

# QUICKTRONIC® PROStart® T5HO

UNV High Ambient Temp. Systems  
Professional Series



**Type CC**  
**Programmed Rapid Start Systems**  
**Normal Ballast Factor HT**

QTP T5HO  
PSN HT

## 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 (-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, printed circuit board and manufacturing process



## Application Information

### 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

### 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

## 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.



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.

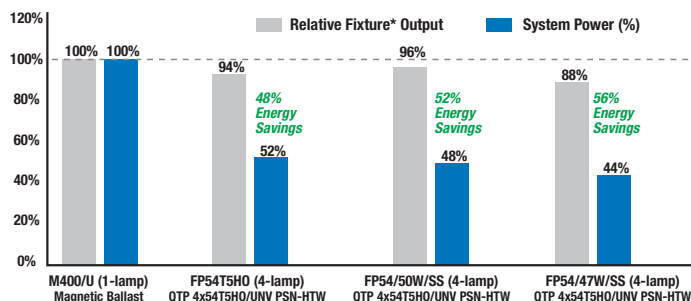
Setting the standard for quality, QUICKTRONIC PROStart T5HO HT systems are covered by the QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

| System Type                                      | Input System Power (W) | Initial Fixture* LPW | Mean Fixture* Lumens | Relative Fixture* Output | Energy Savings (%) |
|--------------------------------------------------|------------------------|----------------------|----------------------|--------------------------|--------------------|
| M400/U (1-lamp)<br>Magnetic Ballast              | 452                    | 61                   | 17,784               | Baseline                 | Baseline           |
| FP54T5HO (4-lamps)<br>QTP4x54T5HO/UNV PSN-HTW    | 236                    | 76                   | 16,740               | 94%                      | 48%                |
| FP54/50W/SS (4-lamps)<br>QTP4x54T5HO/UNV PSN-HTW | 215                    | 85                   | 17,075               | 96%                      | 52%                |
| FP54/47W/SS (4-lamps)<br>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



SPECIFICATION DATA

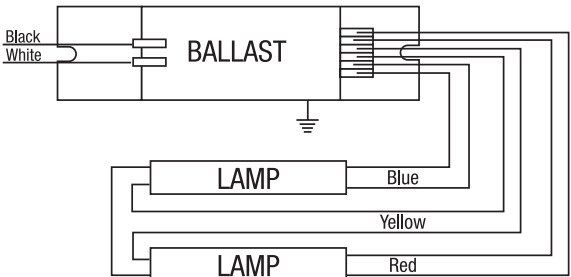
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|-----------|-------------|------|
| Catalog # | Date        | Type |
| Project   | Prepared by |      |
| Comments  |             |      |

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



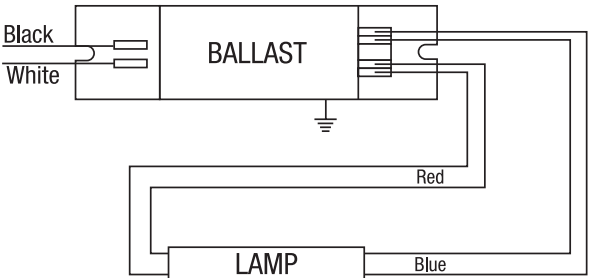
High ambient model (90°C case temp.)  
49136 QTP 2x54T5H0/UNV PSN HT

Wiring diagram for 2-Lamp model



2 LAMP

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



1 LAMP

2 LAMP T5H0 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

Item Number \_\_\_\_\_ 49136 QTP 2 x 54 T5H0 / UNV PSN HT \_\_\_\_\_ High Ambient Temperature (Case)  
QUICKTRONIC PROFESSIONAL \_\_\_\_\_ Starting/Ballast Factor  
Number of Lamps (1, 2) \_\_\_\_\_ Line Voltage (120-277V)  
\_\_\_\_\_ Primary Lamp Wattage

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1-800-LIGHTBULB

Specifications subject to change without notice.

# SPECIFICATION DATA

|           |             |      |
|-----------|-------------|------|
| Catalog # | Date        | Type |
| Project   | Prepared by |      |
| Comments  |             |      |

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



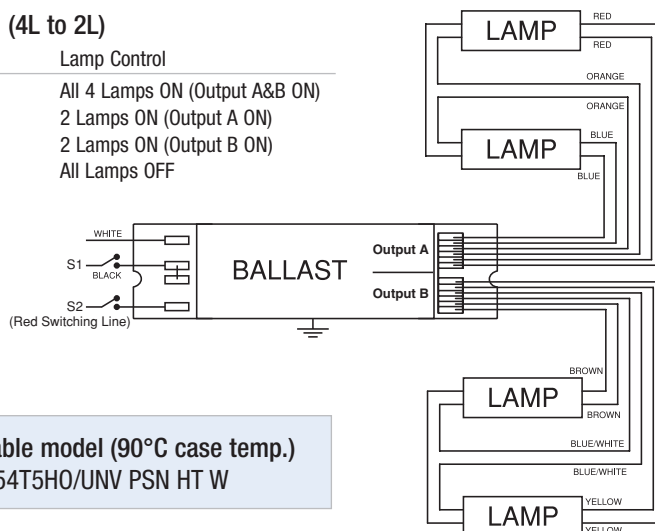
## 4 LAMP T5HO UNV HT Switchable Ballast

### Professional Series

### Switching Schematics

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

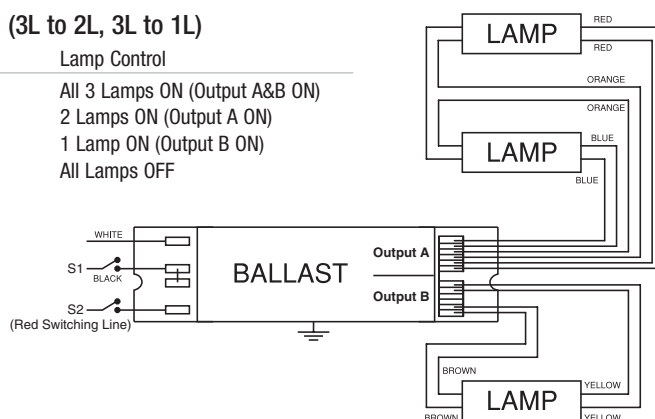
| S1 (Output A) | S2 (Output B) | Lamp Control                   |
|---------------|---------------|--------------------------------|
| Closed (ON)   | Closed (ON)   | All 4 Lamps ON (Output A&B ON) |
| Closed (ON)   | Open (OFF)    | 2 Lamps ON (Output A ON)       |
| Open (OFF)    | Closed (ON)   |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

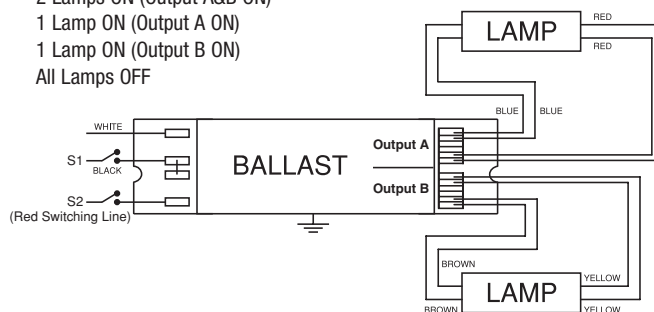
#### 3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

| 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)

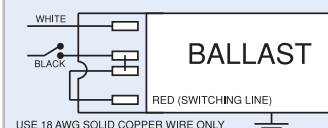
| S1 (Output A) | S2 (Output B) | Lamp Control               |
|---------------|---------------|----------------------------|
| Closed (ON)   | Closed (ON)   | 2 Lamps ON (Output A&B ON) |
| Closed (ON)   | Open (OFF)    | 1 Lamp ON (Output A ON)    |
| Open (OFF)    | Closed (ON)   | 1 Lamp ON (Output B ON)    |
| Open (OFF)    | Open (OFF)    | All Lamps OFF              |



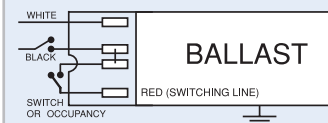
### Installation Notes

- 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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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

## SPECIFICATION DATA

|           |             |      |
|-----------|-------------|------|
| Catalog # | Date        | Type |
| Project   | Prepared by |      |
| Comments  |             |      |

## Type CC, 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 (W) 120V 277V | System Efficacy (lm/W) | BEF <sup>2</sup> |
|-----------------------------------|-------------------------|----------------------|------------------------|--------------------------------|--------------|----------------------------------|----------------------------|--------------------------|----------------------------------------|------------------------|------------------|
| QTP 2x54 T5HO Fixed Output BF 1.0 |                         |                      |                        |                                |              |                                  |                            |                          |                                        |                        |                  |
| 49136<br>(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             |
|                                   |                         | <b>0.89/0.38</b>     | <b>FP54/47W/SS</b>     | <b>4575</b>                    | <b>2</b>     | <b>1.02</b>                      | <b>9335</b>                | <b>8680</b>              | <b>106 103</b>                         | <b>91</b>              | <b>0.99</b>      |
|                                   |                         | 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             |
|                                   |                         | <b>0.45/0.21</b>     | <b>FP54/47W/SS</b>     | <b>4575</b>                    | <b>1</b>     | <b>1.03</b>                      | <b>4710</b>                | <b>4380</b>              | <b>54 53</b>                           | <b>89</b>              | <b>1.94</b>      |
| 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             |
|                                   |                         | <b>1.72/0.75</b>     | <b>FP54/47W/SS</b>     | <b>4575</b>                    | <b>4</b>     | <b>1.02</b>                      | <b>18,665</b>              | <b>17,360</b>            | <b>205 200</b>                         | <b>93</b>              | <b>0.51</b>      |
|                                   |                         | 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             |
|                                   |                         | <b>1.34/0.58</b>     | <b>FP54/47W/SS</b>     | <b>4575</b>                    | <b>3</b>     | <b>1.04</b>                      | <b>14,275</b>              | <b>13,275</b>            | <b>161 158</b>                         | <b>90</b>              | <b>0.66</b>      |
|                                   |                         | 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             |
|                                   |                         | <b>0.88/0.39</b>     | <b>FP54/47W/SS</b>     | <b>4575</b>                    | <b>2</b>     | <b>1.03</b>                      | <b>9425</b>                | <b>8765</b>              | <b>105 104</b>                         | <b>91</b>              | <b>0.99</b>      |
|                                   |                         | 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             |
|                                   |                         | <b>0.47/0.25</b>     | <b>FP54/47W/SS</b>     | <b>4575</b>                    | <b>1</b>     | <b>1.06</b>                      | <b>4850</b>                | <b>4510</b>              | <b>55 54</b>                           | <b>90</b>              | <b>1.96</b>      |

<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 (Note: calculation based on lowest wattage value).

<sup>3</sup> 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

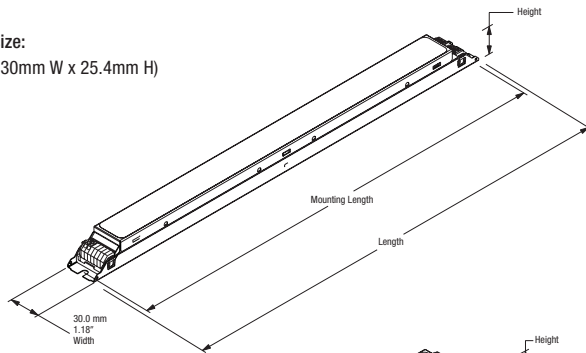
### Quantity:

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

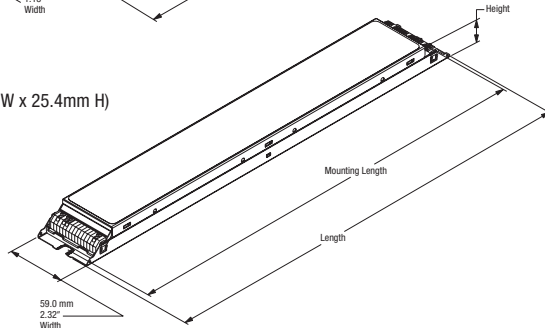
Use 18AWG solid copper wire only

### 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

## Normal Ballast Factor

# 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>4</sup>

Starting Method: Programmed

Rapid Start

Ballast Factor: 1.00 (see table)

Circuit Type: Series

Lamp Frequency > 42kHz

Lamp CCF: Less than 1.6

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

Input Frequency 50/60Hz

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<sup>5</sup>

<sup>4</sup> Operation below 60°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

<sup>5</sup> 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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1-800-LIGHTBULB

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# OSRAM

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PSN HT