

# QUICKTRONIC® PROStart® T5HO Universal High Ambient Temp.

## Professional Series

### Lamp / Ballast Guide

54W T5 - PENTRON® HO

1 or 2 lamp

QTP2x54T5HO/UNV PSN HT

QTP4x54T5HO/UNV PSN HT W

3 or 4 lamp

QTP4x54T5HO/UNV PSN HT W

Also operates:

FT50DL, FT55DL, FPC55, L58

Four lamp switchable model can be wired for four, three, two or one lamp operation.

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

### Key System Features

- 90°C maximum case temp.
- Universal voltage (120-277V)
- Low-profile (1.00" High)
- 100% Ballast factor
- 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 >40 kHz to reduce potential interference with infrared control systems
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC



### Application Information

#### SYLVANIA QUICKTRONIC PHO HT

is ideally suited for:

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

SYLVANIA QUICKTRONIC HIGH AMBIENT (HT) PHO operates PENTRON HO, PENTRON HO Circline, and DULUX® L T5 lamps with full lumen output and optimal system performance.

SYSTEM PHO High Ambient Temperature 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 and 400W metal halide installations.

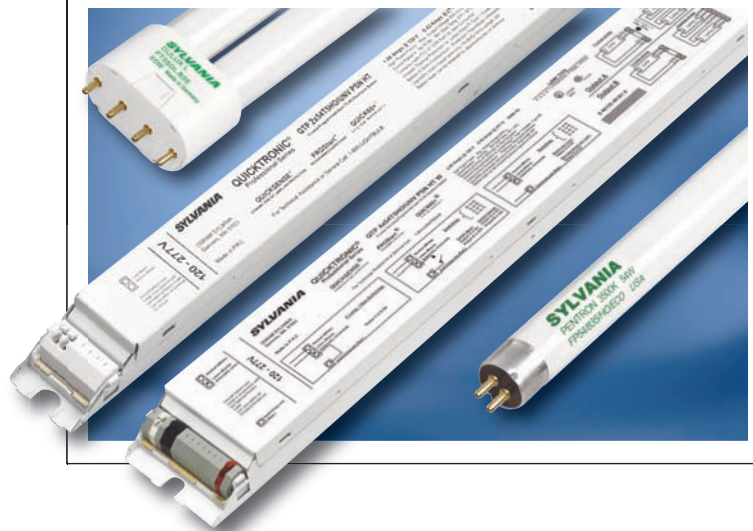
Unique to the family is the 120-277V 4-lamp "switching" ballast, designed to switch from 4- to 2-, 3- to 2-, 3- to 1- or 2- to 1-lamps. The switching feature can be accessed through a second input power

### System Information

System PHO HT operates on 120V through 277V, 50 or 60Hz current, eliminating "wrong voltage" wiring errors and reducing the number of ballast models in inventory by half.

PROStart ballasts provide optimum starting conditions and 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 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.



terminal. This feature allows for a range of control interfaces, including an occupancy sensor, mounted inside a fixture.

SYSTEM PHO HT ballasts contain QUICK-SENSE® ballast technology, a patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.

Setting the standard for quality, SYSTEM PHO HT is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

SYSTEM PHO HT is available in four and two lamp models to cover a wide range of applications.

System Type	Input Power (W)	Initial System Lumens	System Efficacy LPW
F40T12 - E.S. Magnetic Ballast (4-lamp)	172	11590	67
F34T12 - E.S. Magnetic Ballast (4-lamp)	144	9500	66
F032T8/XP - QT4x32IS (4-lamp)	114	10800	95
FP54T5HO - QTP2x54T5HO/UNV PSN HT (2-lamp)	121	10000	83
FP54T5HO - QTP4x54T5HO/UNV PSN HTW (4-lamp)	241	20000	83

The four lamp unit can be wired for four, three, two or one lamp operation. The two lamp unit can be wired for one lamp operation, allowing for an additional 50% reduction in inventory model numbers.

SYSTEM PHO HT has a 25.4H (mm) profile. PENTRON T5 lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.



## SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

## High Ambient Universal Voltage (120-277V)

Item Number	Description	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>1</sup> Lumens (lm)	No. of Lamps	Ballast <sup>1</sup> Factor (BF)	System <sup>1</sup> Lumens	Mean <sup>1</sup> Lumens	Input <sup>1</sup> Power (Watts)	System Efficacy (lm/W)	BEF <sup>2</sup>
QTP 2x54 T5HO Fixed Output BF 1.0											
49136	QTP 2x54T5HO/UNV PSN HT	1.00/0.43	FP54T5HO	5000	2	1.00	10000	9300	121/118	83/85	0.85
(49135)*					1	1.00	5000	4650	61	82	1.64
QTP 4x54 T5HO Switchable Model											
49161	QTP 4x54T5HO/UNV PSN HTW	2.00/0.85	FP54T5HO	5000	4	1.00	20000	18,600	241/236	83/85	0.42
(49160)**					3	1.00	15000	13,950	182/178	83/85	0.56
					2	1.00	10000	9300	121/118	83/85	0.85
					1	1.00	5000	4650	61	82	1.64

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).

\*(49135) QTP 2x54T5HO/UNV PSN HT: same as 49136, with leads.

\*\* (49160) QTP 4x54T5HO/UNV PSN HTW: same as 49161, with leads.

## Installation Notes

Switching: Simultaneously disconnect all ungrounded line conductors.  
Install in accordance with National & Local Electric Code. Ground ballast case.

### Dimensions:

Model QTP2x54 T5HO/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

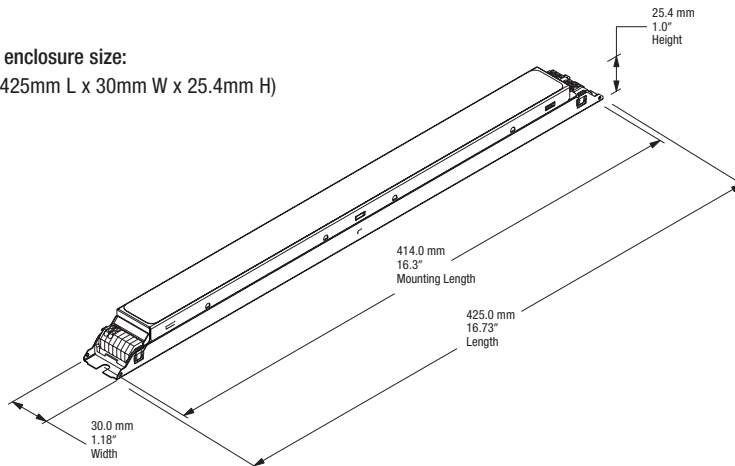
Use 18AWG solid copper wire only

See page 66 for wiring diagram.

### Packaging:

Quantity: 20 (2-lamp)

Weight: 2L: 0.88 lbs each (approx)



### Dimensions:

Model QTP4x54 T5HO/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

See page 67 for wiring diagram.

### Packaging:

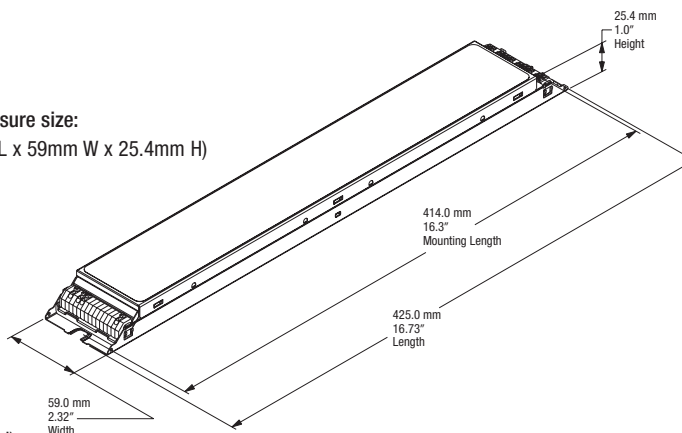
Quantity: 2-Lamp: 20 (no leads)

10 (with leads)

4-Lamp: 10 (leaded and non-leaded)

Weight: 2L: 0.88 lbs, 0.40kg each (approx)

4L: 1.68 lbs, 0.76kg 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

High Ambient Temp.

**T5HO** PROStart®

Professional Series

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<sup>3</sup>

Starting Method: Programmed  
Rapid Start

Ballast Factor: 1.00

Circuit Type: Series

Lamp Frequency: >40 kHz

Lamp CCF: Less than 1.6

Starting Temp: -20°F (-29°C) min.<sup>4</sup>

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<sup>4</sup>

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

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.

## System Life / Warranty

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

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the system solution®

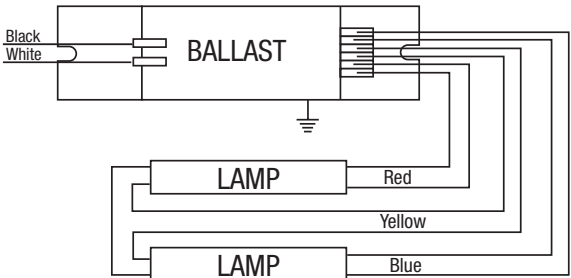
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

<10% THD Electronic 2 Lamp T5HO High Ambient Fluorescent Systems

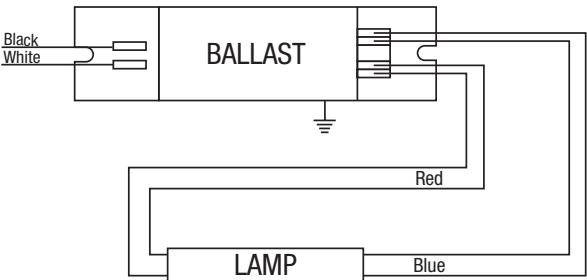
High ambient model (90°C case temp.)  
49136 QTP 2x54T5HO/UNV PSN HT

Wiring diagram for 2-Lamp model



2 LAMP

2-Lamp model can be wired for one lamp operation.



1 LAMP

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

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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

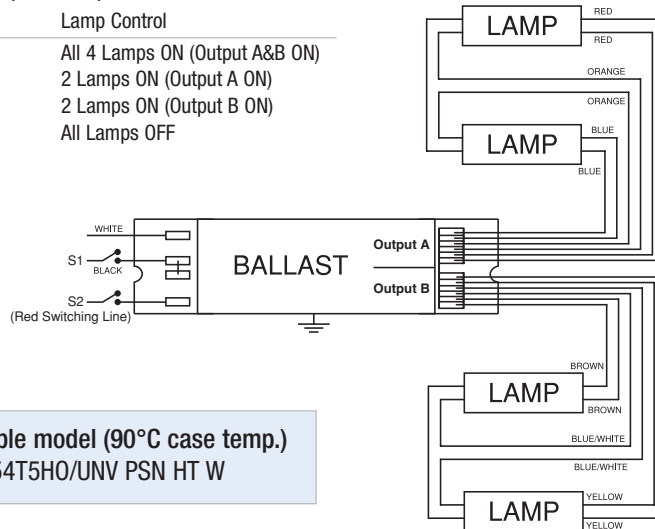
## SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

## <10% THD Electronic 4 Lamp T5HO High Ambient Fluorescent Systems

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

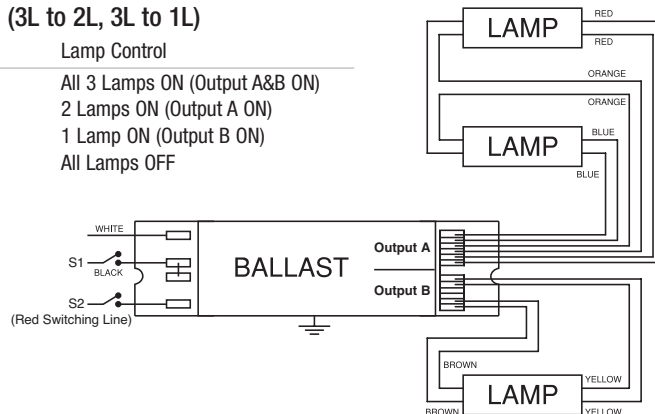
S1 (Output A)	S2 (Output B)	Lamp Control
Closed (ON)	Closed (ON)	All 4 Lamps ON (Output A&B ON)
Closed (ON)	Open (OFF)	2 Lamps ON (Output A ON)
Open (OFF)	Closed (ON)	2 Lamps ON (Output B ON)
Open (OFF)	Open (OFF)	All Lamps OFF



**High ambient switchable model (90°C case temp.)**  
49161 QTP 4x54T5HO/UNV PSN HT W

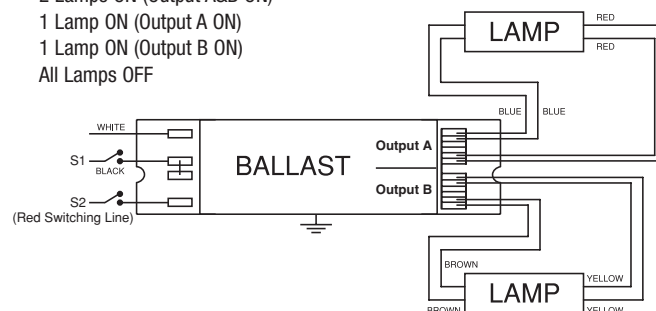
### 3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

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

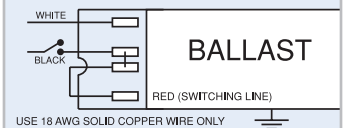
### Switching Schematics



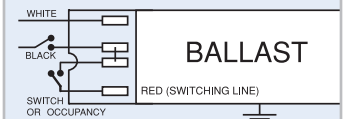
### Installation Notes

- 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)



Input wiring for occupancy sensors  
(Install occupancy sensor/switch between black & red line terminals)



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