

# QUICKTRONIC® HELIOS™ T5HO Dimming (0-10V) Systems



**Fluorescent Controllable Lighting Systems**

## Professional Series

**HELIOS T5HO DIM**

### 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

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.



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.

### 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

### 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 overheated 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.

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.

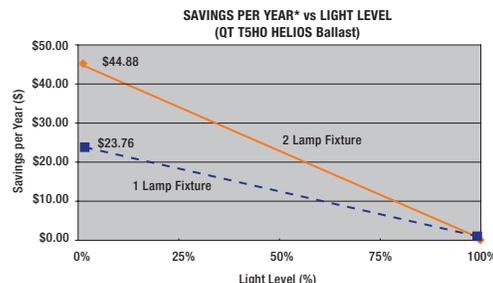
A complete OSRAM SYLVANIA System Performance Guide showing performance characteristics of lamps and ballasts is available upon request.

### Application Information

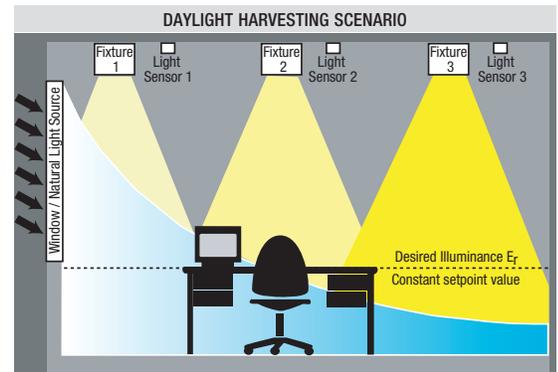
#### SYLVANIA QUICKTRONIC HELIOS T5HO ballasts

are ideally suited for:

- Architectural dimming
- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding



\* 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)



**SPECIFICATION DATA**

Catalog #	Date	Type
Project	Prepared by	
Comments		

# HELIOS

## Wiring Examples



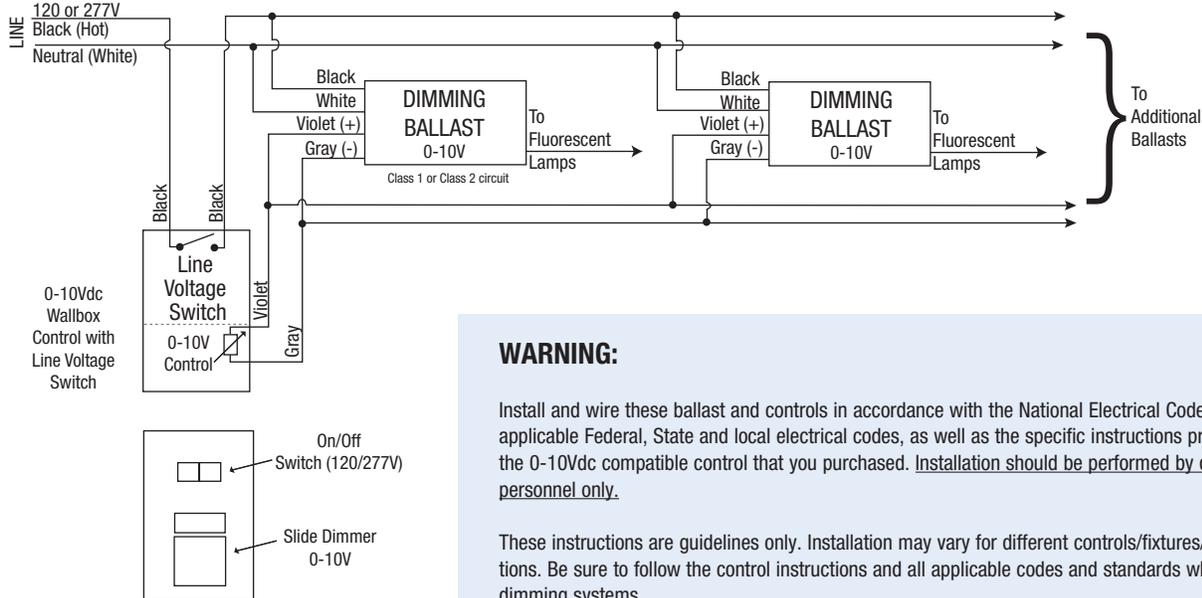
### 0-10V Dimming Control Wiring for QUICKTRONIC® HELIOS™ Systems

#### Wallbox Style Control Wiring Example

0-10V CONTROL WIRING

### 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.

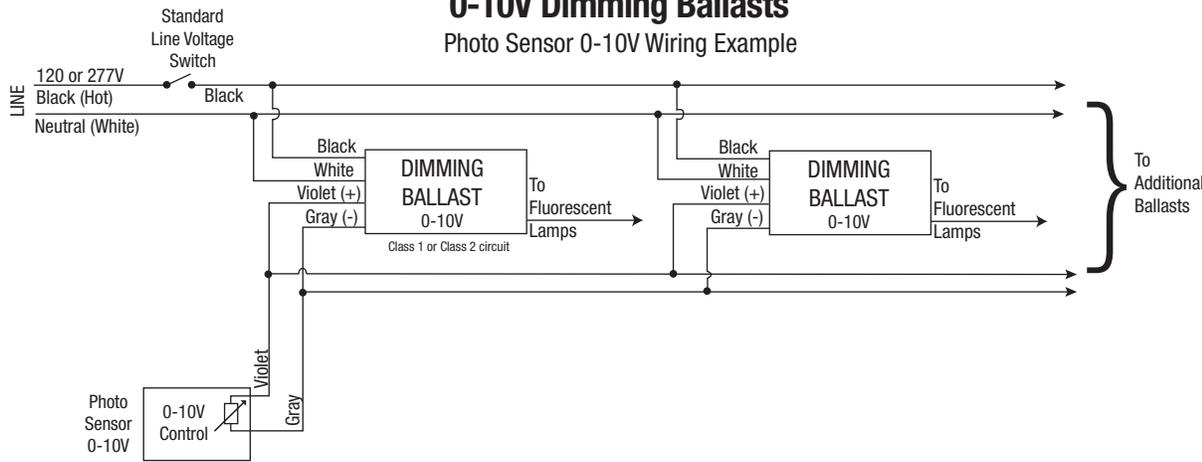
**Please contact controls manufacturer listed in the OSRAM SYLVANIA Inc. controls cross reference for compatible controls and instruction wiring**

**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



Specifications subject to change without notice.

**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
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](http://www.sylvania.com)  
Also for more information, refer to the LCA (Lighting Controls Association) site: <http://lightingcontrolsassociation.org>

**0-10 Volt**

**Controls List**

**Controls Guide**



**0-10V CONTROLS**

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

**OSRAM SYLVANIA**  
National Customer Service and Sales Center  
1-800-LIGHTBULB  
(1-800-544-4828)  
[www.sylvania.com](http://www.sylvania.com)

**Control Specifications/model numbers may change. Please consult manufacturers listed for their latest control models and to order their controls.**



**SPECIFICATION DATA**

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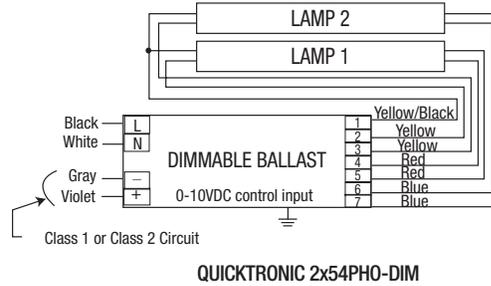
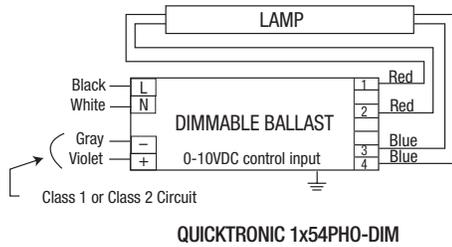
**HELIOS™ (0-10V) T5HO Controllable Lighting Systems**



Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated <sup>1</sup> Lumens (lm)	No. of Lamps	Ballast <sup>1</sup> Factor (BF)	System <sup>1</sup> Lumens	Input <sup>1</sup> Wattage (W)	System Efficacy (lm/W)	BEF <sup>2</sup>
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

<sup>1</sup> At 35°C lamp ambient temperature

<sup>2</sup> Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power



**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:**

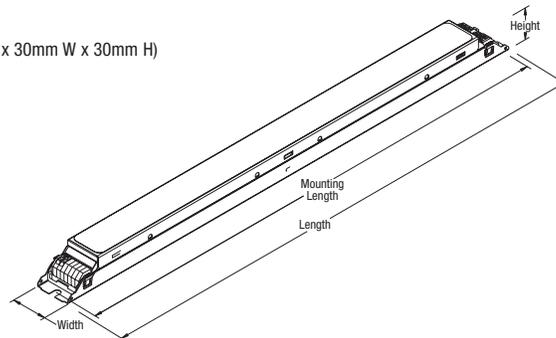
Push-in connectors

Use 18AWG solid copper wire only

**Product Weight:**

Quantity: 20 pcs./case (no leads provided)

Weight: 1.0 lbs ea. (approx.)



**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**

**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<sup>4</sup>  
 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

<sup>3</sup> Data based on PENTRON HO lamp type. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology & Specification Guide for other lamp combinations.

<sup>4</sup> 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.

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

Specifications subject to change without notice.

**HELIOS™ T5HO DIM**

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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