parallel	26	120	0.23	>.98	<10%	0.88	2290
FO28XP/XL/SS	1	2600	QTP1X32T8/UNV ISN-SC	Instant	Parallel	26	277	0.10	>.98	<10%	0.88	2290
FO28XP/XL/SS	1	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	27	120	0.23	>.98	<10%	0.95	2470
FO28XP/XL/SS	1	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.10	>.98	<15%	0.95	2470
FO28XP/XL/SS	1	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.25	>.98	<10%	1.05	2730
FO28XP/XL/SS	1	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<15%	1.05	2730
FO28XP/XL/SS	1	2600	QHE2X32T8/UNV ISM-SC	Instant	Parallel	34	120	0.29	>.98	<10%	1.15	2990
FO28XP/XL/SS	1	2600	QHE2X32T8/UNV ISM-SC	Instant	Parallel	34	277	0.13	>.95	<15%	1.15	2990
FO28XP/XL/SS	1	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.23	>.98	<10%	0.90	2340
FO28XP/XL/SS	1	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.96	<15%	0.90	2340
FO28XP/XL/SS	1	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.04	2705
FO28XP/XL/SS	1	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.97	<15%	1.04	2705
FO28XP/XL/SS	1	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<15%	1.02	2650
FO28XP/XL/SS	1	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<20%	1.02	2650
FO28XP/XL/SS	1	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.30	>.95	<10%	1.20	3120
FO28XP/XL/SS	1	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.14	>.85	<15%	1.20	3120
FO28XP/XL/SS	1	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.25	>.98	<15%	1.03	2680
FO28XP/XL/SS	1	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.12	>.88	<30%	1.03	2680
FO28XP/XL/SS	1	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.98	<10%	1.20	3120
FO28XP/XL/SS	1	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.13	>.96	<15%	1.20	3120
FO28XP/XL/SS	1	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	120	0.27	>.98	<15%	1.17	3040
FO28XP/XL/SS	1	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.92	<20%	1.17	3040
FO28XP/XL/SS	1	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.06	2755
FO28XP/XL/SS	1	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.13	>.90	<30%	1.06	2755
FO28XP/XL/SS	1	2600	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	26	120	0.22	>.98	<10%	0.88	2290
FO28XP/XL/SS	1	2600	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	25	277	0.10	>.98	<10%	0.88	2290
FO28XP/XL/SS	1	2600	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	33	120	0.28	>.98	<10%	1.08	2810
FO28XP/XL/SS	1	2600	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	32	277	0.12	>.95	<15%	1.08	2810
FO28XP/XL/SS	1	2600	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.14	2965
FO28XP/XL/SS	1	2600	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.95	<15%	1.14	2965
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	120	0.18	>.98	<10%	0.72	1870
FO28XP/XL/SS	1	2600	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	277	0.08	>.98	<10%	0.72	1870
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	42	120	0.35	>.98	<10%	0.78	4055
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV ISL-SC	Instant	Parallel	42	277	0.15	>.98	<10%	0.78	4055
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	48	120	0.40	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV ISN-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QHE2x32T8/UNV ISM-SC	Instant	Parallel	53	120	0.44	>.98	<10%	1.00	5200
FO28XP/XL/SS	2	2600	QHE2x32T8/UNV ISM-SC	Instant	Parallel	53	277	0.19	>.98	<10%	1.00	5200
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV ISH-SC	Instant	Parallel	65	120	0.55	>.98	<10%	1.20	6240
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV ISH-SC	Instant	Parallel	64	277	0.23	>.98	<15%	1.20	6240
FO28XP/XL/SS	2	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.78	4055
FO28XP/XL/SS	2	2600	QTP2X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.98	<10%	0.78	4055
FO28XP/XL/SS	2	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.43	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QTP2X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QTP2X32T8/UNV ISH-SC	Instant	Parallel	69	120	0.57	>.98	<10%	1.20	6240
FO28XP/XL/SS	2	2600	QTP2X32T8/UNV ISH-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.20	6240
FO28XP/XL/SS	2	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.41	>.98	<10%	0.90	4680
FO28XP/XL/SS	2	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.18	>.97	<15%	0.90	4680
FO28XP/XL/SS	2	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	0.99	5150
FO28XP/XL/SS	2	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<15%	0.99	5150
FO28XP/XL/SS	2	2600	QHE3X32T8/UNV ISM-SC	Instant	Parallel	59	120	0.50	>.98	<10%	1.03	5355
FO28XP/XL/SS	2	2600	QHE3X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.96	<20%	1.03	5355
FO28XP/XL/SS	2	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.40	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.93	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	58	120	0.49	>.98	<10%	0.98	5095
FO28XP/XL/SS	2	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	58	277	0.22	>.95	<15%	0.98	5095
FO28XP/XL/SS	2	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.43	>.98	<10%	0.98	5095
FO28XP/XL/SS	2	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	52	277	0.20	>.96	<20%	0.98	5095

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28XP/XL/SS	2	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	61	120	0.50	>.98	<10%	1.08	5615
FO28XP/XL/SS	2	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.22	>.96	<20%	1.08	5615
FO28XP/XL/SS	2	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	64	120	0.54	>.98	<10%	1.10	5720
FO28XP/XL/SS	2	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	64	277	0.24	>.95	<15%	1.10	5720
FO28XP/XL/SS	2	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	53	120	0.44	>.97	<10%	0.93	4835
FO28XP/XL/SS	2	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	53	277	0.19	>.95	<15%	0.93	4835
FO28XP/XL/SS	2	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	61	120	0.59	>.98	<15%	1.07	5565
FO28XP/XL/SS	2	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.25	>.98	<15%	1.07	5565
FO28XP/XL/SS	2	2600	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	51	120	0.43	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	50	277	0.18	>.98	<10%	0.88	4575
FO28XP/XL/SS	2	2600	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	56	120	0.48	>.98	<10%	0.98	5095
FO28XP/XL/SS	2	2600	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	56	277	0.21	>.98	<10%	0.98	5095
FO28XP/XL/SS	2	2600	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	1.06	5510
FO28XP/XL/SS	2	2600	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.23	>.95	<15%	1.06	5510
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	63	120	0.53	>.98	<10%	1.15	5980
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	62	277	0.23	>.98	<10%	1.15	5980
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	41	120	0.34	>.98	<10%	0.72	3745
FO28XP/XL/SS	2	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	40	277	0.15	>.98	<10%	0.72	3745
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	63	120	0.53	>.98	<10%	0.78	6085
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV ISL-SC	Instant	Parallel	63	277	0.23	>.98	<10%	0.78	6085
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.61	>.98	<10%	0.88	6865
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<10%	0.88	6865
FO28XP/XL/SS	3	2600	QHE3x32T8/UNV ISM-SC	Instant	Parallel	76	120	0.64	>.98	<10%	0.98	7645
FO28XP/XL/SS	3	2600	QHE3x32T8/UNV ISM-SC	Instant	Parallel	76	277	0.28	>.98	<10%	0.98	7645
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV ISH-SC	Instant	Parallel	98	120	0.82	>.98	<10%	1.18	9205
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV ISH-SC	Instant	Parallel	96	277	0.35	>.98	<10%	1.18	9205
FO28XP/XL/SS	3	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	67	120	0.57	>.98	<10%	0.78	6085
FO28XP/XL/SS	3	2600	QTP3X32T8/UNV ISL-SC	Instant	Parallel	67	277	0.25	>.98	<10%	0.78	6085
FO28XP/XL/SS	3	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	76	120	0.65	>.98	<10%	0.88	6865
FO28XP/XL/SS	3	2600	QTP3X32T8/UNV ISN-SC	Instant	Parallel	76	277	0.28	>.98	<10%	0.88	6865
FO28XP/XL/SS	3	2600	QTP3X32T8/UNV ISH-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.18	9205
FO28XP/XL/SS	3	2600	QTP3X32T8/UNV ISH-SC	Instant	Parallel	98	277	0.36	>.98	<10%	1.18	9205
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.59	>.98	<10%	0.85	6630
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.26	>.98	<15%	0.85	6630
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	78	120	0.66	>.98	<10%	0.96	7490
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	78	277	0.28	>.98	<15%	0.96	7490
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	85	120	0.71	>.98	<10%	1.02	7955
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV ISM-SC	Instant	Parallel	85	277	0.31	>.98	<10%	1.02	7955
FO28XP/XL/SS	3	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.57	>.98	<10%	0.84	6550
FO28XP/XL/SS	3	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.25	>.97	<10%	0.84	6550
FO28XP/XL/SS	3	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	80	120	0.70	>.98	<10%	0.96	7490
FO28XP/XL/SS	3	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	80	277	0.30	>.98	<15%	0.96	7490
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	73	120	0.62	>.98	<10%	0.88	6865
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	72	277	0.27	>.98	<10%	0.88	6865
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	81	120	0.68	>.98	<10%	0.96	7490
FO28XP/XL/SS	3	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	79	277	0.29	>.98	<10%	0.96	7490
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	95	120	0.81	>.98	<10%	1.15	8970
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	93	277	0.34	>.98	<10%	1.15	8970
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	60	120	0.50	>.98	<10%	0.71	5540
FO28XP/XL/SS	3	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	59	277	0.22	>.98	<10%	0.71	5540
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	84	120	0.71	>.98	<10%	0.78	8110
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV ISL-SC	Instant	Parallel	84	277	0.31	>.98	<10%	0.78	8110
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.88	9150
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV ISN-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.88	9150
FO28XP/XL/SS	4	2600	QHE4x32T8/UNV ISM-SC	Instant	Parallel	107	120	0.89	>.98	<10%	0.98	10190
FO28XP/XL/SS	4	2600	QHE4x32T8/UNV ISM-SC	Instant	Parallel	105	277	0.38	>.98	<10%	0.98	10190
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV ISH	Instant	Parallel	127	120	1.02	>.98	<10%	1.15	11960
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV ISH	Instant	Parallel	124	277	0.44	>.98	<10%	1.15	11960
FO28XP/XL/SS	4	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	86	120	0.73	>.98	<10%	0.78	8110
FO28XP/XL/SS	4	2600	QTP4X32T8/UNV ISL-SC	Instant	Parallel	86	277	0.32	>.97	<10%	0.78	8110
FO28XP/XL/SS	4	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	98	120	0.85	>.98	<10%	0.88	9150
FO28XP/XL/SS	4	2600	QTP4X32T8/UNV ISN-SC	Instant	Parallel	98	277	0.37	>.98	<15%	0.88	9150
FO28XP/XL/SS	4	2600	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	98	120	0.83	>.98	<10%	0.88	9150
FO28XP/XL/SS	4	2600	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	95	277	0.35	>.98	<10%	0.88	9150
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	124	120	1.06	>.98	<10%	1.15	11960
FO28XP/XL/SS	4	2600	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	123	277	0.46	>.98	<10%	1.15	11960
FO28XP/XL/SS	4	2600	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	79	120	0.66	>.98	<10%	0.71	7385
FO28XP/XL/SS	4	2600	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	77	277	0.28	>.98	<10%	0.71	7385

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO32/25W/XP/XL/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	120	0.17	>.98	<10%	0.78	1870
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	277	0.08	>.98	<10%	0.78	1870
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV ISN-SC	Instant	Parallel	22	120	0.19	>.98	<10%	0.88	2110
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV ISN-SC	Instant	Parallel	22	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV ISH-SC	Instant	Parallel	30	120	0.26	>.98	<10%	1.20	2880
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV ISH-SC	Instant	Parallel	30	277	0.12	>.95	<15%	1.20	2880
FO32/25W/XP/XL/SS	1	2400	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	120	0.20	>.98	<10%	0.88	2110
FO32/25W/XP/XL/SS	1	2400	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XP/XL/SS	1	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.95	2280
FO32/25W/XP/XL/SS	1	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.10	>.92	<20%	0.95	2280
FO32/25W/XP/XL/SS	1	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.23	>.98	<10%	1.03	2470
FO32/25W/XP/XL/SS	1	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.94	<20%	1.03	2470
FO32/25W/XP/XL/SS	1	2400	QHE2X32T8/UNV ISM-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.15	2760
FO32/25W/XP/XL/SS	1	2400	QHE2X32T8/UNV ISM-SC	Instant	Parallel	32	277	0.12	>.95	<10%	1.15	2760
FO32/25W/XP/XL/SS	1	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.95	2280
FO32/25W/XP/XL/SS	1	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	26	277	0.10	>.92	<20%	0.95	2280
FO32/25W/XP/XL/SS	1	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.24	>.98	<10%	1.05	2520
FO32/25W/XP/XL/SS	1	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.97	<10%	1.05	2520
FO32/25W/XP/XL/SS	1	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.24	>.98	<10%	1.00	2400
FO32/25W/XP/XL/SS	1	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.95	<20%	1.00	2400
FO32/25W/XP/XL/SS	1	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.13	2710
FO32/25W/XP/XL/SS	1	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.94	<20%	1.13	2710
FO32/25W/XP/XL/SS	1	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.26	>.98	<10%	1.00	2400
FO32/25W/XP/XL/SS	1	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.95	<20%	1.00	2400
FO32/25W/XP/XL/SS	1	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.14	2735
FO32/25W/XP/XL/SS	1	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	277	0.13	>.95	<20%	1.14	2735
FO32/25W/XP/XL/SS	1	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	1.17	2810
FO32/25W/XP/XL/SS	1	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.92	<20%	1.17	2810
FO32/25W/XP/XL/SS	1	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.28	>.98	<10%	1.17	2810
FO32/25W/XP/XL/SS	1	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.14	>.92	<20%	1.17	2810
FO32/25W/XP/XL/SS	1	2400	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23	120	0.20	>.98	<10%	0.88	2110
FO32/25W/XP/XL/SS	1	2400	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XP/XL/SS	1	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	120	0.25	>.98	<10%	1.08	2590
FO32/25W/XP/XL/SS	1	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.95	<15%	1.08	2590
FO32/25W/XP/XL/SS	1	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	32	120	0.27	>.98	<10%	1.14	2740
FO32/25W/XP/XL/SS	1	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	33	277	0.13	>.90	<15%	1.14	2740
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	20	120	0.16	>.98	<10%	0.72	1730
FO32/25W/XP/XL/SS	1	2400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1730
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.32	>.98	<10%	0.78	3745
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.98	<10%	0.78	3745
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.36	>.98	<10%	0.88	4225
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.16	>.98	<10%	0.88	4225
FO32/25W/XP/XL/SS	2	2400	QHE2x32T8/UNV ISM-SC	Instant	Parallel	50	120	0.41	>.98	<10%	1.00	4800
FO32/25W/XP/XL/SS	2	2400	QHE2x32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.98	<10%	1.00	4800
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV ISH-SC	Instant	Parallel	58	120	0.50	>.98	<10%	1.20	5760
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV ISH-SC	Instant	Parallel	57	277	0.22	>.98	<15%	1.20	5760
FO32/25W/XP/XL/SS	2	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.34	>.98	<10%	0.78	3745
FO32/25W/XP/XL/SS	2	2400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.98	<10%	0.78	3745
FO32/25W/XP/XL/SS	2	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	46	120	0.39	>.98	<10%	0.88	4225
FO32/25W/XP/XL/SS	2	2400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	46	277	0.16	>.98	<10%	0.88	4225
FO32/25W/XP/XL/SS	2	2400	QTP2X32T8/UNV ISH-SC	Instant	Parallel	61	120	0.51	>.98	<10%	1.20	5760
FO32/25W/XP/XL/SS	2	2400	QTP2X32T8/UNV ISH-SC	Instant	Parallel	61	277	0.22	>.98	<10%	1.20	5760
FO32/25W/XP/XL/SS	2	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.90	4320
FO32/25W/XP/XL/SS	2	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.97	<15%	0.90	4320
FO32/25W/XP/XL/SS	2	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.42	>.98	<10%	0.97	4655
FO32/25W/XP/XL/SS	2	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.19	>.98	<10%	0.97	4655
FO32/25W/XP/XL/SS	2	2400	QHE3X32T8/UNV ISM-SC	Instant	Parallel	55	120	0.46	>.98	<10%	1.03	4945
FO32/25W/XP/XL/SS	2	2400	QHE3X32T8/UNV ISM-SC	Instant	Parallel	55	277	0.21	>.95	<15%	1.03	4945
FO32/25W/XP/XL/SS	2	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.84	4030
FO32/25W/XP/XL/SS	2	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.18	>.98	<10%	0.84	4030
FO32/25W/XP/XL/SS	2	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.44	>.98	<10%	0.98	4705
FO32/25W/XP/XL/SS	2	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.95	<15%	0.98	4705
FO32/25W/XP/XL/SS	2	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.40	>.98	<10%	1.00	4800
FO32/25W/XP/XL/SS	2	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.19	>.95	<20%	1.00	4800

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/XP/XL/SS	2	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	1.04	4990
FO32/25W/XP/XL/SS	2	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.21	>.95	<20%	1.04	4990
FO32/25W/XP/XL/SS	2	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	120	0.50	>.98	<10%	1.10	5280
FO32/25W/XP/XL/SS	2	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.95	<15%	1.10	5280
FO32/25W/XP/XL/SS	2	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.40	>.98	<10%	0.91	4370
FO32/25W/XP/XL/SS	2	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.95	<15%	0.91	4370
FO32/25W/XP/XL/SS	2	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<15%	1.01	4850
FO32/25W/XP/XL/SS	2	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<15%	1.01	4850
FO32/25W/XP/XL/SS	2	2400	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	45	120	0.38	>.98	>.98	0.88	4225
FO32/25W/XP/XL/SS	2	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44	277	0.16	>.98	>.98	0.88	4225
FO32/25W/XP/XL/SS	2	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	52	120	0.44	>.98	>.98	0.98	4720
FO32/25W/XP/XL/SS	2	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	51	277	0.19	>.95	<10%	0.98	4720
FO32/25W/XP/XL/SS	2	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	120	0.46	>.98	>.98	1.06	5090
FO32/25W/XP/XL/SS	2	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	277	0.21	>.95	<15%	1.06	5090
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	56	120	0.47	>.98	<10%	1.15	5520
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	277	0.20	>.98	<10%	1.15	5520
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	38	120	0.31	>.98	<10%	0.72	3455
FO32/25W/XP/XL/SS	2	2400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	37	277	0.14	>.98	<10%	0.72	3455
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.48	>.98	<10%	0.78	5615
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.98	<10%	0.78	5615
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.55	>.98	<10%	0.88	6335
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	64	277	0.23	>.98	<10%	0.88	6335
FO32/25W/XP/XL/SS	3	2400	QHE3x32T8/UNV ISM-SC	Instant	Parallel	70	120	0.59	>.98	<10%	0.98	7055
FO32/25W/XP/XL/SS	3	2400	QHE3x32T8/UNV ISM-SC	Instant	Parallel	70	277	0.26	>.98	<10%	0.98	7055
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV ISH-SC	Instant	Parallel	87	120	0.72	>.98	<10%	1.18	8495
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV ISH-SC	Instant	Parallel	86	277	0.31	>.98	<10%	1.18	8495
FO32/25W/XP/XL/SS	3	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.78	5615
FO32/25W/XP/XL/SS	3	2400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.78	5615
FO32/25W/XP/XL/SS	3	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.58	>.98	<10%	0.88	6335
FO32/25W/XP/XL/SS	3	2400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.25	>.98	<10%	0.88	6335
FO32/25W/XP/XL/SS	3	2400	QTP3X32T8/UNV ISH-SC	Instant	Parallel	89	120	0.75	>.98	<10%	1.18	8495
FO32/25W/XP/XL/SS	3	2400	QTP3X32T8/UNV ISH-SC	Instant	Parallel	88	277	0.32	>.98	<10%	1.18	8495
FO32/25W/XP/XL/SS	3	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	65	120	0.53	>.98	<10%	0.85	6120
FO32/25W/XP/XL/SS	3	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.24	>.96	<15%	0.85	6120
FO32/25W/XP/XL/SS	3	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.60	>.98	<10%	0.93	6695
FO32/25W/XP/XL/SS	3	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<15%	0.93	6695
FO32/25W/XP/XL/SS	3	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	80	120	0.67	>.98	<10%	1.04	7490
FO32/25W/XP/XL/SS	3	2400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	80	277	0.29	>.98	<10%	1.04	7490
FO32/25W/XP/XL/SS	3	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	64	120	0.54	>.98	<10%	0.82	5905
FO32/25W/XP/XL/SS	3	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.24	>.97	<10%	0.82	5905
FO32/25W/XP/XL/SS	3	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.60	>.98	<10%	0.92	6625
FO32/25W/XP/XL/SS	3	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<15%	0.92	6625
FO32/25W/XP/XL/SS	3	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	67	120	0.56	>.98	<10%	0.88	6335
FO32/25W/XP/XL/SS	3	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	66	277	0.24	>.98	<10%	0.88	6335
FO32/25W/XP/XL/SS	3	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	75	120	0.63	>.98	<10%	0.96	6940
FO32/25W/XP/XL/SS	3	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	74	277	0.27	>.98	<10%	0.96	6940
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	85	120	0.72	>.98	<10%	1.15	8280
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	84	277	0.31	>.98	<10%	1.15	8280
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	56	120	0.47	>.98	<10%	0.71	5110
FO32/25W/XP/XL/SS	3	2400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	55	277	0.20	>.98	<10%	0.71	5110
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	76	120	0.62	>.98	<10%	0.78	7490
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	7490
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.71	>.98	<10%	0.88	8450
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	277	0.30	>.98	<10%	0.88	8450
FO32/25W/XP/XL/SS	4	2400	QHE4x32T8/UNV ISM-SC	Instant	Parallel	99	120	0.83	>.98	<10%	0.98	9410
FO32/25W/XP/XL/SS	4	2400	QHE4x32T8/UNV ISM-SC	Instant	Parallel	98	277	0.36	>.98	<10%	0.98	9410
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV ISH	Instant	Parallel	112	120	0.94	>.98	<10%	1.15	11040
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV ISH	Instant	Parallel	111	277	0.41	>.98	<10%	1.15	11040
FO32/25W/XP/XL/SS	4	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	120	0.63	>.98	<10%	0.78	7490
FO32/25W/XP/XL/SS	4	2400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	277	0.28	>.97	<10%	0.78	7490
FO32/25W/XP/XL/SS	4	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	120	0.74	>.98	<10%	0.88	8450
FO32/25W/XP/XL/SS	4	2400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	277	0.31	>.98	<15%	0.88	8450
FO32/25W/XP/XL/SS	4	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.88	8450
FO32/25W/XP/XL/SS	4	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.88	8450
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	112	120	0.95	>.98	<10%	1.15	11040
FO32/25W/XP/XL/SS	4	2400	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	110	277	0.41	>.98	<10%	1.15	11040
FO32/25W/XP/XL/SS	4	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	73	120	0.61	>.98	<10%	0.71	6815
FO32/25W/XP/XL/SS	4	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	71	277	0.26	>.98	<10%	0.71	6815

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO32XP

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XP	1	3000	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.78	2340
FO32XP	1	3000	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.78	2340
FO32XP	1	3000	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2640
FO32XP	1	3000	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2640
FO32XP	1	3000	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	120	0.32	>.98	<10%	1.20	3600
FO32XP	1	3000	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	277	0.14	>.98	<10%	1.20	3600
FO32XP	1	3000	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.26	>.98	<10%	0.88	2640
FO32XP	1	3000	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<10%	0.88	2640
FO32XP	1	3000	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.27	>.95	<10%	0.95	2850
FO32XP	1	3000	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<10%	0.95	2850
FO32XP	1	3000	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.27	>.95	<10%	1.05	3150
FO32XP	1	3000	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.95	<10%	1.05	3150
FO32XP	1	3000	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.15	3450
FO32XP	1	3000	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	277	0.15	>.95	<15%	1.15	3450
FO32XP	1	3000	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.30	>.98	<10%	0.90	2700
FO32XP	1	3000	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.97	<10%	0.90	2700
FO32XP	1	3000	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.95	<10%	1.04	3120
FO32XP	1	3000	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.95	<10%	1.04	3120
FO32XP	1	3000	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.30	>.98	<15%	1.02	3060
FO32XP	1	3000	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.96	<20%	1.02	3060
FO32XP	1	3000	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.20	3600
FO32XP	1	3000	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	277	0.15	>.92	<15%	1.20	3600
FO32XP	1	3000	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	120	0.29	>.98	<10%	1.03	3090
FO32XP	1	3000	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	277	0.13	>.96	<20%	1.03	3090
FO32XP	1	3000	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.34	>.95	<15%	1.19	3570
FO32XP	1	3000	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.15	>.98	<10%	1.19	3570
FO32XP	1	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	120	0.33	>.98	<15%	1.17	3510
FO32XP	1	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	277	0.15	>.93	<20%	1.17	3510
FO32XP	1	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.06	3180
FO32XP	1	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.15	>.92	<30%	1.06	3180
FO32XP	1	3000	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.26	>.98	<10%	0.88	2640
FO32XP	1	3000	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	29	277	0.11	>.98	<10%	0.88	2640
FO32XP	1	3000	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	120	0.30	>.98	<10%	1.07	3215
FO32XP	1	3000	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	277	0.13	>.98	<15%	1.07	3215
FO32XP	1	3000	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3410
FO32XP	1	3000	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	40	277	0.16	>.95	<15%	1.14	3410
FO32XP	1	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.34	>.98	<10%	1.20	3600
FO32XP	1	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.90	<15%	1.20	3600
FO32XP	1	3000	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.72	2160
FO32XP	1	3000	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.98	<10%	0.72	2160
FO32XP	2	3000	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4680
FO32XP	2	3000	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4680
FO32XP	2	3000	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.47	>.98	<10%	0.88	5280
FO32XP	2	3000	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	5280
FO32XP	2	3000	QHE2x32T8/UNV ISM-SC	Instant	Parallel	63	120	0.54	>.98	<10%	1.00	6000
FO32XP	2	3000	QHE2x32T8/UNV ISM-SC	Instant	Parallel	62	277	0.23	>.98	<10%	1.00	6000
FO32XP	2	3000	QHE2X32T8/UNV ISH-SC	Instant	Parallel	74	120	0.65	>.98	<10%	1.20	7200
FO32XP	2	3000	QHE2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.28	>.98	<10%	1.20	7200
FO32XP	2	3000	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.44	>.98	<10%	0.78	4680
FO32XP	2	3000	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.98	<10%	0.78	4680
FO32XP	2	3000	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.88	5280
FO32XP	2	3000	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.88	5280
FO32XP	2	3000	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	120	0.65	>.98	<10%	1.20	7200
FO32XP	2	3000	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	277	0.28	>.98	<10%	1.20	7200
FO32XP	2	3000	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.46	>.97	<15%	0.90	5400
FO32XP	2	3000	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.20	>.97	<15%	0.90	5400
FO32XP	2	3000	QHE3X32T8/UNV ISN-SC	Instant	Parallel	63	120	0.50	>.97	<15%	0.99	5940
FO32XP	2	3000	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.22	>.97	<15%	0.99	5940
FO32XP	2	3000	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.60	>.98	<10%	1.08	6480
FO32XP	2	3000	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.08	6480
FO32XP	2	3000	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.45	>.98	<10%	0.88	5280
FO32XP	2	3000	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.20	>.98	<10%	0.88	5280
FO32XP	2	3000	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.97	<15%	1.02	6120
FO32XP	2	3000	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	277	0.24	>.97	<15%	1.02	6120

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XP	2	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.98	5880
FO32XP	2	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<15%	0.98	5880
FO32XP	2	3000	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.60	>.97	<15%	1.08	6480
FO32XP	2	3000	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.08	6480
FO32XP	2	3000	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	120	0.62	>.98	<10%	1.16	6960
FO32XP	2	3000	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	277	0.27	>.98	<15%	1.16	6960
FO32XP	2	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	120	0.50	>.98	<10%	0.93	5580
FO32XP	2	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	277	0.23	>.97	<10%	0.93	5580
FO32XP	2	3000	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.59	>.98	<15%	1.07	6420
FO32XP	2	3000	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.07	6420
FO32XP	2	3000	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	57	120	0.48	>.98	<10%	0.88	5280
FO32XP	2	3000	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	277	0.21	>.98	<10%	0.88	5280
FO32XP	2	3000	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.98	5885
FO32XP	2	3000	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64	277	0.24	>.98	<10%	0.98	5885
FO32XP	2	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.06	6360
FO32XP	2	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.06	6360
FO32XP	2	3000	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	72	120	0.60	>.98	<10%	1.15	6900
FO32XP	2	3000	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	70	277	0.27	>.98	<10%	1.15	6900
FO32XP	2	3000	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.72	4320
FO32XP	2	3000	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	47	277	0.17	>.98	<10%	0.72	4320
FO32XP	3	3000	QHE3X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.61	>.98	<10%	0.78	7020
FO32XP	3	3000	QHE3X32T8/UNV ISL-SC	Instant	Parallel	72	277	0.27	>.98	<10%	0.78	7020
FO32XP	3	3000	QHE3X32T8/UNV ISN-SC	Instant	Parallel	83	120	0.69	>.98	<10%	0.88	7920
FO32XP	3	3000	QHE3X32T8/UNV ISN-SC	Instant	Parallel	82	277	0.30	>.98	<10%	0.88	7920
FO32XP	3	3000	QHE3x32T8/UNV ISM-SC	Instant	Parallel	90	120	0.76	>.98	<10%	0.98	8820
FO32XP	3	3000	QHE3x32T8/UNV ISM-SC	Instant	Parallel	89	277	0.40	>.98	<10%	0.98	8820
FO32XP	3	3000	QHE3X32T8/UNV ISH-SC	Instant	Parallel	111	120	0.93	>.98	<10%	1.18	10620
FO32XP	3	3000	QHE3X32T8/UNV ISH-SC	Instant	Parallel	109	277	0.40	>.98	<10%	1.18	10620
FO32XP	3	3000	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.65	>.98	<10%	0.78	7020
FO32XP	3	3000	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	7020
FO32XP	3	3000	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.72	>.98	<10%	0.88	7920
FO32XP	3	3000	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.31	>.98	<10%	0.88	7920
FO32XP	3	3000	QTP3X32T8/UNV ISH-SC	Instant	Parallel	114	120	0.95	>.98	<10%	1.18	10620
FO32XP	3	3000	QTP3X32T8/UNV ISH-SC	Instant	Parallel	111	277	0.41	>.98	<10%	1.18	10620
FO32XP	3	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.68	>.98	<10%	0.85	7650
FO32XP	3	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.28	>.98	<10%	0.85	7650
FO32XP	3	3000	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	120	0.71	>.98	<15%	0.96	8640
FO32XP	3	3000	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	277	0.31	>.98	<15%	0.96	8640
FO32XP	3	3000	QHE4X32T8/UNV ISM-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.05	9450
FO32XP	3	3000	QHE4X32T8/UNV ISM-SC	Instant	Parallel	99	277	0.36	>.98	<10%	1.05	9450
FO32XP	3	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.66	>.98	<10%	0.84	7560
FO32XP	3	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.29	>.97	<10%	0.84	7560
FO32XP	3	3000	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	120	0.77	>.98	<15%	0.96	8640
FO32XP	3	3000	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	277	0.33	>.98	<15%	0.96	8640
FO32XP	3	3000	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	7920
FO32XP	3	3000	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	7920
FO32XP	3	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	8640
FO32XP	3	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	8640
FO32XP	3	3000	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	110	120	0.94	>.98	<10%	1.15	10350
FO32XP	3	3000	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	108	277	0.40	>.98	<10%	1.15	10350
FO32XP	3	3000	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	69	120	0.58	>.98	<10%	0.71	6390
FO32XP	3	3000	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.71	6390
FO32XP	4	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.78	9360
FO32XP	4	3000	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.78	9360
FO32XP	4	3000	QHE4X32T8/UNV ISN-SC	Instant	Parallel	108	120	0.91	>.98	<10%	0.88	10560
FO32XP	4	3000	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	277	0.39	>.98	<10%	0.88	10560
FO32XP	4	3000	QHE4x32T8/UNV ISM-SC	Instant	Parallel	122	120	1.02	>.98	<10%	0.98	11760
FO32XP	4	3000	QHE4x32T8/UNV ISM-SC	Instant	Parallel	120	277	0.44	>.98	<10%	0.98	11760
FO32XP	4	3000	QHE4X32T8/UNV ISH	Instant	Parallel	144	120	1.21	>.98	<10%	1.15	13800
FO32XP	4	3000	QHE4X32T8/UNV ISH	Instant	Parallel	141	277	0.52	>.98	<10%	1.15	13800
FO32XP	4	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.80	>.98	<10%	0.78	9360
FO32XP	4	3000	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.78	9360
FO32XP	4	3000	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	120	0.95	>.98	<10%	0.88	10560
FO32XP	4	3000	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	277	0.40	>.98	<10%	0.88	10560
FO32XP	4	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	111	120	0.93	>.98	<10%	0.88	10560
FO32XP	4	3000	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.39	>.98	<10%	0.88	10560
FO32XP	4	3000	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	143	120	1.22	>.98	<10%	1.15	13800
FO32XP	4	3000	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	141	277	0.53	>.98	<10%	1.15	13800
FO32XP	4	3000	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.76	>.98	<10%	0.71	8520
FO32XP	4	3000	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	89	277	0.32	>.98	<10%	0.71	8520

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO30/XP/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO30/SS	1	2850	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.20	>.98	<10%	0.78	2225
FO30/SS	1	2850	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.09	>.98	<10%	0.78	2225
FO30/SS	1	2850	QHE1X32T8/UNV ISN-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.88	2510
FO30/SS	1	2850	QHE1X32T8/UNV ISN-SC	Instant	Parallel	26	277	0.09	>.98	<10%	0.88	2510
FO30/SS	1	2850	QHE1X32T8/UNV ISH-SC	Instant	Parallel	36	120	0.30	>.98	<10%	1.20	3420
FO30/SS	1	2850	QHE1X32T8/UNV ISH-SC	Instant	Parallel	36	277	0.13	>.96	<15%	1.20	3420
FO30/SS	1	2850	QTP1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2510
FO30/SS	1	2850	QTP1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2510
FO30/SS	1	2850	QHE2X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.25	>.98	<10%	0.95	2710
FO30/SS	1	2850	QHE2X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.10	>.98	<15%	0.95	2710
FO30/SS	1	2850	QHE2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.05	2995
FO30/SS	1	2850	QHE2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.11	>.98	<15%	1.05	2995
FO30/SS	1	2850	QHE2X32T8/UNV ISM-SC	Instant	Parallel	37	120	0.31	>.95	<10%	1.15	3280
FO30/SS	1	2850	QHE2X32T8/UNV ISM-SC	Instant	Parallel	37	277	0.15	>.85	<15%	1.15	3280
FO30/SS	1	2850	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	0.90	2565
FO30/SS	1	2850	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.96	<15%	0.90	2565
FO30/SS	1	2850	QTP2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.28	>.98	<10%	1.04	2965
FO30/SS	1	2850	QTP2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.13	>.98	<15%	1.04	2965
FO30/SS	1	2850	QHE3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.28	>.98	<15%	1.02	2905
FO30/SS	1	2850	QHE3X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.02	2905
FO30/SS	1	2850	QHE3X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.31	>.95	<10%	1.20	3420
FO30/SS	1	2850	QHE3X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.15	>.86	<15%	1.20	3420
FO30/SS	1	2850	QTP3X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.27	>.98	<10%	1.03	2935
FO30/SS	1	2850	QTP3X32T8/UNV ISL-SC	Instant	Parallel	35	277	0.13	>.92	<25%	1.03	2935
FO30/SS	1	2850	QTP3X32T8/UNV ISN-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.19	3390
FO30/SS	1	2850	QTP3X32T8/UNV ISN-SC	Instant	Parallel	38	277	0.14	>.96	<15%	1.19	3390
FO30/SS	1	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.29	>.98	<15%	1.17	3335
FO30/SS	1	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.14	>.93	<20%	1.17	3335
FO30/SS	1	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.29	>.98	<10%	1.06	3020
FO30/SS	1	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	35	277	0.14	>.91	<25%	1.06	3020
FO30/SS	1	2850	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	28	120	0.24	>.98	<10%	0.88	2510
FO30/SS	1	2850	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	26	277	0.10	>.98	<10%	0.88	2510
FO30/SS	1	2850	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	120	0.29	>.98	<10%	1.07	3060
FO30/SS	1	2850	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	277	0.13	>.98	<15%	1.07	3060
FO30/SS	1	2850	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.13	3230
FO30/SS	1	2850	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.95	<15%	1.13	3230
FO30/SS	1	2850	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	120	0.21	>.98	<10%	0.72	2050
FO30/SS	1	2850	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.72	2050
FO30/SS	2	2850	QHE2X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.78	4445
FO30/SS	2	2850	QHE2X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.16	>.98	<10%	0.78	4445
FO30/SS	2	2850	QHE2X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.44	>.98	<10%	0.88	5015
FO30/SS	2	2850	QHE2X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.98	<10%	0.88	5015
FO30/SS	2	2850	QHE2x32T8/UNV ISM-SC	Instant	Parallel	58	120	0.49	>.98	<10%	1.00	5700
FO30/SS	2	2850	QHE2x32T8/UNV ISM-SC	Instant	Parallel	58	277	0.21	>.98	<10%	1.00	5700
FO30/SS	2	2850	QHE2X32T8/UNV ISH-SC	Instant	Parallel	70	120	0.59	>.98	<10%	1.20	6840
FO30/SS	2	2850	QHE2X32T8/UNV ISH-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.20	6840
FO30/SS	2	2850	QTP2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4445
FO30/SS	2	2850	QTP2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4445
FO30/SS	2	2850	QTP2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	0.88	5015
FO30/SS	2	2850	QTP2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	5015
FO30/SS	2	2850	QTP2X32T8/UNV ISH-SC	Instant	Parallel	73	120	0.61	>.98	<10%	1.20	6840
FO30/SS	2	2850	QTP2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.26	>.98	<10%	1.20	6840
FO30/SS	2	2850	QHE3X32T8/UNV ISL-SC	Instant	Parallel	53	120	0.43	>.98	<10%	0.90	5130
FO30/SS	2	2850	QHE3X32T8/UNV ISL-SC	Instant	Parallel	53	277	0.19	>.97	<15%	0.90	5130
FO30/SS	2	2850	QHE3X32T8/UNV ISN-SC	Instant	Parallel	60	120	0.47	>.98	<10%	0.99	5645
FO30/SS	2	2850	QHE3X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.20	>.98	<15%	0.99	5645
FO30/SS	2	2850	QHE3X32T8/UNV ISM-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.08	6155
FO30/SS	2	2850	QHE3X32T8/UNV ISM-SC	Instant	Parallel	65	277	0.24	>.98	<15%	1.08	6155
FO30/SS	2	2850	QTP3X32T8/UNV ISL-SC	Instant	Parallel	55	120	0.43	>.98	<10%	0.88	5015
FO30/SS	2	2850	QTP3X32T8/UNV ISL-SC	Instant	Parallel	55	277	0.19	>.98	<10%	0.88	5015
FO30/SS	2	2850	QTP3X32T8/UNV ISN-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.99	5645
FO30/SS	2	2850	QTP3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.23	>.97	<15%	0.99	5645

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO30/SS	2	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.98	5585
FO30/SS	2	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.95	<20%	0.98	5585
FO30/SS	2	2850	QHE4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.08	6155
FO30/SS	2	2850	QHE4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.24	>.96	<15%	1.08	6155
FO30/SS	2	2850	QHE4X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.58	>.98	<10%	1.13	6440
FO30/SS	2	2850	QHE4X32T8/UNV ISM-SC	Instant	Parallel	70	277	0.26	>.95	<15%	1.13	6440
FO30/SS	2	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.93	5300
FO30/SS	2	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.96	<15%	0.93	5300
FO30/SS	2	2850	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.59	>.98	<15%	1.07	6100
FO30/SS	2	2850	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.25	>.98	<15%	1.07	6100
FO30/SS	2	2850	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	55	120	0.46	>.98	<10%	0.88	5015
FO30/SS	2	2850	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	53	277	0.20	>.98	<10%	0.88	5015
FO30/SS	2	2850	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	0.98	5600
FO30/SS	2	2850	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.22	>.98	<10%	0.98	5600
FO30/SS	2	2850	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	1.06	6050
FO30/SS	2	2850	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	277	0.24	>.95	<15%	1.06	6050
FO30/SS	2	2850	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	69	120	0.57	>.98	<10%	1.15	6555
FO30/SS	2	2850	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	67	277	0.25	>.98	<10%	1.15	6555
FO30/SS	2	2850	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	45	120	0.40	>.98	<10%	0.72	4105
FO30/SS	2	2850	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	43	277	0.17	>.98	<10%	0.72	4105
FO30/SS	3	2850	QHE3X32T8/UNV ISL-SC	Instant	Parallel	68	120	0.58	>.98	<10%	0.78	6670
FO30/SS	3	2850	QHE3X32T8/UNV ISL-SC	Instant	Parallel	68	277	0.25	>.98	<10%	0.78	6670
FO30/SS	3	2850	QHE3X32T8/UNV ISN-SC	Instant	Parallel	78	120	0.66	>.98	<10%	0.88	7525
FO30/SS	3	2850	QHE3X32T8/UNV ISN-SC	Instant	Parallel	77	277	0.28	>.98	<10%	0.88	7525
FO30/SS	3	2850	QHE3x32T8/UNV ISM-SC	Instant	Parallel	83	120	0.67	>.98	<10%	0.98	8380
FO30/SS	3	2850	QHE3x32T8/UNV ISM-SC	Instant	Parallel	83	277	0.30	>.98	<10%	0.98	8380
FO30/SS	3	2850	QHE3X32T8/UNV ISH-SC	Instant	Parallel	104	120	0.87	>.98	<10%	1.18	10090
FO30/SS	3	2850	QHE3X32T8/UNV ISH-SC	Instant	Parallel	103	277	0.38	>.98	<10%	1.18	10090
FO30/SS	3	2850	QTP3X32T8/UNV ISL-SC	Instant	Parallel	71	120	0.60	>.98	<10%	0.78	6670
FO30/SS	3	2850	QTP3X32T8/UNV ISL-SC	Instant	Parallel	71	277	0.26	>.98	<10%	0.78	6670
FO30/SS	3	2850	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	120	0.69	>.98	<10%	0.88	7525
FO30/SS	3	2850	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	277	0.30	>.98	<10%	0.88	7525
FO30/SS	3	2850	QTP3X32T8/UNV ISH-SC	Instant	Parallel	107	120	0.89	>.98	<10%	1.18	10090
FO30/SS	3	2850	QTP3X32T8/UNV ISH-SC	Instant	Parallel	104	277	0.39	>.98	<10%	1.18	10090
FO30/SS	3	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.64	>.98	<10%	0.85	7270
FO30/SS	3	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	277	0.26	>.98	<15%	0.85	7270
FO30/SS	3	2850	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.67	>.98	<10%	0.96	8210
FO30/SS	3	2850	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	277	0.29	>.98	<15%	0.96	8210
FO30/SS	3	2850	QHE4X32T8/UNV ISM-SC	Instant	Parallel	93	120	0.78	>.98	<10%	1.04	8890
FO30/SS	3	2850	QHE4X32T8/UNV ISM-SC	Instant	Parallel	93	277	0.34	>.98	<10%	1.04	8890
FO30/SS	3	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.62	>.98	<10%	0.84	7180
FO30/SS	3	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.97	<10%	0.84	7180
FO30/SS	3	2850	QTP4X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.74	>.98	<10%	0.96	8210
FO30/SS	3	2850	QTP4X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.32	>.98	<15%	0.96	8210
FO30/SS	3	2850	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	80	120	0.68	>.98	<10%	0.88	7525
FO30/SS	3	2850	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	78	277	0.28	>.98	<10%	0.88	7525
FO30/SS	3	2850	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	87	120	0.73	>.98	<15%	0.96	8230
FO30/SS	3	2850	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	85	277	0.31	>.98	<10%	0.96	8230
FO30/SS	3	2850	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	104	120	0.88	>.98	<10%	1.15	9835
FO30/SS	3	2850	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	101	277	0.37	>.98	<10%	1.15	9835
FO30/SS	3	2850	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.71	6070
FO30/SS	3	2850	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	63	277	0.23	>.98	<10%	0.71	6070
FO30/SS	4	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	89	120	0.75	>.98	<10%	0.78	8890
FO30/SS	4	2850	QHE4X32T8/UNV ISL-SC	Instant	Parallel	89	277	0.32	>.98	<10%	0.78	8890
FO30/SS	4	2850	QHE4X32T8/UNV ISN-SC	Instant	Parallel	102	120	0.86	>.98	<10%	0.88	10030
FO30/SS	4	2850	QHE4X32T8/UNV ISN-SC	Instant	Parallel	101	277	0.37	>.98	<10%	0.88	10030
FO30/SS	4	2850	QHE4x32T8/UNV ISM-SC	Instant	Parallel	114	120	0.95	>.98	<10%	0.98	11170
FO30/SS	4	2850	QHE4x32T8/UNV ISM-SC	Instant	Parallel	112	277	0.41	>.98	<10%	0.98	11170
FO30/SS	4	2850	QHE4X32T8/UNV ISH	Instant	Parallel	135	120	1.13	>.98	<10%	1.15	13110
FO30/SS	4	2850	QHE4X32T8/UNV ISH	Instant	Parallel	133	277	0.49	>.98	<10%	1.15	13110
FO30/SS	4	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	92	120	0.78	>.98	<10%	0.78	8890
FO30/SS	4	2850	QTP4X32T8/UNV ISL-SC	Instant	Parallel	92	277	0.34	>.98	<10%	0.78	8890
FO30/SS	4	2850	QTP4X32T8/UNV ISN-SC	Instant	Parallel	105	120	0.91	>.98	<10%	0.88	10030
FO30/SS	4	2850	QTP4X32T8/UNV ISN-SC	Instant	Parallel	105	277	0.39	>.98	<10%	0.88	10030
FO30/SS	4	2850	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	105	120	0.89	>.98	<10%	0.88	10030
FO30/SS	4	2850	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	103	277	0.38	>.98	<10%	0.88	10030
FO30/SS	4	2850	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	132	120	1.13	>.98	<10%	1.15	13110
FO30/SS	4	2850	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	130	277	0.49	>.98	<10%	1.15	13110
FO30/SS	4	2850	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	86	120	0.72	>.98	<10%	0.71	8095
FO30/SS	4	2850	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	84	277	0.32	>.98	<10%	0.71	8095

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO28/XP/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28/SS	1	2725	QHE1X32T8/UNV ISL-SC	Instant	Parallel	22	120	0.19	>.98	<10%	0.78	2125
FO28/SS	1	2725	QHE1X32T8/UNV ISL-SC	Instant	Parallel	22	277	0.08	>.98	<10%	0.78	2125
FO28/SS	1	2725	QHE1X32T8/UNV ISN-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.88	2400
FO28/SS	1	2725	QHE1X32T8/UNV ISN-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.88	2400
FO28/SS	1	2725	QHE1X32T8/UNV ISH-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.20	3270
FO28/SS	1	2725	QHE1X32T8/UNV ISH-SC	Instant	Parallel	33	277	0.12	>.95	<15%	1.20	3270
FO28/SS	1	2725	QTP1X32T8/UNV ISN-SC	Instant	Parallel	26	120	0.23	>.98	<10%	0.88	2400
FO28/SS	1	2725	QTP1X32T8/UNV ISN-SC	Instant	Parallel	26	277	0.10	>.98	<10%	0.88	2400
FO28/SS	1	2725	QHE2X32T8/UNV ISL-SC	Instant	Parallel	27	120	0.23	>.98	<10%	0.95	2590
FO28/SS	1	2725	QHE2X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.10	>.98	<15%	0.95	2590
FO28/SS	1	2725	QHE2X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.25	>.98	<10%	1.05	2860
FO28/SS	1	2725	QHE2X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<15%	1.05	2860
FO28/SS	1	2725	QHE2X32T8/UNV ISM-SC	Instant	Parallel	34	120	0.29	>.98	<10%	1.15	3135
FO28/SS	1	2725	QHE2X32T8/UNV ISM-SC	Instant	Parallel	34	277	0.13	>.95	<15%	1.15	3135
FO28/SS	1	2725	QTP2X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.23	>.98	<10%	0.90	2455
FO28/SS	1	2725	QTP2X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.96	<15%	0.90	2455
FO28/SS	1	2725	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.04	2835
FO28/SS	1	2725	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.97	<15%	1.04	2835
FO28/SS	1	2725	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<15%	1.02	2780
FO28/SS	1	2725	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<20%	1.02	2780
FO28/SS	1	2725	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.30	>.95	<10%	1.20	3270
FO28/SS	1	2725	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.14	>.85	<15%	1.20	3270
FO28/SS	1	2725	QTP3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.25	>.98	<15%	1.03	2805
FO28/SS	1	2725	QTP3X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.12	>.88	<30%	1.03	2805
FO28/SS	1	2725	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.98	<10%	1.20	3270
FO28/SS	1	2725	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.13	>.96	<15%	1.20	3270
FO28/SS	1	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	120	0.27	>.98	<15%	1.17	3190
FO28/SS	1	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.92	<20%	1.17	3190
FO28/SS	1	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.06	2890
FO28/SS	1	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.13	>.90	<30%	1.06	2890
FO28/SS	1	2725	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	26	120	0.22	>.98	<10%	0.88	2400
FO28/SS	1	2725	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	25	277	0.10	>.98	<10%	0.88	2400
FO28/SS	1	2725	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	33	120	0.28	>.98	<10%	1.08	2945
FO28/SS	1	2725	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	32	277	0.12	>.95	<15%	1.08	2945
FO28/SS	1	2725	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.14	3105
FO28/SS	1	2725	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.95	<15%	1.14	3105
FO28/SS	1	2725	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	120	0.18	>.98	<10%	0.72	1960
FO28/SS	1	2725	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	277	0.08	>.98	<10%	0.72	1960
FO28/SS	2	2725	QHE2X32T8/UNV ISL-SC	Instant	Parallel	42	120	0.35	>.98	<10%	0.78	4250
FO28/SS	2	2725	QHE2X32T8/UNV ISL-SC	Instant	Parallel	42	277	0.15	>.98	<10%	0.78	4250
FO28/SS	2	2725	QHE2X32T8/UNV ISN-SC	Instant	Parallel	48	120	0.40	>.98	<10%	0.88	4795
FO28/SS	2	2725	QHE2X32T8/UNV ISN-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.88	4795
FO28/SS	2	2725	QHE2x32T8/UNV ISM-SC	Instant	Parallel	53	120	0.44	>.98	<10%	1.00	5450
FO28/SS	2	2725	QHE2x32T8/UNV ISM-SC	Instant	Parallel	53	277	0.19	>.98	<10%	1.00	5450
FO28/SS	2	2725	QHE2X32T8/UNV ISH-SC	Instant	Parallel	65	120	0.55	>.98	<10%	1.20	6540
FO28/SS	2	2725	QHE2X32T8/UNV ISH-SC	Instant	Parallel	64	277	0.23	>.98	<15%	1.20	6540
FO28/SS	2	2725	QTP2X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.78	4250
FO28/SS	2	2725	QTP2X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.98	<10%	0.78	4250
FO28/SS	2	2725	QTP2X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.43	>.98	<10%	0.88	4795
FO28/SS	2	2725	QTP2X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.98	<10%	0.88	4795
FO28/SS	2	2725	QTP2X32T8/UNV ISH-SC	Instant	Parallel	69	120	0.57	>.98	<10%	1.20	6540
FO28/SS	2	2725	QTP2X32T8/UNV ISH-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.20	6540
FO28/SS	2	2725	QHE3X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.41	>.98	<10%	0.90	4905
FO28/SS	2	2725	QHE3X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.18	>.97	<15%	0.90	4905
FO28/SS	2	2725	QHE3X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	0.99	5395
FO28/SS	2	2725	QHE3X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<15%	0.99	5395
FO28/SS	2	2725	QHE3X32T8/UNV ISM-SC	Instant	Parallel	59	120	0.50	>.98	<10%	1.03	5615
FO28/SS	2	2725	QHE3X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.96	<20%	1.03	5615
FO28/SS	2	2725	QTP3X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.40	>.98	<10%	0.88	4795
FO28/SS	2	2725	QTP3X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.93	<10%	0.88	4795
FO28/SS	2	2725	QTP3X32T8/UNV ISN-SC	Instant	Parallel	58	120	0.49	>.98	<10%	0.98	5340
FO28/SS	2	2725	QTP3X32T8/UNV ISN-SC	Instant	Parallel	58	277	0.22	>.95	<15%	0.98	5340
FO28/SS	2	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.43	>.98	<10%	0.98	5340
FO28/SS	2	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	52	277	0.20	>.95	<20%	0.98	5340

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28/SS	2	2725	QHE4X32T8/UNV ISN-SC	Instant	Parallel	61	120	0.50	>.98	<10%	1.08	5885
FO28/SS	2	2725	QHE4X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.22	>.96	<20%	1.08	5885
FO28/SS	2	2725	QHE4X32T8/UNV ISM-SC	Instant	Parallel	64	120	0.54	>.98	<10%	1.10	5995
FO28/SS	2	2725	QHE4X32T8/UNV ISM-SC	Instant	Parallel	64	277	0.24	>.95	<15%	1.10	5995
FO28/SS	2	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	53	120	0.44	>.97	<10%	0.93	5070
FO28/SS	2	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	53	277	0.19	>.95	<15%	0.93	5070
FO28/SS	2	2725	QTP4X32T8/UNV ISN-SC	Instant	Parallel	61	120	0.59	>.98	<15%	1.07	5830
FO28/SS	2	2725	QTP4X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.25	>.98	<15%	1.07	5830
FO28/SS	2	2725	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	51	120	0.43	>.98	<10%	0.88	4795
FO28/SS	2	2725	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	50	277	0.18	>.98	<10%	0.88	4795
FO28/SS	2	2725	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	56	120	0.48	>.98	<10%	0.98	5340
FO28/SS	2	2725	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	56	277	0.21	>.98	<10%	0.98	5340
FO28/SS	2	2725	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	1.06	5775
FO28/SS	2	2725	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.23	>.95	<15%	1.06	5775
FO28/SS	2	2725	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	63	120	0.53	>.98	<10%	1.15	6270
FO28/SS	2	2725	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	62	277	0.23	>.98	<10%	1.15	6270
FO28/SS	2	2725	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	41	120	0.34	>.98	<10%	0.72	3925
FO28/SS	2	2725	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	40	277	0.15	>.98	<10%	0.72	3925
FO28/SS	3	2725	QHE3X32T8/UNV ISL-SC	Instant	Parallel	63	120	0.53	>.98	<10%	0.78	6375
FO28/SS	3	2725	QHE3X32T8/UNV ISL-SC	Instant	Parallel	63	277	0.23	>.98	<10%	0.78	6375
FO28/SS	3	2725	QHE3X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.61	>.98	<10%	0.88	7195
FO28/SS	3	2725	QHE3X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<10%	0.88	7195
FO28/SS	3	2725	QHE3x32T8/UNV ISM-SC	Instant	Parallel	76	120	0.64	>.98	<10%	0.98	8010
FO28/SS	3	2725	QHE3x32T8/UNV ISM-SC	Instant	Parallel	76	277	0.28	>.98	<10%	0.98	8010
FO28/SS	3	2725	QHE3X32T8/UNV ISH-SC	Instant	Parallel	98	120	0.82	>.98	<10%	1.18	9645
FO28/SS	3	2725	QHE3X32T8/UNV ISH-SC	Instant	Parallel	96	277	0.35	>.98	<10%	1.18	9645
FO28/SS	3	2725	QTP3X32T8/UNV ISL-SC	Instant	Parallel	67	120	0.57	>.98	<10%	0.78	6375
FO28/SS	3	2725	QTP3X32T8/UNV ISL-SC	Instant	Parallel	67	277	0.25	>.98	<10%	0.78	6375
FO28/SS	3	2725	QTP3X32T8/UNV ISN-SC	Instant	Parallel	76	120	0.65	>.98	<10%	0.88	7195
FO28/SS	3	2725	QTP3X32T8/UNV ISN-SC	Instant	Parallel	76	277	0.28	>.98	<10%	0.88	7195
FO28/SS	3	2725	QTP3X32T8/UNV ISH-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.18	9645
FO28/SS	3	2725	QTP3X32T8/UNV ISH-SC	Instant	Parallel	98	277	0.36	>.98	<10%	1.18	9645
FO28/SS	3	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.59	>.98	<10%	0.85	6950
FO28/SS	3	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.26	>.98	<15%	0.85	6950
FO28/SS	3	2725	QHE4X32T8/UNV ISN-SC	Instant	Parallel	78	120	0.66	>.98	<10%	0.96	7850
FO28/SS	3	2725	QHE4X32T8/UNV ISN-SC	Instant	Parallel	78	277	0.28	>.98	<15%	0.96	7850
FO28/SS	3	2725	QHE4X32T8/UNV ISM-SC	Instant	Parallel	85	120	0.71	>.98	<10%	1.02	8340
FO28/SS	3	2725	QHE4X32T8/UNV ISM-SC	Instant	Parallel	85	277	0.31	>.98	<10%	1.02	8340
FO28/SS	3	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.57	>.98	<10%	0.84	6865
FO28/SS	3	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.25	>.97	<10%	0.84	6865
FO28/SS	3	2725	QTP4X32T8/UNV ISN-SC	Instant	Parallel	80	120	0.70	>.98	<10%	0.96	7850
FO28/SS	3	2725	QTP4X32T8/UNV ISN-SC	Instant	Parallel	80	277	0.30	>.98	<15%	0.96	7850
FO28/SS	3	2725	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	73	120	0.62	>.98	<10%	0.88	7195
FO28/SS	3	2725	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	72	277	0.27	>.98	<10%	0.88	7195
FO28/SS	3	2725	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	81	120	0.68	>.98	<10%	0.96	7850
FO28/SS	3	2725	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	79	277	0.29	>.98	<10%	0.96	7850
FO28/SS	3	2725	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	95	120	0.81	>.98	<10%	1.15	9400
FO28/SS	3	2725	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	93	277	0.34	>.98	<10%	1.15	9400
FO28/SS	3	2725	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	60	120	0.50	>.98	<10%	0.71	5805
FO28/SS	3	2725	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	59	277	0.22	>.98	<10%	0.71	5805
FO28/SS	4	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	84	120	0.71	>.98	<10%	0.78	8500
FO28/SS	4	2725	QHE4X32T8/UNV ISL-SC	Instant	Parallel	84	277	0.31	>.98	<10%	0.78	8500
FO28/SS	4	2725	QHE4X32T8/UNV ISN-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.88	9590
FO28/SS	4	2725	QHE4X32T8/UNV ISN-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.88	9590
FO28/SS	4	2725	QHE4x32T8/UNV ISM-SC	Instant	Parallel	107	120	0.89	>.98	<10%	0.98	10680
FO28/SS	4	2725	QHE4x32T8/UNV ISM-SC	Instant	Parallel	105	277	0.38	>.98	<10%	0.98	10680
FO28/SS	4	2725	QHE4X32T8/UNV ISH	Instant	Parallel	127	120	1.02	>.98	<10%	1.15	12535
FO28/SS	4	2725	QHE4X32T8/UNV ISH	Instant	Parallel	124	277	0.44	>.98	<10%	1.15	12535
FO28/SS	4	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	86	120	0.73	>.98	<10%	0.78	8500
FO28/SS	4	2725	QTP4X32T8/UNV ISL-SC	Instant	Parallel	86	277	0.32	>.97	<10%	0.78	8500
FO28/SS	4	2725	QTP4X32T8/UNV ISN-SC	Instant	Parallel	98	120	0.85	>.98	<10%	0.88	9590
FO28/SS	4	2725	QTP4X32T8/UNV ISN-SC	Instant	Parallel	98	277	0.37	>.98	<15%	0.88	9590
FO28/SS	4	2725	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	98	120	0.83	>.98	<10%	0.88	9590
FO28/SS	4	2725	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	95	277	0.35	>.98	<10%	0.88	9590
FO28/SS	4	2725	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	124	120	1.06	>.98	<10%	1.15	12535
FO28/SS	4	2725	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	123	277	0.46	>.98	<10%	1.15	12535
FO28/SS	4	2725	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	79	120	0.66	>.98	<10%	0.71	7740
FO28/SS	4	2725	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	77	277	0.28	>.98	<10%	0.71	7740

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO32/25W/XP/SS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/SS	1	2475	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	120	0.17	>.98	<10%	0.78	1930
FO32/25W/SS	1	2475	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	277	0.08	>.98	<10%	0.78	1930
FO32/25W/SS	1	2475	QHE1X32T8/UNV ISN-SC	Instant	Parallel	22	120	0.19	>.98	<10%	0.88	2180
FO32/25W/SS	1	2475	QHE1X32T8/UNV ISN-SC	Instant	Parallel	22	277	0.09	>.98	<10%	0.88	2180
FO32/25W/SS	1	2475	QHE1X32T8/UNV ISH-SC	Instant	Parallel	30	120	0.26	>.98	<10%	1.20	2970
FO32/25W/SS	1	2475	QHE1X32T8/UNV ISH-SC	Instant	Parallel	30	277	0.12	>.95	<15%	1.20	2970
FO32/25W/SS	1	2475	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	120	0.20	>.98	<10%	0.88	2180
FO32/25W/SS	1	2475	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	277	0.09	>.98	<10%	0.88	2180
FO32/25W/SS	1	2475	QHE2X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.95	2350
FO32/25W/SS	1	2475	QHE2X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.10	>.92	<20%	0.95	2350
FO32/25W/SS	1	2475	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.23	>.98	<10%	1.03	2550
FO32/25W/SS	1	2475	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.94	<20%	1.03	2550
FO32/25W/SS	1	2475	QHE2X32T8/UNV ISM-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.15	2845
FO32/25W/SS	1	2475	QHE2X32T8/UNV ISM-SC	Instant	Parallel	32	277	0.12	>.95	<10%	1.15	2845
FO32/25W/SS	1	2475	QTP2X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.95	2350
FO32/25W/SS	1	2475	QTP2X32T8/UNV ISL-SC	Instant	Parallel	26	277	0.10	>.92	<20%	0.95	2350
FO32/25W/SS	1	2475	QTP2X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.24	>.98	<10%	1.05	2600
FO32/25W/SS	1	2475	QTP2X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.97	<10%	1.05	2600
FO32/25W/SS	1	2475	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.24	>.98	<10%	1.00	2475
FO32/25W/SS	1	2475	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.95	<20%	1.00	2475
FO32/25W/SS	1	2475	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.13	2795
FO32/25W/SS	1	2475	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.94	<20%	1.13	2795
FO32/25W/SS	1	2475	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.26	>.98	<10%	1.00	2475
FO32/25W/SS	1	2475	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.95	<20%	1.00	2475
FO32/25W/SS	1	2475	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.14	2820
FO32/25W/SS	1	2475	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	277	0.13	>.95	<20%	1.14	2820
FO32/25W/SS	1	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	1.17	2895
FO32/25W/SS	1	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.92	<20%	1.17	2895
FO32/25W/SS	1	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.28	>.98	<10%	1.17	2895
FO32/25W/SS	1	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.14	>.92	<20%	1.17	2895
FO32/25W/SS	1	2475	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23	120	0.20	>.98	<10%	0.88	2180
FO32/25W/SS	1	2475	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.88	2180
FO32/25W/SS	1	2475	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	120	0.25	>.98	<10%	1.08	2675
FO32/25W/SS	1	2475	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.95	<15%	1.08	2675
FO32/25W/SS	1	2475	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	32	120	0.27	>.98	<10%	1.14	2830
FO32/25W/SS	1	2475	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	33	277	0.13	>.90	<15%	1.14	2830
FO32/25W/SS	1	2475	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	20	120	0.16	>.98	<10%	0.72	1780
FO32/25W/SS	1	2475	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1780
FO32/25W/SS	2	2475	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.32	>.98	<10%	0.78	3860
FO32/25W/SS	2	2475	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.98	<10%	0.78	3860
FO32/25W/SS	2	2475	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.36	>.98	<10%	0.88	4355
FO32/25W/SS	2	2475	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.16	>.98	<10%	0.88	4355
FO32/25W/SS	2	2475	QHE2x32T8/UNV ISM-SC	Instant	Parallel	50	120	0.41	>.98	<10%	1.00	4950
FO32/25W/SS	2	2475	QHE2x32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.98	<10%	1.00	4950
FO32/25W/SS	2	2475	QHE2X32T8/UNV ISH-SC	Instant	Parallel	58	120	0.50	>.98	<10%	1.20	5940
FO32/25W/SS	2	2475	QHE2X32T8/UNV ISH-SC	Instant	Parallel	57	277	0.22	>.98	<15%	1.20	5940
FO32/25W/SS	2	2475	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.34	>.98	<10%	0.78	3860
FO32/25W/SS	2	2475	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.98	<10%	0.78	3860
FO32/25W/SS	2	2475	QTP2X32T8/UNV ISN-SC	Instant	Parallel	46	120	0.39	>.98	<10%	0.88	4355
FO32/25W/SS	2	2475	QTP2X32T8/UNV ISN-SC	Instant	Parallel	46	277	0.16	>.98	<10%	0.88	4355
FO32/25W/SS	2	2475	QTP2X32T8/UNV ISH-SC	Instant	Parallel	61	120	0.51	>.98	<10%	1.20	5940
FO32/25W/SS	2	2475	QTP2X32T8/UNV ISH-SC	Instant	Parallel	61	277	0.22	>.98	<10%	1.20	5940
FO32/25W/SS	2	2475	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.90	4455
FO32/25W/SS	2	2475	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.97	<15%	0.90	4455
FO32/25W/SS	2	2475	QHE3X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.42	>.98	<10%	0.97	4800
FO32/25W/SS	2	2475	QHE3X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.19	>.98	<10%	0.97	4800
FO32/25W/SS	2	2475	QHE3X32T8/UNV ISM-SC	Instant	Parallel	55	120	0.46	>.98	<10%	1.03	5100
FO32/25W/SS	2	2475	QHE3X32T8/UNV ISM-SC	Instant	Parallel	55	277	0.21	>.95	<15%	1.03	5100
FO32/25W/SS	2	2475	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.84	4160
FO32/25W/SS	2	2475	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.18	>.98	<10%	0.84	4160
FO32/25W/SS	2	2475	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.44	>.98	<10%	0.98	4850
FO32/25W/SS	2	2475	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.95	<15%	0.98	4850
FO32/25W/SS	2	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.40	>.98	<10%	1.00	4950
FO32/25W/SS	2	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.19	>.95	<20%	1.00	4950

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/SS	2	2475	QHE4X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	1.04	5150
FO32/25W/SS	2	2475	QHE4X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.21	>.95	<20%	1.04	5150
FO32/25W/SS	2	2475	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	120	0.50	>.98	<10%	1.10	5445
FO32/25W/SS	2	2475	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.95	<15%	1.10	5445
FO32/25W/SS	2	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.40	>.98	<10%	0.91	4505
FO32/25W/SS	2	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.95	<15%	0.91	4505
FO32/25W/SS	2	2475	QTP4X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<15%	1.01	5000
FO32/25W/SS	2	2475	QTP4X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<15%	1.01	5000
FO32/25W/SS	2	2475	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	45	120	0.38	>.98	>.98	0.88	4355
FO32/25W/SS	2	2475	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44	277	0.16	>.98	>.98	0.88	4355
FO32/25W/SS	2	2475	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	52	120	0.44	>.98	>.98	0.98	4870
FO32/25W/SS	2	2475	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	51	277	0.19	>.95	<10%	0.98	4870
FO32/25W/SS	2	2475	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	120	0.46	>.98	>.98	1.06	5245
FO32/25W/SS	2	2475	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	277	0.21	>.95	<15%	1.06	5245
FO32/25W/SS	2	2475	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	56	120	0.47	>.98	<10%	1.15	5695
FO32/25W/SS	2	2475	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	277	0.20	>.98	<10%	1.15	5695
FO32/25W/SS	2	2475	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	38	120	0.31	>.98	<10%	0.72	3565
FO32/25W/SS	2	2475	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	37	277	0.14	>.98	<10%	0.72	3565
FO32/25W/SS	3	2475	QHE3X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.48	>.98	<10%	0.78	5790
FO32/25W/SS	3	2475	QHE3X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.98	<10%	0.78	5790
FO32/25W/SS	3	2475	QHE3X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.55	>.98	<10%	0.88	6535
FO32/25W/SS	3	2475	QHE3X32T8/UNV ISN-SC	Instant	Parallel	64	277	0.23	>.98	<10%	0.88	6535
FO32/25W/SS	3	2475	QHE3x32T8/UNV ISM-SC	Instant	Parallel	70	120	0.59	>.98	<10%	0.98	7275
FO32/25W/SS	3	2475	QHE3x32T8/UNV ISM-SC	Instant	Parallel	70	277	0.26	>.98	<10%	0.98	7275
FO32/25W/SS	3	2475	QHE3X32T8/UNV ISH-SC	Instant	Parallel	87	120	0.72	>.98	<10%	1.18	8760
FO32/25W/SS	3	2475	QHE3X32T8/UNV ISH-SC	Instant	Parallel	86	277	0.31	>.98	<10%	1.18	8760
FO32/25W/SS	3	2475	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.78	5790
FO32/25W/SS	3	2475	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.78	5790
FO32/25W/SS	3	2475	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.58	>.98	<10%	0.88	6535
FO32/25W/SS	3	2475	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.25	>.98	<10%	0.88	6535
FO32/25W/SS	3	2475	QTP3X32T8/UNV ISH-SC	Instant	Parallel	89	120	0.75	>.98	<10%	1.18	8760
FO32/25W/SS	3	2475	QTP3X32T8/UNV ISH-SC	Instant	Parallel	88	277	0.32	>.98	<10%	1.18	8760
FO32/25W/SS	3	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	65	120	0.53	>.98	<10%	0.85	6310
FO32/25W/SS	3	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.24	>.96	<15%	0.85	6310
FO32/25W/SS	3	2475	QHE4X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.60	>.98	<10%	0.93	6905
FO32/25W/SS	3	2475	QHE4X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<15%	0.93	6905
FO32/25W/SS	3	2475	QHE4X32T8/UNV ISM-SC	Instant	Parallel	80	120	0.67	>.98	<10%	1.04	7720
FO32/25W/SS	3	2475	QHE4X32T8/UNV ISM-SC	Instant	Parallel	80	277	0.29	>.98	<10%	1.04	7720
FO32/25W/SS	3	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	64	120	0.54	>.98	<10%	0.82	6090
FO32/25W/SS	3	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.24	>.97	<10%	0.82	6090
FO32/25W/SS	3	2475	QTP4X32T8/UNV ISN-SC	Instant	Parallel	72	120	0.60	>.98	<10%	0.92	6830
FO32/25W/SS	3	2475	QTP4X32T8/UNV ISN-SC	Instant	Parallel	72	277	0.26	>.98	<15%	0.92	6830
FO32/25W/SS	3	2475	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	67	120	0.56	>.98	<10%	0.88	6535
FO32/25W/SS	3	2475	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	66	277	0.24	>.98	<10%	0.88	6535
FO32/25W/SS	3	2475	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	75	120	0.63	>.98	<10%	0.96	7160
FO32/25W/SS	3	2475	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	74	277	0.27	>.98	<10%	0.96	7160
FO32/25W/SS	3	2475	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	85	120	0.72	>.98	<10%	1.15	8540
FO32/25W/SS	3	2475	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	84	277	0.31	>.98	<10%	1.15	8540
FO32/25W/SS	3	2475	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	56	120	0.47	>.98	<10%	0.71	5270
FO32/25W/SS	3	2475	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	55	277	0.20	>.98	<10%	0.71	5270
FO32/25W/SS	4	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	76	120	0.62	>.98	<10%	0.78	7720
FO32/25W/SS	4	2475	QHE4X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	7720
FO32/25W/SS	4	2475	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.71	>.98	<10%	0.88	8710
FO32/25W/SS	4	2475	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	277	0.30	>.98	<10%	0.88	8710
FO32/25W/SS	4	2475	QHE4x32T8/UNV ISM-SC	Instant	Parallel	99	120	0.83	>.98	<10%	0.98	9700
FO32/25W/SS	4	2475	QHE4x32T8/UNV ISM-SC	Instant	Parallel	98	277	0.36	>.98	<10%	0.98	9700
FO32/25W/SS	4	2475	QHE4X32T8/UNV ISH	Instant	Parallel	112	120	0.94	>.98	<10%	1.15	11385
FO32/25W/SS	4	2475	QHE4X32T8/UNV ISH	Instant	Parallel	111	277	0.41	>.98	<10%	1.15	11385
FO32/25W/SS	4	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	120	0.63	>.98	<10%	0.78	7720
FO32/25W/SS	4	2475	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	277	0.28	>.97	<10%	0.78	7720
FO32/25W/SS	4	2475	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	120	0.74	>.98	<10%	0.88	8710
FO32/25W/SS	4	2475	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	277	0.31	>.98	<15%	0.88	8710
FO32/25W/SS	4	2475	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.88	8710
FO32/25W/SS	4	2475	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.88	8710
FO32/25W/SS	4	2475	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	112	120	0.95	>.98	<10%	1.15	11385
FO32/25W/SS	4	2475	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	110	277	0.41	>.98	<10%	1.15	11385
FO32/25W/SS	4	2475	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	73	120	0.61	>.98	<10%	0.71	7030
FO32/25W/SS	4	2475	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	71	277	0.26	>.98	<10%	0.71	7030

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO32XPS

QUICKSYSTEMS

System Performance Guide

Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XPS	1	3100	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.78	2420
FO32XPS	1	3100	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.78	2420
FO32XPS	1	3100	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2730
FO32XPS	1	3100	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2730
FO32XPS	1	3100	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	120	0.32	>.98	<10%	1.20	3720
FO32XPS	1	3100	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	277	0.14	>.98	<10%	1.20	3720
FO32XPS	1	3100	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.26	>.98	<10%	0.88	2730
FO32XPS	1	3100	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<10%	0.88	2730
FO32XPS	1	3100	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.27	>.95	<10%	0.95	2945
FO32XPS	1	3100	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<10%	0.95	2945
FO32XPS	1	3100	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.27	>.95	<10%	1.05	3255
FO32XPS	1	3100	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.95	<10%	1.05	3255
FO32XPS	1	3100	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.15	3565
FO32XPS	1	3100	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	277	0.15	>.95	<15%	1.15	3565
FO32XPS	1	3100	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.30	>.98	<10%	0.90	2790
FO32XPS	1	3100	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.97	<10%	0.90	2790
FO32XPS	1	3100	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.95	<10%	1.04	3225
FO32XPS	1	3100	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.95	<10%	1.04	3225
FO32XPS	1	3100	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.30	>.98	<15%	1.02	3160
FO32XPS	1	3100	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.96	<20%	1.02	3160
FO32XPS	1	3100	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.20	3720
FO32XPS	1	3100	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	277	0.15	>.92	<15%	1.20	3720
FO32XPS	1	3100	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	120	0.29	>.98	<10%	1.03	3195
FO32XPS	1	3100	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	277	0.13	>.96	<20%	1.03	3195
FO32XPS	1	3100	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.34	>.95	<15%	1.19	3690
FO32XPS	1	3100	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.15	>.98	<10%	1.19	3690
FO32XPS	1	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	120	0.33	>.98	<15%	1.17	3625
FO32XPS	1	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	277	0.15	>.93	<20%	1.17	3625
FO32XPS	1	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.06	3285
FO32XPS	1	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.15	>.92	<30%	1.06	3285
FO32XPS	1	3100	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.26	>.98	<10%	0.88	2730
FO32XPS	1	3100	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	29	277	0.11	>.98	<10%	0.88	2730
FO32XPS	1	3100	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	120	0.30	>.98	<10%	1.07	3320
FO32XPS	1	3100	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	277	0.13	>.98	<15%	1.07	3320
FO32XPS	1	3100	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3525
FO32XPS	1	3100	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	40	277	0.16	>.95	<15%	1.14	3525
FO32XPS	1	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.34	>.98	<10%	1.20	3720
FO32XPS	1	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.90	<15%	1.20	3720
FO32XPS	1	3100	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.72	2230
FO32XPS	1	3100	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.98	<10%	0.72	2230
FO32XPS	2	3100	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4835
FO32XPS	2	3100	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4835
FO32XPS	2	3100	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.47	>.98	<10%	0.88	5455
FO32XPS	2	3100	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	5455
FO32XPS	2	3100	QHE2x32T8/UNV ISM-SC	Instant	Parallel	63	120	0.54	>.98	<10%	1.00	6200
FO32XPS	2	3100	QHE2x32T8/UNV ISM-SC	Instant	Parallel	62	277	0.23	>.98	<10%	1.00	6200
FO32XPS	2	3100	QHE2X32T8/UNV ISH-SC	Instant	Parallel	74	120	0.65	>.98	<10%	1.20	7440
FO32XPS	2	3100	QHE2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.28	>.98	<10%	1.20	7440
FO32XPS	2	3100	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.44	>.98	<10%	0.78	4835
FO32XPS	2	3100	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.98	<10%	0.78	4835
FO32XPS	2	3100	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.88	5455
FO32XPS	2	3100	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.88	5455
FO32XPS	2	3100	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	120	0.65	>.98	<10%	1.20	7440
FO32XPS	2	3100	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	277	0.28	>.98	<10%	1.20	7440
FO32XPS	2	3100	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.46	>.97	<15%	0.90	5580
FO32XPS	2	3100	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.20	>.97	<15%	0.90	5580
FO32XPS	2	3100	QHE3X32T8/UNV ISN-SC	Instant	Parallel	63	120	0.50	>.97	<15%	0.99	6140
FO32XPS	2	3100	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.22	>.97	<15%	0.99	6140
FO32XPS	2	3100	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.60	>.98	<10%	1.08	6695
FO32XPS	2	3100	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.08	6695
FO32XPS	2	3100	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.45	>.98	<10%	0.88	5455
FO32XPS	2	3100	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.20	>.98	<10%	0.88	5455
FO32XPS	2	3100	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.97	<15%	1.02	6325
FO32XPS	2	3100	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	277	0.24	>.97	<15%	1.02	6325

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XPS	2	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.98	6075
FO32XPS	2	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<15%	0.98	6075
FO32XPS	2	3100	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.60	>.97	<15%	1.08	6695
FO32XPS	2	3100	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.08	6695
FO32XPS	2	3100	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	120	0.62	>.98	<10%	1.16	7190
FO32XPS	2	3100	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	277	0.27	>.98	<15%	1.16	7190
FO32XPS	2	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	120	0.50	>.98	<10%	0.93	5765
FO32XPS	2	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	277	0.23	>.97	<10%	0.93	5765
FO32XPS	2	3100	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.59	>.98	<15%	1.07	6635
FO32XPS	2	3100	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.07	6635
FO32XPS	2	3100	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	57	120	0.48	>.98	<10%	0.88	5455
FO32XPS	2	3100	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	277	0.21	>.98	<10%	0.88	5455
FO32XPS	2	3100	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.98	6080
FO32XPS	2	3100	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64	277	0.24	>.98	<10%	0.98	6080
FO32XPS	2	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.06	6570
FO32XPS	2	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.06	6570
FO32XPS	2	3100	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	72	120	0.60	>.98	<10%	1.15	7130
FO32XPS	2	3100	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	70	277	0.27	>.98	<10%	1.15	7130
FO32XPS	2	3100	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.72	4465
FO32XPS	2	3100	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	47	277	0.17	>.98	<10%	0.72	4465
FO32XPS	3	3100	QHE3X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.61	>.98	<10%	0.78	7255
FO32XPS	3	3100	QHE3X32T8/UNV ISL-SC	Instant	Parallel	72	277	0.27	>.98	<10%	0.78	7255
FO32XPS	3	3100	QHE3X32T8/UNV ISN-SC	Instant	Parallel	83	120	0.69	>.98	<10%	0.88	8185
FO32XPS	3	3100	QHE3X32T8/UNV ISN-SC	Instant	Parallel	82	277	0.30	>.98	<10%	0.88	8185
FO32XPS	3	3100	QHE3x32T8/UNV ISM-SC	Instant	Parallel	90	120	0.76	>.98	<10%	0.98	9115
FO32XPS	3	3100	QHE3x32T8/UNV ISM-SC	Instant	Parallel	89	277	0.40	>.98	<10%	0.98	9115
FO32XPS	3	3100	QHE3X32T8/UNV ISH-SC	Instant	Parallel	111	120	0.93	>.98	<10%	1.18	10975
FO32XPS	3	3100	QHE3X32T8/UNV ISH-SC	Instant	Parallel	109	277	0.40	>.98	<10%	1.18	10975
FO32XPS	3	3100	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.65	>.98	<10%	0.78	7255
FO32XPS	3	3100	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	7255
FO32XPS	3	3100	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.72	>.98	<10%	0.88	8185
FO32XPS	3	3100	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.31	>.98	<10%	0.88	8185
FO32XPS	3	3100	QTP3X32T8/UNV ISH-SC	Instant	Parallel	114	120	0.95	>.98	<10%	1.18	10975
FO32XPS	3	3100	QTP3X32T8/UNV ISH-SC	Instant	Parallel	111	277	0.41	>.98	<10%	1.18	10975
FO32XPS	3	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.68	>.98	<10%	0.85	7905
FO32XPS	3	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.28	>.98	<10%	0.85	7905
FO32XPS	3	3100	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	120	0.71	>.98	<15%	0.96	8930
FO32XPS	3	3100	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	277	0.31	>.98	<15%	0.96	8930
FO32XPS	3	3100	QHE4X32T8/UNV ISM-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.05	9765
FO32XPS	3	3100	QHE4X32T8/UNV ISM-SC	Instant	Parallel	99	277	0.36	>.98	<10%	1.05	9765
FO32XPS	3	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.66	>.98	<10%	0.84	7810
FO32XPS	3	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.29	>.97	<10%	0.84	7810
FO32XPS	3	3100	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	120	0.77	>.98	<15%	0.96	8930
FO32XPS	3	3100	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	277	0.33	>.98	<15%	0.96	8930
FO32XPS	3	3100	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	8185
FO32XPS	3	3100	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	8185
FO32XPS	3	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	8930
FO32XPS	3	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	8930
FO32XPS	3	3100	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	110	120	0.94	>.98	<10%	1.15	10695
FO32XPS	3	3100	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	108	277	0.40	>.98	<10%	1.15	10695
FO32XPS	3	3100	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	69	120	0.58	>.98	<10%	0.71	6605
FO32XPS	3	3100	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.71	6605
FO32XPS	4	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.78	9670
FO32XPS	4	3100	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.78	9670
FO32XPS	4	3100	QHE4X32T8/UNV ISN-SC	Instant	Parallel	108	120	0.91	>.98	<10%	0.88	10910
FO32XPS	4	3100	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	277	0.39	>.98	<10%	0.88	10910
FO32XPS	4	3100	QHE4x32T8/UNV ISM-SC	Instant	Parallel	122	120	1.02	>.98	<10%	0.98	12150
FO32XPS	4	3100	QHE4x32T8/UNV ISM-SC	Instant	Parallel	120	277	0.44	>.98	<10%	0.98	12150
FO32XPS	4	3100	QHE4X32T8/UNV ISH	Instant	Parallel	144	120	1.21	>.98	<10%	1.15	14260
FO32XPS	4	3100	QHE4X32T8/UNV ISH	Instant	Parallel	141	277	0.52	>.98	<10%	1.15	14260
FO32XPS	4	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.80	>.98	<10%	0.78	9670
FO32XPS	4	3100	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.78	9670
FO32XPS	4	3100	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	120	0.95	>.98	<10%	0.88	10910
FO32XPS	4	3100	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	277	0.40	>.98	<10%	0.88	10910
FO32XPS	4	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	111	120	0.93	>.98	<10%	0.88	10910
FO32XPS	4	3100	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.39	>.98	<10%	0.88	10910
FO32XPS	4	3100	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	143	120	1.22	>.98	<10%	1.15	14260
FO32XPS	4	3100	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	141	277	0.53	>.98	<10%	1.15	14260
FO32XPS	4	3100	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.76	>.98	<10%	0.71	8805
FO32XPS	4	3100	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	89	277	0.32	>.98	<10%	0.71	8805

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO25XPS

QUICKSYSTEMS

System Performance Guide

3 Foot Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO25XPS	1	2200	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	120	0.17	>.98	<10%	0.79	1740
FO25XPS	1	2200	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	277	0.08	>.95	<10%	0.79	1740
FO25XPS	1	2200	QHE1X32T8/UNV ISN-SC	Instant	Parallel	23	120	0.21	>.98	<10%	0.90	1980
FO25XPS	1	2200	QHE1X32T8/UNV ISN-SC	Instant	Parallel	23	277	0.09	>.98	<10%	0.90	1980
FO25XPS	1	2200	QTP1X32T8/UNV ISN-SC	Instant	Parallel	24	120	0.23	>.98	<10%	0.90	1980
FO25XPS	1	2200	QTP1X32T8/UNV ISN-SC	Instant	Parallel	24	277	0.10	>.98	<10%	0.90	1980
FO25XPS	1	2200	QHE2X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.21	>.95	<15%	0.96	2110
FO25XPS	1	2200	QHE2X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.10	>.90	<15%	0.96	2110
FO25XPS	1	2200	QHE2X32T8/UNV ISN-SC	Instant	Parallel	27	120	0.21	>.95	<15%	1.07	2355
FO25XPS	1	2200	QHE2X32T8/UNV ISN-SC	Instant	Parallel	27	277	0.09	>.95	<15%	1.07	2355
FO25XPS	1	2200	QHE2X32T8/UNV ISM-SC	Instant	Parallel	31	120	0.26	>.98	<10%	1.18	2595
FO25XPS	1	2200	QHE2X32T8/UNV ISM-SC	Instant	Parallel	31	277	0.12	>.95	<15%	1.18	2595
FO25XPS	1	2200	QTP2X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.22	>.98	<10%	0.93	2045
FO25XPS	1	2200	QTP2X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.10	>.96	<20%	0.93	2045
FO25XPS	1	2200	QTP2X32T8/UNV ISN-SC	Instant	Parallel	29	120	0.25	>.95	<15%	1.05	2310
FO25XPS	1	2200	QTP2X32T8/UNV ISN-SC	Instant	Parallel	29	277	0.11	>.95	<15%	1.05	2310
FO25XPS	1	2200	QHE3X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.24	>.98	<15%	1.05	2310
FO25XPS	1	2200	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.95	<20%	1.05	2310
FO25XPS	1	2200	QHE3X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.27	>.94	<10%	1.18	2595
FO25XPS	1	2200	QHE3X32T8/UNV ISN-SC	Instant	Parallel	31	277	0.13	>.84	<30%	1.18	2595
FO25XPS	1	2200	QTP3X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.23	>.98	<20%	1.04	2290
FO25XPS	1	2200	QTP3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.12	>.87	<30%	1.04	2290
FO25XPS	1	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.18	2595
FO25XPS	1	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.92	<20%	1.18	2595
FO25XPS	1	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.24	>.98	<20%	1.08	2375
FO25XPS	1	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.90	<30%	1.08	2375
FO25XPS	1	2200	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23	120	0.20	>.98	<10%	0.89	1960
FO25XPS	1	2200	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.89	1960
FO25XPS	1	2200	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	28	120	0.24	>.98	<10%	1.09	2385
FO25XPS	1	2200	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	28	277	0.11	>.95	<15%	1.09	2385
FO25XPS	1	2200	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	30	120	0.26	>.98	<10%	1.14	2510
FO25XPS	1	2200	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	31	277	0.12	>.90	<15%	1.14	2510
FO25XPS	1	2200	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	120	0.17	>.98	<10%	0.72	1585
FO25XPS	1	2200	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1585
FO25XPS	2	2200	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.33	>.97	<10%	0.80	3520
FO25XPS	2	2200	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.97	<10%	0.80	3520
FO25XPS	2	2200	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.34	>.97	<10%	0.89	3915
FO25XPS	2	2200	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.15	>.97	<10%	0.89	3915
FO25XPS	2	2200	QHE2x32T8/UNV ISM-SC	Instant	Parallel	49	120	0.41	>.98	<10%	1.01	4445
FO25XPS	2	2200	QHE2x32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.98	<10%	1.01	4445
FO25XPS	2	2200	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.34	>.98	<10%	0.80	3520
FO25XPS	2	2200	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.98	<10%	0.80	3520
FO25XPS	2	2200	QTP2X32T8/UNV ISN-SC	Instant	Parallel	45	120	0.40	>.97	<10%	0.92	4050
FO25XPS	2	2200	QTP2X32T8/UNV ISN-SC	Instant	Parallel	45	277	0.17	>.97	<10%	0.92	4050
FO25XPS	2	2200	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.39	>.95	<20%	0.91	4005
FO25XPS	2	2200	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.95	<20%	0.91	4005
FO25XPS	2	2200	QHE3X32T8/UNV ISN-SC	Instant	Parallel	49	120	0.41	>.98	<10%	1.01	4445
FO25XPS	2	2200	QHE3X32T8/UNV ISN-SC	Instant	Parallel	49	277	0.18	>.97	<10%	1.01	4445
FO25XPS	2	2200	QHE3X32T8/UNV ISM-SC	Instant	Parallel	53	120	0.41	>.98	<10%	1.10	4840
FO25XPS	2	2200	QHE3X32T8/UNV ISM-SC	Instant	Parallel	53	277	0.18	>.95	<15%	1.10	4840
FO25XPS	2	2200	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.35	>.98	<10%	0.89	3915
FO25XPS	2	2200	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.16	>.98	<10%	0.89	3915
FO25XPS	2	2200	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.46	>.95	<20%	1.02	4490
FO25XPS	2	2200	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.20	>.95	<20%	1.02	4490
FO25XPS	2	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	120	0.43	>.97	<10%	1.00	4400
FO25XPS	2	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	277	0.19	>.95	<20%	1.00	4400
FO25XPS	2	2200	QHE4X32T8/UNV ISN-SC	Instant	Parallel	54	120	0.41	>.97	<20%	1.10	4840
FO25XPS	2	2200	QHE4X32T8/UNV ISN-SC	Instant	Parallel	54	277	0.18	>.97	<20%	1.10	4840
FO25XPS	2	2200	QHE4X32T8/UNV ISM-SC	Instant	Parallel	57	120	0.49	>.98	<10%	1.17	5150
FO25XPS	2	2200	QHE4X32T8/UNV ISM-SC	Instant	Parallel	57	277	0.22	>.95	<15%	1.17	5150
FO25XPS	2	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.39	>.98	<10%	0.95	4180
FO25XPS	2	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.94	<20%	0.95	4180
FO25XPS	2	2200	QTP4X32T8/UNV ISN-SC	Instant	Parallel	54	120	0.46	>.97	<20%	1.08	4750
FO25XPS	2	2200	QTP4X32T8/UNV ISN-SC	Instant	Parallel	54	277	0.21	>.97	<20%	1.08	4750

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO25XPS	2	2200	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	45	120	0.38	>.98	<10%	0.90	3960
FO25XPS	2	2200	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44	277	0.16	>.98	<10%	0.90	3960
FO25XPS	2	2200	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	50	120	0.42	>.98	<10%	0.99	4355
FO25XPS	2	2200	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	50	277	0.19	>.95	<10%	0.99	4355
FO25XPS	2	2200	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	54	120	0.45	>.98	<10%	1.07	4710
FO25XPS	2	2200	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	54	277	0.20	>.95	<15%	1.07	4710
FO25XPS	2	2200	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	120	0.46	>.95	<10%	1.16	5105
FO25XPS	2	2200	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	277	0.2	>.95	<10%	1.16	5105
FO25XPS	2	2200	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	35	120	0.28	>.98	<10%	0.72	3170
FO25XPS	2	2200	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	35	277	0.13	>.98	<10%	0.72	3170
FO25XPS	3	2200	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.48	>.98	<10%	0.79	5215
FO25XPS	3	2200	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.21	>.97	<10%	0.79	5215
FO25XPS	3	2200	QHE3X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.55	>.97	<15%	0.89	5875
FO25XPS	3	2200	QHE3X32T8/UNV ISN-SC	Instant	Parallel	64	277	0.24	>.97	<15%	0.89	5875
FO25XPS	3	2200	QHE3x32T8/UNV ISM-SC	Instant	Parallel	69	120	0.59	>.98	<10%	0.99	6535
FO25XPS	3	2200	QHE3x32T8/UNV ISM-SC	Instant	Parallel	69	277	0.26	>.98	<10%	0.99	6535
FO25XPS	3	2200	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	120	0.46	>.98	<10%	0.80	5280
FO25XPS	3	2200	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	277	0.21	>.98	<20%	0.80	5280
FO25XPS	3	2200	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.61	>.97	<15%	0.90	5940
FO25XPS	3	2200	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.26	>.97	<15%	0.90	5940
FO25XPS	3	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	120	0.54	>.98	<10%	0.87	5740
FO25XPS	3	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.23	>.98	<15%	0.87	5740
FO25XPS	3	2200	QHE4X32T8/UNV ISN-SC	Instant	Parallel	70	120	0.57	>.98	<15%	0.97	6400
FO25XPS	3	2200	QHE4X32T8/UNV ISN-SC	Instant	Parallel	70	277	0.25	>.98	<15%	0.97	6400
FO25XPS	3	2200	QHE4X32T8/UNV ISM-SC	Instant	Parallel	76	120	0.64	>.98	<10%	1.07	7060
FO25XPS	3	2200	QHE4X32T8/UNV ISM-SC	Instant	Parallel	76	277	0.28	>.98	<15%	1.07	7060
FO25XPS	3	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.51	>.98	<10%	0.86	5675
FO25XPS	3	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<20%	0.86	5675
FO25XPS	3	2200	QTP4X32T8/UNV ISN-SC	Instant	Parallel	71	120	0.61	>.98	<15%	0.98	6470
FO25XPS	3	2200	QTP4X32T8/UNV ISN-SC	Instant	Parallel	71	277	0.27	>.98	<15%	0.98	6470
FO25XPS	3	2200	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.55	>.98	<10%	0.89	5875
FO25XPS	3	2200	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	277	0.24	>.98	<10%	0.89	5875
FO25XPS	3	2200	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	71	120	0.60	>.98	<10%	0.97	6400
FO25XPS	3	2200	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	70	277	0.26	>.95	<10%	0.97	6400
FO25XPS	3	2200	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	83	120	0.70	>.98	<10%	1.17	7720
FO25XPS	3	2200	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	82	277	0.30	>.98	<10%	1.17	7720
FO25XPS	3	2200	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	56	120	0.45	>.98	<10%	0.72	4750
FO25XPS	3	2200	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	55	277	0.19	>.98	<10%	0.72	4750
FO25XPS	4	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	120	0.64	>.97	<10%	0.79	6950
FO25XPS	4	2200	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	277	0.28	>.97	<15%	0.79	6950
FO25XPS	4	2200	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	120	0.68	>.97	<15%	0.89	7830
FO25XPS	4	2200	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	277	0.29	>.97	<15%	0.89	7830
FO25XPS	4	2200	QHE4x32T8/UNV ISM-SC	Instant	Parallel	92	120	0.77	>.98	<10%	0.99	8710
FO25XPS	4	2200	QHE4x32T8/UNV ISM-SC	Instant	Parallel	91	277	0.34	>.98	<10%	0.99	8710
FO25XPS	4	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	120	0.61	>.98	<10%	0.80	7040
FO25XPS	4	2200	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	277	0.27	>.97	<10%	0.80	7040
FO25XPS	4	2200	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	120	0.74	>.97	<15%	0.90	7920
FO25XPS	4	2200	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	277	0.32	>.97	<15%	0.90	7920
FO25XPS	4	2200	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	85	120	0.72	>.98	<10%	0.90	7920
FO25XPS	4	2200	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	84	277	0.31	>.98	<10%	0.90	7920
FO25XPS	4	2200	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	107	120	0.91	>.98	<10%	1.17	10295
FO25XPS	4	2200	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	106	277	0.4	>.98	<10%	1.17	10295
FO25XPS	4	2200	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	70	120	0.58	>.98	<10%	0.72	6335
FO25XPS	4	2200	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	69	277	0.25	>.98	<10%	0.72	6335

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO17XPS

QUICKSYSTEMS

System Performance Guide

2 Foot Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO17XPS	1	1400	QHE1X32T8/UNV ISL-SC	Instant	Parallel	14	120	0.12	>.98	<10%	0.80	1120
FO17XPS	1	1400	QHE1X32T8/UNV ISL-SC	Instant	Parallel	14	277	0.05	>.95	<15%	0.80	1120
FO17XPS	1	1400	QHE1X32T8/UNV ISN-SC	Instant	Parallel	17	120	0.14	>.98	<15%	0.90	1260
FO17XPS	1	1400	QHE1X32T8/UNV ISN-SC	Instant	Parallel	17	277	0.06	>.98	<15%	0.90	1260
FO17XPS	1	1400	QTP1X32T8/UNV ISN-SC	Instant	Parallel	18	120	0.15	>.98	<15%	0.92	1290
FO17XPS	1	1400	QTP1X32T8/UNV ISN-SC	Instant	Parallel	18	277	0.07	>.98	<15%	0.92	1290
FO17XPS	1	1400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	17	120	0.16	>.90	<20%	0.98	1370
FO17XPS	1	1400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	17	277	0.07	>.90	<20%	0.98	1370
FO17XPS	1	1400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	19	120	0.15	>.90	<20%	1.08	1510
FO17XPS	1	1400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	19	277	0.06	>.90	<20%	1.08	1510
FO17XPS	1	1400	QHE2X32T8/UNV ISM-SC	Instant	Parallel	22	120	0.19	>.92	<15%	1.18	1650
FO17XPS	1	1400	QHE2X32T8/UNV ISM-SC	Instant	Parallel	22	277	0.09	>.92	<20%	1.18	1650
FO17XPS	1	1400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	19	120	0.20	>.92	<20%	0.94	1315
FO17XPS	1	1400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	19	277	0.08	>.92	<20%	0.94	1315
FO17XPS	1	1400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	21	277	0.09	>.92	<20%	1.06	1485
FO17XPS	1	1400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	21	120	0.19	>.92	<20%	1.06	1485
FO17XPS	1	1400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	21	120	0.17	>.92	<15%	1.06	1485
FO17XPS	1	1400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	21	277	0.08	>.92	<20%	1.06	1485
FO17XPS	1	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	22	120	0.18	>.95	<20%	1.09	1525
FO17XPS	1	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	22	277	0.09	>.95	<30%	1.09	1525
FO17XPS	1	1400	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	16	120	0.14	>.98	<10%	0.91	1275
FO17XPS	1	1400	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	17	277	0.06	>.95	<15%	0.91	1275
FO17XPS	1	1400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	20	120	0.17	>.98	<10%	1.10	1535
FO17XPS	1	1400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	20	277	0.08	>.90	<15%	1.10	1535
FO17XPS	1	1400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	23	120	0.20	>.98	<15%	1.17	1640
FO17XPS	1	1400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	23	277	0.10	>.90	<20%	1.17	1640
FO17XPS	1	1400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	14	120	0.11	>.98	<10%	0.72	1010
FO17XPS	1	1400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	14	277	0.05	>.98	<10%	0.72	1010
FO17XPS	2	1400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.23	>.95	<15%	0.81	2270
FO17XPS	2	1400	QHE2X32T8/UNV ISL-SC	Instant	Parallel	26	277	0.10	>.95	<15%	0.81	2270
FO17XPS	2	1400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	29	120	0.24	>.95	<10%	0.90	2520
FO17XPS	2	1400	QHE2X32T8/UNV ISN-SC	Instant	Parallel	29	277	0.10	>.95	<10%	0.90	2520
FO17XPS	2	1400	QHE2x32T8/UNV ISM-SC	Instant	Parallel	35	120	0.29	>.98	<15%	1.03	2885
FO17XPS	2	1400	QHE2x32T8/UNV ISM-SC	Instant	Parallel	35	277	0.13	>.95	<15%	1.03	2885
FO17XPS	2	1400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	27	120	0.25	>.98	<10%	0.81	2270
FO17XPS	2	1400	QTP2X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.11	>.97	<20%	0.81	2270
FO17XPS	2	1400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.95	<10%	0.93	2605
FO17XPS	2	1400	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.95	<10%	0.93	2605
FO17XPS	2	1400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.29	>.90	<20%	0.92	2575
FO17XPS	2	1400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.90	<20%	0.92	2575
FO17XPS	2	1400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.26	>.90	<20%	1.03	2885
FO17XPS	2	1400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.90	<20%	1.03	2885
FO17XPS	2	1400	QHE3X32T8/UNV ISM-SC	Instant	Parallel	37	120	0.29	>.98	<15%	1.08	3025
FO17XPS	2	1400	QHE3X32T8/UNV ISM-SC	Instant	Parallel	37	277	0.13	>.95	<15%	1.08	3025
FO17XPS	2	1400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.26	>.98	<20%	0.93	2605
FO17XPS	2	1400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.91	<20%	0.93	2605
FO17XPS	2	1400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.32	>.90	<20%	1.04	2910
FO17XPS	2	1400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.90	<20%	1.04	2910
FO17XPS	2	1400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	120	0.30	>.95	<15%	1.00	2800
FO17XPS	2	1400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.00	2800
FO17XPS	2	1400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.29	>.95	<20%	1.13	3165
FO17XPS	2	1400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.13	>.95	<20%	1.13	3165
FO17XPS	2	1400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	41	120	0.35	>.98	<15%	1.16	3250
FO17XPS	2	1400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	41	277	0.16	>.90	<15%	1.16	3250
FO17XPS	2	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.30	>.95	<20%	0.96	2690
FO17XPS	2	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.13	>.91	<20%	0.96	2690

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
F017XPS	2	1400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.33	>.95	<20%	1.10	3080
F017XPS	2	1400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.15	>.95	<20%	1.10	3080
F017XPS	2	1400	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.25	>.98	<10%	0.91	2560
F017XPS	2	1400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.95	<15%	0.91	2560
F017XPS	2	1400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.00	2800
F017XPS	2	1400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.90	<15%	1.00	2800
F017XPS	2	1400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.08	3025
F017XPS	2	1400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.90	<15%	1.08	3025
F017XPS	2	1400	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	38	120	0.32	>.98	<10%	1.17	3275
F017XPS	2	1400	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	38	277	0.14	>.98	<10%	1.17	3275
F017XPS	2	1400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	24	120	0.21	>.98	<10%	0.72	2015
F017XPS	2	1400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.97	<10%	0.72	2015
F017XPS	3	1400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.32	>.98	<10%	0.80	3360
F017XPS	3	1400	QHE3X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.95	<15%	0.80	3360
F017XPS	3	1400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	44	120	0.36	>.95	<20%	0.90	3780
F017XPS	3	1400	QHE3X32T8/UNV ISN-SC	Instant	Parallel	44	277	0.16	>.95	<20%	0.90	3780
F017XPS	3	1400	QHE3x32T8/UNV ISM-SC	Instant	Parallel	49	120	0.41	>.98	<10%	1.00	4200
F017XPS	3	1400	QHE3x32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.95	<15%	1.00	4200
F017XPS	3	1400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.33	>.98	<10%	0.80	3360
F017XPS	3	1400	QTP3X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.97	<20%	0.80	3360
F017XPS	3	1400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	46	120	0.40	>.95	<20%	0.93	3905
F017XPS	3	1400	QTP3X32T8/UNV ISN-SC	Instant	Parallel	46	277	0.18	>.95	<20%	0.93	3905
F017XPS	3	1400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	43	120	0.38	>.95	<20%	0.88	3695
F017XPS	3	1400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	43	277	0.16	>.95	<20%	0.88	3695
F017XPS	3	1400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	47	120	0.37	>.95	<20%	0.98	4115
F017XPS	3	1400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	47	277	0.16	>.95	<20%	0.98	4115
F017XPS	3	1400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	53	120	0.45	>.98	<10%	1.07	4495
F017XPS	3	1400	QHE4X32T8/UNV ISM-SC	Instant	Parallel	54	277	0.20	>.95	<15%	1.07	4495
F017XPS	3	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	44	120	0.36	>.98	<10%	0.87	3655
F017XPS	3	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	44	277	0.17	>.93	<20%	0.87	3655
F017XPS	3	1400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.42	>.95	<20%	0.99	4160
F017XPS	3	1400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.18	>.95	<20%	0.99	4160
F017XPS	3	1400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	44	120	0.37	>.98	<10%	0.90	3780
F017XPS	3	1400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	44	277	0.17	>.95	<15%	0.90	3780
F017XPS	3	1400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	49	120	0.41	>.98	<10%	0.98	4115
F017XPS	3	1400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	49	277	0.19	>.95	<15%	0.98	4115
F017XPS	3	1400	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	56	120	0.48	>.98	<10%	1.18	4955
F017XPS	3	1400	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	56	277	0.12	>.98	<10%	1.18	4955
F017XPS	3	1400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	38	120	0.30	>.98	<10%	0.73	3065
F017XPS	3	1400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	37	277	0.13	>.95	<10%	0.73	3065
F017XPS	4	1400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	120	0.44	>.95	<10%	0.81	4535
F017XPS	4	1400	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	277	0.19	>.95	<20%	0.81	4535
F017XPS	4	1400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	56	120	0.44	>.95	<20%	0.91	5095
F017XPS	4	1400	QHE4X32T8/UNV ISN-SC	Instant	Parallel	56	277	0.19	>.95	<20%	0.91	5095
F017XPS	4	1400	QHE4x32T8/UNV ISM-SC	Instant	Parallel	64	120	0.53	>.98	<10%	1.00	5600
F017XPS	4	1400	QHE4x32T8/UNV ISM-SC	Instant	Parallel	64	277	0.24	>.98	<15%	1.00	5600
F017XPS	4	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	52	120	0.42	>.98	<10%	0.81	4535
F017XPS	4	1400	QTP4X32T8/UNV ISL-SC	Instant	Parallel	52	277	0.19	>.95	<20%	0.81	4535
F017XPS	4	1400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	60	120	0.50	>.95	<20%	0.91	5095
F017XPS	4	1400	QTP4X32T8/UNV ISN-SC	Instant	Parallel	60	277	0.22	>.95	<20%	0.91	5095
F017XPS	4	1400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	59	120	0.50	>.98	<10%	0.91	5095
F017XPS	4	1400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	59	277	0.22	>.95	<15%	0.91	5095
F017XPS	4	1400	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	73	120	0.63	>.98	<10%	1.18	6610
F017XPS	4	1400	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	73	277	0.28	>.98	<10%	1.18	6610
F017XPS	4	1400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	50	120	0.41	>.98	<10%	0.73	4090
F017XPS	4	1400	QTP4x32T8/UNV PSX-SC	PROStart	Parallel	49	277	0.18	>.98	<10%	0.73	4090

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FO25XP

QUICKSYSTEMS

System Performance Guide

3 Foot Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO25XP	1	2175	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	120	0.17	>.98	<10%	0.79	1720
FO25XP	1	2175	QHE1X32T8/UNV ISL-SC	Instant	Parallel	20	277	0.08	>.95	<10%	0.79	1720
FO25XP	1	2175	QHE1X32T8/UNV ISN-SC	Instant	Parallel	23	120	0.21	>.98	<10%	0.90	1960
FO25XP	1	2175	QHE1X32T8/UNV ISN-SC	Instant	Parallel	23	277	0.09	>.98	<10%	0.90	1960
FO25XP	1	2175	QTP1X32T8/UNV ISN-SC	Instant	Parallel	24	120	0.23	>.98	<10%	0.90	1960
FO25XP	1	2175	QTP1X32T8/UNV ISN-SC	Instant	Parallel	24	277	0.10	>.98	<10%	0.90	1960
FO25XP	1	2175	QHE2X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.21	>.95	<15%	0.96	2090
FO25XP	1	2175	QHE2X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.10	>.90	<15%	0.96	2090
FO25XP	1	2175	QHE2X32T8/UNV ISN-SC	Instant	Parallel	27	120	0.21	>.95	<15%	1.07	2325
FO25XP	1	2175	QHE2X32T8/UNV ISN-SC	Instant	Parallel	27	277	0.09	>.95	<15%	1.07	2325
FO25XP	1	2175	QHE2X32T8/UNV ISM-SC	Instant	Parallel	31	120	0.26	>.98	<10%	1.18	2565
FO25XP	1	2175	QHE2X32T8/UNV ISM-SC	Instant	Parallel	31	277	0.12	>.95	<15%	1.18	2565
FO25XP	1	2175	QTP2X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.22	>.98	<10%	0.93	2025
FO25XP	1	2175	QTP2X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.10	>.96	<20%	0.93	2025
FO25XP	1	2175	QTP2X32T8/UNV ISN-SC	Instant	Parallel	29	120	0.25	>.95	<15%	1.05	2285
FO25XP	1	2175	QTP2X32T8/UNV ISN-SC	Instant	Parallel	29	277	0.11	>.95	<15%	1.05	2285
FO25XP	1	2175	QHE3X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.24	>.98	<15%	1.05	2285
FO25XP	1	2175	QHE3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.11	>.95	<20%	1.05	2285
FO25XP	1	2175	QHE3X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.27	>.94	<10%	1.18	2565
FO25XP	1	2175	QHE3X32T8/UNV ISN-SC	Instant	Parallel	31	277	0.13	>.84	<30%	1.18	2565
FO25XP	1	2175	QTP3X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.23	>.98	<20%	1.04	2260
FO25XP	1	2175	QTP3X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.12	>.87	<30%	1.04	2260
FO25XP	1	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.18	2565
FO25XP	1	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.92	<20%	1.18	2565
FO25XP	1	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.24	>.98	<20%	1.08	2350
FO25XP	1	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.90	<30%	1.08	2350
FO25XP	1	2175	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23	120	0.20	>.98	<10%	0.89	1940
FO25XP	1	2175	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.89	1940
FO25XP	1	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	28	120	0.24	>.98	<10%	1.09	2360
FO25XP	1	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	28	277	0.11	>.95	<15%	1.09	2360
FO25XP	1	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	30	120	0.26	>.98	<10%	1.14	2480
FO25XP	1	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	31	277	0.12	>.90	<15%	1.14	2480
FO25XP	1	2175	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	120	0.17	>.98	<10%	0.72	1565
FO25XP	1	2175	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1565
FO25XP	2	2175	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.33	>.97	<10%	0.80	3480
FO25XP	2	2175	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.97	<10%	0.80	3480
FO25XP	2	2175	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.34	>.97	<10%	0.89	3870
FO25XP	2	2175	QHE2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.15	>.97	<10%	0.89	3870
FO25XP	2	2175	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.34	>.98	<10%	0.80	3480
FO25XP	2	2175	QTP2X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.98	<10%	0.80	3480
FO25XP	2	2175	QTP2X32T8/UNV ISN-SC	Instant	Parallel	45	120	0.40	>.97	<10%	0.92	4000
FO25XP	2	2175	QTP2X32T8/UNV ISN-SC	Instant	Parallel	45	277	0.17	>.97	<10%	0.92	4000
FO25XP	2	2175	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.39	>.95	<20%	0.91	3960
FO25XP	2	2175	QHE3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.95	<20%	0.91	3960
FO25XP	2	2175	QHE3X32T8/UNV ISN-SC	Instant	Parallel	49	120	0.41	>.98	<10%	1.01	4395
FO25XP	2	2175	QHE3X32T8/UNV ISN-SC	Instant	Parallel	49	277	0.18	>.97	<10%	1.01	4395
FO25XP	2	2175	QHE3X32T8/UNV ISM-SC	Instant	Parallel	53	120	0.41	>.98	<10%	1.10	4785
FO25XP	2	2175	QHE3X32T8/UNV ISM-SC	Instant	Parallel	53	277	0.18	>.95	<15%	1.10	4785
FO25XP	2	2175	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.35	>.98	<10%	0.89	3870
FO25XP	2	2175	QTP3X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.16	>.98	<10%	0.89	3870
FO25XP	2	2175	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.46	>.95	<20%	1.02	4435
FO25XP	2	2175	QTP3X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.20	>.95	<20%	1.02	4435

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
F025XP	2	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	120	0.43	>.97	<10%	1.00	4350
F025XP	2	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	277	0.19	>.95	<20%	1.00	4350
F025XP	2	2175	QHE4X32T8/UNV ISN-SC	Instant	Parallel	54	120	0.41	>.97	<20%	1.10	4785
F025XP	2	2175	QHE4X32T8/UNV ISN-SC	Instant	Parallel	54	277	0.18	>.97	<20%	1.10	4785
F025XP	2	2175	QHE4X32T8/UNV ISM-SC	Instant	Parallel	57	120	0.49	>.98	<10%	1.17	5090
F025XP	2	2175	QHE4X32T8/UNV ISM-SC	Instant	Parallel	57	277	0.22	>.95	<15%	1.17	5090
F025XP	2	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.39	>.98	<10%	0.95	4135
F025XP	2	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.94	<20%	0.95	4135
F025XP	2	2175	QTP4X32T8/UNV ISN-SC	Instant	Parallel	54	120	0.46	>.97	<20%	1.08	4700
F025XP	2	2175	QTP4X32T8/UNV ISN-SC	Instant	Parallel	54	277	0.21	>.97	<20%	1.08	4700
F025XP	2	2175	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	45	120	0.38	>.98	<10%	0.90	3915
F025XP	2	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44	277	0.16	>.98	<10%	0.90	3915
F025XP	2	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	50	120	0.42	>.98	<10%	0.99	4305
F025XP	2	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	50	277	0.19	>.95	<10%	0.99	4305
F025XP	2	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	54	120	0.45	>.98	<10%	1.07	4655
F025XP	2	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	54	277	0.20	>.95	<15%	1.07	4655
F025XP	2	2175	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	120	0.46	>.95	<10%	1.16	5045
F025XP	2	2175	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	277	0.2	>.95	<10%	1.16	5045
F025XP	3	2175	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.48	>.98	<10%	0.79	5155
F025XP	3	2175	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.21	>.97	<10%	0.79	5155
F025XP	3	2175	QHE3X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.55	>.97	<15%	0.89	5805
F025XP	3	2175	QHE3X32T8/UNV ISN-SC	Instant	Parallel	64	277	0.24	>.97	<15%	0.89	5805
F025XP	3	2175	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	120	0.46	>.98	<10%	0.80	5220
F025XP	3	2175	QTP3X32T8/UNV ISL-SC	Instant	Parallel	59	277	0.21	>.98	<20%	0.80	5220
F025XP	3	2175	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.61	>.97	<15%	0.90	5875
F025XP	3	2175	QTP3X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.26	>.97	<15%	0.90	5875
F025XP	3	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	120	0.54	>.98	<10%	0.87	5675
F025XP	3	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	64	277	0.23	>.98	<15%	0.87	5675
F025XP	3	2175	QHE4X32T8/UNV ISN-SC	Instant	Parallel	70	120	0.57	>.98	<15%	0.97	6330
F025XP	3	2175	QHE4X32T8/UNV ISN-SC	Instant	Parallel	70	277	0.25	>.98	<15%	0.97	6330
F025XP	3	2175	QHE4X32T8/UNV ISM-SC	Instant	Parallel	76	120	0.64	>.98	<10%	1.07	6980
F025XP	3	2175	QHE4X32T8/UNV ISM-SC	Instant	Parallel	76	277	0.28	>.98	<15%	1.07	6980
F025XP	3	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.51	>.98	<10%	0.86	5610
F025XP	3	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<20%	0.86	5610
F025XP	3	2175	QTP4X32T8/UNV ISN-SC	Instant	Parallel	71	120	0.61	>.98	<15%	0.98	6395
F025XP	3	2175	QTP4X32T8/UNV ISN-SC	Instant	Parallel	71	277	0.27	>.98	<15%	0.98	6395
F025XP	3	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.55	>.98	<10%	0.89	5805
F025XP	3	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	277	0.24	>.98	<10%	0.89	5805
F025XP	3	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	71	120	0.60	>.98	<10%	0.97	6330
F025XP	3	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	70	277	0.26	>.95	<10%	0.97	6330
F025XP	3	2175	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	83	120	0.70	>.98	<10%	1.17	7635
F025XP	3	2175	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	82	277	0.30	>.98	<10%	1.17	7635
F025XP	4	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	120	0.64	>.97	<10%	0.79	6875
F025XP	4	2175	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	277	0.28	>.97	<15%	0.79	6875
F025XP	4	2175	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	120	0.68	>.97	<15%	0.89	7745
F025XP	4	2175	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	277	0.29	>.97	<15%	0.89	7745
F025XP	4	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	120	0.61	>.98	<10%	0.80	6960
F025XP	4	2175	QTP4X32T8/UNV ISL-SC	Instant	Parallel	77	277	0.27	>.97	<10%	0.80	6960
F025XP	4	2175	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	120	0.74	>.97	<15%	0.90	7830
F025XP	4	2175	QTP4X32T8/UNV ISN-SC	Instant	Parallel	88	277	0.32	>.97	<15%	0.90	7830
F025XP	4	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	85	120	0.72	>.98	<10%	0.90	7830
F025XP	4	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	84	277	0.31	>.98	<10%	0.90	7830
F025XP	4	2175	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	107	120	0.91	>.98	<10%	1.17	10180
F025XP	4	2175	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	106	277	0.4	>.98	<10%	1.17	10180

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FO17XP

QUICKSYSTEMS

System Performance Guide

2 Foot Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO17XP	1	1375	QHE1X32T8/UNV ISL-SC	Instant	Parallel	14	120	0.12	>.98	<10%	0.80	1100
FO17XP	1	1375	QHE1X32T8/UNV ISL-SC	Instant	Parallel	14	277	0.05	>.95	<15%	0.80	1100
FO17XP	1	1375	QHE1X32T8/UNV ISN-SC	Instant	Parallel	17	120	0.14	>.98	<15%	0.90	1240
FO17XP	1	1375	QHE1X32T8/UNV ISN-SC	Instant	Parallel	17	277	0.06	>.98	<15%	0.90	1240
FO17XP	1	1375	QTP1X32T8/UNV ISN-SC	Instant	Parallel	18	120	0.15	>.98	<15%	0.92	1265
FO17XP	1	1375	QTP1X32T8/UNV ISN-SC	Instant	Parallel	18	277	0.07	>.98	<15%	0.92	1265
FO17XP	1	1375	QHE2X32T8/UNV ISL-SC	Instant	Parallel	17	120	0.16	>.90	<20%	0.98	1350
FO17XP	1	1375	QHE2X32T8/UNV ISL-SC	Instant	Parallel	17	277	0.07	>.90	<20%	0.98	1350
FO17XP	1	1375	QHE2X32T8/UNV ISN-SC	Instant	Parallel	19	120	0.15	>.90	<20%	1.08	1485
FO17XP	1	1375	QHE2X32T8/UNV ISN-SC	Instant	Parallel	19	277	0.06	>.90	<20%	1.08	1485
FO17XP	1	1375	QHE2X32T8/UNV ISM-SC	Instant	Parallel	22	120	0.19	>.92	<15%	1.18	1625
FO17XP	1	1375	QHE2X32T8/UNV ISM-SC	Instant	Parallel	22	277	0.09	>.92	<20%	1.18	1625
FO17XP	1	1375	QTP2X32T8/UNV ISL-SC	Instant	Parallel	19	120	0.20	>.92	<20%	0.94	1295
FO17XP	1	1375	QTP2X32T8/UNV ISL-SC	Instant	Parallel	19	277	0.08	>.92	<20%	0.94	1295
FO17XP	1	1375	QTP2X32T8/UNV ISN-SC	Instant	Parallel	21	277	0.09	>.92	<20%	1.06	1460
FO17XP	1	1375	QTP2X32T8/UNV ISN-SC	Instant	Parallel	21	120	0.19	>.92	<20%	1.06	1460
FO17XP	1	1375	QHE3X32T8/UNV ISL-SC	Instant	Parallel	21	120	0.17	>.92	<15%	1.06	1460
FO17XP	1	1375	QHE3X32T8/UNV ISL-SC	Instant	Parallel	21	277	0.08	>.92	<20%	1.06	1460
FO17XP	1	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	22	120	0.18	>.95	<20%	1.09	1500
FO17XP	1	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	22	277	0.09	>.95	<30%	1.09	1500
FO17XP	1	1375	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	16	120	0.14	>.98	<10%	0.91	1250
FO17XP	1	1375	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	17	277	0.06	>.95	<15%	0.91	1250
FO17XP	1	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	20	120	0.17	>.98	<10%	1.10	1510
FO17XP	1	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	20	277	0.08	>.90	<15%	1.10	1510
FO17XP	1	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	23	120	0.20	>.98	<15%	1.17	1610
FO17XP	1	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	23	277	0.10	>.90	<20%	1.17	1610
FO17XP	1	1375	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	14	120	0.11	>.98	<10%	0.72	990
FO17XP	1	1375	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	14	277	0.05	>.98	<10%	0.72	990
FO17XP	2	1375	QHE2X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.23	>.95	<15%	0.81	2230
FO17XP	2	1375	QHE2X32T8/UNV ISL-SC	Instant	Parallel	26	277	0.10	>.95	<15%	0.81	2230
FO17XP	2	1375	QHE2X32T8/UNV ISN-SC	Instant	Parallel	29	120	0.24	>.95	<10%	0.90	2475
FO17XP	2	1375	QHE2X32T8/UNV ISN-SC	Instant	Parallel	29	277	0.10	>.95	<10%	0.90	2475
FO17XP	2	1375	QHE2x32T8/UNV ISM-SC	Instant	Parallel	35	120	0.29	>.98	<15%	1.03	2835
FO17XP	2	1375	QHE2x32T8/UNV ISM-SC	Instant	Parallel	35	277	0.13	>.95	<15%	1.03	2835
FO17XP	2	1375	QTP2X32T8/UNV ISL-SC	Instant	Parallel	27	120	0.25	>.98	<10%	0.81	2230
FO17XP	2	1375	QTP2X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.11	>.97	<20%	0.81	2230
FO17XP	2	1375	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.95	<10%	0.93	2560
FO17XP	2	1375	QTP2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.95	<10%	0.93	2560
FO17XP	2	1375	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.29	>.90	<20%	0.92	2530
FO17XP	2	1375	QHE3X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.90	<20%	0.92	2530
FO17XP	2	1375	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.26	>.90	<20%	1.03	2835
FO17XP	2	1375	QHE3X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.90	<20%	1.03	2835
FO17XP	2	1375	QHE3X32T8/UNV ISM-SC	Instant	Parallel	37	120	0.29	>.98	<15%	1.08	2970
FO17XP	2	1375	QHE3X32T8/UNV ISM-SC	Instant	Parallel	37	277	0.13	>.95	<15%	1.08	2970
FO17XP	2	1375	QTP3X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.26	>.98	<20%	0.93	2560
FO17XP	2	1375	QTP3X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.91	<20%	0.93	2560
FO17XP	2	1375	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.32	>.90	<20%	1.04	2860
FO17XP	2	1375	QTP3X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.90	<20%	1.04	2860
FO17XP	2	1375	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	120	0.30	>.95	<15%	1.00	2750
FO17XP	2	1375	QHE4X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.00	2750
FO17XP	2	1375	QHE4X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.29	>.95	<20%	1.13	3110
FO17XP	2	1375	QHE4X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.13	>.95	<20%	1.13	3110

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
F017XP	2	1375	QHE4X32T8/UNV ISM-SC	Instant	Parallel	41	120	0.35	>.98	<15%	1.16	3190
F017XP	2	1375	QHE4X32T8/UNV ISM-SC	Instant	Parallel	41	277	0.16	>.90	<15%	1.16	3190
F017XP	2	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.30	>.95	<20%	0.96	2640
F017XP	2	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	33	277	0.13	>.91	<20%	0.96	2640
F017XP	2	1375	QTP4X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.33	>.95	<20%	1.10	3025
F017XP	2	1375	QTP4X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.15	>.95	<20%	1.10	3025
F017XP	2	1375	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.25	>.98	<10%	0.91	2515
F017XP	2	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.95	<15%	0.91	2515
F017XP	2	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.00	2750
F017XP	2	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.90	<15%	1.00	2750
F017XP	2	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.08	2970
F017XP	2	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.90	<15%	1.08	2970
F017XP	2	1375	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	38	120	0.32	>.98	<10%	1.17	3220
F017XP	2	1375	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	38	277	0.14	>.98	<10%	1.17	3220
F017XP	2	1375	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	24	120	0.21	>.98	<10%	0.72	1980
F017XP	2	1375	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.97	<10%	0.72	1980
F017XP	3	1375	QHE3X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.32	>.98	<10%	0.80	3300
F017XP	3	1375	QHE3X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.95	<15%	0.80	3300
F017XP	3	1375	QHE3X32T8/UNV ISN-SC	Instant	Parallel	44	120	0.36	>.95	<20%	0.90	3715
F017XP	3	1375	QHE3X32T8/UNV ISN-SC	Instant	Parallel	44	277	0.16	>.95	<20%	0.90	3715
F017XP	3	1375	QHE3x32T8/UNV ISM-SC	Instant	Parallel	49	120	0.41	>.98	<10%	1.00	4125
F017XP	3	1375	QHE3x32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.95	<15%	1.00	4125
F017XP	3	1375	QTP3X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.33	>.98	<10%	0.80	3300
F017XP	3	1375	QTP3X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.15	>.97	<20%	0.80	3300
F017XP	3	1375	QTP3X32T8/UNV ISN-SC	Instant	Parallel	46	120	0.40	>.95	<20%	0.93	3835
F017XP	3	1375	QTP3X32T8/UNV ISN-SC	Instant	Parallel	46	277	0.18	>.95	<20%	0.93	3835
F017XP	3	1375	QHE4X32T8/UNV ISL-SC	Instant	Parallel	43	120	0.38	>.95	<20%	0.88	3630
F017XP	3	1375	QHE4X32T8/UNV ISL-SC	Instant	Parallel	43	277	0.16	>.95	<20%	0.88	3630
F017XP	3	1375	QHE4X32T8/UNV ISN-SC	Instant	Parallel	47	120	0.37	>.95	<20%	0.98	4045
F017XP	3	1375	QHE4X32T8/UNV ISN-SC	Instant	Parallel	47	277	0.16	>.95	<20%	0.98	4045
F017XP	3	1375	QHE4X32T8/UNV ISM-SC	Instant	Parallel	53	120	0.45	>.98	<10%	1.07	4415
F017XP	3	1375	QHE4X32T8/UNV ISM-SC	Instant	Parallel	54	277	0.20	>.95	<15%	1.07	4415
F017XP	3	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	44	120	0.36	>.98	<10%	0.87	3590
F017XP	3	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	44	277	0.17	>.93	<20%	0.87	3590
F017XP	3	1375	QTP4X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.42	>.95	<20%	0.99	4085
F017XP	3	1375	QTP4X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.18	>.95	<20%	0.99	4085
F017XP	3	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	44	120	0.37	>.98	<10%	0.90	3715
F017XP	3	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	44	277	0.17	>.95	<15%	0.90	3715
F017XP	3	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	49	120	0.41	>.98	<10%	0.98	4045
F017XP	3	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	49	277	0.19	>.95	<15%	0.98	4045
F017XP	3	1375	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	56	120	0.48	>.98	<10%	1.18	4870
F017XP	3	1375	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	56	277	0.21	>.98	<10%	1.18	4870
F017XP	3	1375	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	38	120	0.30	>.98	<10%	0.73	3010
F017XP	3	1375	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	37	277	0.13	>.95	<10%	0.73	3010
F017XP	4	1375	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	120	0.44	>.95	<10%	0.81	4455
F017XP	4	1375	QHE4X32T8/UNV ISL-SC	Instant	Parallel	50	277	0.19	>.95	<20%	0.81	4455
F017XP	4	1375	QHE4X32T8/UNV ISN-SC	Instant	Parallel	56	120	0.44	>.95	<20%	0.91	5005
F017XP	4	1375	QHE4X32T8/UNV ISN-SC	Instant	Parallel	56	277	0.19	>.95	<20%	0.91	5005
F017XP	4	1375	QHE4x32T8/UNV ISM-SC	Instant	Parallel	64	120	0.53	>.98	<10%	1.00	5500
F017XP	4	1375	QHE4x32T8/UNV ISM-SC	Instant	Parallel	64	277	0.24	>.98	<15%	1.00	5500
F017XP	4	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	52	120	0.42	>.98	<10%	0.81	4455
F017XP	4	1375	QTP4X32T8/UNV ISL-SC	Instant	Parallel	52	277	0.19	>.95	<20%	0.81	4455
F017XP	4	1375	QTP4X32T8/UNV ISN-SC	Instant	Parallel	60	120	0.50	>.95	<20%	0.91	5005
F017XP	4	1375	QTP4X32T8/UNV ISN-SC	Instant	Parallel	60	277	0.22	>.95	<20%	0.91	5005
F017XP	4	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	59	120	0.50	>.98	<10%	0.91	5005
F017XP	4	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	59	277	0.22	>.95	<15%	0.91	5005
F017XP	4	1375	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	73	120	0.63	>.98	<10%	1.18	6490
F017XP	4	1375	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	73	277	0.28	>.98	<10%	1.18	6490
F017XP	4	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	50	120	0.41	>.98	<10%	0.73	4015
F017XP	4	1375	QTP4x32T8/UNV PSX-SC	PROStart	Parallel	49	277	0.18	>.98	<10%	0.73	4015

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FBO32XP

QUICKSYSTEMS

System Performance Guide

T8 Dimming U - Shaped CURVALUME®

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FBO32XP	1	2900	QTP1x32T8/UNV DIM-TC(@100%)	PROStart®	Series	30	120	0.27	>.98	<15%	0.88	2550
FBO32XP	1	2900	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	8	120	0.06	>.98	<10%	0.05	145
FBO32XP	1	2900	QTP1x32T8/UNV DIM-TC(@100%)	PROStart	Series	30	277	0.11	>.98	<10%	0.88	2550
FBO32XP	1	2900	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	6	277	0.02	>.98	<20%	0.05	145
FBO32XP	2	2900	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	59	120	0.49	>.98	<10%	0.88	5105
FBO32XP	2	2900	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	14	120	0.12	>.98	<10%	0.05	290
FBO32XP	2	2900	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	57	277	0.21	>.98	<10%	0.88	5105
FBO32XP	2	2900	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	14	277	0.05	>.98	<20%	0.05	290
FBO32XP	3	2900	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	87	120	0.73	>.98	<10%	0.88	7655
FBO32XP	3	2900	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	20	120	0.17	>.98	<10%	0.05	435
FBO32XP	3	2900	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	84	277	0.31	>.98	<10%	0.88	7655
FBO32XP	3	2900	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	20	277	0.08	>.97	<25%	0.05	435
FBO32XP	4	2900	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	117	120	0.98	>.98	<10%	0.88	10210
FBO32XP	4	2900	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	27	120	0.23	>.98	<20%	0.05	580
FBO32XP	4	2900	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	112	277	0.41	>.98	<10%	0.88	10210
FBO32XP	4	2900	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	27	277	0.11	>.98	<20%	0.05	580

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XP	1	3000	QTP1x32T8/UNV DIM-TC(@100%)	PROStart®	Series	30	120	0.27	>.98	<10%	0.88	2640
FO32XP	1	3000	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	8	120	0.06	>.98	<15%	0.05	150
FO32XP	1	3000	QTP1x32T8/UNV DIM-TC(@100%)	PROStart	Series	30	277	0.12	>.98	<10%	0.88	2640
FO32XP	1	3000	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	8	277	0.02	>.98	<20%	0.05	150
FO32XP	2	3000	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	59	120	0.54	>.98	<10%	0.88	5280
FO32XP	2	3000	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	14	120	0.12	>.98	<10%	0.05	300
FO32XP	2	3000	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	57	277	0.24	>.98	<10%	0.88	5280
FO32XP	2	3000	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	14	277	0.05	>.98	<20%	0.05	300
FO32XP	3	3000	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	87	120	0.73	>.98	<10%	0.88	7920
FO32XP	3	3000	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	20	120	0.17	>.98	<10%	0.05	450
FO32XP	3	3000	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	84	277	0.30	>.98	<10%	0.88	7920
FO32XP	3	3000	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	20	277	0.08	>.97	<25%	0.05	450
FO32XP	4	3000	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	114	120	0.96	>.98	<10%	0.88	10560
FO32XP	4	3000	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	27	120	0.23	>.98	<10%	0.05	600
FO32XP	4	3000	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	110	277	0.40	>.98	<10%	0.88	10560
FO32XP	4	3000	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	27	277	0.11	>.98	<20%	0.05	600
FO25XP	1	2175	QTP1x32T8/UNV DIM-TC(@100%)	PROStart	Series	23	120	0.19	>.98	<10%	0.88	1915
FO25XP	1	2175	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	7	120	0.06	>.98	<15%	0.05	110
FO25XP	1	2175	QTP1x32T8/UNV DIM-TC(@100%)	PROStart	Series	23	277	0.08	>.98	<10%	0.88	1915
FO25XP	1	2175	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	6	277	0.02	>.97	<20%	0.05	110
FO25XP	2	2175	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	45	120	0.37	>.98	<10%	0.88	3830
FO25XP	2	2175	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	12	120	0.10	>.98	<10%	0.05	220
FO25XP	2	2175	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	44	277	0.16	>.98	<10%	0.88	3830
FO25XP	2	2175	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	13	277	0.05	>.98	<20%	0.05	220
FO25XP	3	2175	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	65	120	0.56	>.98	<10%	0.88	7655
FO25XP	3	2175	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	19	120	0.15	>.98	<10%	0.05	435
FO25XP	3	2175	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	64	277	0.23	>.98	<10%	0.88	7655
FO25XP	3	2175	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	19	277	0.08	>.97	<25%	0.05	435
FO25XP	4	2175	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	92	120	0.75	>.98	<10%	0.88	7655
FO25XP	4	2175	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	25	120	0.21	>.98	<10%	0.05	435
FO25XP	4	2175	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	89	277	0.32	>.98	<10%	0.88	7655
FO25XP	4	2175	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	25	277	0.10	>.97	<20%	0.05	435
FO17XP	1	1375	QTP1x32T8/UNV DIM-TC(@100%)	PROStart	Series	16	120	0.14	>.98	<10%	0.88	1210
FO17XP	1	1375	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	6	120	0.05	>.98	<15%	0.05	70
FO17XP	1	1375	QTP1x32T8/UNV DIM-TC(@100%)	PROStart	Series	16	277	0.06	>.98	<15%	0.88	1210
FO17XP	1	1375	QTP1x32T8/UNV DIM-TC(@5%)	PROStart	Series	5	277	0.02	>.97	<25%	0.05	70
FO17XP	2	1375	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	32	120	0.26	>.98	<10%	0.88	2420
FO17XP	2	1375	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	12	120	0.10	>.98	<10%	0.05	140
FO17XP	2	1375	QTP2x32T8/UNV DIM-TC(@100%)	PROStart	Series	32	277	0.11	>.98	<10%	0.88	2420
FO17XP	2	1375	QTP2x32T8/UNV DIM-TC(@5%)	PROStart	Series	12	277	0.04	>.98	<20%	0.05	140
FO17XP	3	1375	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	45	120	0.37	>.98	<10%	0.88	3630
FO17XP	3	1375	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	17	120	0.14	>.98	<30%	0.05	205
FO17XP	3	1375	QTP3x32T8/UNV DIM-TCL(@100%)	PROStart	Series	44	277	0.16	>.98	<10%	0.88	3630
FO17XP	3	1375	QTP3x32T8/UNV DIM-TCL(@5%)	PROStart	Series	17	277	0.07	>.94	<30%	0.05	205
FO17XP	4	1375	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	59	120	0.49	>.98	<10%	0.88	4840
FO17XP	4	1375	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	22	120	0.18	>.98	<10%	0.05	275
FO17XP	4	1375	QTP4x32T8/UNV DIM-TCL(@100%)	PROStart	Series	59	277	0.21	>.98	<15%	0.88	4840
FO17XP	4	1375	QTP4x32T8/UNV DIM-TCL(@5%)	PROStart	Series	22	277	0.09	>.95	<25%	0.05	275

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FO40XP

QUICKSYSTEMS

System Performance Guide

5 Foot Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO40XP	1	3750	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.33	>.97	<10%	0.93	3490
FO40XP	1	3750	QHE2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.97	<15%	0.93	3490
FO40XP	1	3750	QHE2X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.32	>.97	<10%	1.03	3865
FO40XP	1	3750	QHE2X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.14	>.97	<10%	1.03	3865
FO40XP	1	3750	QHE2X32T8/UNV ISM-SC	Instant	Parallel	50	277	0.18	>.98	<10%	1.19	4465
FO40XP	1	3750	QHE2X32T8/UNV ISM-SC	Instant	Parallel	50	120	0.41	>.98	<10%	1.19	4465
FO40XP	1	3750	QTP2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.33	>.98	<10%	0.88	3300
FO40XP	1	3750	QTP2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.98	<10%	0.88	3300
FO40XP	1	3750	QTP2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.37	>.97	<10%	1.03	3865
FO40XP	1	3750	QTP2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.16	>.97	<10%	1.03	3865
FO40XP	1	3750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.40	>.98	<10%	1.16	4350
FO40XP	1	3750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.20	>.94	<20%	1.16	4350
FO40XP	1	3750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.18	>.98	<10%	1.19	4465
FO40XP	1	3750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.41	>.98	<10%	1.19	4465
FO40XP	1	3750	QHE2X32T8/UNV PSX-MC	PROStart®	Parallel	36	120	0.30	>.98	<10%	0.86	3225
FO40XP	1	3750	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	36	277	0.13	>.98	<10%	0.86	3225
FO40XP	1	3750	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	44	120	0.37	>.98	<10%	1.06	3960
FO40XP	1	3750	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	43	277	0.16	>.98	<10%	1.06	3960
FO40XP	2	3750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	70	120	0.60	>.98	<10%	0.89	6675
FO40XP	2	3750	QHE3X32T8/UNV ISL-SC	Instant	Parallel	70	277	0.25	>.98	<10%	0.89	6675
FO40XP	2	3750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	77	120	0.61	>.98	<10%	0.99	7425
FO40XP	2	3750	QHE3X32T8/UNV ISN-SC	Instant	Parallel	76	277	0.26	>.98	<10%	0.99	7425
FO40XP	2	3750	QHE3X32T8/UNV ISM-SC	Instant	Parallel	83	120	0.71	>.98	<10%	1.07	8025
FO40XP	2	3750	QHE3X32T8/UNV ISM-SC	Instant	Parallel	83	277	0.31	>.98	<10%	1.07	8025
FO40XP	2	3750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	72	120	0.57	>.98	<10%	0.86	6450
FO40XP	2	3750	QTP3X32T8/UNV ISL-SC	Instant	Parallel	72	277	0.25	>.98	<10%	0.86	6450
FO40XP	2	3750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	120	0.67	>.98	<10%	1.00	7500
FO40XP	2	3750	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	277	0.29	>.98	<10%	1.00	7500
FO40XP	2	3750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.63	>.98	<10%	0.97	7275
FO40XP	2	3750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	73	277	0.27	>.97	<15%	0.97	7275
FO40XP	2	3750	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	64	120	0.54	>.98	<10%	0.80	6000
FO40XP	2	3750	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	63	277	0.23	>.98	<10%	0.80	6000
FO40XP	2	3750	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	78	120	0.65	>.98	<10%	0.97	7275
FO40XP	2	3750	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	76	277	0.28	>.98	<10%	0.97	7275
FO40XP	3	3750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.83	>.98	<10%	0.84	9450
FO40XP	3	3750	QHE4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.84	9450
FO40XP	3	3750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	120	0.88	>.98	<10%	0.95	10690
FO40XP	3	3750	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	277	0.38	>.98	<10%	0.95	10690
FO40XP	3	3750	QHE4X32T8/UNV ISM-SC	Instant	Parallel	123	120	1.03	>.98	<10%	1.00	11250
FO40XP	3	3750	QHE4X32T8/UNV ISM-SC	Instant	Parallel	121	277	0.44	>.98	<10%	1.00	11250
FO40XP	3	3750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.80	>.98	<10%	0.82	9225
FO40XP	3	3750	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.82	9225
FO40XP	3	3750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	113	120	0.95	>.98	<10%	0.94	10575
FO40XP	3	3750	QTP4X32T8/UNV ISN-SC	Instant	Parallel	113	277	0.40	>.98	<10%	0.94	10575
FO40XP	3	3750	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	93	120	0.77	>.98	<10%	0.78	8775
FO40XP	3	3750	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	90	277	0.33	>.98	<10%	0.78	8775
FO40XP	3	3750	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	112	120	0.94	>.98	<10%	0.94	10575
FO40XP	3	3750	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.40	>.98	<10%	0.94	10575

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

4, 5, 6 & 8 Foot Linear T8 Fluorescent Lamps

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO96T8XP	2	6100	QHE2X59T8/UNV ISL-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.77	9395
FO96T8XP	2	6100	QHE2X59T8/UNV ISL-SC	Instant	Parallel	94	277	0.34	>.98	<10%	0.77	9395
FO96T8XP	1	6100	QHE2X59T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.88	5370
FO96T8XP	1	6100	QHE2X59T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.98	<10%	0.88	5370
FO96T8XP	2	6100	QHE2X59T8/UNV ISN-SC	Instant	Parallel	109	120	0.92	>.98	<10%	0.88	10735
FO96T8XP	2	6100	QHE2X59T8/UNV ISN-SC	Instant	Parallel	107	277	0.40	>.98	<10%	0.88	10735
FO96T8XP	1	6100	QHE2X59T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.98	<10%	1.02	6220
FO96T8XP	1	6100	QHE2X59T8/UNV ISN-SC	Instant	Parallel	66	277	0.25	>.98	<10%	1.02	6220
FO96T8XP	2	6100	QHE2X59T8/UNV ISH-SC	Instant	Parallel	144	120	1.20	>.98	<10%	1.15	14030
FO96T8XP	2	6100	QHE2X59T8/UNV ISH-SC	Instant	Parallel	141	277	0.52	>.98	<10%	1.15	14030
FO96T8XPSS(54W)	2	5700	QHE2X59T8/UNV ISL-SC	Instant	Parallel	87	120	0.73	>.98	<10%	0.77	8780
FO96T8XPSS(54W)	2	5700	QHE2X59T8/UNV ISL-SC	Instant	Parallel	85	277	0.31	>.98	<10%	0.77	8780
FO96T8XPSS(54W)	1	5700	QHE2X59T8/UNV ISL-SC	Instant	Parallel	54	120	0.45	>.98	<10%	0.93	5300
FO96T8XPSS(54W)	1	5700	QHE2X59T8/UNV ISL-SC	Instant	Parallel	54	277	0.20	>.96	<15%	0.93	5300
FO96T8XPSS(54W)	2	5700	QHE2X59T8/UNV ISN-SC	Instant	Parallel	99	120	0.84	>.98	<10%	0.88	10030
FO96T8XPSS(54W)	2	5700	QHE2X59T8/UNV ISN-SC	Instant	Parallel	98	277	0.36	>.98	<10%	0.88	10030
FO96T8XPSS(54W)	1	5700	QHE2X59T8/UNV ISN-SC	Instant	Parallel	61	120	0.51	>.98	<10%	1.02	5815
FO96T8XPSS(54W)	1	5700	QHE2X59T8/UNV ISN-SC	Instant	Parallel	61	277	0.23	>.98	<10%	1.02	5815
FO96T8XPSS(54W)	2	5700	QHE2X59T8/UNV ISH-SC	Instant	Parallel	131	120	1.10	>.98	<10%	1.15	13110
FO96T8XPSS(54W)	2	5700	QHE2X59T8/UNV ISH-SC	Instant	Parallel	130	277	0.47	>.98	<10%	1.15	13110
FO96T8/50W/XP/SS	2	5400	QHE2X59T8/UNV ISL-SC	Instant	Parallel	79	120	0.67	>.98	<10%	0.75	8100
FO96T8/50W/XP/SS	2	5400	QHE2X59T8/UNV ISL-SC	Instant	Parallel	78	277	0.29	>.98	<10%	0.75	8100
FO96T8/50W/XP/SS	2	5400	QHE2X59T8/UNV ISN-SC	Instant	Parallel	90	120	0.76	>.98	<10%	0.85	9180
FO96T8/50W/XP/SS	2	5400	QHE2X59T8/UNV ISN-SC	Instant	Parallel	89	277	0.32	>.98	<10%	0.85	9180
FO96T8/50W/XP/SS	2	5400	QHE2X59T8/UNV ISH-SC	Instant	Parallel	119	120	1.01	>.98	<10%	1.1	11880
FO96T8/50W/XP/SS	2	5400	QHE2X59T8/UNV ISH-SC	Instant	Parallel	118	277	0.43	>.98	<10%	1.10	11880
FO96T8/50W/XP/SS	1	5400	QHE2X59T8/UNV ISL-SC	Instant	Parallel	47	120	0.39	>.97	<15%	0.90	4860
FO96T8/50W/XP/SS	1	5400	QHE2X59T8/UNV ISL-SC	Instant	Parallel	47	277	0.18	>.97	<15%	0.90	4860
FO96T8/50W/XP/SS	1	5400	QHE2X59T8/UNV ISN-SC	Instant	Parallel	54	120	0.45	>.97	<15%	1.00	5400
FO96T8/50W/XP/SS	1	5400	QHE2X59T8/UNV ISN-SC	Instant	Parallel	54	277	0.21	>.97	<15%	1.00	5400
FO96T8XP	2	6100	QTP2X59T8/UNV ISN-SC	Instant	Parallel	112	120	0.93	>.98	<10%	0.88	10735
FO96T8XP	2	6100	QTP2X59T8/UNV ISN-SC	Instant	Parallel	110	277	0.4	>.98	<10%	0.88	10735
FO96T8XP	1	6100	QTP2X59T8/UNV ISN-SC	Instant	Parallel	67	120	0.56	>.98	<10%	1.02	6220
FO96T8XP	1	6100	QTP2X59T8/UNV ISN-SC	Instant	Parallel	67	277	0.25	>.97	<15%	1.02	6220
FO96T8XPSS(54W)	2	5700	QTP2X59T8/UNV ISN-SC	Instant	Parallel	104	120	0.85	>.98	<10%	0.88	10030
FO96T8XPSS(54W)	2	5700	QTP2X59T8/UNV ISN-SC	Instant	Parallel	102	277	0.36	>.98	<10%	0.88	10030
FO96T8XPSS(54W)	1	5700	QTP2X59T8/UNV ISN-SC	Instant	Parallel	62	120	0.51	>.98	<10%	1.02	5815
FO96T8XPSS(54W)	1	5700	QTP2X59T8/UNV ISN-SC	Instant	Parallel	62	277	0.22	>.97	<15%	1.02	5815
F96T8HO (86W)	2	8200	QHE2x86T8HO/ UNV-PSN-HT	PROStart®	Series	182	120	1.54	>.98	<10%	0.95	15580
F96T8HO (86W)	2	8200	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	178	277	0.67	>.98	<10%	0.95	15580
F72T8HO (65W)	2	6100	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	136	120	1.13	>.98	<10%	0.96	11710
F72T8HO (65W)	2	6100	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	133	277	0.50	>.98	<10%	0.96	11710
F60T8HO (55W)	2	5050	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	115	120	0.97	>.98	<10%	0.96	9695
F60T8HO (55W)	2	5050	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	115	277	0.44	>.98	<10%	0.96	9695
F48T8HO (44W)	2	4000	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	86	120	0.72	>.98	<10%	0.96	7680
F48T8HO (44W)	2	4000	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	85	277	0.34	>.98	<10%	0.96	7680
F96T8HO (86W)	1	8200	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	95	120	0.78	>.97	<15%	0.96	7870
F96T8HO (86W)	1	8200	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	95	277	0.36	>.97	<15%	0.96	7870
F72T8HO (65W)	1	6100	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	73	120	0.62	>.98	<10%	0.96	5855
F72T8HO (65W)	1	6100	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	73	277	0.30	>.98	<10%	0.96	5855
F60T8HO (55W)	1	5050	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	60	120	0.50	>.98	<10%	0.96	4850
F60T8HO (55W)	1	5050	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	60	277	0.26	>.98	<10%	0.96	4850
F48T8HO (44W)	1	4000	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	51	120	0.43	>.98	<10%	0.96	3840
F48T8HO (44W)	1	4000	QHE2x86T8HO/ UNV-PSN-HT	PROStart	Series	51	277	0.24	>.98	<10%	0.96	3840

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FB032XP

QUICKSYSTEMS

System Performance Guide

U-Shaped CURVALUME® T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB032XP	1	2900	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.21	>.98	<10%	0.78	2260
FB032XP	1	2900	QHE1X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.09	>.98	<10%	0.78	2260
FB032XP	1	2900	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2550
FB032XP	1	2900	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2550
FB032XP	1	2900	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	120	0.32	>.98	<10%	1.20	3480
FB032XP	1	2900	QHE1X32T8/UNV ISH-SC	Instant	Parallel	38	277	0.14	>.98	<10%	1.20	3480
FB032XP	1	2900	QTP1X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.22	>.98	<10%	0.78	2260
FB032XP	1	2900	QTP1X32T8/UNV ISL-SC	Instant	Parallel	26	277	0.10	>.98	<10%	0.78	2260
FB032XP	1	2900	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.26	>.98	<10%	0.88	2550
FB032XP	1	2900	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<10%	0.88	2550
FB032XP	1	2900	QTP1X32T8/UNV ISH-SC	Instant	Parallel	41	120	0.33	>.98	<10%	1.20	3480
FB032XP	1	2900	QTP1X32T8/UNV ISH-SC	Instant	Parallel	41	277	0.15	>.98	<10%	1.20	3480
FB032XP	1	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.27	>.95	<10%	0.95	2755
FB032XP	1	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.95	<10%	0.95	2755
FB032XP	1	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.27	>.95	<10%	1.05	3045
FB032XP	1	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.11	>.95	<10%	1.05	3045
FB032XP	1	2900	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.15	3335
FB032XP	1	2900	QHE2X32T8/UNV ISM-SC	Instant	Parallel	40	277	0.15	>.95	<15%	1.15	3335
FB032XP	1	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.30	>.98	<10%	0.90	2610
FB032XP	1	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.12	>.97	<10%	0.90	2610
FB032XP	1	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	120	0.30	>.95	<10%	1.04	3015
FB032XP	1	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	36	277	0.14	>.95	<10%	1.04	3015
FB032XP	1	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.30	>.98	<15%	1.02	2960
FB032XP	1	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.96	<20%	1.02	2960
FB032XP	1	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	120	0.34	>.98	<10%	1.20	3480
FB032XP	1	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	40	277	0.15	>.92	<15%	1.20	3480
FB032XP	1	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	120	0.29	>.98	<10%	1.03	2985
FB032XP	1	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	37	277	0.13	>.96	<20%	1.03	2985
FB032XP	1	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.34	>.95	<15%	1.19	3450
FB032XP	1	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.15	>.98	<10%	1.19	3450
FB032XP	1	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	120	0.33	>.98	<15%	1.17	3395
FB032XP	1	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	39	277	0.15	>.93	<20%	1.17	3395
FB032XP	1	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.06	3075
FB032XP	1	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.15	>.92	<30%	1.06	3075
FB032XP	1	2900	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.26	>.98	<10%	0.88	2550
FB032XP	1	2900	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	29	277	0.11	>.98	<10%	0.88	2550
FB032XP	1	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	120	0.30	>.98	<10%	1.07	3105
FB032XP	1	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	277	0.13	>.98	<15%	1.07	3105
FB032XP	1	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3295
FB032XP	1	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	40	277	0.16	>.95	<15%	1.14	3295
FB032XP	1	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.34	>.98	<10%	1.20	3480
FB032XP	1	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.90	<15%	1.20	3480
FB032XP	1	2900	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.72	2090
FB032XP	1	2900	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.98	<10%	0.72	2090
FB032XP	2	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4525
FB032XP	2	2900	QHE2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4525
FB032XP	2	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.47	>.98	<10%	0.88	5105
FB032XP	2	2900	QHE2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	5105
FB032XP	2	2900	QHE2x32T8/UNV ISM-SC	Instant	Parallel	63	120	0.54	>.98	<10%	1.00	5800
FB032XP	2	2900	QHE2x32T8/UNV ISM-SC	Instant	Parallel	62	277	0.23	>.98	<10%	1.00	5800
FB032XP	2	2900	QHE2X32T8/UNV ISH-SC	Instant	Parallel	74	120	0.65	>.98	<10%	1.20	6960
FB032XP	2	2900	QHE2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.28	>.98	<10%	1.20	6960
FB032XP	2	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	120	0.44	>.98	<10%	0.78	4525
FB032XP	2	2900	QTP2X32T8/UNV ISL-SC	Instant	Parallel	51	277	0.19	>.98	<10%	0.78	4525
FB032XP	2	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.88	5105
FB032XP	2	2900	QTP2X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.21	>.98	<10%	0.88	5105
FB032XP	2	2900	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	120	0.65	>.98	<10%	1.20	6960
FB032XP	2	2900	QTP2X32T8/UNV ISH-SC	Instant	Parallel	78	277	0.28	>.98	<10%	1.20	6960
FB032XP	2	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	120	0.46	>.97	<15%	0.90	5220
FB032XP	2	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	56	277	0.20	>.97	<15%	0.90	5220
FB032XP	2	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	63	120	0.50	>.97	<15%	0.99	5740
FB032XP	2	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.22	>.97	<15%	0.99	5740
FB032XP	2	2900	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.60	>.98	<10%	1.08	6265
FB032XP	2	2900	QHE3X32T8/UNV ISM-SC	Instant	Parallel	69	277	0.25	>.98	<10%	1.08	6265
FB032XP	2	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.45	>.98	<10%	0.88	5105
FB032XP	2	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.20	>.98	<10%	0.88	5105
FB032XP	2	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.97	<15%	1.02	5915
FB032XP	2	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	66	277	0.24	>.97	<15%	1.02	5915

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB032XP	2	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.98	5685
FB032XP	2	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	62	277	0.23	>.96	<15%	0.98	5685
FB032XP	2	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.60	>.97	<15%	1.08	6265
FB032XP	2	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.08	6265
FB032XP	2	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	120	0.62	>.98	<10%	1.16	6730
FB032XP	2	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	74	277	0.27	>.98	<15%	1.16	6730
FB032XP	2	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	120	0.50	>.98	<10%	0.93	5395
FB032XP	2	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	61	277	0.23	>.97	<10%	0.93	5395
FB032XP	2	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	120	0.59	>.98	<15%	1.07	6205
FB032XP	2	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.07	6205
FB032XP	2	2900	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	57	120	0.48	>.98	<10%	0.88	5105
FB032XP	2	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	277	0.21	>.98	<10%	0.88	5105
FB032XP	2	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.98	5685
FB032XP	2	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64	277	0.24	>.98	<10%	0.98	5685
FB032XP	2	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.06	6150
FB032XP	2	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.06	6150
FB032XP	2	2900	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	72	120	0.60	>.98	<10%	1.15	6670
FB032XP	2	2900	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	70	277	0.27	>.98	<10%	1.15	6670
FB032XP	2	2900	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.72	4175
FB032XP	2	2900	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	47	277	0.17	>.98	<10%	0.72	4175
FB032XP	3	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.61	>.98	<10%	0.78	6785
FB032XP	3	2900	QHE3X32T8/UNV ISL-SC	Instant	Parallel	72	277	0.27	>.98	<10%	0.78	6785
FB032XP	3	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	83	120	0.69	>.98	<10%	0.88	7655
FB032XP	3	2900	QHE3X32T8/UNV ISN-SC	Instant	Parallel	82	277	0.30	>.98	<10%	0.88	7655
FB032XP	3	2900	QHE3x32T8/UNV ISM-SC	Instant	Parallel	90	120	0.76	>.98	<10%	0.98	8525
FB032XP	3	2900	QHE3x32T8/UNV ISM-SC	Instant	Parallel	89	277	0.40	>.98	<10%	0.98	8525
FB032XP	3	2900	QHE3X32T8/UNV ISH-SC	Instant	Parallel	111	120	0.93	>.98	<10%	1.18	10265
FB032XP	3	2900	QHE3X32T8/UNV ISH-SC	Instant	Parallel	109	277	0.40	>.98	<10%	1.18	10265
FB032XP	3	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.65	>.98	<10%	0.78	6785
FB032XP	3	2900	QTP3X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.98	<10%	0.78	6785
FB032XP	3	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.72	>.98	<10%	0.88	7655
FB032XP	3	2900	QTP3X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.31	>.98	<10%	0.88	7655
FB032XP	3	2900	QTP3X32T8/UNV ISH-SC	Instant	Parallel	114	120	0.95	>.98	<10%	1.18	10265
FB032XP	3	2900	QTP3X32T8/UNV ISH-SC	Instant	Parallel	111	277	0.41	>.98	<10%	1.18	10265
FB032XP	3	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.68	>.98	<10%	0.85	7395
FB032XP	3	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.28	>.98	<10%	0.85	7395
FB032XP	3	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	120	0.71	>.98	<15%	0.96	8350
FB032XP	3	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	89	277	0.31	>.98	<15%	0.96	8350
FB032XP	3	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	100	120	0.84	>.98	<10%	1.05	9135
FB032XP	3	2900	QHE4X32T8/UNV ISM-SC	Instant	Parallel	99	277	0.36	>.98	<10%	1.05	9135
FB032XP	3	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	120	0.66	>.98	<10%	0.84	7310
FB032XP	3	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	80	277	0.29	>.97	<10%	0.84	7310
FB032XP	3	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	120	0.77	>.98	<15%	0.96	8350
FB032XP	3	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	92	277	0.33	>.98	<15%	0.96	8350
FB032XP	3	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	7655
FB032XP	3	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	7655
FB032XP	3	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	8350
FB032XP	3	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	8350
FB032XP	3	2900	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	110	120	0.94	>.98	<10%	1.15	10005
FB032XP	3	2900	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	108	277	0.40	>.98	<10%	1.15	10005
FB032XP	3	2900	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	69	120	0.58	>.98	<10%	0.71	6175
FB032XP	3	2900	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.71	6175
FB032XP	4	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	120	0.80	>.98	<10%	0.78	9050
FB032XP	4	2900	QHE4X32T8/UNV ISL-SC	Instant	Parallel	95	277	0.35	>.98	<10%	0.78	9050
FB032XP	4	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	108	120	0.91	>.98	<10%	0.88	10210
FB032XP	4	2900	QHE4X32T8/UNV ISN-SC	Instant	Parallel	107	277	0.39	>.98	<10%	0.88	10210
FB032XP	4	2900	QHE4x32T8/UNV ISM-SC	Instant	Parallel	122	120	1.02	>.98	<10%	0.98	11370
FB032XP	4	2900	QHE4x32T8/UNV ISM-SC	Instant	Parallel	120	277	0.44	>.98	<10%	0.98	11370
FB032XP	4	2900	QHE4X32T8/UNV ISH	Instant	Parallel	144	120	1.21	>.98	<10%	1.15	13340
FB032XP	4	2900	QHE4X32T8/UNV ISH	Instant	Parallel	141	277	0.52	>.98	<10%	1.15	13340
FB032XP	4	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	120	0.80	>.98	<10%	0.78	9050
FB032XP	4	2900	QTP4X32T8/UNV ISL-SC	Instant	Parallel	98	277	0.35	>.98	<10%	0.78	9050
FB032XP	4	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	120	0.95	>.98	<10%	0.88	10210
FB032XP	4	2900	QTP4X32T8/UNV ISN-SC	Instant	Parallel	112	277	0.40	>.98	<10%	0.88	10210
FB032XP	4	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	111	120	0.93	>.98	<10%	0.88	10210
FB032XP	4	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.39	>.98	<10%	0.88	10210
FB032XP	4	2900	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	143	120	1.22	>.98	<10%	1.15	13340
FB032XP	4	2900	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	141	277	0.53	>.98	<10%	1.15	13340
FB032XP	4	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.76	>.98	<10%	0.71	8235
FB032XP	4	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	89	277	0.32	>.98	<10%	0.71	8235

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

FB030/XP/SS

QUICKSYSTEMS

System Performance Guide

U-Shaped CURVALUME® T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB030/XP/SS	1	2800	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.20	>.98	<10%	0.78	2185
FB030/XP/SS	1	2800	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.09	>.98	<10%	0.78	2185
FB030/XP/SS	1	2800	QHE1X32T8/UNV ISN-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.88	2465
FB030/XP/SS	1	2800	QHE1X32T8/UNV ISN-SC	Instant	Parallel	26	277	0.09	>.98	<10%	0.88	2465
FB030/XP/SS	1	2800	QHE1X32T8/UNV ISH-SC	Instant	Parallel	36	120	0.30	>.98	<10%	1.20	3360
FB030/XP/SS	1	2800	QHE1X32T8/UNV ISH-SC	Instant	Parallel	36	277	0.13	>.96	<15%	1.20	3360
FB030/XP/SS	1	2800	QTP1X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.22	>.98	<10%	0.78	2185
FB030/XP/SS	1	2800	QTP1X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.09	>.98	<10%	0.78	2185
FB030/XP/SS	1	2800	QTP1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	0.88	2465
FB030/XP/SS	1	2800	QTP1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.98	<10%	0.88	2465
FB030/XP/SS	1	2800	QTP1X32T8/UNV ISH-SC	Instant	Parallel	39	120	0.31	>.98	<10%	1.20	3360
FB030/XP/SS	1	2800	QTP1X32T8/UNV ISH-SC	Instant	Parallel	39	277	0.14	>.98	<10%	1.20	3360
FB030/XP/SS	1	2800	QHE2X32T8/UNV ISL-SC	Instant	Parallel	29	120	0.25	>.98	<10%	0.95	2660
FB030/XP/SS	1	2800	QHE2X32T8/UNV ISL-SC	Instant	Parallel	29	277	0.10	>.98	<15%	0.95	2660
FB030/XP/SS	1	2800	QHE2X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.26	>.98	<10%	1.05	2940
FB030/XP/SS	1	2800	QHE2X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.11	>.98	<15%	1.05	2940
FB030/XP/SS	1	2800	QHE2X32T8/UNV ISM-SC	Instant	Parallel	37	120	0.31	>.95	<10%	1.15	3220
FB030/XP/SS	1	2800	QHE2X32T8/UNV ISM-SC	Instant	Parallel	37	277	0.15	>.85	<15%	1.15	3220
FB030/XP/SS	1	2800	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	0.90	2520
FB030/XP/SS	1	2800	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.96	<15%	0.90	2520
FB030/XP/SS	1	2800	QTP2X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.28	>.98	<10%	1.04	2910
FB030/XP/SS	1	2800	QTP2X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.13	>.98	<15%	1.04	2910
FB030/XP/SS	1	2800	QHE3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.28	>.98	<15%	1.02	2855
FB030/XP/SS	1	2800	QHE3X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.02	2855
FB030/XP/SS	1	2800	QHE3X32T8/UNV ISN-SC	Instant	Parallel	37	120	0.31	>.95	<10%	1.20	3360
FB030/XP/SS	1	2800	QHE3X32T8/UNV ISN-SC	Instant	Parallel	37	277	0.15	>.86	<15%	1.20	3360
FB030/XP/SS	1	2800	QTP3X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.27	>.98	<10%	1.03	2885
FB030/XP/SS	1	2800	QTP3X32T8/UNV ISL-SC	Instant	Parallel	35	277	0.13	>.92	<25%	1.03	2885
FB030/XP/SS	1	2800	QTP3X32T8/UNV ISN-SC	Instant	Parallel	38	120	0.31	>.98	<10%	1.19	3330
FB030/XP/SS	1	2800	QTP3X32T8/UNV ISN-SC	Instant	Parallel	38	277	0.14	>.96	<15%	1.19	3330
FB030/XP/SS	1	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.29	>.98	<15%	1.17	3275
FB030/XP/SS	1	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.14	>.93	<20%	1.17	3275
FB030/XP/SS	1	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	35	120	0.29	>.98	<10%	1.06	2970
FB030/XP/SS	1	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	35	277	0.14	>.91	<25%	1.06	2970
FB030/XP/SS	1	2800	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	28	120	0.24	>.98	<10%	0.88	2465
FB030/XP/SS	1	2800	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	26	277	0.10	>.98	<10%	0.88	2465
FB030/XP/SS	1	2800	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	120	0.29	>.98	<10%	1.07	3005
FB030/XP/SS	1	2800	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	277	0.13	>.98	<15%	1.07	3005
FB030/XP/SS	1	2800	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.13	3175
FB030/XP/SS	1	2800	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.95	<15%	1.13	3175
FB030/XP/SS	1	2800	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	120	0.21	>.98	<10%	0.72	2015
FB030/XP/SS	1	2800	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.72	2015
FB030/XP/SS	2	2800	QHE2X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.38	>.98	<10%	0.78	4370
FB030/XP/SS	2	2800	QHE2X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.16	>.98	<10%	0.78	4370
FB030/XP/SS	2	2800	QHE2X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.44	>.98	<10%	0.88	4930
FB030/XP/SS	2	2800	QHE2X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.98	<10%	0.88	4930
FB030/XP/SS	2	2800	QHE2x32T8/UNV ISM-SC	Instant	Parallel	58	120	0.49	>.98	<10%	1.00	5600
FB030/XP/SS	2	2800	QHE2x32T8/UNV ISM-SC	Instant	Parallel	58	277	0.21	>.98	<10%	1.00	5600
FB030/XP/SS	2	2800	QHE2X32T8/UNV ISH-SC	Instant	Parallel	70	120	0.59	>.98	<10%	1.20	6720
FB030/XP/SS	2	2800	QHE2X32T8/UNV ISH-SC	Instant	Parallel	69	277	0.25	>.98	<15%	1.20	6720
FB030/XP/SS	2	2800	QTP2X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.41	>.98	<10%	0.78	4370
FB030/XP/SS	2	2800	QTP2X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.98	<10%	0.78	4370
FB030/XP/SS	2	2800	QTP2X32T8/UNV ISN-SC	Instant	Parallel	55	120	0.46	>.98	<10%	0.88	4930
FB030/XP/SS	2	2800	QTP2X32T8/UNV ISN-SC	Instant	Parallel	55	277	0.20	>.98	<10%	0.88	4930
FB030/XP/SS	2	2800	QTP2X32T8/UNV ISH-SC	Instant	Parallel	73	120	0.61	>.98	<10%	1.20	6720
FB030/XP/SS	2	2800	QTP2X32T8/UNV ISH-SC	Instant	Parallel	73	277	0.26	>.98	<10%	1.20	6720
FB030/XP/SS	2	2800	QHE3X32T8/UNV ISL-SC	Instant	Parallel	53	120	0.43	>.98	<10%	0.90	5040
FB030/XP/SS	2	2800	QHE3X32T8/UNV ISL-SC	Instant	Parallel	53	277	0.19	>.97	<15%	0.90	5040
FB030/XP/SS	2	2800	QHE3X32T8/UNV ISN-SC	Instant	Parallel	60	120	0.47	>.98	<10%	0.99	5545
FB030/XP/SS	2	2800	QHE3X32T8/UNV ISN-SC	Instant	Parallel	59	277	0.20	>.98	<15%	0.99	5545
FB030/XP/SS	2	2800	QHE3X32T8/UNV ISM-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.08	6050
FB030/XP/SS	2	2800	QHE3X32T8/UNV ISM-SC	Instant	Parallel	65	277	0.24	>.98	<15%	1.08	6050
FB030/XP/SS	2	2800	QTP3X32T8/UNV ISL-SC	Instant	Parallel	55	120	0.43	>.98	<10%	0.88	4930
FB030/XP/SS	2	2800	QTP3X32T8/UNV ISL-SC	Instant	Parallel	55	277	0.19	>.98	<10%	0.88	4930
FB030/XP/SS	2	2800	QTP3X32T8/UNV ISN-SC	Instant	Parallel	62	120	0.52	>.98	<10%	0.99	5545
FB030/XP/SS	2	2800	QTP3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.23	>.97	<15%	0.99	5545

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FBO30T8SSXP	2	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.98	5490
FBO30/XP/SS	2	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.95	<20%	0.98	5490
FBO30/XP/SS	2	2800	QHE4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.08	6050
FBO30/XP/SS	2	2800	QHE4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.24	>.96	<15%	1.08	6050
FBO30/XP/SS	2	2800	QHE4X32T8/UNV ISM-SC	Instant	Parallel	69	120	0.58	>.98	<10%	1.13	6330
FBO30/XP/SS	2	2800	QHE4X32T8/UNV ISM-SC	Instant	Parallel	70	277	0.26	>.95	<15%	1.13	6330
FBO30/XP/SS	2	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.47	>.98	<10%	0.93	5210
FBO30/XP/SS	2	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.21	>.96	<15%	0.93	5210
FBO30/XP/SS	2	2800	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.59	>.98	<15%	1.07	5990
FBO30/XP/SS	2	2800	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.25	>.98	<15%	1.07	5990
FBO30/XP/SS	2	2800	QHE2x32T8/UNV PSN-MC	PROStart®	Parallel	55	120	0.46	>.98	<10%	0.88	4930
FBO30/XP/SS	2	2800	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	53	277	0.20	>.98	<10%	0.88	4930
FBO30/XP/SS	2	2800	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	0.98	5500
FBO30/XP/SS	2	2800	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.22	>.98	<10%	0.98	5500
FBO30/XP/SS	2	2800	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	1.06	5940
FBO30/XP/SS	2	2800	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	277	0.24	>.95	<15%	1.06	5940
FBO30/XP/SS	2	2800	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	69	120	0.57	>.98	<10%	1.15	6440
FBO30/XP/SS	2	2800	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	67	277	0.25	>.98	<10%	1.15	6440
FBO30/XP/SS	2	2800	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	45	120	0.40	>.98	<10%	0.72	4030
FBO30/XP/SS	2	2800	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	43	277	0.17	>.98	<10%	0.72	4030
FBO30/XP/SS	3	2800	QHE3X32T8/UNV ISL-SC	Instant	Parallel	68	120	0.58	>.98	<10%	0.78	6550
FBO30/XP/SS	3	2800	QHE3X32T8/UNV ISL-SC	Instant	Parallel	68	277	0.25	>.98	<10%	0.78	6550
FBO30/XP/SS	3	2800	QHE3X32T8/UNV ISN-SC	Instant	Parallel	78	120	0.66	>.98	<10%	0.88	7390
FBO30/XP/SS	3	2800	QHE3X32T8/UNV ISN-SC	Instant	Parallel	77	277	0.28	>.98	<10%	0.88	7390
FBO30/XP/SS	3	2800	QHE3x32T8/UNV ISM-SC	Instant	Parallel	83	120	0.67	>.98	<10%	0.98	8230
FBO30/XP/SS	3	2800	QHE3x32T8/UNV ISM-SC	Instant	Parallel	83	277	0.30	>.98	<10%	0.98	8230
FBO30/XP/SS	3	2800	QHE3X32T8/UNV ISH-SC	Instant	Parallel	104	120	0.87	>.98	<10%	1.18	9910
FBO30/XP/SS	3	2800	QHE3X32T8/UNV ISH-SC	Instant	Parallel	103	277	0.38	>.98	<10%	1.18	9910
FBO30/XP/SS	3	2800	QTP3X32T8/UNV ISL-SC	Instant	Parallel	71	120	0.60	>.98	<10%	0.78	6550
FBO30/XP/SS	3	2800	QTP3X32T8/UNV ISL-SC	Instant	Parallel	71	277	0.26	>.98	<10%	0.78	6550
FBO30/XP/SS	3	2800	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	120	0.69	>.98	<10%	0.88	7390
FBO30/XP/SS	3	2800	QTP3X32T8/UNV ISN-SC	Instant	Parallel	81	277	0.30	>.98	<10%	0.88	7390
FBO30/XP/SS	3	2800	QTP3X32T8/UNV ISH-SC	Instant	Parallel	107	120	0.89	>.98	<10%	1.18	9910
FBO30/XP/SS	3	2800	QTP3X32T8/UNV ISH-SC	Instant	Parallel	104	277	0.39	>.98	<10%	1.18	9910
FBO30/XP/SS	3	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.64	>.98	<10%	0.85	7140
FBO30/XP/SS	3	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	74	277	0.26	>.98	<15%	0.85	7140
FBO30/XP/SS	3	2800	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.67	>.98	<10%	0.96	8065
FBO30/XP/SS	3	2800	QHE4X32T8/UNV ISN-SC	Instant	Parallel	84	277	0.29	>.98	<15%	0.96	8065
FBO30/XP/SS	3	2800	QHE4X32T8/UNV ISM-SC	Instant	Parallel	93	120	0.78	>.98	<10%	1.04	8735
FBO30/XP/SS	3	2800	QHE4X32T8/UNV ISM-SC	Instant	Parallel	93	277	0.34	>.98	<10%	1.04	8735
FBO30/XP/SS	3	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	75	120	0.62	>.98	<10%	0.84	7055
FBO30/XP/SS	3	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	75	277	0.27	>.97	<10%	0.84	7055
FBO30/XP/SS	3	2800	QTP4X32T8/UNV ISN-SC	Instant	Parallel	86	120	0.74	>.98	<10%	0.96	8065
FBO30/XP/SS	3	2800	QTP4X32T8/UNV ISN-SC	Instant	Parallel	86	277	0.32	>.98	<15%	0.96	8065
FBO30/XP/SS	3	2800	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	80	120	0.68	>.98	<10%	0.88	7390
FBO30/XP/SS	3	2800	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	78	277	0.28	>.98	<10%	0.88	7390
FBO30/XP/SS	3	2800	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	87	120	0.73	>.98	<15%	0.96	8085
FBO30/XP/SS	3	2800	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	85	277	0.31	>.98	<10%	0.96	8085
FBO30/XP/SS	3	2800	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	104	120	0.88	>.98	<10%	1.15	9660
FBO30/XP/SS	3	2800	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	101	277	0.37	>.98	<10%	1.15	9660
FBO30/XP/SS	3	2800	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.71	5965
FBO30/XP/SS	3	2800	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	63	277	0.23	>.98	<10%	0.71	5965
FBO30/XP/SS	4	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	89	120	0.75	>.98	<10%	0.78	8735
FBO30/XP/SS	4	2800	QHE4X32T8/UNV ISL-SC	Instant	Parallel	89	277	0.32	>.98	<10%	0.78	8735
FBO30/XP/SS	4	2800	QHE4X32T8/UNV ISN-SC	Instant	Parallel	102	120	0.86	>.98	<10%	0.88	9855
FBO30/XP/SS	4	2800	QHE4X32T8/UNV ISN-SC	Instant	Parallel	101	277	0.37	>.98	<10%	0.88	9855
FBO30/XP/SS	4	2800	QHE4x32T8/UNV ISM-SC	Instant	Parallel	114	120	0.95	>.98	<10%	0.98	10975
FBO30/XP/SS	4	2800	QHE4x32T8/UNV ISM-SC	Instant	Parallel	112	277	0.41	>.98	<10%	0.98	10975
FBO30/XP/SS	4	2800	QHE4X32T8/UNV ISH	Instant	Parallel	135	120	1.13	>.98	<10%	1.15	12880
FBO30/XP/SS	4	2800	QHE4X32T8/UNV ISH	Instant	Parallel	133	277	0.49	>.98	<10%	1.15	12880
FBO30/XP/SS	4	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	92	120	0.78	>.98	<10%	0.78	8735
FBO30/XP/SS	4	2800	QTP4X32T8/UNV ISL-SC	Instant	Parallel	92	277	0.34	>.98	<10%	0.78	8735
FBO30/XP/SS	4	2800	QTP4X32T8/UNV ISN-SC	Instant	Parallel	105	120	0.91	>.98	<10%	0.88	9855
FBO30/XP/SS	4	2800	QTP4X32T8/UNV ISN-SC	Instant	Parallel	105	277	0.39	>.98	<10%	0.88	9855
FBO30/XP/SS	4	2800	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	105	120	0.89	>.98	<10%	0.88	9855
FBO30/XP/SS	4	2800	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	103	277	0.38	>.98	<10%	0.88	9855
FBO30/XP/SS	4	2800	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	132	120	1.13	>.98	<10%	1.15	12880
FBO30/XP/SS	4	2800	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	130	277	0.49	>.98	<10%	1.15	12880
FBO30/XP/SS	4	2800	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	86	120	0.72	>.98	<10%	0.71	7950
FBO30/XP/SS	4	2800	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	84	277	0.32	>.98	<10%	0.71	7950

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

FB031XP

QUICKSYSTEMS

System Performance Guide

U-Shaped CURVALUME® T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB031XP	1	2775	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.20	>.98	<10%	0.78	2165
FB031XP	1	2775	QHE1X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.08	>.98	<10%	0.78	2165
FB031XP	1	2775	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.23	>.98	<10%	0.88	2440
FB031XP	1	2775	QHE1X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.10	>.98	<10%	0.88	2440
FB031XP	1	2775	QHE1X32T8/UNV ISH-SC	Instant	Parallel	37	120	0.31	>.98	<10%	1.20	3330
FB031XP	1	2775	QHE1X32T8/UNV ISH-SC	Instant	Parallel	37	277	0.13	>.98	<10%	1.20	3330
FB031XP	1	2775	QTP1X32T8/UNV ISL-SC	Instant	Parallel	27	120	0.21	>.98	<10%	0.79	2190
FB031XP	1	2775	QTP1X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.09	>.98	<10%	0.79	2190
FB031XP	1	2775	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	120	0.25	>.98	<10%	0.89	2470
FB031XP	1	2775	QTP1X32T8/UNV ISN-SC	Instant	Parallel	30	277	0.11	>.98	<10%	0.89	2470
FB031XP	1	2775	QTP1X32T8/UNV ISH-SC	Instant	Parallel	40	277	0.14	>.98	<10%	1.20	3330
FB031XP	1	2775	QTP1X32T8/UNV ISH-SC	Instant	Parallel	40	120	0.32	>.98	<10%	1.20	3330
FB031XP	1	2775	QHE2X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.26	>.95	<10%	0.95	2635
FB031XP	1	2775	QHE2X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.11	>.95	<15%	0.95	2635
FB031XP	1	2775	QHE2X32T8/UNV ISN-SC	Instant	Parallel	33	120	0.26	>.95	<15%	1.05	2915
FB031XP	1	2775	QHE2X32T8/UNV ISN-SC	Instant	Parallel	33	277	0.11	>.95	<15%	1.05	2915
FB031XP	1	2775	QHE2X32T8/UNV ISM-SC	Instant	Parallel	38	120	0.33	>.95	<10%	1.17	3245
FB031XP	1	2775	QHE2X32T8/UNV ISM-SC	Instant	Parallel	38	277	0.16	>.87	<15%	1.17	3245
FB031XP	1	2775	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	0.91	2525
FB031XP	1	2775	QTP2X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.12	>.97	<10%	0.91	2525
FB031XP	1	2775	QTP2X32T8/UNV ISN-SC	Instant	Parallel	35	120	0.29	>.95	<15%	1.04	2885
FB031XP	1	2775	QTP2X32T8/UNV ISN-SC	Instant	Parallel	35	277	0.13	>.95	<15%	1.04	2885
FB031XP	1	2775	QHE3X32T8/UNV ISL-SC	Instant	Parallel	33	120	0.28	>.98	<15%	1.02	2830
FB031XP	1	2775	QHE3X32T8/UNV ISL-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.02	2830
FB031XP	1	2775	QHE3X32T8/UNV ISN-SC	Instant	Parallel	38	120	0.33	>.95	<10%	1.17	3245
FB031XP	1	2775	QHE3X32T8/UNV ISN-SC	Instant	Parallel	38	277	0.16	>.87	<15%	1.17	3245
FB031XP	1	2775	QTP3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.27	>.98	<10%	1.03	2860
FB031XP	1	2775	QTP3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.96	<20%	1.03	2860
FB031XP	1	2775	QTP3X32T8/UNV ISN-SC	Instant	Parallel	40	277	0.15	>.95	<15%	1.20	3330
FB031XP	1	2775	QTP3X32T8/UNV ISN-SC	Instant	Parallel	40	120	0.33	>.98	<10%	1.20	3330
FB031XP	1	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.33	>.98	<15%	1.18	3275
FB031XP	1	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.15	>.91	<20%	1.18	3275
FB031XP	1	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.29	>.98	<10%	1.07	2970
FB031XP	1	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.14	>.91	<30%	1.07	2970
FB031XP	1	2775	QHE1X32T8/UNV PSN-MC	PROStart®	Parallel	29	120	0.25	>.98	<10%	0.89	2470
FB031XP	1	2775	QHE1X32T8/UNV PSN-MC	PROStart	Parallel	28	277	0.11	>.98	<10%	0.89	2470
FB031XP	1	2775	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	34	120	0.29	>.98	<10%	1.08	3000
FB031XP	1	2775	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	34	277	0.13	>.98	<15%	1.08	3000
FB031XP	1	2775	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3165
FB031XP	1	2775	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	39	277	0.15	>.95	<15%	1.14	3165
FB031XP	1	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	42	120	0.35	>.98	<10%	1.19	3300
FB031XP	1	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	42	277	0.16	>.90	<15%	1.19	3300
FB031XP	1	2775	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	120	0.21	>.98	<10%	0.71	1970
FB031XP	1	2775	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.71	1970
FB031XP	2	2775	QHE2X32T8/UNV ISL-SC	Instant	Parallel	47	120	0.40	>.98	<10%	0.79	4385
FB031XP	2	2775	QHE2X32T8/UNV ISL-SC	Instant	Parallel	47	277	0.17	>.98	<10%	0.79	4385
FB031XP	2	2775	QHE2X32T8/UNV ISN-SC	Instant	Parallel	53	120	0.43	>.98	<10%	0.88	4885
FB031XP	2	2775	QHE2X32T8/UNV ISN-SC	Instant	Parallel	53	277	0.18	>.98	<10%	0.88	4885
FB031XP	2	2775	QHE2X32T8/UNV ISM-SC	Instant	Parallel	62	120	0.52	>.98	<10%	1.00	5550
FB031XP	2	2775	QHE2X32T8/UNV ISM-SC	Instant	Parallel	61	277	0.23	>.98	<10%	1.00	5550
FB031XP	2	2775	QHE2X32T8/UNV ISH-SC	Instant	Parallel	72	120	0.64	>.98	<10%	1.20	6660
FB031XP	2	2775	QHE2X32T8/UNV ISH-SC	Instant	Parallel	71	277	0.27	>.98	<10%	1.20	6660
FB031XP	2	2775	QTP2X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.43	>.98	<10%	0.79	4385
FB031XP	2	2775	QTP2X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.20	>.98	<10%	0.79	4385
FB031XP	2	2775	QTP2X32T8/UNV ISN-SC	Instant	Parallel	56	120	0.47	>.98	<10%	0.89	4940
FB031XP	2	2775	QTP2X32T8/UNV ISN-SC	Instant	Parallel	56	277	0.20	>.98	<10%	0.89	4940
FB031XP	2	2775	QTP2X32T8/UNV ISH-SC	Instant	Parallel	76	120	0.64	>.98	<10%	1.20	6660
FB031XP	2	2775	QTP2X32T8/UNV ISH-SC	Instant	Parallel	75	277	0.30	>.98	<10%	1.20	6660
FB031XP	2	2775	QHE3X32T8/UNV ISL-SC	Instant	Parallel	54	120	0.47	>.95	<15%	0.90	4995
FB031XP	2	2775	QHE3X32T8/UNV ISL-SC	Instant	Parallel	54	277	0.21	>.95	<15%	0.90	4995
FB031XP	2	2775	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	120	0.48	>.95	<15%	0.99	5495
FB031XP	2	2775	QHE3X32T8/UNV ISN-SC	Instant	Parallel	61	277	0.21	>.95	<15%	0.99	5495
FB031XP	2	2775	QHE3X32T8/UNV ISM-SC	Instant	Parallel	66	120	0.55	>.98	<10%	1.08	5995
FB031XP	2	2775	QHE3X32T8/UNV ISM-SC	Instant	Parallel	66	277	0.24	>.98	<15%	1.08	5995
FB031XP	2	2775	QTP3X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.44	>.98	<10%	0.88	4885
FB031XP	2	2775	QTP3X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.20	>.98	<10%	0.88	4885

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FBO31XP	2	2775	QTP3X32T8/UNV ISN-SC	Instant	Parallel	63	120	0.54	>.95	<15%	1.01	5605
FBO31XP	2	2775	QTP3X32T8/UNV ISN-SC	Instant	Parallel	63	277	0.24	>.95	<15%	1.01	5605
FBO31XP	2	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	59	120	0.50	>.98	<10%	0.98	5440
FBO31XP	2	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	59	277	0.22	>.96	<15%	0.98	5440
FBO31XP	2	2775	QHE4X32T8/UNV ISN-SC	Instant	Parallel	66	120	0.55	>.98	<10%	1.09	6050
FBO31XP	2	2775	QHE4X32T8/UNV ISN-SC	Instant	Parallel	66	277	0.24	>.97	<15%	1.09	6050
FBO31XP	2	2775	QHE4X32T8/UNV ISM-SC	Instant	Parallel	71	120	0.60	>.98	<10%	1.14	6325
FBO31XP	2	2775	QHE4X32T8/UNV ISM-SC	Instant	Parallel	71	277	0.26	>.95	<15%	1.14	6325
FBO31XP	2	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.47	>.98	<10%	0.94	5215
FBO31XP	2	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.21	>.96	<20%	0.94	5215
FBO31XP	2	2775	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.54	>.98	<10%	1.07	5940
FBO31XP	2	2775	QTP4X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.23	>.98	<10%	1.07	5940
FBO31XP	2	2775	QHE2X32T8/UNV PSN-MC	PROStart®	Parallel	56	120	0.47	>.98	<10%	0.89	4915
FBO31XP	2	2775	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	54	277	0.20	>.98	<10%	0.89	4915
FBO31XP	2	2775	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	63	120	0.53	>.98	<10%	0.98	5440
FBO31XP	2	2775	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	62	277	0.23	>.98	<10%	0.98	5440
FBO31XP	2	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.05	5830
FBO31XP	2	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.05	5830
FBO31XP	2	2775	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	67	120	0.55	>.98	<10%	1.15	6385
FBO31XP	2	2775	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	66	277	0.24	>.98	<10%	1.15	6385
FBO31XP	2	2775	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	46	120	0.39	>.98	<10%	0.71	3940
FBO31XP	2	2775	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	45	277	0.17	>.98	<10%	0.71	3940
FBO31XP	3	2775	QHE3X32T8/UNV ISL-SC	Instant	Parallel	69	120	0.60	>.98	<10%	0.77	6410
FBO31XP	3	2775	QHE3X32T8/UNV ISL-SC	Instant	Parallel	69	277	0.25	>.98	<10%	0.77	6410
FBO31XP	3	2775	QHE3X32T8/UNV ISN-SC	Instant	Parallel	80	120	0.65	>.98	<15%	0.88	7325
FBO31XP	3	2775	QHE3X32T8/UNV ISN-SC	Instant	Parallel	79	277	0.28	>.98	<15%	0.88	7325
FBO31XP	3	2775	QHE3X32T8/UNV ISM-SC	Instant	Parallel	85	120	0.67	>.98	<10%	0.98	8160
FBO31XP	3	2775	QHE3X32T8/UNV ISM-SC	Instant	Parallel	85	277	0.29	>.98	<10%	0.98	8160
FBO31XP	3	2775	QHE3X32T8/UNV ISH-SC	Instant	Parallel	108	120	0.91	>.98	<10%	1.18	9825
FBO31XP	3	2775	QHE3X32T8/UNV ISH-SC	Instant	Parallel	106	277	0.39	>.98	<10%	1.18	9825
FBO31XP	3	2775	QTP3X32T8/UNV ISL-SC	Instant	Parallel	73	120	0.58	>.98	<10%	0.79	6575
FBO31XP	3	2775	QTP3X32T8/UNV ISL-SC	Instant	Parallel	73	277	0.25	>.98	<10%	0.79	6575
FBO31XP	3	2775	QTP3X32T8/UNV ISN-SC	Instant	Parallel	83	120	0.71	>.98	<15%	0.89	7410
FBO31XP	3	2775	QTP3X32T8/UNV ISN-SC	Instant	Parallel	83	277	0.31	>.98	<15%	0.89	7410
FBO31XP	3	2775	QTP3X32T8/UNV ISH-SC	Instant	Parallel	113	120	0.90	>.98	<10%	1.18	9825
FBO31XP	3	2775	QTP3X32T8/UNV ISH-SC	Instant	Parallel	110	277	0.41	>.98	<10%	1.18	9825
FBO31XP	3	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	77	120	0.68	>.95	<10%	0.86	7160
FBO31XP	3	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	77	277	0.29	>.95	<15%	0.86	7160
FBO31XP	3	2775	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	120	0.67	>.95	<15%	0.96	7990
FBO31XP	3	2775	QHE4X32T8/UNV ISN-SC	Instant	Parallel	85	277	0.29	>.95	<15%	0.96	7990
FBO31XP	3	2775	QHE4X32T8/UNV ISM-SC	Instant	Parallel	96	120	0.80	>.98	<10%	1.05	8740
FBO31XP	3	2775	QHE4X32T8/UNV ISM-SC	Instant	Parallel	96	277	0.35	>.98	<10%	1.05	8740
FBO31XP	3	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	76	120	0.62	>.98	<10%	0.84	6995
FBO31XP	3	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	76	277	0.27	>.97	<10%	0.84	6995
FBO31XP	3	2775	QTP4X32T8/UNV ISN-SC	Instant	Parallel	87	120	0.74	>.95	<15%	0.96	7990
FBO31XP	3	2775	QTP4X32T8/UNV ISN-SC	Instant	Parallel	87	277	0.32	>.95	<15%	0.96	7990
FBO31XP	3	2775	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	82	120	0.69	>.98	<10%	0.87	7245
FBO31XP	3	2775	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	80	277	0.30	>.98	<10%	0.87	7245
FBO31XP	3	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	7990
FBO31XP	3	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	7990
FBO31XP	3	2775	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	108	120	0.92	>.98	<10%	1.15	9575
FBO31XP	3	2775	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	107	277	0.39	>.98	<10%	1.15	9575
FBO31XP	3	2775	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	72	120	0.60	>.98	<10%	0.71	5910
FBO31XP	3	2775	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	70	277	0.25	>.98	<10%	0.71	5910
FBO31XP	4	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	92	120	0.78	>.98	<10%	0.77	8545
FBO31XP	4	2775	QHE4X32T8/UNV ISL-SC	Instant	Parallel	92	277	0.33	>.98	<10%	0.77	8545
FBO31XP	4	2775	QHE4X32T8/UNV ISN-SC	Instant	Parallel	103	120	0.84	>.98	<15%	0.88	9770
FBO31XP	4	2775	QHE4X32T8/UNV ISN-SC	Instant	Parallel	103	277	0.36	>.98	<15%	0.88	9770
FBO31XP	4	2775	QHE4X32T8/UNV ISM-SC	Instant	Parallel	118	120	0.99	>.98	<10%	0.98	10880
FBO31XP	4	2775	QHE4X32T8/UNV ISM-SC	Instant	Parallel	116	277	0.42	>.98	<10%	0.98	10880
FBO31XP	4	2775	QHE4X32T8/UNV ISH	Instant	Parallel	140	120	1.16	>.98	<10%	1.15	12765
FBO31XP	4	2775	QHE4X32T8/UNV ISH	Instant	Parallel	137	277	0.50	>.98	<10%	1.15	12765
FBO31XP	4	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	95	120	0.76	>.98	<10%	0.79	8770
FBO31XP	4	2775	QTP4X32T8/UNV ISL-SC	Instant	Parallel	95	277	0.33	>.98	<10%	0.79	8770
FBO31XP	4	2775	QTP4X32T8/UNV ISN-SC	Instant	Parallel	109	120	0.91	>.98	<15%	0.89	9880
FBO31XP	4	2775	QTP4X32T8/UNV ISN-SC	Instant	Parallel	109	277	0.39	>.98	<15%	0.89	9880
FBO31XP	4	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	110	120	0.93	>.98	<10%	0.88	9770
FBO31XP	4	2775	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	107	277	0.39	>.98	<10%	0.88	9770
FBO31XP	4	2775	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	141	120	1.20	>.98	<10%	1.15	12765
FBO31XP	4	2775	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	139	277	0.51	>.98	<10%	1.15	12765
FBO31XP	4	2775	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.75	>.98	<10%	0.70	7770
FBO31XP	4	2775	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	88	277	0.32	>.98	<10%	0.70	7770

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FB024

QUICKSYSTEMS

System Performance Guide

U-Shaped CURVALUME® T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB024	1	1925	QHE1X32T8/UNV ISL-SC	Instant	Parallel	19	120	0.16	>.97	<10%	0.79	1520
FB024	1	1925	QHE1X32T8/UNV ISL-SC	Instant	Parallel	19	277	0.08	>.90	<15%	0.79	1520
FB024	1	1925	QHE1X32T8/UNV ISN-SC	Instant	Parallel	21	120	0.17	>.97	<15%	0.90	1735
FB024	1	1925	QHE1X32T8/UNV ISN-SC	Instant	Parallel	21	277	0.07	>.97	<15%	0.90	1735
FB024	1	1925	QTP1X32T8/UNV ISL-SC	Instant	Parallel	21	120	0.16	>.98	<10%	0.80	1540
FB024	1	1925	QTP1X32T8/UNV ISL-SC	Instant	Parallel	21	277	0.07	>.98	<10%	0.80	1540
FB024	1	1925	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	120	0.19	>.97	<15%	0.90	1735
FB024	1	1925	QTP1X32T8/UNV ISN-SC	Instant	Parallel	23	277	0.08	>.97	<15%	0.90	1735
FB024	1	1925	QHE2X32T8/UNV ISL-SC	Instant	Parallel	23	120	0.20	>.95	<10%	0.97	1865
FB024	1	1925	QHE2X32T8/UNV ISL-SC	Instant	Parallel	23	277	0.09	>.90	<15%	0.97	1865
FB024	1	1925	QHE2X32T8/UNV ISN-SC	Instant	Parallel	25	120	0.21	>.95	<15%	1.07	2060
FB024	1	1925	QHE2X32T8/UNV ISN-SC	Instant	Parallel	25	277	0.09	>.95	<15%	1.07	2060
FB024	1	1925	QHE2X32T8/UNV ISM-SC	Instant	Parallel	28	120	0.25	>.98	<10%	1.19	2290
FB024	1	1925	QHE2X32T8/UNV ISM-SC	Instant	Parallel	29	277	0.13	>.82	<30%	1.19	2290
FB024	1	1925	QTP2X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.21	>.98	<10%	0.93	1790
FB024	1	1925	QTP2X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.09	>.96	<20%	0.93	1790
FB024	1	1925	QTP2X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.23	>.95	<15%	1.06	2040
FB024	1	1925	QTP2X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.11	>.95	<15%	1.06	2040
FB024	1	1925	QHE3X32T8/UNV ISL-SC	Instant	Parallel	26	120	0.22	>.98	<15%	1.05	2020
FB024	1	1925	QHE3X32T8/UNV ISL-SC	Instant	Parallel	27	277	0.10	>.94	<20%	1.05	2020
FB024	1	1925	QHE3X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.25	>.98	<10%	1.19	2290
FB024	1	1925	QHE3X32T8/UNV ISN-SC	Instant	Parallel	29	277	0.13	>.82	<30%	1.19	2290
FB024	1	1925	QTP3X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.22	>.98	<20%	1.04	2000
FB024	1	1925	QTP3X32T8/UNV ISL-SC	Instant	Parallel	28	277	0.11	>.85	<30%	1.04	2000
FB024	1	1925	QTP3X32T8/UNV ISN-SC	Instant	Parallel	31	277	0.12	>.92	<20%	1.19	2290
FB024	1	1925	QTP3X32T8/UNV ISN-SC	Instant	Parallel	31	120	0.26	>.98	<10%	1.19	2290
FB024	1	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.25	>.97	<15%	1.17	2250
FB024	1	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.88	<25%	1.17	2250
FB024	1	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.23	>.98	<20%	1.08	2080
FB024	1	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	28	277	0.12	>.90	<30%	1.08	2080
FB024	1	1925	QHE1X32T8/UNV PSN-MC	PROStart®	Parallel	22	120	0.18	>.98	<10%	0.90	1735
FB024	1	1925	QHE1X32T8/UNV PSN-MC	PROStart	Parallel	22	277	0.08	>.98	<15%	0.90	1735
FB024	1	1925	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	27	120	0.23	>.98	<10%	1.09	2100
FB024	1	1925	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	27	277	0.10	>.95	<15%	1.09	2100
FB024	1	1925	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	30	120	0.25	>.98	<10%	1.15	2215
FB024	1	1925	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	30	277	0.12	>.90	<15%	1.15	2215
FB024	1	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	33	120	0.28	>.98	<15%	1.20	2310
FB024	1	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	33	277	0.13	>.90	<20%	1.20	2310
FB024	1	1925	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	18	120	0.15	>.98	<10%	0.71	1365
FB024	1	1925	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	18	277	0.07	>.97	<10%	0.71	1365
FB024	2	1925	QHE2X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.31	>.98	<10%	0.80	3080
FB024	2	1925	QHE2X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.13	>.98	<15%	0.80	3080
FB024	2	1925	QHE2X32T8/UNV ISN-SC	Instant	Parallel	41	120	0.33	>.98	<15%	0.89	3425
FB024	2	1925	QHE2X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.14	>.98	<15%	0.89	3425
FB024	2	1925	QHE2X32T8/UNV ISM-SC	Instant	Parallel	48	120	0.40	>.98	<10%	1.01	3890
FB024	2	1925	QHE2X32T8/UNV ISM-SC	Instant	Parallel	48	277	0.18	>.95	<15%	1.01	3890
FB024	2	1925	QTP2X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.32	>.98	<10%	0.80	3080
FB024	2	1925	QTP2X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.98	<10%	0.80	3080
FB024	2	1925	QTP2X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.36	>.98	<15%	0.92	3540
FB024	2	1925	QTP2X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.16	>.98	<15%	0.92	3540
FB024	2	1925	QHE3X32T8/UNV ISL-SC	Instant	Parallel	42	120	0.37	>.95	<20%	0.92	3540
FB024	2	1925	QHE3X32T8/UNV ISL-SC	Instant	Parallel	42	277	0.16	>.95	<20%	0.92	3540
FB024	2	1925	QHE3X32T8/UNV ISN-SC	Instant	Parallel	45	120	0.36	>.95	<20%	1.00	3850
FB024	2	1925	QHE3X32T8/UNV ISN-SC	Instant	Parallel	45	277	0.16	>.95	<20%	1.00	3850
FB024	2	1925	QHE3X32T8/UNV ISM-SC	Instant	Parallel	52	120	0.44	>.98	<10%	1.10	4235
FB024	2	1925	QHE3X32T8/UNV ISM-SC	Instant	Parallel	52	277	0.19	>.95	<15%	1.10	4235
FB024	2	1925	QTP3X32T8/UNV ISL-SC	Instant	Parallel	44	120	0.34	>.98	<10%	0.89	3425
FB024	2	1925	QTP3X32T8/UNV ISL-SC	Instant	Parallel	44	277	0.15	>.97	<10%	0.89	3425
FB024	2	1925	QTP3X32T8/UNV ISN-SC	Instant	Parallel	49	120	0.41	>.95	<20%	1.03	3965
FB024	2	1925	QTP3X32T8/UNV ISN-SC	Instant	Parallel	49	277	0.18	>.95	<20%	1.03	3965

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

U-Shaped CURVALUME® T8 Fluorescent Lamps

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB024	2	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	45	120	0.37	>.98	<10%	1.00	3850
FB024	2	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	45	277	0.17	>.94	<20%	1.00	3850
FB024	2	1925	QHE4X32T8/UNV ISN-SC	Instant	Parallel	52	120	0.43	>.98	<10%	1.10	4235
FB024	2	1925	QHE4X32T8/UNV ISN-SC	Instant	Parallel	52	277	0.19	>.95	<20%	1.10	4235
FB024	2	1925	QHE4X32T8/UNV ISM-SC	Instant	Parallel	54	120	0.45	>.98	<10%	1.14	4390
FB024	2	1925	QHE4X32T8/UNV ISM-SC	Instant	Parallel	54	277	0.20	>.95	<15%	1.14	4390
FB024	2	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	44	120	0.38	>.98	<10%	0.95	3660
FB024	2	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	44	277	0.17	>.94	<20%	0.95	3660
FB024	2	1925	QTP4X32T8/UNV ISN-SC	Instant	Parallel	50	120	0.42	>.98	<10%	1.08	4160
FB024	2	1925	QTP4X32T8/UNV ISN-SC	Instant	Parallel	50	277	0.18	>.97	<15%	1.08	4160
FB024	2	1925	QHE2X32T8/UNV PSN-MC	PROStart®	Parallel	41	120	0.35	>.98	<10%	0.90	3475
FB024	2	1925	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	41	277	0.15	>.98	<10%	0.90	3475
FB024	2	1925	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	47	120	0.40	>.98	<10%	1.00	3850
FB024	2	1925	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	47	277	0.18	>.95	<10%	1.00	3850
FB024	2	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	51	120	0.43	>.98	<10%	1.06	4080
FB024	2	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	52	277	0.19	>.95	<15%	1.06	4080
FB024	2	1925	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	120	0.46	>.95	<10%	1.16	4465
FB024	2	1925	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	55	277	0.2	>.95	<10%	1.16	4465
FB024	2	1925	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	33	120	0.28	>.98	<10%	0.71	2735
FB024	2	1925	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	33	277	0.12	>.98	<10%	0.71	2735
FB024	3	1925	QHE3X32T8/UNV ISL-SC	Instant	Parallel	54	120	0.46	>.98	<10%	0.79	4560
FB024	3	1925	QHE3X32T8/UNV ISL-SC	Instant	Parallel	54	277	0.20	>.96	<10%	0.79	4560
FB024	3	1925	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	120	0.48	>.96	<15%	0.89	5140
FB024	3	1925	QHE3X32T8/UNV ISN-SC	Instant	Parallel	62	277	0.21	>.96	<15%	0.89	5140
FB024	3	1925	QHE3X32T8/UNV ISM-SC	Instant	Parallel	67	120	0.56	>.98	<10%	0.98	5660
FB024	3	1925	QHE3X32T8/UNV ISM-SC	Instant	Parallel	67	277	0.25	>.98	<15%	0.98	5660
FB024	3	1925	QTP3X32T8/UNV ISL-SC	Instant	Parallel	57	120	0.44	>.98	<10%	0.80	4620
FB024	3	1925	QTP3X32T8/UNV ISL-SC	Instant	Parallel	57	277	0.20	>.98	<10%	0.80	4620
FB024	3	1925	QTP3X32T8/UNV ISN-SC	Instant	Parallel	65	120	0.53	>.96	<15%	0.91	5255
FB024	3	1925	QTP3X32T8/UNV ISN-SC	Instant	Parallel	65	277	0.23	>.96	<15%	0.91	5255
FB024	3	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.51	>.95	<10%	0.88	5080
FB024	3	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.22	>.95	<15%	0.88	5080
FB024	3	1925	QHE4X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.50	>.95	<15%	0.97	5600
FB024	3	1925	QHE4X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.22	>.95	<15%	0.97	5600
FB024	3	1925	QHE4X32T8/UNV ISM-SC	Instant	Parallel	72	120	0.60	>.98	<10%	1.05	6065
FB024	3	1925	QHE4X32T8/UNV ISM-SC	Instant	Parallel	72	277	0.27	>.95	<15%	1.05	6065
FB024	3	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	58	120	0.46	>.98	<10%	0.86	4965
FB024	3	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	58	277	0.21	>.96	<20%	0.86	4965
FB024	3	1925	QTP4X32T8/UNV ISN-SC	Instant	Parallel	67	120	0.55	>.95	<15%	0.98	5660
FB024	3	1925	QTP4X32T8/UNV ISN-SC	Instant	Parallel	67	277	0.25	>.95	<15%	0.98	5660
FB024	3	1925	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.52	>.98	<10%	0.89	5140
FB024	3	1925	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.23	>.98	<10%	0.89	5140
FB024	3	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	0.97	5600
FB024	3	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	0.97	5600
FB024	3	1925	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	83	120	0.70	>.98	<10%	1.17	6755
FB024	3	1925	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	82	277	0.30	>.98	<10%	1.17	6755
FB024	3	1925	QTP3X32T8/UNV PSX-SC	PROStart	Series	54	120	0.45	>.98	<10%	0.71	4100
FB024	3	1925	QTP3X32T8/UNV PSX-SC	PROStart	Series	53	277	0.20	>.98	<10%	0.71	4100
FB024	4	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	71	120	0.61	>.97	<15%	0.79	6085
FB024	4	1925	QHE4X32T8/UNV ISL-SC	Instant	Parallel	71	277	0.26	>.97	<15%	0.79	6085
FB024	4	1925	QHE4X32T8/UNV ISN-SC	Instant	Parallel	81	120	0.61	>.97	<15%	0.87	6700
FB024	4	1925	QHE4X32T8/UNV ISN-SC	Instant	Parallel	81	277	0.27	>.97	<15%	0.87	6700
FB024	4	1925	QHE4X32T8/UNV ISM-SC	Instant	Parallel	88	120	0.74	>.98	<10%	0.97	7470
FB024	4	1925	QHE4X32T8/UNV ISM-SC	Instant	Parallel	88	277	0.32	>.98	<10%	0.97	7470
FB024	4	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	74	120	0.56	>.98	<10%	0.80	6160
FB024	4	1925	QTP4X32T8/UNV ISL-SC	Instant	Parallel	74	277	0.25	>.97	<20%	0.80	6160
FB024	4	1925	QTP4X32T8/UNV ISN-SC	Instant	Parallel	84	120	0.67	>.97	<15%	0.90	6930
FB024	4	1925	QTP4X32T8/UNV ISN-SC	Instant	Parallel	84	277	0.29	>.97	<15%	0.90	6930
FB024	4	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	82	120	0.69	>.98	<10%	0.90	6930
FB024	4	1925	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	80	277	0.30	>.98	<10%	0.90	6930
FB024	4	1925	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	107	120	0.91	>.98	<10%	1.17	9010
FB024	4	1925	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	106	277	0.4	>.98	<10%	1.17	9010
FB024	4	1925	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	68	120	0.56	>.98	<10%	0.70	5390
FB024	4	1925	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.70	5390

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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FB016

QUICKSYSTEMS

System Performance Guide

U-Shaped CURVALUME® T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB016	1	1125	QHE1X32T8/UNV ISL-SC	Instant	Parallel	13	120	0.11	>.97	<10%	0.80	900
FB016	1	1125	QHE1X32T8/UNV ISL-SC	Instant	Parallel	13	277	0.05	>.88	<15%	0.80	900
FB016	1	1125	QHE1X32T8/UNV ISN-SC	Instant	Parallel	16	120	0.13	>.97	<15%	0.90	1015
FB016	1	1125	QHE1X32T8/UNV ISN-SC	Instant	Parallel	16	277	0.06	>.97	<15%	0.90	1015
FB016	1	1125	QTP1X32T8/UNV ISL-SC	Instant	Parallel	14	120	0.11	>.98	<10%	0.81	910
FB016	1	1125	QTP1X32T8/UNV ISL-SC	Instant	Parallel	14	277	0.05	>.97	<20%	0.81	910
FB016	1	1125	QTP1X32T8/UNV ISN-SC	Instant	Parallel	17	120	0.14	>.97	<15%	0.92	1035
FB016	1	1125	QTP1X32T8/UNV ISN-SC	Instant	Parallel	17	277	0.07	>.97	<15%	0.92	1035
FB016	1	1125	QHE2X32T8/UNV ISL-SC	Instant	Parallel	16	120	0.14	>.98	<20%	0.98	1105
FB016	1	1125	QHE2X32T8/UNV ISL-SC	Instant	Parallel	16	277	0.07	>.88	<20%	0.98	1105
FB016	1	1125	QHE2X32T8/UNV ISN-SC	Instant	Parallel	18	120	0.16	>.98	<10%	1.08	1215
FB016	1	1125	QHE2X32T8/UNV ISN-SC	Instant	Parallel	18	277	0.08	>.87	<20%	1.08	1215
FB016	1	1125	QHE2X32T8/UNV ISM-SC	Instant	Parallel	21	120	0.18	>.98	<15%	1.20	1350
FB016	1	1125	QHE2X32T8/UNV ISM-SC	Instant	Parallel	22	277	0.09	>.90	<20%	1.20	1350
FB016	1	1125	QTP2X32T8/UNV ISL-SC	Instant	Parallel	18	120	0.15	>.98	<20%	0.94	1060
FB016	1	1125	QTP2X32T8/UNV ISL-SC	Instant	Parallel	18	277	0.07	>.94	<20%	0.94	1060
FB016	1	1125	QTP2X32T8/UNV ISN-SC	Instant	Parallel	18	120	0.15	>.98	<15%	1.06	1195
FB016	1	1125	QTP2X32T8/UNV ISN-SC	Instant	Parallel	18	277	0.08	>.82	<30%	1.06	1195
FB016	1	1125	QHE3X32T8/UNV ISL-SC	Instant	Parallel	19	120	0.16	>.98	<20%	1.06	1195
FB016	1	1125	QHE3X32T8/UNV ISL-SC	Instant	Parallel	19	277	0.08	>.90	<20%	1.06	1195
FB016	1	1125	QHE3X32T8/UNV ISN-SC	Instant	Parallel	20	120	0.19	>.89	<10%	1.20	1350
FB016	1	1125	QHE3X32T8/UNV ISN-SC	Instant	Parallel	21	277	0.10	>.74	<35%	1.20	1350
FB016	1	1125	QTP3X32T8/UNV ISL-SC	Instant	Parallel	20	120	0.16	>.98	<20%	1.05	1180
FB016	1	1125	QTP3X32T8/UNV ISL-SC	Instant	Parallel	20	277	0.09	>.73	<55%	1.05	1180
FB016	1	1125	QTP3X32T8/UNV ISN-SC	Instant	Parallel	22	277	0.09	>.87	<30%	1.20	1350
FB016	1	1125	QTP3X32T8/UNV ISN-SC	Instant	Parallel	22	120	0.18	>.98	<15%	1.20	1350
FB016	1	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	21	120	0.18	>.98	<20%	1.19	1340
FB016	1	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	21	277	0.09	>.83	<40%	1.19	1340
FB016	1	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	21	120	0.17	>.98	<20%	1.09	1225
FB016	1	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	21	277	0.09	>.82	<40%	1.09	1225
FB016	1	1125	QHE1X32T8/UNV PSN-MC	PROStart®	Parallel	15	120	0.13	>.98	<10%	0.91	1025
FB016	1	1125	QHE1X32T8/UNV PSN-MC	PROStart	Parallel	15	277	0.06	>.95	<15%	0.91	1025
FB016	1	1125	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	19	120	0.16	>.98	<15%	1.10	1240
FB016	1	1125	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	19	277	0.08	>.90	<15%	1.10	1240
FB016	1	1125	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	21	120	0.18	>.98	<15%	1.16	1305
FB016	1	1125	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	22	277	0.10	>.85	<20%	1.16	1305
FB016	1	1125	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	12	120	0.10	>.98	<10%	0.70	790
FB016	1	1125	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	12	277	0.05	>.94	<10%	0.70	790
FB016	2	1125	QHE2X32T8/UNV ISL-SC	Instant	Parallel	24	120	0.21	>.95	<10%	0.81	1825
FB016	2	1125	QHE2X32T8/UNV ISL-SC	Instant	Parallel	24	277	0.09	>.95	<15%	0.81	1825
FB016	2	1125	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	120	0.23	>.95	<15%	0.90	2025
FB016	2	1125	QHE2X32T8/UNV ISN-SC	Instant	Parallel	28	277	0.10	>.95	<15%	0.90	2025
FB016	2	1125	QHE2X32T8/UNV ISM-SC	Instant	Parallel	33	120	0.28	>.98	<10%	1.03	2320
FB016	2	1125	QHE2X32T8/UNV ISM-SC	Instant	Parallel	33	277	0.13	>.95	<15%	1.03	2320
FB016	2	1125	QTP2X32T8/UNV ISL-SC	Instant	Parallel	25	120	0.23	>.98	<10%	0.81	1825
FB016	2	1125	QTP2X32T8/UNV ISL-SC	Instant	Parallel	25	277	0.10	>.96	<20%	0.81	1825
FB016	2	1125	QTP2X32T8/UNV ISN-SC	Instant	Parallel	31	120	0.26	>.95	<15%	0.93	2095
FB016	2	1125	QTP2X32T8/UNV ISN-SC	Instant	Parallel	31	277	0.12	>.95	<15%	0.93	2095
FB016	2	1125	QHE3X32T8/UNV ISL-SC	Instant	Parallel	28	120	0.23	>.98	<15%	0.90	2025
FB016	2	1125	QHE3X32T8/UNV ISL-SC	Instant	Parallel	28	277	0.11	>.94	<20%	0.90	2025
FB016	2	1125	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.01	2275
FB016	2	1125	QHE3X32T8/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.93	<25%	1.01	2275
FB016	2	1125	QHE3X32T8/UNV ISM-SC	Instant	Parallel	34	120	0.30	>.98	<15%	1.08	2430
FB016	2	1125	QHE3X32T8/UNV ISM-SC	Instant	Parallel	34	277	0.14	>.95	<15%	1.08	2430
FB016	2	1125	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	120	0.23	>.98	<20%	0.93	2095
FB016	2	1125	QTP3X32T8/UNV ISL-SC	Instant	Parallel	30	277	0.12	>.89	<30%	0.93	2095
FB016	2	1125	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	120	0.27	>.98	<10%	1.02	2295
FB016	2	1125	QTP3X32T8/UNV ISN-SC	Instant	Parallel	33	277	0.13	>.93	<15%	1.02	2295
FB016	2	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	32	120	0.27	>.98	<15%	1.00	2250
FB016	2	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	32	277	0.13	>.90	<20%	1.00	2250
FB016	2	1125	QHE4X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.30	>.98	<20%	1.13	2545
FB016	2	1125	QHE4X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.14	>.93	<20%	1.13	2545

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

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Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FB016	2	1125	QHE4X32T8/UNV ISM-SC	Instant	Parallel	37	120	0.31	>.98	<15%	1.13	2545
FB016	2	1125	QHE4X32T8/UNV ISM-SC	Instant	Parallel	38	277	0.15	>.90	<15%	1.13	2545
FB016	2	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	31	120	0.26	>.98	<10%	0.96	2160
FB016	2	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	31	277	0.11	>.92	<30%	0.96	2160
FB016	2	1125	QTP4X32T8/UNV ISN-SC	Instant	Parallel	34	120	0.28	>.98	<15%	1.10	2475
FB016	2	1125	QTP4X32T8/UNV ISN-SC	Instant	Parallel	34	277	0.13	>.95	<20%	1.10	2475
FB016	2	1125	QHE2X32T8/UNV PSN-MC	PROStart®	Parallel	28	120	0.24	>.98	<10%	0.91	2055
FB016	2	1125	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	28	277	0.11	>.95	<15%	0.91	2055
FB016	2	1125	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	32	120	0.27	>.98	<10%	1.01	2275
FB016	2	1125	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	32	277	0.13	>.90	<15%	1.01	2275
FB016	2	1125	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<15%	1.08	2430
FB016	2	1125	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	36	277	0.14	>.90	<15%	1.08	2430
FB016	2	1125	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	38	120	0.32	>.98	<10%	1.17	2635
FB016	2	1125	QHE2X32T8/UNV PSH-HT	PROStart	Parallel	38	277	0.14	>.98	<10%	1.17	2635
FB016	2	1125	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	22	120	0.18	>.98	<10%	0.70	1575
FB016	2	1125	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	22	277	0.08	>.95	<15%	0.70	1575
FB016	3	1125	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	120	0.31	>.98	<10%	0.80	2700
FB016	3	1125	QHE3X32T8/UNV ISL-SC	Instant	Parallel	36	277	0.14	>.95	<15%	0.80	2700
FB016	3	1125	QHE3X32T8/UNV ISN-SC	Instant	Parallel	42	120	0.33	>.94	<20%	0.90	3040
FB016	3	1125	QHE3X32T8/UNV ISN-SC	Instant	Parallel	41	277	0.15	>.94	<20%	0.90	3040
FB016	3	1125	QHE3X32T8/UNV ISM-SC	Instant	Parallel	45	120	0.38	>.98	<15%	0.98	3310
FB016	3	1125	QHE3X32T8/UNV ISM-SC	Instant	Parallel	45	277	0.17	>.95	<15%	0.98	3310
FB016	3	1125	QTP3X32T8/UNV ISL-SC	Instant	Parallel	38	120	0.30	>.98	<10%	0.81	2735
FB016	3	1125	QTP3X32T8/UNV ISL-SC	Instant	Parallel	38	277	0.14	>.96	<20%	0.81	2735
FB016	3	1125	QTP3X32T8/UNV ISN-SC	Instant	Parallel	43	120	0.38	>.94	<20%	0.93	3140
FB016	3	1125	QTP3X32T8/UNV ISN-SC	Instant	Parallel	43	277	0.17	>.94	<20%	0.93	3140
FB016	3	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	40	120	0.34	>.98	<15%	0.88	2970
FB016	3	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	40	277	0.16	>.90	<20%	0.88	2970
FB016	3	1125	QHE4X32T8/UNV ISN-SC	Instant	Parallel	45	120	0.35	>.95	<20%	0.98	3310
FB016	3	1125	QHE4X32T8/UNV ISN-SC	Instant	Parallel	45	277	0.15	>.95	<20%	0.98	3310
FB016	3	1125	QHE4X32T8/UNV ISM-SC	Instant	Parallel	49	120	0.41	>.98	<10%	1.04	3510
FB016	3	1125	QHE4X32T8/UNV ISM-SC	Instant	Parallel	49	277	0.18	>.95	<15%	1.04	3510
FB016	3	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	41	120	0.33	>.98	<10%	0.87	2935
FB016	3	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	41	277	0.16	>.92	<30%	0.87	2935
FB016	3	1125	QTP4X32T8/UNV ISN-SC	Instant	Parallel	45	120	0.40	>.95	<20%	0.99	3340
FB016	3	1125	QTP4X32T8/UNV ISN-SC	Instant	Parallel	45	277	0.18	>.95	<20%	0.99	3340
FB016	3	1125	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.35	>.98	<10%	0.90	3040
FB016	3	1125	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.95	<15%	0.90	3040
FB016	3	1125	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	46	120	0.39	>.98	<10%	0.98	3310
FB016	3	1125	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	46	277	0.17	>.95	<15%	0.98	3310
FB016	3	1125	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	56	120	0.48	>.98	<10%	1.18	3985
FB016	3	1125	QHE3X32T8/UNV PSH-HT	PROStart	Parallel	56	277	0.21	>.98	<10%	1.18	3985
FB016	3	1125	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	35	120	0.29	>.98	<10%	0.70	2365
FB016	3	1125	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	35	277	0.13	>.95	<10%	0.70	2365
FB016	4	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	48	120	0.42	>.95	<20%	0.81	3645
FB016	4	1125	QHE4X32T8/UNV ISL-SC	Instant	Parallel	48	277	0.18	>.95	<20%	0.81	3645
FB016	4	1125	QHE4X32T8/UNV ISN-SC	Instant	Parallel	54	120	0.43	>.95	<20%	0.90	4050
FB016	4	1125	QHE4X32T8/UNV ISN-SC	Instant	Parallel	54	277	0.19	>.95	<20%	0.90	4050
FB016	4	1125	QHE4X32T8/UNV ISM-SC	Instant	Parallel	58	120	0.49	>.98	<10%	0.96	4320
FB016	4	1125	QHE4X32T8/UNV ISM-SC	Instant	Parallel	59	277	0.22	>.98	<15%	0.96	4320
FB016	4	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	49	120	0.41	>.98	<10%	0.81	3645
FB016	4	1125	QTP4X32T8/UNV ISL-SC	Instant	Parallel	49	277	0.19	>.95	<20%	0.81	3645
FB016	4	1125	QTP4X32T8/UNV ISN-SC	Instant	Parallel	56	120	0.48	>.95	<20%	0.91	4095
FB016	4	1125	QTP4X32T8/UNV ISN-SC	Instant	Parallel	56	277	0.21	>.95	<20%	0.91	4095
FB016	4	1125	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	54	120	0.46	>.98	<10%	0.91	4095
FB016	4	1125	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	54	277	0.20	>.95	<15%	0.91	4095
FB016	4	1125	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	73	120	0.63	>.98	<10%	1.18	5310
FB016	4	1125	QHE4X32T8/UNV PSH-HT	PROStart	Parallel	73	277	0.28	>.98	<10%	1.18	5310
FB016	4	1125	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	43	120	0.36	>.98	<10%	0.70	3150
FB016	4	1125	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	43	277	0.16	>.97	<10%	0.70	3150

Note: Data above is listed above for QHE ISL, ISN, & ISH models (for Type CC models add "-1" to the model description). For complete details see product specification pages.

Specifications subject to change without notice.

QUICKSYSTEMS

System Performance Guide

T5 Linear Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FP35T5	1	3650	QTP2X28T5/UNV PSN	PROStart®	Series	38	120	0.32	>.98	<10%	0.97	3540
FP35T5	1	3650	QTP2X28T5/UNV PSN	PROStart	Series	38	277	0.14	>.97	<10%	0.97	3540
FP35T5	2	3650	QTP2X28T5/UNV PSN	PROStart	Series	80	120	0.67	>.98	<10%	1.00	7300
FP35T5	2	3650	QTP2X28T5/UNV PSN	PROStart	Series	78	277	0.28	>.98	<10%	1.00	7300
FP28T5	1	2900	QTP2X28T5/UNV PSN	PROStart	Series	32	120	0.27	>.98	<10%	1.00	2900
FP28T5	1	2900	QTP2X28T5/UNV PSN	PROStart	Series	32	277	0.12	>.96	<15%	1.00	2900
FP28T5	2	2900	QTP2X28T5/UNV PSN	PROStart	Series	65	120	0.55	>.98	<10%	1.00	5800
FP28T5	2	2900	QTP2X28T5/UNV PSN	PROStart	Series	63	277	0.23	>.98	<10%	1.00	5800
FP21T5	1	2100	QTP2X28T5/UNV PSN	PROStart	Series	23	120	0.23	>.98	<10%	0.99	2080
FP21T5	1	2100	QTP2X28T5/UNV PSN	PROStart	Series	24	277	0.09	>.93	<20%	0.99	2080
FP21T5	2	2100	QTP2X28T5/UNV PSN	PROStart	Series	47	120	0.40	>.98	<10%	1.00	4200
FP21T5	2	2100	QTP2X28T5/UNV PSN	PROStart	Series	47	277	0.17	>.98	<10%	1.00	4200
FP14T5	1	1350	QTP2X28T5/UNV PSN	PROStart	Series	16	120	0.14	>.98	<10%	0.99	1335
FP14T5	1	1350	QTP2X28T5/UNV PSN	PROStart	Series	17	277	0.06	>.95	<20%	0.99	1335
FP14T5	2	1350	QTP2X28T5/UNV PSN	PROStart	Series	32	120	0.27	>.98	<10%	1.00	2700
FP14T5	2	1350	QTP2X28T5/UNV PSN	PROStart	Series	32	277	0.12	>.96	<15%	1.00	2700

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.
Our QHE T5 and T5HO Systems can be found on pages 62-77 of this Specification Guide.

Specifications subject to change without notice.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FP80T5HO	1	7000	QTP1X80T5HO/UNV PSN	PROStart®	Series	90	120	0.74	>.98	<10%	1.00	7000
FP80T5HO	1	7000	QTP1X80T5HO/UNV PSN	PROStart	Series	90	277	0.32	>.98	<10%	1.00	7000
FP54T5HO	1	5000	QTP1X54T5HO/UNV PSN	PROStart	Series	62	120	0.51	>.98	<10%	1.00	5000
FP54T5HO	1	5000	QTP1X54T5HO/UNV PSN	PROStart	Series	60	277	0.21	>.97	<10%	1.00	5000
FP54T5HO	1	5000	QTP2X54T5HO/UNV PSN	PROStart	Series	61	120	0.50	>.98	<10%	1.00	5000
FP54T5HO	1	5000	QTP2X54T5HO/UNV PSN	PROStart	Series	61	277	0.24	>.90	<15%	1.00	5000
FP54T5HO	1	5000	QT1x54/120 PHO-DIM(@100%)	PROStart	Series	62	120	0.54	>.98	<10%	1.00	5000
FP54T5HO	1	5000	QT1x54/120 PHO-DIM(@1%)	PROStart	Series	8	—	—	—	—	0.01	50
FP54T5HO	1	5000	QT1x54/277 PHO-DIM(@100%)	PROStart	Series	61	277	0.23	>.98	<10%	1.00	5000
FP54T5HO	1	5000	QT1x54/277 PHO-DIM(@1%)	PROStart	Series	8	—	—	—	—	0.01	50
FP54T5HO	1	5000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	61	120	0.50	>.98	<10%	1.00	5000
FP54T5HO	1	5000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	61	277	0.24	>.90	<15%	1.00	5000
FP54T5HO	1	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	61	120	0.50	>.98	<10%	1.00	5000
FP54T5HO	1	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	61	277	0.24	>.90	<15%	1.00	5000
FP54T5HO	1	5000	QTP2X54T5HO/347-480 PSN HT	PROStart	Series	61	347	0.17	>.95	<15%	1.00	5000
FP54T5HO	1	5000	QTP2X54T5HO/347-480 PSN HT	PROStart	Series	61	480	0.12	>.97	<15%	1.00	5000
FP54T5HO	2	5000	QTP2X54T5HO/UNV PSN	PROStart	Series	121	120	1.00	>.98	<10%	1.00	10000
FP54T5HO	2	5000	QTP2X54T5HO/UNV PSN	PROStart	Series	118	277	0.43	>.97	<10%	1.00	10000
FP54T5HO	2	5000	QT2x54/120 PHO-DIM(@100%)	PROStart	Series	120	120	1.07	>.98	<10%	1.00	10000
FP54T5HO	2	5000	QT2x54/120 PHO-DIM(@1%)	PROStart	Series	18	—	—	—	—	0.01	100
FP54T5HO	2	5000	QT2x54/277 PHO-DIM(@100%)	PROStart	Series	117	277	0.45	>.98	<10%	1.00	10000
FP54T5HO	2	5000	QT2x54/277 PHO-DIM(@1%)	PROStart	Series	18	—	—	—	—	0.01	100
FP54T5HO	2	5000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	121	120	1.00	>.98	<10%	1.00	10000
FP54T5HO	2	5000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	118	277	0.43	>.97	<10%	1.00	10000
FP54T5HO	2	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	121	120	1.00	>.98	<10%	1.00	10000
FP54T5HO	2	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	118	277	0.43	>.97	<10%	1.00	10000
FP54T5HO	2	5000	QTP2X54T5HO/347-480 PSN HT	PROStart	Series	121	347	0.35	>.98	<10%	1.00	10000
FP54T5HO	2	5000	QTP2X54T5HO/347-480 PSN HT	PROStart	Series	120	480	0.25	>.98	<10%	1.00	10000
FP54T5HO	3	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	182	120	1.49	>.97	<10%	1.00	15000
FP54T5HO	3	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	178	277	0.63	>.97	<10%	1.00	15000
FP54T5HO	4	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	241	120	2.00	>.98	<10%	1.00	20000
FP54T5HO	4	5000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	236	277	0.90	>.96	<10%	1.00	20000

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.
Our QHE T5 and T5HO Systems can be found on pages 62-77 of this Specification Guide.

Specifications subject to change without notice.

TT5/T5/T5HO CIRCLINE

QUICKSYSTEMS

System Performance Guide

TT5/T5/T5HO FPC Circline

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FT24DF	1	1700	QTP2X26CF/UNV DM	PROStart®	Series	26	120	0.22	>.98	<10%	0.92	1565
FT24DF	1	1700	QTP2X26CF/UNV DM	PROStart	Series	26	277	0.09	>.98	<10%	0.92	1565
FT24DL	1	1800	QTP2X26CF/UNV DM	PROStart	Series	26	120	0.22	>.98	<10%	0.92	1655
FT24DL	1	1800	QTP2X26CF/UNV DM	PROStart	Series	25	277	0.09	>.98	<15%	0.92	1655
FT24DF	2	1700	QTP2X26CF/UNV DM	PROStart	Series	50	120	0.42	>.98	<10%	0.91	3095
FT24DF	2	1700	QTP2X26CF/UNV DM	PROStart	Series	47	277	0.17	>.98	<10%	0.91	3095
FT24DL	2	1800	QTP2X26CF/UNV DM	PROStart	Series	50	120	0.42	>.98	<10%	0.91	3275
FT24DL	2	1800	QTP2X26CF/UNV DM	PROStart	Series	47	277	0.17	>.98	<10%	0.91	3275
FT18DF	2	1250	QTP2X26CF/UNV DM	PROStart	Series	35	120	0.29	>.98	<10%	0.86	2150
FT18DF	2	1250	QTP2X26CF/UNV DM	PROStart	Series	34	277	0.12	>.98	<15%	0.86	2150
FT18DL	2	1250	QTP2X26CF/UNV DM	PROStart	Series	35	120	0.29	>.98	<10%	0.86	2150
FT18DL	2	1250	QTP2X26CF/UNV DM	PROStart	Series	34	277	0.12	>.98	<15%	0.86	2150
FPC55HO	1	4000	QT1x54/120 PHO-DIM(@100%)	PROStart	Series	62	120	0.52	>.98	<10%	0.98	3920
FPC55HO	1	4000	QT1x54/120 PHO-DIM(@1%)	PROStart	Series	8	—	—	—	—	0.01	40
FPC55HO	1	4000	QT1x54/277 PHO-DIM(@100%)	PROStart	Series	61	277	0.22	>.98	<10%	0.98	3920
FPC55HO	1	4000	QT1x54/277 PHO-DIM(@1%)	PROStart	Series	8	—	—	—	—	0.01	40
FPC55HO	1	4000	QTP1X54T5HO/UNV PSN	PROStart	Series	61	120	0.52	>.98	<10%	1.00	4000
FPC55HO	1	4000	QTP1X54T5HO/UNV PSN	PROStart	Series	58	277	0.22	>.97	<10%	1.00	4000
FPC55HO	1	4000	QTP2X54T5HO/UNV PSN	PROStart	Series	57	120	0.48	>.98	<10%	0.89	3560
FPC55HO	1	4000	QTP2X54T5HO/UNV PSN	PROStart	Series	57	277	0.23	>.85	<15%	0.89	3560
FPC55HO	1	4000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	57	120	0.48	>.98	<10%	0.89	3560
FPC55HO	1	4000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	57	277	0.23	>.85	<15%	0.89	3560
FPC55HO	1	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	57	120	0.48	>.98	<10%	0.89	3560
FPC55HO	1	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	57	277	0.23	>.85	<15%	0.89	3560
FPC55HO	2	4000	QTP2X54T5HO/UNV PSN	PROStart	Series	111	120	0.93	>.98	<10%	0.89	7120
FPC55HO	2	4000	QTP2X54T5HO/UNV PSN	PROStart	Series	108	277	0.40	>.97	<10%	0.89	7120
FPC55HO	2	4000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	111	120	0.93	>.98	<10%	0.89	7120
FPC55HO	2	4000	QTP2X54T5HO/UNV PSN HT	PROStart	Series	108	277	0.40	>.97	<10%	0.89	7120
FPC55HO	2	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	111	120	0.93	>.98	<10%	0.89	7120
FPC55HO	2	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	108	277	0.40	>.97	<10%	0.89	7120
FPC55HO	2	4000	QT2x54/120 PHO-DIM(@100%)	PROStart	Series	120	120	1.00	>.98	<10%	0.98	7840
FPC55HO	2	4000	QT2x54/120 PHO-DIM(@1%)	PROStart	Series	18	—	—	—	—	0.01	80
FPC55HO	2	4000	QT2x54/277 PHO-DIM(@100%)	PROStart	Series	117	277	0.45	>.98	<10%	0.98	7840
FPC55HO	2	4000	QT2x54/277 PHO-DIM(@1%)	PROStart	Series	18	—	—	—	—	0.01	80
FPC55HO	3	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	169	120	1.38	>.97	<10%	0.89	10680
FPC55HO	3	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	166	277	0.59	>.97	<15%	0.89	10680
FPC55HO	4	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	224	120	1.83	>.97	<10%	0.89	14240
FPC55HO	4	4000	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	219	277	0.77	>.97	<15%	0.89	14240
FPC40	1	3200	QTP2X26CF/UNV DM	PROStart	Series	35	120	0.29	>.98	<10%	0.87	2785
FPC40	1	3200	QTP2X26CF/UNV DM	PROStart	Series	34	277	0.12	>.98	<15%	0.87	2785
FPC40	2	3200	QTP2X26/32/42CF/UNV DM	PROStart	Series	72	277	0.26	>.98	<10%	0.88	5630
FPC40	2	3200	QTP2X26/32/42CF/UNV DM	PROStart	Series	74	120	0.62	>.98	<10%	0.88	5630

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.
Our QHE T5 and T5HO Systems can be found on pages 62-77 of this Specification Guide.

Specifications subject to change without notice.

TT5 DULUX® L Fluorescent Lamps

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FT80DL	1	6000	QTP1X80T5HO/UNV PSN	PROStart®	Series	90	120	0.75	>.98	<10%	1.00	6000
FT80DL	1	6000	QTP1X80T5HO/UNV PSN	PROStart	Series	90	277	0.33	>.98	<10%	1.00	6000
FT55DL	1	4800	QTP1X54T5HO/UNV PSN	PROStart	Series	62	120	0.52	>.98	<10%	1.00	4800
FT55DL	1	4800	QTP1X54T5HO/UNV PSN	PROStart	Series	59	277	0.22	>.97	<10%	1.00	4800
FT55DL	1	4800	QTP2X54T5HO/UNV PSN	PROStart	Series	59	120	0.49	>.98	<10%	0.94	4510
FT55DL	1	4800	QTP2X54T5HO/UNV PSN	PROStart	Series	58	277	0.24	>.90	<15%	0.94	4510
FT55DL	1	4800	QT1x54/120 PHO-DIM(@100%)	PROStart	Series	62	120	0.52	>.98	<10%	0.98	4705
FT55DL	1	4800	QT1x54/120 PHO-DIM(@1%)	PROStart	Series	8	—	—	—	—	0.01	50
FT55DL	1	4800	QT1x54/277 PHO-DIM(@100%)	PROStart	Series	61	277	0.22	>.98	<10%	0.98	4705
FT55DL	1	4800	QT1x54/277 PHO-DIM(@1%)	PROStart	Series	8	—	—	—	—	0.01	50
FT55DL	1	4800	QTP2X54T5HO/UNV PSN HT	PROStart	Series	59	120	0.49	>.98	<10%	0.94	4510
FT55DL	1	4800	QTP2X54T5HO/UNV PSN HT	PROStart	Series	58	277	0.24	>.90	<15%	0.94	4510
FT55DL	1	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	59	120	0.49	>.98	<10%	0.94	4510
FT55DL	1	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	58	277	0.24	>.90	<15%	0.94	4510
FT55DL	2	4800	QTP2X54T5HO/UNV PSN	PROStart	Series	116	120	0.98	>.98	<10%	0.95	9120
FT55DL	2	4800	QTP2X54T5HO/UNV PSN	PROStart	Series	112	277	0.42	>.97	<10%	0.94	9025
FT55DL	2	4800	QT2x54/120 PHO-DIM(@100%)	PROStart	Series	120	120	1.00	>.98	<10%	0.98	9410
FT55DL	2	4800	QT2x54/120 PHO-DIM(@1%)	PROStart	Series	18	—	—	—	—	0.01	95
FT55DL	2	4800	QT2x54/277 PHO-DIM(@100%)	PROStart	Series	117	277	0.45	>.98	<10%	0.98	9410
FT55DL	2	4800	QT2x54/277 PHO-DIM(@1%)	PROStart	Series	18	—	—	—	—	0.01	95
FT55DL	2	4800	QTP2X54T5HO/UNV PSN HT	PROStart	Series	116	120	0.98	>.98	<10%	0.95	9120
FT55DL	2	4800	QTP2X54T5HO/UNV PSN HT	PROStart	Series	112	277	0.42	>.97	<10%	0.94	9025
FT55DL	2	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	116	120	0.98	>.98	<10%	0.95	9120
FT55DL	2	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	112	277	0.42	>.97	<10%	0.94	9025
FT55DL	3	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	175	120	1.43	>.98	<10%	0.94	13535
FT55DL	3	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	170	277	0.60	>.97	<15%	0.94	13535
FT55DL	4	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	232	120	1.89	>.98	<10%	0.94	18050
FT55DL	4	4800	QTP4X54T5HO/UNV PSN HTW	PROStart	Series	224	277	0.79	>.97	<15%	0.94	18050
FT40DL	1	3150	QHE1x40DL/UNV ISN-SC	Instant	Parallel	35	120	0.30	>.98	<10%	0.90	2835
FT40DL	1	3150	QHE1x40DL/UNV ISN-SC	Instant	Parallel	35	277	0.13	>.98	<10%	0.90	2835
FT40DL	1	3150	QTP1x40TT5/120 PSN-F	PROStart	Series	38	120	0.32	>.98	<10%	0.88	2770
FT40DL	1	3150	QTP1x40TT5/277 PSN-F	PROStart	Series	37	277	0.13	>.98	<10%	0.88	2770
FT40DL	1	3150	QTP2X26CF/UNV DM	PROStart	Series	44	120	0.37	>.98	<10%	1.10	3465
FT40DL	1	3150	QTP2X26CF/UNV DM	PROStart	Series	42	277	0.16	>.98	<10%	1.10	3465
FT40DL	2	3150	QHE2x40DL/UNV ISN-SC	Instant	Parallel	68	120	0.56	>.98	<10%	0.90	5670
FT40DL	2	3150	QHE2x40DL/UNV ISN-SC	Instant	Parallel	67	277	0.26	>.98	<10%	0.90	5670
FT40DL	2	3150	QTP2x40TT5/120 PSN-F	PROStart	Series	76	120	0.63	>.98	<10%	0.88	5545
FT40DL	2	3150	QTP2x40TT5/277 PSN-F	PROStart	Series	73	277	0.27	>.98	<10%	0.88	5545
FT40DL	2	3150	QTP2X26/32/42CF/UNV DM	PROStart	Series	88	120	0.74	>.98	<10%	1.10	6930
FT40DL	2	3150	QTP2X26/32/42CF/UNV DM	PROStart	Series	86	277	0.31	>.98	<10%	1.10	6930
FT40DL	3	3150	QHE3x40DL/UNV ISN-SC	Instant	Parallel	100	120	0.84	>.98	<10%	0.90	9070
FT40DL	3	3150	QHE3x40DL/UNV ISN-SC	Instant	Parallel	99	277	0.36	>.98	<10%	0.90	9070
FT40DL	3	3150	QTP3x40TT5/277 PSN-B	PROStart	Series	108	277	0.39	>.98	<10%	0.88	8315
FT40DL	3	3150	QTP3x40TT5/120 PSN-B	PROStart	Series	110	120	0.92	>.98	<10%	0.88	8315
FT40/28WSS	1	2800	QHE1x40DL/UNV ISN-SC	Instant	Parallel	32	277	0.12	>.98	<10%	1.07	2995
FT40/28WSS	1	2800	QHE1x40DL/UNV ISN-SC	Instant	Parallel	32	120	0.27	>.98	<10%	1.07	2995
FT40/28WSS	2	2800	QHE2x40DL/UNV ISN-SC	Instant	Parallel	64	120	0.54	>.98	<10%	1.07	5990
FT40/28WSS	2	2800	QHE2x40DL/UNV ISN-SC	Instant	Parallel	63	277	0.24	>.98	<10%	1.07	5990
FT40/28WSS	3	2800	QHE3x40DL/UNV ISN-SC	Instant	Parallel	95	120	0.79	>.98	<10%	1.07	8990
FT40/28WSS	3	2800	QHE3x40DL/UNV ISN-SC	Instant	Parallel	94	277	0.35	>.98	<10%	1.07	8990
FT36DL	2	2900	QTP2X26/32/42CF/UNV DM	PROStart	Series	64	120	0.53	>.98	<10%	0.80	4640
FT36DL	2	2900	QTP2X26/32/42CF/UNV DM	PROStart	Series	62	277	0.22	>.98	<10%	0.80	4640

Customers should always consider upgrading to our High Efficiency Systems to maximize energy savings.
Our QHE T5 and T5HO Systems can be found on pages 62-77 of this Specification Guide.

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QUICKSYSTEMS

System Performance Guide

DULUX® Compact Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
CF26DT/E, TE	1	1800	QTP2X26CF/UNV DM	PROStart®	Series	28	120	0.24	>.98	<10%	1.00	1800
CF26DT/E, TE	1	1800	QTP2X26CF/UNV DM	PROStart	Series	28	277	0.10	>.98	<10%	1.00	1800
CF26DD/E, TE	2	1800	QTP2X26CF/UNV DM	PROStart	Series	54	120	0.50	>.98	<10%	1.00	3600
CF26DD/E, TE	2	1800	QTP2X26CF/UNV DM	PROStart	Series	54	277	0.22	>.98	<10%	1.00	3600
CF26DD/E, TE	2	1800	QTP2X26/32/42CF/UNV DM	PROStart	Series	54	120	0.46	>.98	<10%	1.02	3670
CF26DD/E, TE	2	1800	QTP2X26/32/42CF/UNV DM	PROStart	Series	54	277	0.20	>.98	<10%	1.02	3670
CF18WDD/E, T/E	1	1200	QTP1/2X18CF/UNV DM	PROStart	Series	20	120	0.17	>.98	<10%	1.00	1200
CF18WDD/E, T/E	1	1200	QTP1/2X18CF/UNV DM	PROStart	Series	20	277	0.07	>.98	<10%	1.00	1200
CF18WDD/E, T/E	2	1200	QTP1/2X18CF/UNV DM	PROStart	Series	38	120	0.32	>.98	<10%	1.00	2400
CF18WDD/E, T/E	2	1200	QTP1/2X18CF/UNV DM	PROStart	Series	38	277	0.14	>.98	<10%	1.00	2400
CF13DD/E, T/E	1	900	QTP1/2X13CF/UNV DM	PROStart	Series	16	120	0.14	>.98	<10%	1.00	900
CF13DD/E, T/E	1	900	QTP1/2X13CF/UNV DM	PROStart	Series	16	277	0.07	>.97	<15%	1.00	900
CF13DD/E, T/E	2	900	QTP1/2X13CF/UNV DM	PROStart	Series	29	120	0.25	>.98	<10%	1.00	1800
CF13DD/E, T/E	2	900	QTP1/2X13CF/UNV DM	PROStart	Series	29	277	0.11	>.98	<10%	1.00	1800
CF13DSE	2	820	QTP2X26CF/UNV DM	PROStart	Series	30	120	0.25	>.98	<10%	1.05	1720
CF13DSE	2	820	QTP2X26CF/UNV DM	PROStart	Series	29	277	0.11	>.98	<10%	1.05	1720

Specifications subject to change without notice.

DULUX® Compact and FPC Circline T5 Fluorescent Lamps

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
CF70WDT/E	1	5200	QTP2X26/32/42CF/UNV DM	PROStart®	Series	71	120	0.57	>.98	<10%	0.92	4785
CF70WDT/E	1	5200	QTP2X26/32/42CF/UNV DM	PROStart	Series	71	277	0.25	>.98	<10%	0.92	4785
CF57WDT/E	1	4300	QTP2X26/32/42CF/UNV DM	PROStart	Series	62	120	0.53	>.98	<10%	1.00	4300
CF57WDT/E	1	4300	QTP2X26/32/42CF/UNV DM	PROStart	Series	62	277	0.23	>.98	<10%	1.00	4300
CF42DT/E	1	3200	QTP2X26CF/UNV DM	PROStart	Series	45	120	0.38	>.98	<10%	1.00	3200
CF42DT/E	1	3200	QTP2X26CF/UNV DM	PROStart	Series	45	277	0.17	>.98	<10%	1.00	3200
CF42DT/E	2	3200	QTP2X26/32/42CF/UNV DM	PROStart	Series	94	120	0.80	>.98	<10%	0.95	6080
CF42DT/E	2	3200	QTP2X26/32/42CF/UNV DM	PROStart	Series	94	277	0.35	>.98	<10%	0.95	6080
CF42DT/E	2	3200	QTP2X26/32/42CF/UNV DM	PROStart	Series	94	120	0.90	>.98	<10%	0.95	6080
CF42DT/E	2	3200	QTP2X26/32/42CF/UNV DM	PROStart	Series	94	277	0.40	>.98	<10%	0.95	6080
CF32DT/E	1	2400	QTP2X26CF/UNV DM	PROStart	Series	35	120	0.30	>.98	<10%	0.98	2350
CF32DT/E	1	2400	QTP2X26CF/UNV DM	PROStart	Series	35	277	0.13	>.98	<10%	0.98	2350
CF32DT/E	2	2400	QTP2X26/32/42CF/UNV DM	PROStart	Series	69	120	0.59	>.98	<10%	0.96	4610
CF32DT/E	2	2400	QTP2X26/32/42CF/UNV DM	PROStart	Series	69	277	0.25	>.98	<10%	0.96	4610
FPC Circline T5 Fluorescent Lamps												
FPC22	1	1800	QTP2X39-24T5HO/UNV PSN	PROStart	Series	26	120	0.22	>.98	<10%	1.03	1855
FPC22	1	1800	QTP2X39-24T5HO/UNV PSN	PROStart	Series	26	277	0.11	>.85	<15%	1.03	1855
FPC22	1	1800	QTP2X26CF/UNV DM	PROStart	Series	26	120	0.21	>.98	<10%	0.97	1745
FPC22	1	1800	QTP2X26CF/UNV DM	PROStart	Series	25	277	0.09	>.97	<15%	0.97	1745
FPC22	2	1800	QTP2X39-24T5HO/UNV PSN	PROStart	Series	50	120	0.42	>.98	<10%	1.04	3745
FPC22	2	1800	QTP2X39-24T5HO/UNV PSN	PROStart	Series	50	277	0.19	>.96	<10%	1.04	3745
FPC22	2	1800	QTP2X26CF/UNV DM	PROStart	Series	48	120	0.40	>.98	<10%	0.96	3455
FPC22	2	1800	QTP2X26CF/UNV DM	PROStart	Series	46	277	0.17	>.98	<10%	0.96	3455

Data for all CFL ballasts above is the same for the equivalent models with PEM studs (-PEM) where applicable.

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FO32XV

QUICKSYSTEMS

System Performance Guide

Approved Delamped T8 Linear Fluorescent PROStart® PSX & PSN Systems

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32XV	1	2900	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	30	120	0.26	>.98	<10%	0.88	2550
FO32XV	1	2900	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	29	277	0.11	>.98	<10%	0.88	2550
FO32XV	1	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	120	0.30	>.98	<10%	1.07	3105
FO32XV	1	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	36	277	0.13	>.98	<15%	1.07	3105
FO32XV	1	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	39	120	0.33	>.98	<10%	1.14	3295
FO32XV	1	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	40	277	0.16	>.95	<15%	1.14	3295
FO32XV	1	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	120	0.34	>.98	<10%	1.20	3480
FO32XV	1	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	41	277	0.16	>.90	<15%	1.20	3480
FO32XV	1	2900	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.72	2090
FO32XV	1	2900	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.98	<10%	0.72	2090
FO32XV	1	2900	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	30	120	0.25	>.98	<10%	0.88	2550
FO32XV	1	2900	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	30	277	0.11	>.97	<15%	0.88	2550
FO32XV	1	2900	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	33	120	0.28	>.98	<10%	0.92	2670
FO32XV	1	2900	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	33	277	0.13	>.95	<15%	0.92	2670
FO32XV	1	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	37	120	0.30	>.98	<10%	0.98	2840
FO32XV	1	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	37	277	0.14	>.95	<15%	0.98	2840
FO32XV	2	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	57	120	0.48	>.98	<10%	0.88	5105
FO32XV	2	2900	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	277	0.21	>.98	<10%	0.88	5105
FO32XV	2	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.98	5685
FO32XV	2	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64	277	0.24	>.98	<10%	0.98	5685
FO32XV	2	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	68	120	0.57	>.98	<10%	1.06	6150
FO32XV	2	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	67	277	0.25	>.95	<15%	1.06	6150
FO32XV	2	2900	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.72	4175
FO32XV	2	2900	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	47	277	0.17	>.98	<10%	0.72	4175
FO32XV	2	2900	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	53	120	0.44	>.98	<10%	0.80	4640
FO32XV	2	2900	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	52	277	0.19	>.98	<10%	0.80	4640
FO32XV	2	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	57	120	0.48	>.98	<10%	0.86	4990
FO32XV	2	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	57	277	0.21	>.95	<15%	0.86	4990
FO32XV	3	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	7655
FO32XV	3	2900	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	7655
FO32XV	3	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	8350
FO32XV	3	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	8350
FO32XV	3	2900	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	69	120	0.58	>.98	<10%	0.71	6175
FO32XV	3	2900	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	67	277	0.25	>.98	<10%	0.71	6175
FO32XV	3	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	76	120	0.64	>.98	<10%	0.77	6700
FO32XV	3	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	75	277	0.27	>.98	<10%	0.77	6700
FO32XV	4	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	111	120	0.93	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	108	277	0.39	>.98	<10%	0.88	10210
FO32XV	4	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	90	120	0.76	>.98	<10%	0.71	8235
FO32XV	4	2900	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	89	277	0.32	>.98	<10%	0.71	8235

Schematics/wiring configurations for delamped combinations, see pages 192 &193.

For equivalent lamp types, all electrical values above can be used.
To calculate system lumens, substitute appropriate lumen value.

Ex: FO32XP: 4 (lamps) X 3000 (lumens) X 0.71 (BF)= 8520 Lumens

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Approved Delamped T8 Linear Fluorescent PROStart® PSX & PSN Systems

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO30/XV/SS	1	2750	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	28	120	0.24	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	26	277	0.10	>.98	<10%	0.88	2420
FO30/XV/SS	1	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	120	0.29	>.98	<10%	1.07	2955
FO30/XV/SS	1	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	34	277	0.13	>.98	<15%	1.07	2955
FO30/XV/SS	1	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.13	3115
FO30/XV/SS	1	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.95	<15%	1.13	3115
FO30/XV/SS	1	2750	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	120	0.21	>.98	<10%	0.72	1980
FO30/XV/SS	1	2750	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.72	1980
FO30/XV/SS	1	2750	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	28	120	0.23	>.98	<10%	0.86	2365
FO30/XV/SS	1	2750	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	28	277	0.10	>.95	<15%	0.86	2365
FO30/XV/SS	1	2750	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	31	120	0.26	>.98	<10%	0.93	2560
FO30/XV/SS	1	2750	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	31	277	0.12	>.95	<15%	0.93	2560
FO30/XV/SS	1	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	35	120	0.29	>.98	<10%	1.00	2750
FO30/XV/SS	1	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	35	277	0.13	>.95	<15%	1.00	2750
FO30/XV/SS	2	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	55	120	0.46	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	53	277	0.20	>.98	<10%	0.88	4840
FO30/XV/SS	2	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	0.98	5405
FO30/XV/SS	2	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.22	>.98	<10%	0.98	5405
FO30/XV/SS	2	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	1.06	5835
FO30/XV/SS	2	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	65	277	0.24	>.95	<15%	1.06	5835
FO30/XV/SS	2	2750	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	45	120	0.40	>.98	<10%	0.72	3960
FO30/XV/SS	2	2750	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	43	277	0.17	>.98	<10%	0.72	3960
FO30/XV/SS	2	2750	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	50	120	0.41	>.98	<10%	0.81	4455
FO30/XV/SS	2	2750	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	49	277	0.18	>.95	<15%	0.81	4455
FO30/XV/SS	2	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	55	120	0.46	>.98	<10%	0.87	4785
FO30/XV/SS	2	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	55	277	0.20	>.95	<15%	0.87	4785
FO30/XV/SS	3	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	83	120	0.69	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	82	277	0.29	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.96	7920
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.96	7920
FO30/XV/SS	3	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	80	120	0.68	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	78	277	0.28	>.98	<10%	0.88	7260
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	87	120	0.73	>.98	<15%	0.96	7940
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	85	277	0.31	>.98	<10%	0.96	7940
FO30/XV/SS	3	2750	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	65	120	0.54	>.98	<10%	0.71	5860
FO30/XV/SS	3	2750	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	63	277	0.23	>.98	<10%	0.71	5860
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	72	120	0.60	>.98	<10%	0.78	6435
FO30/XV/SS	3	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	71	277	0.26	>.98	<10%	0.78	6435
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	105	120	0.89	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	103	277	0.38	>.98	<10%	0.88	9680
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	86	120	0.72	>.98	<10%	0.71	7810
FO30/XV/SS	4	2750	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	84	277	0.32	>.98	<10%	0.71	7810

Schematics/wiring configurations for delamped combinations, see pages 192 &193.

For equivalent lamp types, all electrical values above can be used.
To calculate system lumens, substitute appropriate lumen value.

Ex: FO30XP/SS: 4 (lamps) X 2850 (lumens) X 0.71 (BF)= 8095 Lumens

Specifications subject to change without notice.

FO28/XV/SS

QUICKSYSTEMS

System Performance Guide

Approved Delamped T8 Linear Fluorescent PROStart® PSX & PSN Systems

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSN-MC	PROStart®	Parallel	26	120	0.22	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSN-MC	PROStart	Parallel	25	277	0.10	>.98	<10%	0.88	2290
FO28/XV/SS	1	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	33	120	0.27	>.98	<10%	1.08	2810
FO28/XV/SS	1	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	32	277	0.12	>.98	<10%	1.08	2810
FO28/XV/SS	1	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.14	2955
FO28/XV/SS	1	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.95	<15%	1.14	2955
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	120	0.18	>.98	<10%	0.72	1870
FO28/XV/SS	1	2600	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	21	277	0.08	>.98	<10%	0.72	1870
FO28/XV/SS	1	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	25	120	0.21	>.98	<10%	0.85	2210
FO28/XV/SS	1	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	25	277	0.10	>.95	<15%	0.85	2210
FO28/XV/SS	1	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	26	120	0.22	>.98	<10%	0.93	2420
FO28/XV/SS	1	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	26	277	0.10	>.96	<17%	0.93	2420
FO28/XV/SS	1	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	33	120	0.27	>.98	<10%	1.00	2600
FO28/XV/SS	1	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	33	277	0.13	>.95	<15%	1.00	2600
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	51	120	0.43	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSN-MC	PROStart	Parallel	50	277	0.18	>.98	<10%	0.88	4575
FO28/XV/SS	2	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	56	120	0.48	>.98	<10%	0.98	5100
FO28/XV/SS	2	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	56	277	0.21	>.98	<10%	0.98	5100
FO28/XV/SS	2	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	61	120	0.51	>.98	<10%	1.06	5510
FO28/XV/SS	2	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	60	277	0.23	>.98	<10%	1.06	5510
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	41	120	0.34	>.98	<10%	0.72	3745
FO28/XV/SS	2	2600	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	40	277	0.15	>.98	<10%	0.72	3745
FO28/XV/SS	2	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	42	120	0.35	>.98	<10%	0.81	4210
FO28/XV/SS	2	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	41	277	0.16	>.95	<15%	0.81	4210
FO28/XV/SS	2	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	51	120	0.42	>.98	<10%	0.87	4525
FO28/XV/SS	2	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	51	277	0.18	>.98	<10%	0.87	4525
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	73	120	0.62	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSN-SC	PROStart	Parallel	72	277	0.27	>.98	<10%	0.88	6865
FO28/XV/SS	3	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	81	120	0.68	>.98	<10%	0.96	7490
FO28/XV/SS	3	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	79	277	0.29	>.98	<10%	0.96	7490
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	60	120	0.50	>.98	<10%	0.71	5540
FO28/XV/SS	3	2600	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	59	277	0.22	>.98	<10%	0.71	5540
FO28/XV/SS	3	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	67	120	0.56	>.98	<10%	0.78	6085
FO28/XV/SS	3	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	66	277	0.24	>.98	<10%	0.78	6085
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	98	120	0.83	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSN-SC	PROStart	Parallel	95	277	0.35	>.98	<10%	0.88	9150
FO28/XV/SS	4	2600	QHE4X32T8/UNV PSX-SC	PROStart	Parallel	79	120	0.66	>.98	<10%	0.71	7385
FO28/XV/SS	4	2600	QTP4X32T8/UNV PSX-SC	PROStart	Parallel	77	277	0.28	>.98	<10%	0.71	7385

Schematics/wiring configurations for delamped combinations, see pages 192 &193.

For equivalent lamp types, all electrical values above can be used.

To calculate system lumens, substitute appropriate lumen value.

Ex: FO28XP/SS: 4 (lamps) X 2725 (lumens) X 0.71 (BF)= 7740 Lumens

Specifications subject to change without notice.

Approved Delamped T8 Linear Fluorescent PROStart® PSX & PSN Systems

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO32/25W/XV/SS	1	2400	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23	120	0.20	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23	277	0.09	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	120	0.25	>.98	<10%	1.08	2590
FO32/25W/XV/SS	1	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.98	<10%	1.08	2590
FO32/25W/XV/SS	1	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	33	120	0.27	>.98	<10%	1.14	2730
FO32/25W/XV/SS	1	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	33	277	0.13	>.95	<15%	1.14	2730
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	20	120	0.16	>.98	<10%	0.72	1730
FO32/25W/XV/SS	1	2400	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1730
FO32/25W/XV/SS	1	2400	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	23	120	0.19	>.98	<10%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	23	277	0.09	>.95	<15%	0.88	2110
FO32/25W/XV/SS	1	2400	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	28	120	0.23	>.98	<10%	0.93	2230
FO32/25W/XV/SS	1	2400	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	28	277	0.11	>.95	<17%	0.93	2230
FO32/25W/XV/SS	1	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	30	120	0.25	>.98	<12%	1.01	2425
FO32/25W/XV/SS	1	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	30	277	0.12	>.95	<17%	1.01	2425
FO32/25W/XV/SS	2	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	45	120	0.38	>.98	<10%	0.88	4225
FO32/25W/XV/SS	2	2400	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44	277	0.16	>.98	<10%	0.88	4225
FO32/25W/XV/SS	2	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	52	120	0.43	>.98	<10%	0.98	4705
FO32/25W/XV/SS	2	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	51	277	0.19	>.98	<10%	0.98	4705
FO32/25W/XV/SS	2	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	120	0.46	>.98	<10%	1.06	5090
FO32/25W/XV/SS	2	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	55	277	0.21	>.95	<15%	1.06	5090
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	38	120	0.31	>.98	<10%	0.72	3455
FO32/25W/XV/SS	2	2400	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	37	277	0.14	>.98	<10%	0.72	3455
FO32/25W/XV/SS	2	2400	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	44	120	0.36	>.98	<10%	0.81	3890
FO32/25W/XV/SS	2	2400	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	43	277	0.16	>.95	<15%	0.81	3890
FO32/25W/XV/SS	2	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	48	120	0.40	>.98	<10%	0.87	4175
FO32/25W/XV/SS	2	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	48	277	0.18	>.95	<15%	0.87	4175
FO32/25W/XV/SS	3	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	67	120	0.56	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	66	277	0.24	>.98	<10%	0.88	6335
FO32/25W/XV/SS	3	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	75	120	0.63	>.98	<10%	0.96	6910
FO32/25W/XV/SS	3	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	74	277	0.27	>.95	<15%	0.96	6910
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	56	120	0.47	>.98	<10%	0.71	5110
FO32/25W/XV/SS	3	2400	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	55	277	0.20	>.98	<10%	0.71	5110
FO32/25W/XV/SS	3	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	62	120	0.52	>.98	<10%	0.79	5690
FO32/25W/XV/SS	3	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	62	277	0.23	>.98	<10%	0.79	5690
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	91	120	0.77	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	89	277	0.33	>.98	<10%	0.88	8450
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	73	120	0.61	>.98	<10%	0.71	6815
FO32/25W/XV/SS	4	2400	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	71	277	0.26	>.98	<10%	0.71	6815

Schematics/wiring configurations for delamped combinations, see pages 192 &193.

For equivalent lamp types, all electrical values above can be used.
To calculate system lumens, substitute appropriate lumen value.

Ex: FO25XP/SS: 4 (lamps) X 2500 (lumens) X 0.71 (BF)= 7100 Lumens

Specifications subject to change without notice.

FO25XP

QUICKSYSTEMS

System Performance Guide

Approved Delamped 3 Foot T8 Linear Fluorescent PROStart® PSX & PSN Systems

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
FO25XP	1	2175	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	23.2	120	0.20	>.98	<10%	0.891	1940
FO25XP	1	2175	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	23.1	277	0.09	>.98	<10%	0.891	1940
FO25XP	1	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	28.3	120	0.24	>.98	<10%	1.085	2360
FO25XP	1	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	28.2	277	0.11	>.95	<15%	1.085	2360
FO25XP	1	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	30.36	120	0.26	>.98	<10%	1.14	2480
FO25XP	1	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	30.85	277	0.12	>.90	<15%	1.14	2480
FO25XP	1	2175	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	120	0.17	>.98	<10%	0.72	1565
FO25XP	1	2175	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	19	277	0.07	>.98	<10%	0.72	1565
FO25XP	1	2175	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	24	120	0.20	>.98	<10%	0.87	1890
FO25XP	1	2175	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.95	<15%	0.87	1890
FO25XP	1	2175	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	27	120	0.23	>.98	<10%	0.93	2025
FO25XP	1	2175	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	27	277	0.11	>.95	<17%	0.93	2025
FO25XP	1	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	30	120	0.25	>.95	<15%	1.02	2220
FO25XP	1	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	30	277	0.12	>.95	<17%	1.02	2220
FO25XP	2	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	44.7	120	0.38	>.98	<10%	0.9	3915
FO25XP	2	2175	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	43.9	277	0.16	>.98	<10%	0.9	3915
FO25XP	2	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	49.68	120	0.42	>.98	<10%	0.99	4305
FO25XP	2	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	49.53	277	0.19	>.95	<10%	0.99	4305
FO25XP	2	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	53.8	120	0.45	>.98	<10%	1.07	4655
FO25XP	2	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	53.8	277	0.20	>.95	<15%	1.07	4655
FO25XP	2	2175	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	37	120	0.31	>.98	<10%	0.73	3175
FO25XP	2	2175	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	37	277	0.13	>.98	<10%	0.73	3175
FO25XP	2	2175	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	43	120	0.35	>.98	<10%	0.81	3525
FO25XP	2	2175	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	43	277	0.15	>.95	<15%	0.81	3525
FO25XP	2	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	46	120	0.39	>.98	<10%	0.89	3870
FO25XP	2	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	46	277	0.17	>.95	<15%	0.89	3870
FO25XP	3	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	65.06	120	0.55	>.98	<10%	0.89	5805
FO25XP	3	2175	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	64.52	277	0.24	>.98	<10%	0.89	5805
FO25XP	3	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	71.1	120	0.60	>.98	<10%	0.97	6330
FO25XP	3	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	70.2	277	0.26	>.95	<10%	0.97	6330
FO25XP	3	2175	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	53	120	0.44	>.98	<10%	0.72	4700
FO25XP	3	2175	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	52	277	0.19	>.98	<10%	0.72	4700
FO25XP	3	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	59	120	0.49	>.98	<10%	0.8	5220
FO25XP	3	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	59	277	0.22	>.95	<15%	0.8	5220
FO25XP	4	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	84.9	120	0.72	>.98	<10%	0.9	7830
FO25XP	4	2175	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	83.8	277	0.31	>.98	<10%	0.9	7830
FO25XP	4	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	70	120	0.59	>.98	<10%	0.72	6265
FO25XP	4	2175	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	69	277	0.25	>.98	<10%	0.72	6265

Schematics/wiring configurations for delamped combinations, see pages 192 &193.

For equivalent lamp types, all electrical values above can be used.

To calculate system lumens, substitute appropriate lumen value.

Ex: FO25XPS: 4 (lamps) X 2200 (lumens) X 0.72 (BF)= 6335 Lumens

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Specifications subject to change without notice.

Approved Delamped 2 Foot T8 Linear Fluorescent PROStart® PSX & PSN Systems

Lamp Type	# of Lamps	Lamp Lumens	Ballast Description	Start Type	Lamp Circuit	System Watts	Input Volts	Input Amps	Power Factor	THD	Ballast Factor	System Lumens
F017XP	1	1375	QHE1x32T8/UNV PSN-MC	PROStart®	Parallel	16	120	0.14	>.98	<10%	0.91	1250
F017XP	1	1375	QHE1x32T8/UNV PSN-MC	PROStart	Parallel	17	277	0.06	>.95	<15%	0.91	1250
F017XP	1	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	20	120	0.17	>.98	<10%	1.10	1510
F017XP	1	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	20	277	0.08	>.90	<15%	1.10	1510
F017XP	1	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	23	120	0.20	>.98	<15%	1.17	1610
F017XP	1	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	23	277	0.10	>.90	<20%	1.17	1610
F017XP	1	1375	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	14	120	0.11	>.98	<10%	0.72	990
F017XP	1	1375	QHE1X32T8/UNV PSX-MC	PROStart	Parallel	14	277	0.05	>.98	<10%	0.72	990
F017XP	1	1375	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	17	120	0.14	>.95	<15%	0.88	1210
F017XP	1	1375	QHE2x32T8/UNV PSX-MC	PROStart	Parallel	17	277	0.07	>.95	<15%	0.88	1210
F017XP	1	1375	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	19	120	0.16	>.95	<15%	0.94	1295
F017XP	1	1375	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	19	277	0.08	>.92	<20%	0.94	1295
F017XP	1	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	23	120	0.19	>.95	<15%	1.02	1405
F017XP	1	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	23	277	0.09	>.90	<19%	1.02	1405
F017XP	2	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	120	0.25	>.98	<10%	0.91	2515
F017XP	2	1375	QHE2x32T8/UNV PSN-MC	PROStart	Parallel	30	277	0.11	>.95	<15%	0.91	2515
F017XP	2	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	120	0.30	>.98	<10%	1.00	2750
F017XP	2	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	35	277	0.14	>.90	<15%	1.00	2750
F017XP	2	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	38	120	0.32	>.98	<10%	1.08	2970
F017XP	2	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	38	277	0.15	>.90	<15%	1.08	2970
F017XP	2	1375	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	24	120	0.21	>.98	<10%	0.72	1980
F017XP	2	1375	QHE2X32T8/UNV PSX-MC	PROStart	Parallel	24	277	0.09	>.97	<10%	0.72	1980
F017XP	2	1375	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	29	120	0.24	>.98	<10%	0.82	2255
F017XP	2	1375	QHE3x32T8/UNV PSX-SC	PROStart	Parallel	29	277	0.11	>.95	<16%	0.82	2255
F017XP	2	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	34	120	0.28	>.98	<10%	0.89	2450
F017XP	2	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	34	277	0.13	>.95	<15%	0.89	2450
F017XP	3	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	44	120	0.37	>.98	<10%	0.90	3715
F017XP	3	1375	QHE3x32T8/UNV PSN-SC	PROStart	Parallel	44	277	0.17	>.95	<15%	0.90	3715
F017XP	3	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	49	120	0.41	>.98	<10%	0.98	4045
F017XP	3	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	49	277	0.19	>.95	<15%	0.98	4045
F017XP	3	1375	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	38	120	0.30	>.98	<10%	0.73	3010
F017XP	3	1375	QHE3X32T8/UNV PSX-SC	PROStart	Parallel	37	277	0.13	>.95	<10%	0.73	3010
F017XP	3	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	43	120	0.36	>.98	<10%	0.80	3300
F017XP	3	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	43	277	0.16	>.95	<15%	0.80	3300
F017XP	4	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	59	120	0.50	>.98	<10%	0.91	5005
F017XP	4	1375	QHE4x32T8/UNV PSN-SC	PROStart	Parallel	59	277	0.22	>.95	<15%	0.91	5005
F017XP	4	1375	QHE4x32T8/UNV PSX-SC	PROStart	Parallel	50	120	0.41	>.98	<10%	0.73	4015
F017XP	4	1375	QTP4x32T8/UNV PSX-SC	PROStart	Parallel	49	277	0.18	>.98	<10%	0.73	4015

Schematics/wiring configurations for delamped combinations, see pages 192 &193.

For equivalent lamp types, all electrical values above can be used.
To calculate system lumens, substitute appropriate lumen value.

Ex: F017XPS: 4 (lamps) X 1400 (lumens) X 0.73 (BF)= 4890 Lumens

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Building Upon Our Commitment to Sustainability and Environmental Responsibility.

OSRAM SYLVANIA is committed to using fewer natural resources, saving energy for our customers, reducing our carbon footprint, and facilitating the recycling of lamps and other materials to avoid millions of pounds of waste in landfills. It's part of our Global Care commitment to social and environmental responsibility. For example, we've eliminated the use of lead in many of our manufacturing processes, while continuing a commitment to maintaining production in the US.

Lead-Free Manufacturing

- **Fluorescent manufacturing in Versailles, Kentucky**
  - Lead-free glass
  - Lead-free solder
  - Lead-free lamps
    - OCTRON® T8
    - T12 ECOLOGIC®
    - PENTRON® T5*
- **HID manufacturing in Manchester, New Hampshire**
  - Lead-free glass
  - Lead-free solder
  - Lead-free lamps
    - METALARC® POWERBALL® Ceramic ECOLOGIC
    - METALARC and METALARC Pulse Start ECOLOGIC**
    - LUMALUX® and LUMALUX PLUS® ECOLOGIC
- **Electronic ballast manufacturing**
  - RoHS Compliant***
  - Lead-free solder
  - Lead-free printed circuit boards

Made in the USA

- **OSRAM SYLVANIA operates 12 manufacturing facilities in the USA**

* Trace amount of lead exists in the pins
** 175W has trace amount of lead
*** Meets European Union Reduction of Hazardous Substances Directive (Directive 2002/95/EC)

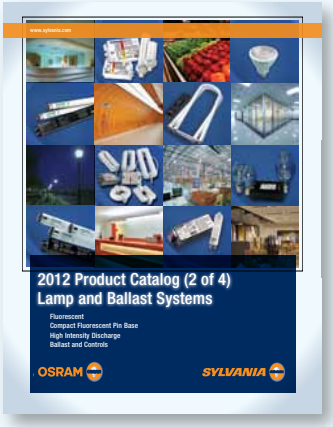
ECOLOGIC®

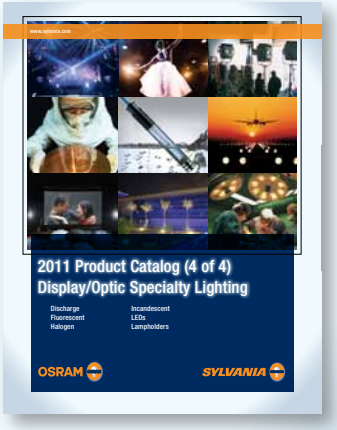
RoHS compliant
This light source meets restrictions on hazardous substances.

LEAD-FREE

We wrote the books on innovative lighting solutions.

Our four Product Catalogs provide specifications on more than 3000 SYLVANIA and OSRAM branded products. All are designed and manufactured to the highest possible standards to best suit your lighting applications. And all are backed by OSRAM SYLVANIA, the industry leader in lighting solutions for over a century.





QUICK 60+®
Limited Warranty

Subject to change without notice.

The Heart of a Comprehensive System Service Program

Compare lighting system warranties – you'll see that our QUICK 60+ warranty offers better coverage, more service options and, more important, peace of mind.

Combination Lamp and Ballast System Limited Warranty

OSRAM SYLVANIA Inc. (OSRAM SYLVANIA) warrants SYLVANIA lamps installed on QUICKTRONIC® ballasts to be free from defects in material and workmanship and to operate from the date of installation (or date of manufacture if installation date is not known or available) for the time periods and subject to the Terms and Conditions specified below.

If lamps fail to operate for the warranty period, OSRAM SYLVANIA will provide a free replacement lamp (but no labor allowance). If a QUICKTRONIC ballast fails to operate within the warranty period, OSRAM SYLVANIA will provide a free replacement ballast and labor allowance in accordance with the "Labor Options" set forth below.

System[3,4,5]	Lamp	Ballast Warranty Period[8]	Lamp Warranty Period*
QUICKTRONIC T8[1]	OCTRON® Family	60 mos.	30 mos.
QUICKTRONIC T8[1]	OCTRON XPS®, XP® & XP/SS, XV™ & XV/SS[2,3]	60 mos.	36 mos.
QUICKTRONIC T8[1]	OCTRON XP/XL & XP/XL/SS Family	60 mos.	60 mos.
QUICKTRONIC T8 High Ambient[1,9]	OCTRON XP, XP/SS[2,3]	36/60 mos.@<90°/70°C	36 mos.
QUICKTRONIC 59	OCTRON FO96/XP, XP/SS, XV & XV/SS	60 mos.	30 mos.
QUICKTRONIC 59	OCTRON FO96	60 mos.	24 mos.
QUICKTRONIC 86/T8HO High Ambient[1]	OCTRON FO96HO	36/60 mos.@<90°/70°C	30 mos.
QUICKTRONIC T5, T5/HO[1]	PENTRON® Family[10]	60 mos.	24 mos.
QUICKTRONIC 54T5/HO[1]	PENTRON FP54/HO, FP54/C/HO, PF54/HO/SS	60 mos.	36 mos.
	PENTRON HO/XL	60 mos.	60 mos.
QUICKTRONIC 54T5HO High Ambient[1]	PENTRON FP54/HO, FP54/C/HO, FP54/HO/SS	36/60 mos.@<90°/70°C	36 mos.
	PENTRON HO/XL	60 mos.	60 mos.
QUICKTRONIC ICE[1,5]	ICETRON®	60 mos.	60 mos.
QUICKTRONIC 54PHO & DL40	DULUX® FT55DL, FT40DL & FT40DL/SS Family	60 mos.	24 mos.
QUICKTRONIC CF[1]	DULUX D/E, D/E/SS, T/E, T/E/IN, T/E/IN/SS T/E/C	60 mos.	24 mos.
QUICKTRONIC MH[7]	METALARC® Family[6] (7K-12K hrs. avg. rated life)	36/60 mos.	6 mos.
QUICKTRONIC MH[7]	METALARC Family[6] (15K-20K hrs. avg. rated life)	36/60 mos.	12 mos.
QUICKTRONIC HPS[7]	LUMALUX® Family[6] (≥30K hrs. avg. rated life)	36/60 mos.	24 mos
QUICKTRONIC 96IS/96HO & 40T12	N/A	60 mos.	N/A

*Note: Fluorescent lamp warranty periods are based on a 3 hour minimum cycle, unless otherwise noted, with a maximum of 4400 hours per year. Other operating cycles may affect warranty period. Lamp warranty can renew when installation is group relamped, contact OSRAM SYLVANIA for details.

1 Occupancy sensor application, 10 minute/start minimum, allowed with QUICKTRONIC PROStart® and with QUICKTRONIC ICE ballasts.
2 OCTRON SUPERSAVER® bi-pin lamps operate on many of our QUICKTRONIC® T8 electronic ballasts, see specs for details.
3 QUICKTRONIC, Professional Series and High Efficiency Series including all IS, PS & DIM models where applicable.
4 Labor options must be pre-approved by OSRAM SYLVANIA. Any labor option or cost that is not pre-approved will not be eligible for reimbursement.
5 QUICKTRONIC ballasts and ICETRON lamp warranty period allows up to 8760 hrs per year (continuous operation).
6 Contact OSRAM SYLVANIA for detailed specifications of METALARC and LUMALUX lamps.
7 QUICKTRONIC MH and HPS ballasts warranty is 36 or 60 months, depending on maximum case temperature. Refer to product specifications for details. Electronic HID system warranty period is based on a minimum cycle of 10hr/start up to a maximum operation of 6,000 hours/year.
8 Maximum Case Temp. <70°C, for normal environmental operating conditions (40°C max. ambient) unless noted. Refer to product specifications for details.
9 QUICKTRONIC T8 High Ambient (HT) Series
10 PENTRON 14, 21, 28 and 35W and PENTRON HO 24, 39 and 80W.

TERMS AND CONDITIONS

SYLVANIA lamps and QUICKTRONIC ballasts must be installed together as a system and be installed and operated under suitable environmental conditions and in accordance with the latest National Electrical Code, Underwriters Laboratory Bulletins, and ANSI Specifications. **This warranty will not apply in the event of conditions demonstrating abnormal use or stress, such as operating temperatures in excess of maximum rated temperatures, under/over voltage conditions, excessive switching cycles (see above Note #1) or operating hours, dirty or cracked sockets, or improper lamp or ballast installation.** Replacement of SYLVANIA lamps with lamps of other manufacturers will void the lamp portion of this warranty. Replacement of the QUICKTRONIC ballast with any other ballast will void the entire warranty.

WARRANTY ACTIVATION / SERVICE CLAIMS

The QUICK 60+ warranty is automatically activated after OSRAM SYLVANIA receives a completed QUICK 60+ warranty registration form within 30 days after installation. An acknowledgment will be sent for each registration along with a reference number for future correspondence. Service claims can be made by contacting 1-800-654-0089 to initiate the process for problem resolution.

LABOR OPTIONS (Ballast only and ICETRON lamps only)

No labor allowance is made for any lamp replacement except ICETRON, during the warranty period. OSRAM SYLVANIA will provide one of the following labor options for service under the QUICK 60+ warranty program, at OSRAM SYLVANIA's discretion.

1. OSRAM SYLVANIA will provide full service coverage through SYLVANIA LIGHTING SERVICES at no cost to the user of the ballast, or
2. OSRAM SYLVANIA will contact a service provider and coordinate replacement at no cost to the user of the ballast, or
3. OSRAM SYLVANIA will reimburse the purchaser reasonable, customary and necessary labor charges required to install the ballast replacement.
4. Labor options must be pre-approved by OSRAM SYLVANIA. Any labor option or cost that is not pre-approved will not be eligible for reimbursement.

RETURN OF DEFECTIVE PRODUCT

After contacting OSRAM SYLVANIA and receiving a RETURN MATERIAL AUTHORIZATION NUMBER, the user shall promptly return the product at the user's expense to OSRAM SYLVANIA after receiving instructions as to if, when and where to ship product. Failure to follow this procedure shall void this warranty.

REPLACEMENT OF PRODUCT, LIMITS OF LIABILITY

The foregoing shall constitute the sole and exclusive remedy of the purchaser and the sole and exclusive liability of OSRAM SYLVANIA. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. OSRAM SYLVANIA will not, under any circumstance, whether as a result of breach of contract or warranty, tort, or otherwise, be liable for any incidental, special or consequential damages, including lost profits or revenues or any other costs or damages.

OSRAM SYLVANIA reserves the right to examine all failed lamps and/or ballasts and reserves the right to be the sole judge as to whether any lamps and/or ballasts are defective and covered under this warranty.

QUESTIONS? Please call customer service at 1-800-654-0089 or contact your local OSRAM SYLVANIA representative.

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SYLVANIA Online Forms

QUICK 60+

LIMITED WARRANTY

Please fill in the fields below to register any installation featuring QUICKTRONIC ballast systems.
The warranty coverage begins from the date of installation, but you must register an installation in order to receive warranty service.

Note: If you have more than 10 locations to register, please use the following excel template Download Template. Email your completed file to e-business-support@sylvania.com

Contact Person to return registration # to:

Company Name
First Name
Last Name
Address 1
City
Address 2
State/Province
Zip/ Postal Code
Telephone #
Email address

Location Information:

If same as contact information above, check here:
Location Name
Store #
Address 1
City
Address 2
State/Province
Zip/ Postal Code
Market Segment
please select one

Installation Details:

Distributor
Installer
Installation Date
mm/dd/yyyy
Lamp Type Registering
please select one
Operating Hours
please select one
Occupancy Sensors*
Yes
No
Operating Days/week
please select one
Dimming*
Yes
No
*check with OSRAM SYLVANIA when using occupancy sensors or dimming, as some situations may void the warranty
Lamp Starts/Day
please select one

	Ballast Description (Click here for the General Product Catalog)	NAED #	Quantity	Lamp Description	NAED #	Quantity
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

For warranty registration visit

www.sylvania.com/Warranty

Any other comments concerning your request:

To send the email, please click "SUBMIT" button below; to start over, click "CLEAR FORM" button below.

PRINT SUBMIT CLEAR FORM

Click here to see a list of terms and conditions.

Specifications subject to change without notice.

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Trade
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Fax: 800-255-5043

National Accounts
Phone: 800-562-4671
Fax: 800-562-4674

OEM/Special Markets
Phone: 800-762-7191
Fax: 800-762-7192

Retail
Phone: 800-842-7010
Fax: 800-842-7011

SYLVANIA Lighting Services
Phone: 800-323-0572
Fax: 800-537-0784

Display/Optic
Phone: 888-677-2627
Fax: 855-543-1043

www.sylvania.com

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Mississauga, ON L5S 1S4
1-800-LIGHTBULB

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Phone: 800-263-2852
Fax: 800-667-6772

OEM/Special Markets/Display/Optic
Phone: 800-265-2852
Fax: 800-667-6772

Retail
Phone: 800-720-2852
Fax: 800-667-6772

SYLVANIA Lighting Services
Phone: 800-663-4268
Fax: 866-239-1278

Mexico
OSRAM MEXICO
Tultitlan/Edo de Mexico
Phone: 011-52-55-58-99-18-500

ENCELIUM Technologies
United States
Phone: 201-928-2400
Fax: 201-928-4028

Canada
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