

# QUICKTRONIC® POWERSENSE® T5HO UNV Dimming Systems



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

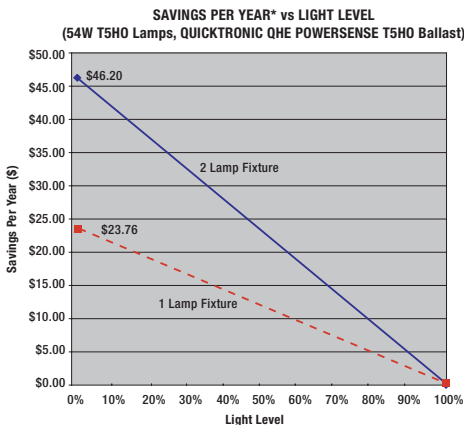
QUICKTRONIC POWERSENSE ballasts operate from standard low voltage (0-10VDC) controllers or compatible 2-wire power line fluorescent dimmers, making them ideal for individual office lighting or automated building applications, both in new construction and retrofit projects.

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.

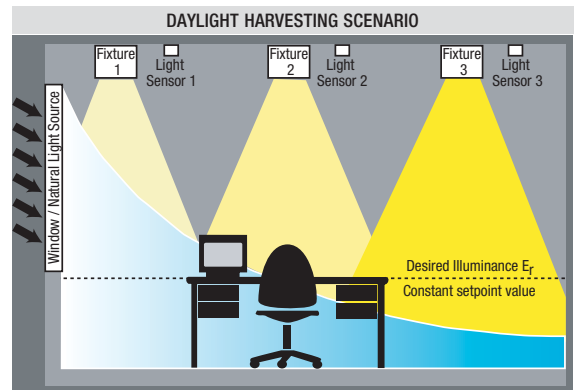
For more advanced systems, such as daylight harvesting or building automation applications, standard low voltage devices

(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.



\*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



**SPECIFICATION DATA**

Catalog #	Date	Type
Project	Prepared by	
Comments		

**High Efficiency, T5HO Controllable Lighting Systems, Universal Voltage (120-277V)**



Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated <sup>1</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input <sup>2</sup> Power (W) 120V 277V	System Efficacy (lm/W)	BEF <sup>3</sup>
51468	QHE1x54T5HO/UNV DIM-TC 10-pack	0.51/0.21	FP54T5HO	5000	1	1.00	5000	4650	62 60 8 8	83	1.67
		0.51/0.21	FT55DL	4800	1	1.00	4800	4465	62 60 8 8	80	1.67
		0.51/0.21	L58	5200	1	1.00	5200	4835	62 60 8 8	87	1.67
		0.51/0.21	FPC55	4000	1	1.00	4000	3725	62 60 8 8	67	1.67
51467	QHE2x54T5HO/UNV DIM-TCL 10-pack	1.00/0.42	FP54T5HO	5000	2	1.00	10,000	9300	120 116 15 15	86	0.86
		1.00/0.42	FT55DL	4800	2	1.00	9600	8930	120 116 15 15	83	0.86
		1.00/0.42	L58	5200	2	1.00	10,400	9670	120 116 15 15	90	0.86
		1.00/0.42	FPC55	4000	2	1.00	8000	7440	120 116 15 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.

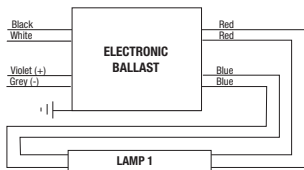
**Installation Notes**

**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.

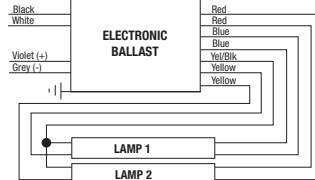
wires as shown on the applicable ballast diagram.

**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

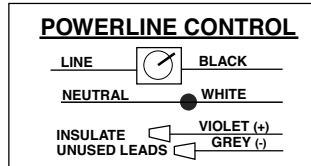
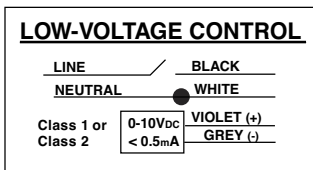
1 lamp



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<sup>4</sup>  
**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\*  
 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**  
**National Customer**  
**Service and Sales Center**  
 1-800-LIGHTBULB  
 (1-800-544-4828)  
 www.sylvania.com



**POWERSENSE  
T5HO DIM**