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

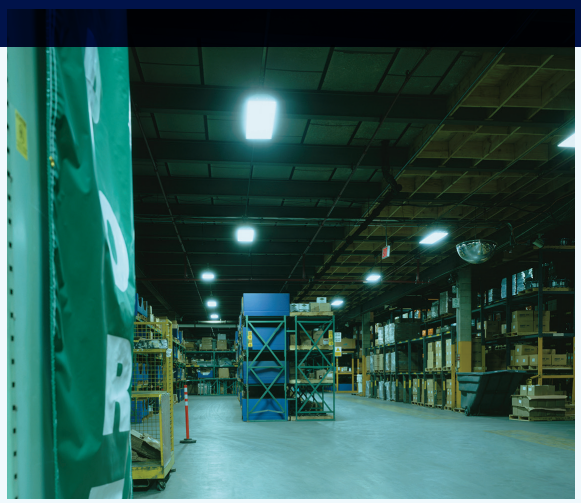
System Performance Comparison

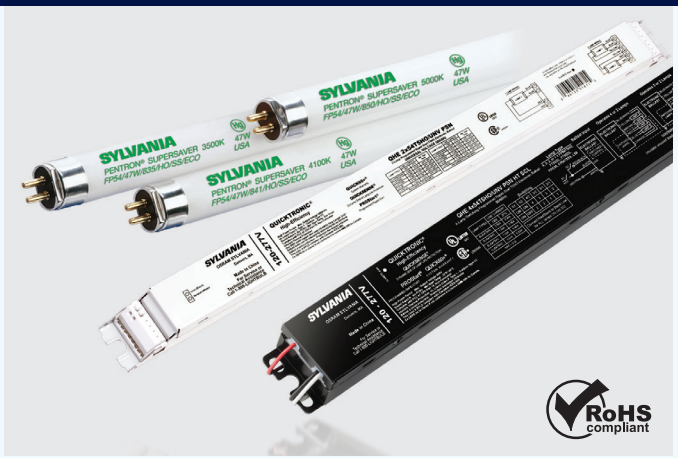
System Type (Two-lamp)	Input Power (W)	Initial System Lumens	System Efficacy (LPW)
F40T12 - Standard Magnetic	96	5795	60
F40T12 - Energy-Saving Magnetic	86	5795	67
F34T12 - Energy-Saving Magnetic	72	4750	66
QTP2x32IS - FO32/700	59	4930	84
QHE2x28T5/UNV PSN - FP28/800	**63/62**	**5800**	**92/94**

the system solution®

QUICKTRONIC® High Efficiency T5HO Systems

Same light, less power





HIGH EFFICIENCY PROStart T5HO SYSTEMS

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

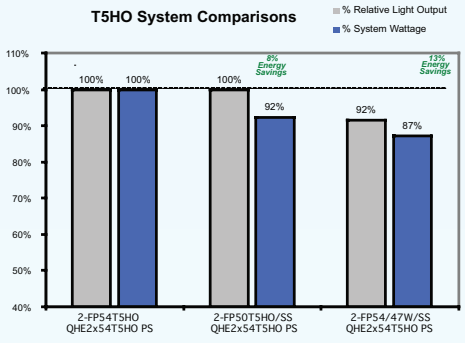
- Cove lighting
- High Bay
- Indirect lighting
- Surface mount

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

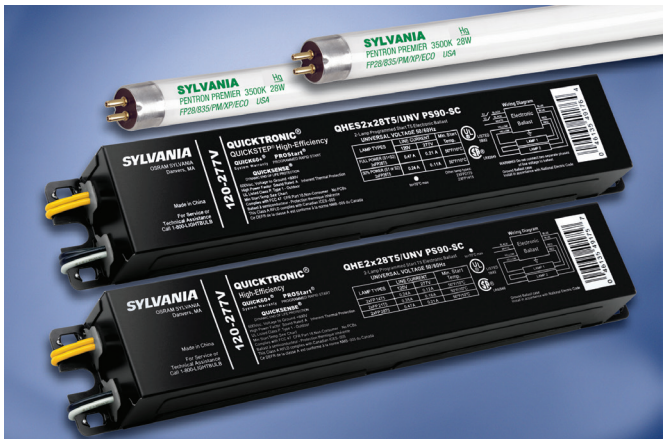
SYLVANIA QUICKTRONIC PREMIER XP T5 ballasts
are ideally suited for:

- 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.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

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

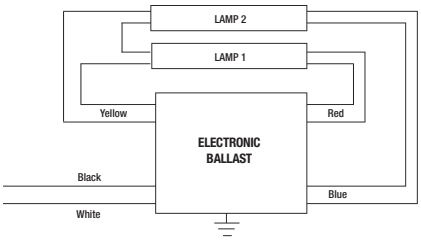
RoHS compliant

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

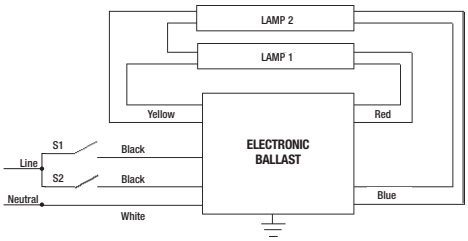
1 At 35°C lamp ambient temperature. Also compatible with equivalent lamp types that meet ANSI standards.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power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

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

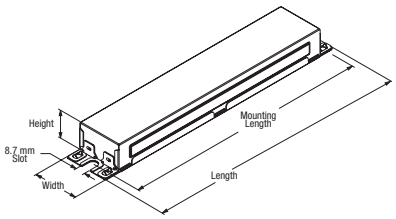


2-Lamp QHES (QUICKSTEP)
Full light output (full power) — S1 & S2 closed (on)
Bi-level mode (50% power) — S1 or S2 open (off)

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)

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

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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the system solution®

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.

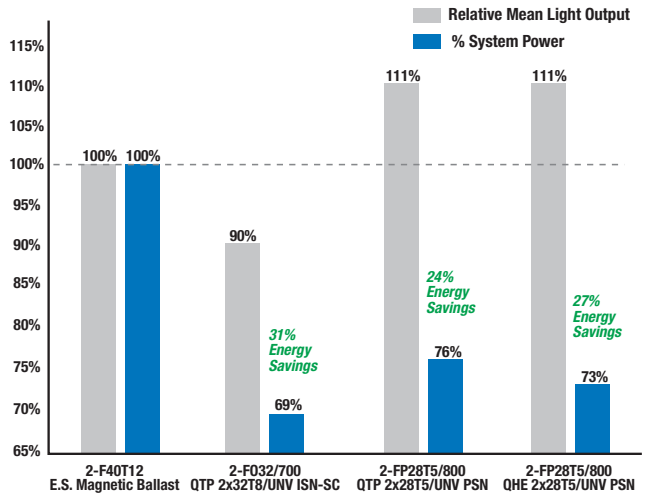
System Information

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

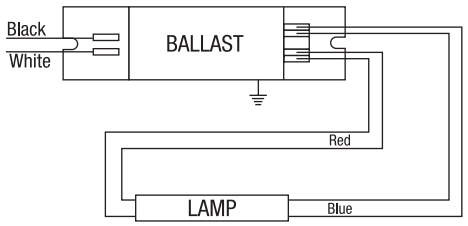
Catalog #	Date	Type
Project	Prepared by	
Comments		

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

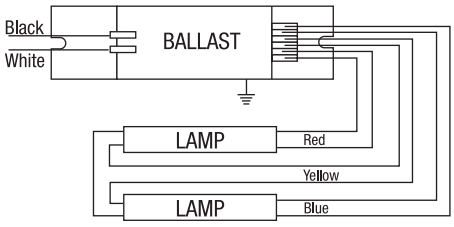
RoHS compliant

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

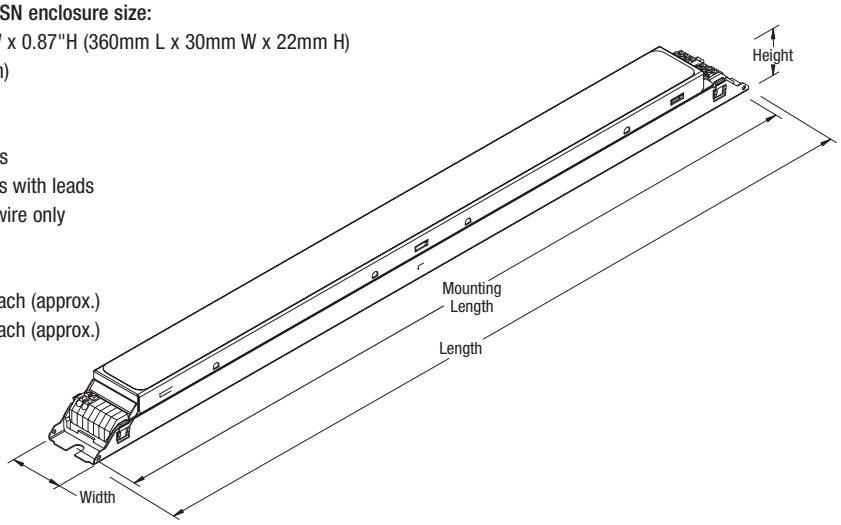


2 LAMP

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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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

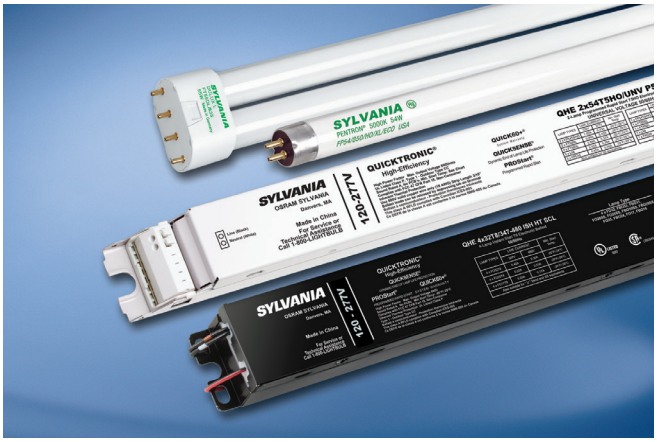
54W T5HO - PENTRON® lamps
1 or 2-lamp:
QHE2x54T5HO/UNV PSN-HT
4-lamp Switchable:
QHE4x54T5HO/UNV PSN-HT-SCL [DOE]

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

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

SYLVANIA QUICKTRONIC High Efficiency (QHE) PROStart T5HO ballasts offers several advantages:

- High Ambient Temperature – specifically designed for those applications where the ballast is subject to high ambient temperatures as in high bay industrial installations.
- PROStart – programmed rapid lamp starting and operation to provide up to 100,000 switching cycles
- QUICKSENSE – patented circuitry designed to shut down the system reliably and safely when lamps reach end-of-life.
- UL Type CC Compliant



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
- 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

System Information

SYLVANIA QUICKTRONIC High Efficiency PROStart T5HO High Ambient System advantages:

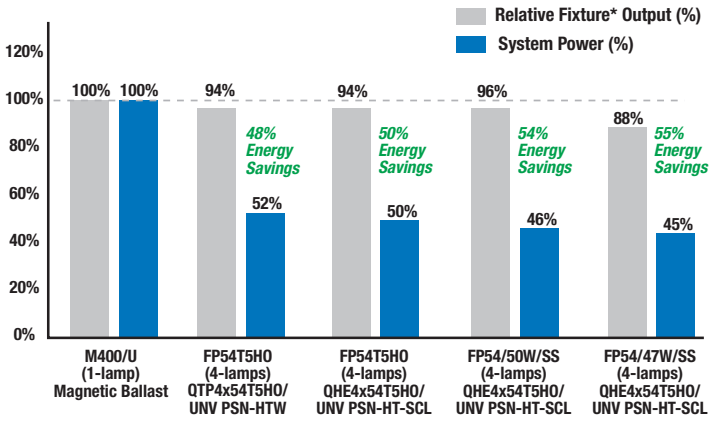
- Operate from 120V through 277V
  - Eliminates "wrong voltage" errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

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 [DOE]	225	83	15,568	88%	50%
FP54/50W/SS (4-lamps) QHE4x54T5HO/UNV PSN-HT-SCL [DOE]	209	93	16,238	91%	54%
FP54/47W/SS (4-lamps) QHE4x54T5HO/UNV PSN-HT-SCL [DOE]	204	101	17,309	97%	55%

**Based on Fixture Efficiency: 76% for M400 and 90% for FP54T5HO lamps*
**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		

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										277V		
52665[4]	QHE4x54T5HO/UNV PSN-HT-SCL DOE	0.85	FP54T5HO	5000	4	1.02	20400	18972	233		88	0.4
		0.79	FP54/50W/SS	5000	4	1.01	20200	18786	216		94	0.51
		0.73	FP54/47W/SS	4575	4	1.02	18666	17360	197		95	0.55
		0.8	FT55DL	4800	4	0.91	17472	15081	222		79	0.41
		0.77	FPC55	4000	4	1.02	16320	14362	215		76	0.52
		0.66	FP54T5HO	5000	3	1.01	15150	14090	178		85	0.58
		0.62	FP54/50W/SS	5000	3	1.01	15150	14090	166		91	0.7
		0.56	FP54/47W/SS	4575	3	1.02	14000	13020	149		94	0.75
		0.6	FT55DL	4800	3	0.93	13392	11559	166		81	0.57
		0.6	FPC55	4000	3	1.02	12240	10771	162		76	0.68
		0.45	FP54T5HO	5000	2	1.02	10200	9486	119		86	0.83
		0.43	FP54/50W/SS	5000	2	1.01	10100	9393	112		90	1.04
		0.39	FP54/47W/SS	4575	2	1.02	9333	8680	100		93	1.13
		0.41	FT55DL	4800	2	0.91	8736	7540	111		79	0.83
		0.41	FPC55	4000	2	1.02	8160	7181	108		76	1.06
		0.27	FP54T5HO	5000	1	1.03	5150	4790	64		80	1.66
		0.26	FP54/50W/SS	5000	1	1.02	5100	4743	60		85	1.95
		0.24	FP54/47W/SS	4575	1	1.02	4667	4340	54		86	2.13
		0.25	FT55DL	4800	1	0.93	4464	3853	62		72	1.61
		0.25	FPC55	4000	1	1.02	4080	3590	60		68	1.76

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
4 Formerly: 51480 QHE 4x54T5HO/UNV PSN-HT-SCL

Item Number — **52665 QHE 4 x 54 T5HO / UNV PSN HT SCL** — Case Size
QUICKTRONIC High Efficiency
Number of Lamps
Primary Lamp Wattage
High Ambient Temperature (Case)
Starting/Ballast Factor
Line Voltage (120-277V)

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 HT ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications[5]

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)[6]
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[7]
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.)

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

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

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

System Life / Warranty

QUICKTRONIC products are covered by the QUICK 60+® or QUICK 7XL+™ warranty, a comprehensive lamp and ballast system warranty.

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QHE T5HO PSN HT

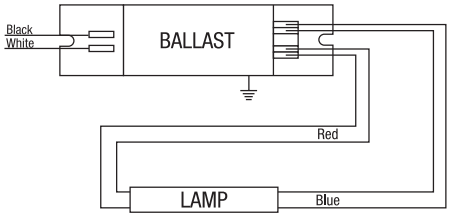
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

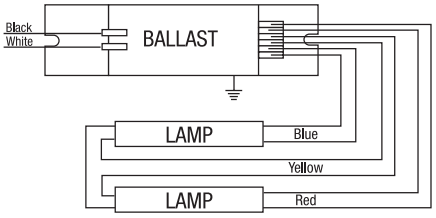
2 Lamp, High Efficiency, Type CC, High Ambient, Universal Voltage (120-277V)

RoHS compliant

Wiring Diagram



1 LAMP

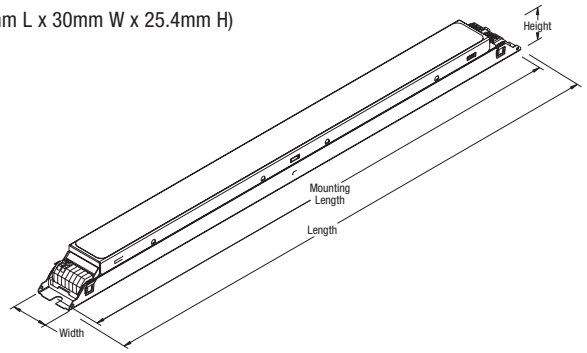


2 LAMP

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)

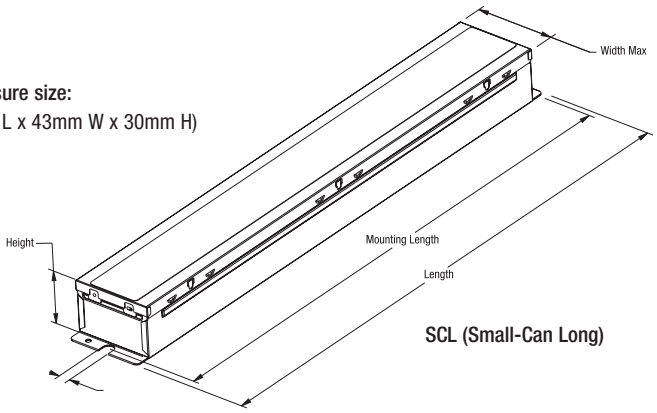
Product Weight:
51476: 0.88 lb (0.40kg) each (approx.)
51475: 1.0 lb (0.45kg) each (approx.)



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:
52665: Leads only (no connectors provided)

Product Weight:
52665: 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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Specifications subject to change without notice.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

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

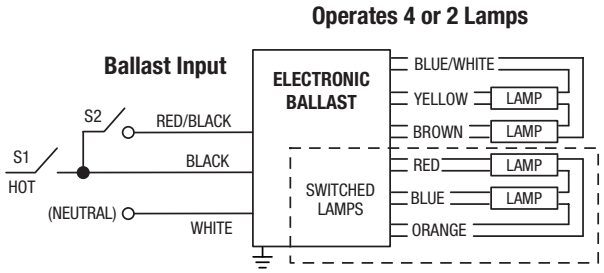
RoHS compliant

Wiring Diagram

High Ambient Switchable Model (90°C case temp.)
52665 QHE 4x54T5HO/UNV PSN-HT-SCL [DOE]

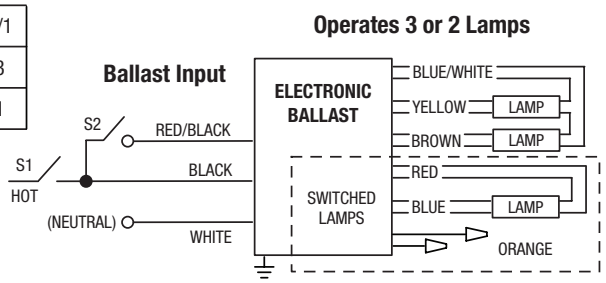
4-Lamp Switching Wiring Diagram (4L to 2L)

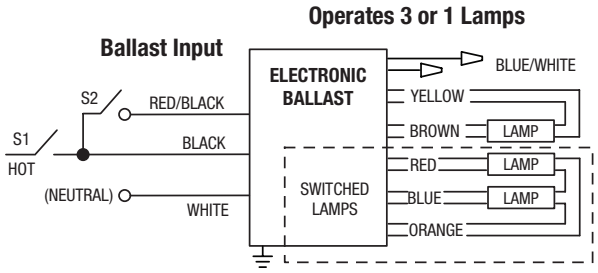
S1	S2	4/2
ON	ON	4
ON	OFF	2



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

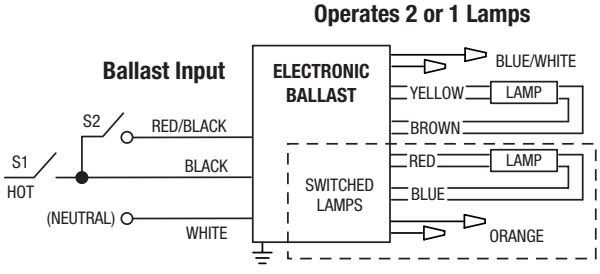
S1	S2	3/2	3/1
ON	ON	3	3
ON	OFF	2	1





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

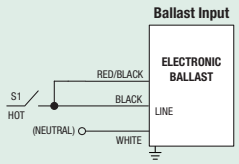
High Efficiency

Switching Schematics

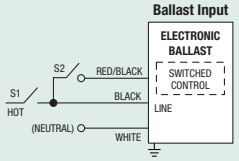
Installation Notes

- Install in accordance with National & Local Electric 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 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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Specifications subject to change without notice.

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:

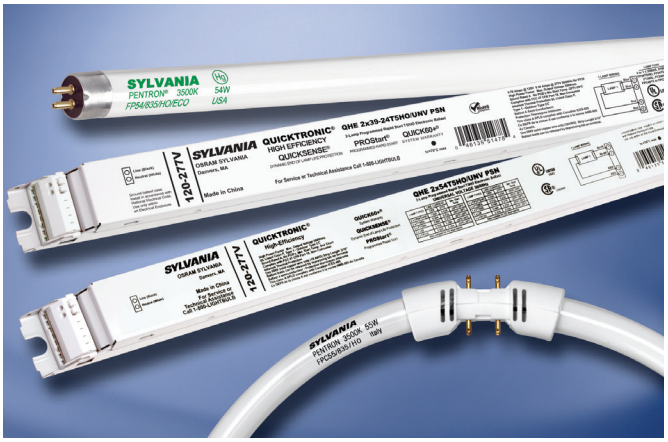
- Commercial & retail
- Hospitality & institutional
- New construction
- Industrial high bay lighting
- Indirect lighting
- Surface mount
- Cove lighting

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

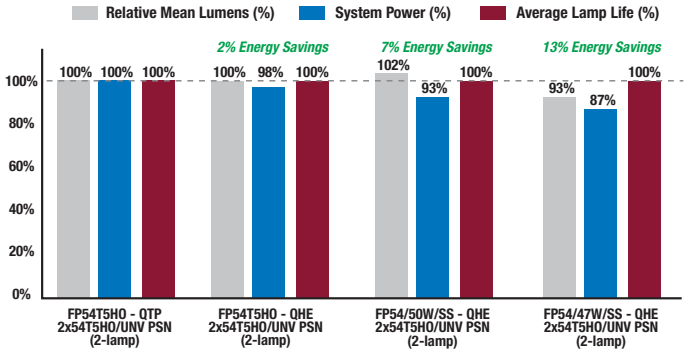
SYLVANIA QUICKTRONIC T5HO High Efficiency (QHE) System advantages:

- 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



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)

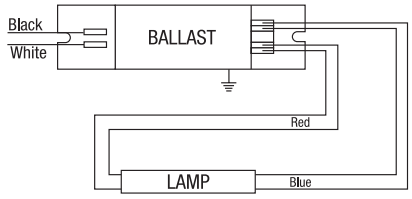
RoHS compliant

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 (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

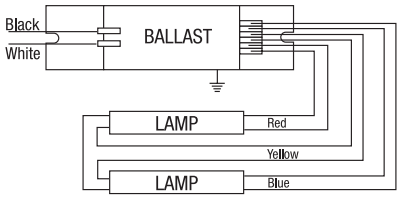
1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).
3 System Efficacy calculation based on lowest input power value.
✪ Preliminary specifications. Please contact OSRAM SYLVANIA for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

Installation Notes

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



1 LAMP

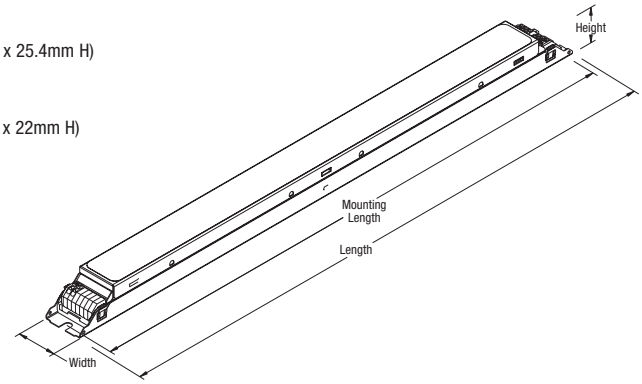


2 LAMP

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

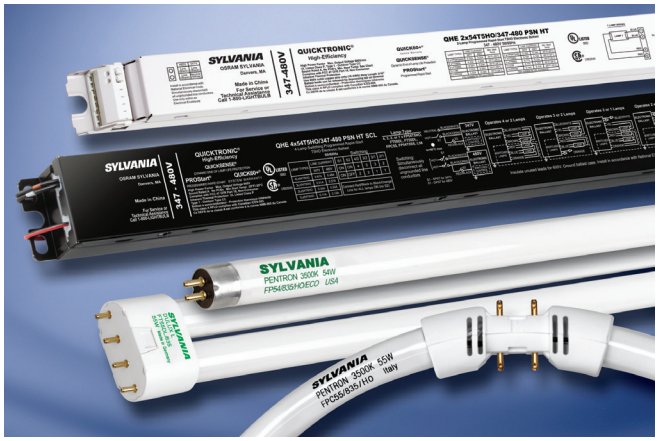
SYLVANIA QUICKTRONIC High Efficiency T5HO HT ballasts are ideally suited for:

- 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:

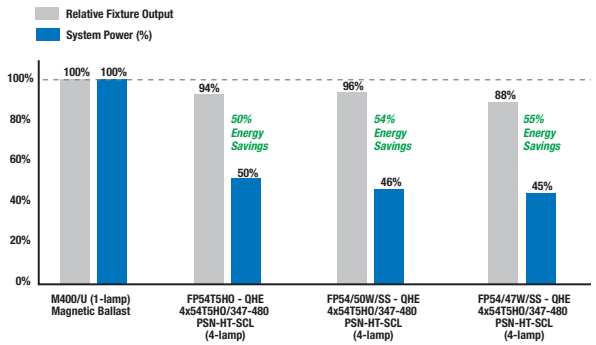
- Voltage errors
  - Reduces inventory by 50%
- Utilizes Programmed Rapid Start operation for:
  - Highest System Efficacy
  - Longer Life
  - Over 100,000 switching cycles for occupancy sensor and building control systems applications

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.

Normal Ballast Factor

NEW

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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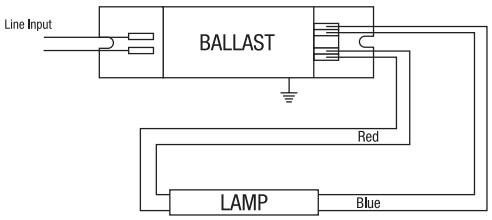
SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

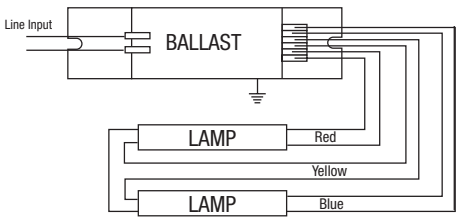
2 Lamp, High Efficiency, Type CC, High Ambient (347-480V)

RoHS compliant

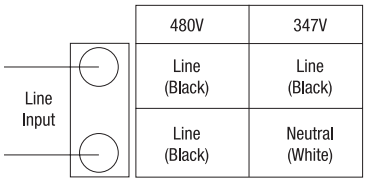
Wiring Diagrams



1 Lamp



2 Lamp

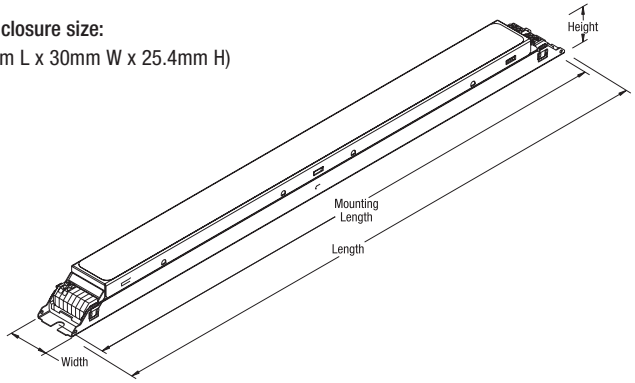


480V	347V
Line (Black)	Line (Black)
Line (Black)	Neutral (White)

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

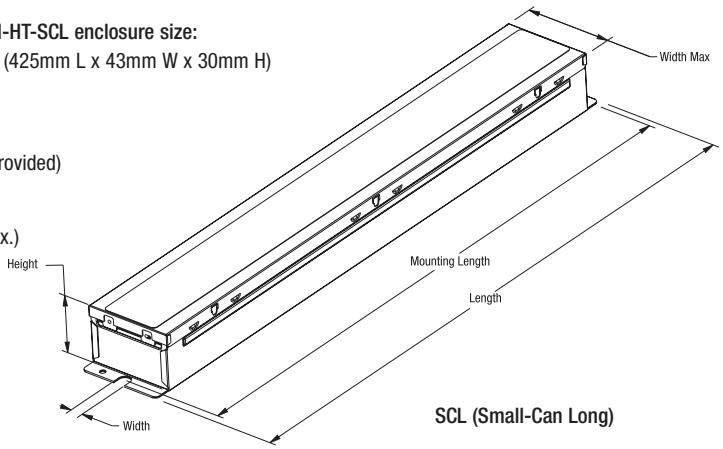
Product Weight:
51486: 0.88 lb (0.40kg) each (approx.)
51485: 1.0 lb (0.45kg) each (approx.)



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

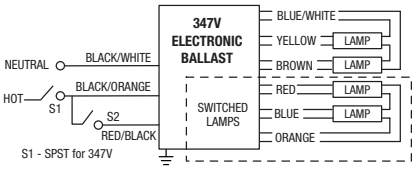
High Ambient Switchable Model (90°C case temp.)
51481 QHE4x54T5HO/347-480 PSN-HT-SCL

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

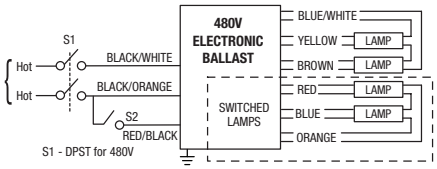
S1	S2	4/2
ON	ON	4
ON	OFF	2

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

Operates 4 or 2 Lamps



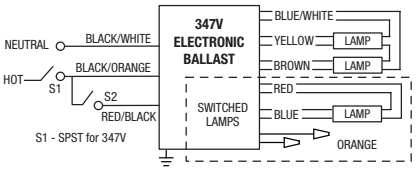
Switching: Simultaneously disconnect all ungrounded line conductors



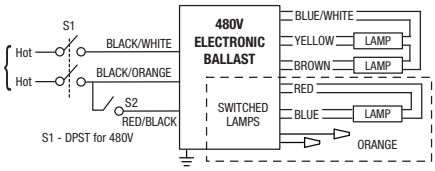
3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

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

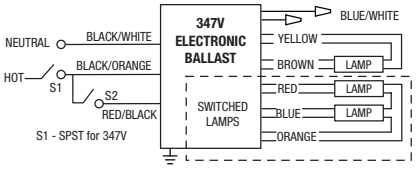
Operates 3 or 2 Lamps



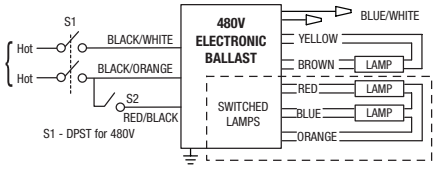
Switching: Simultaneously disconnect all ungrounded line conductors



Operates 3 or 1 Lamps



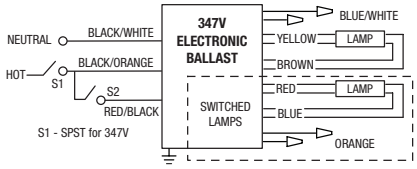
Switching: Simultaneously disconnect all ungrounded line conductors



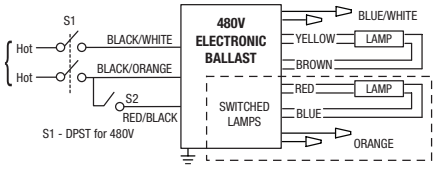
2-Lamp Switching Wiring Diagram (2L to 1L)

S1	S2	2/1
ON	ON	2
ON	OFF	1

Operates 2 or 1 Lamps



Switching: Simultaneously disconnect all ungrounded line conductors



T5HO 4 Lamp 347-480V HT Switchable Ballast

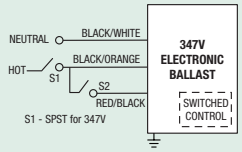
High Efficiency

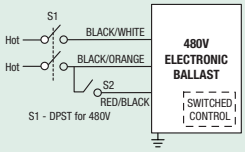
Lamp / Ballast Guide

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 - F032/800XP	51	4680	92
QTP2x32ISL - F028/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.

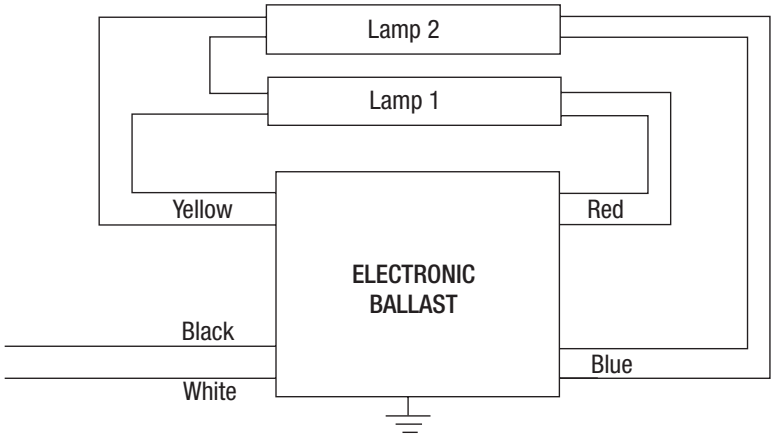
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

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.

Installation Notes

- Install in accordance with National & Local Electrical Code
- Ground ballast case



2-Lamp QTP
Fixed output only

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

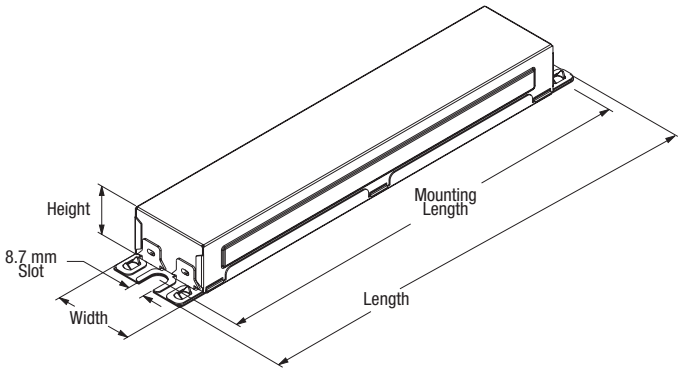
UL Listed Class P, Type 1, Outdoor
CSA Certified
70°C Max. Case Temperature
FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
RoHS Compliant[3]
ANSI C62.41 Cat. A Transient Protection
Dynamic End-of-Lamp-Life Sensing
Remote Mounting (Max. wire length from ballast case to lampholder): up to 8 feet

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

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

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)

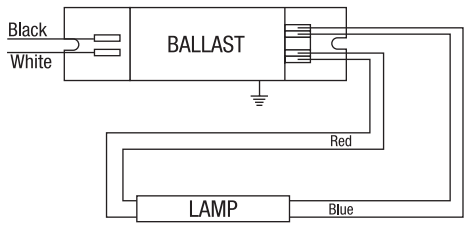
RoHS compliant

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

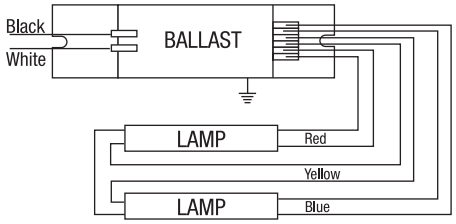
1 At 35°C lamp ambient temperature.

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

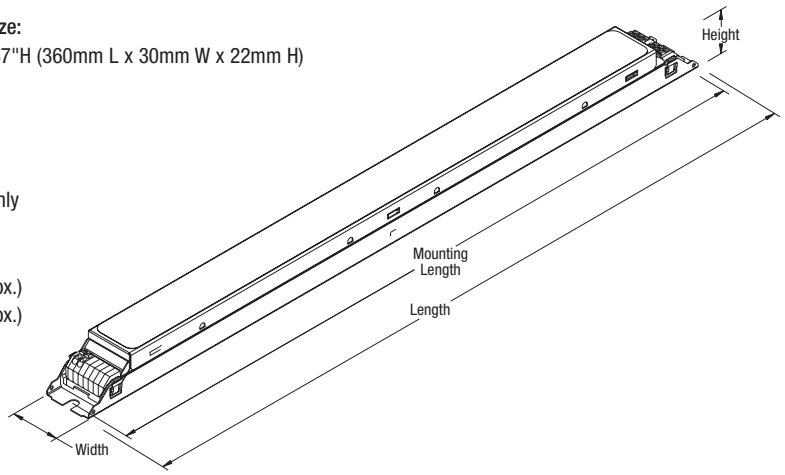


2 LAMP

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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Specifications subject to change without notice.

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

RoHS compliant

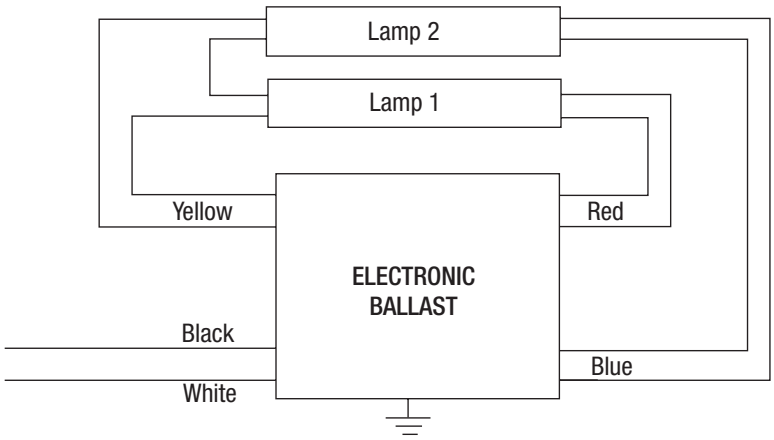
Item Number	Description	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System[1] Lumens	Input[1] Power (Watts)	System Efficacy (lm/W)	BEF[2]
QTP Fixed Output										
49185	QTP2x28T5/347 PS-SC	0.18	FP28T5/ECO	2900	2	0.95	5510	60	92	1.58
		0.135	FP21T5/ECO	2100	2	0.98	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

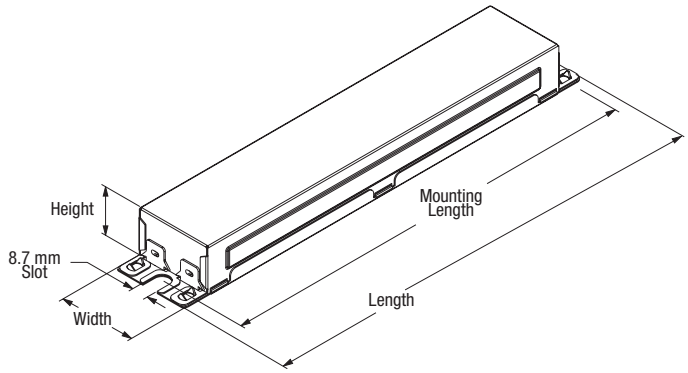


2-Lamp QTP
Fixed output only

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

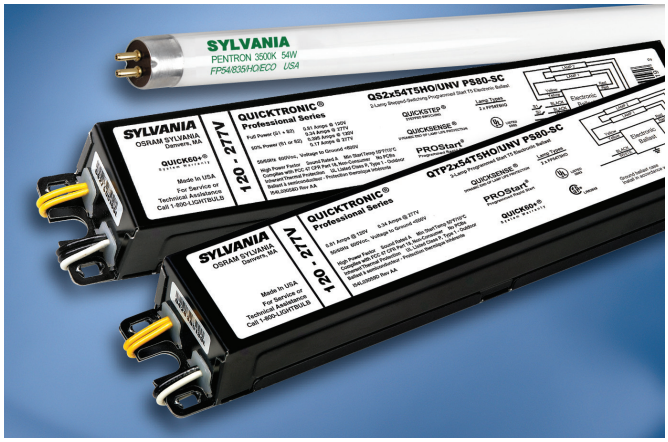
SYLVANIA QUICKTRONIC T5HO ballasts
are ideally suited for:

- 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)

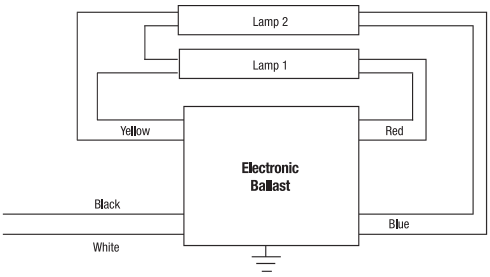
RoHS compliant

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

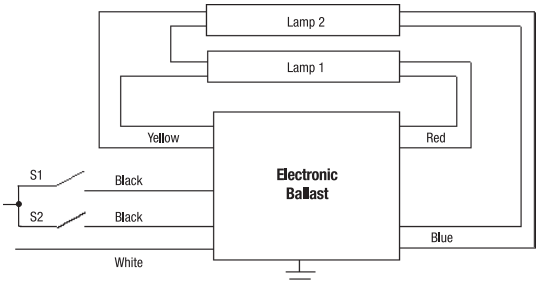
1 At 35°C lamp ambient temperature.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

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

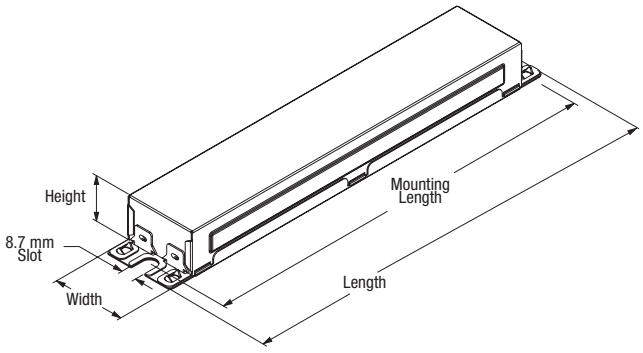


2-Lamp QS (QUICKSTEP)
Full light output (full power) S1 & S2 closed (on)
Bi-level mode S1 or S2 open (off)

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

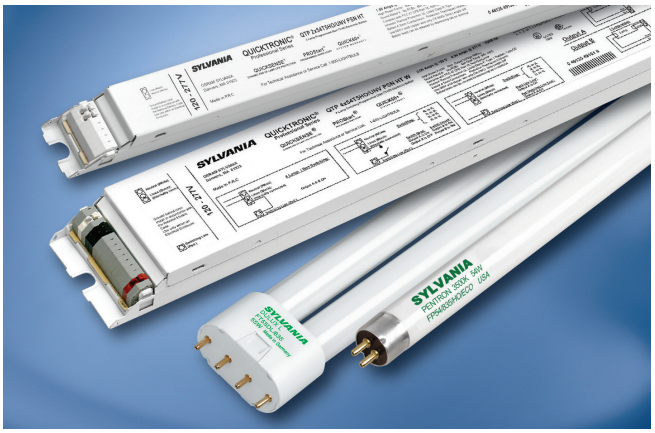
SYLVANIA QUICKTRONIC T5HO HT ballasts
are ideally suited for:

- 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.

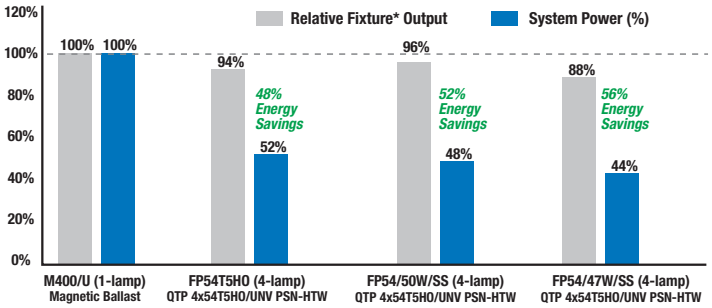
PROStart programmed rapid starting provides optimum starting conditions to yield up to 100,000 switching cycles for use on occupancy sensors and building control systems.

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



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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.

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

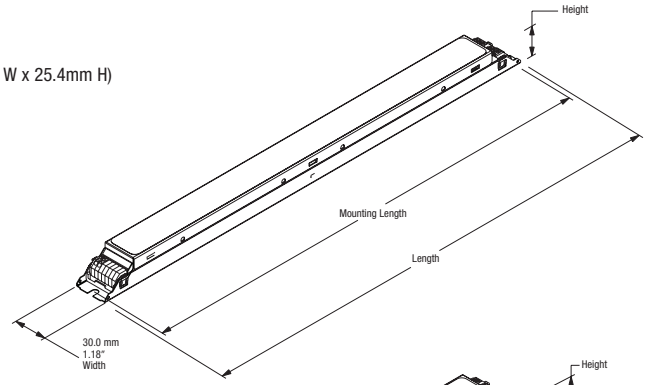
Switching: Simultaneously disconnect all ungrounded line conductors.
Install in accordance with National & Local Electrical Code. Ground ballast case.

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.)

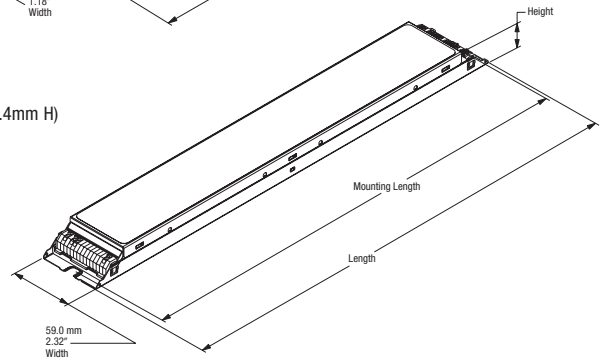


Dimensions:
Model QTP4x54T5HO/UNV PSN-HT-W enclosure size:
Overall: 16.73"L x 2.32"W x 1.0"H (425mm L x 59mm W x 25.4mm H)
Mounting: 16.34" (415mm)

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

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

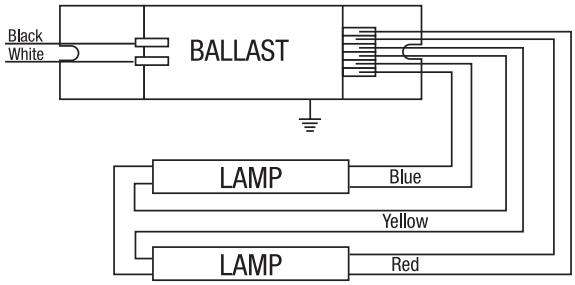
Catalog #	Date	Type
Project	Prepared by	
Comments		

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

RoHS compliant

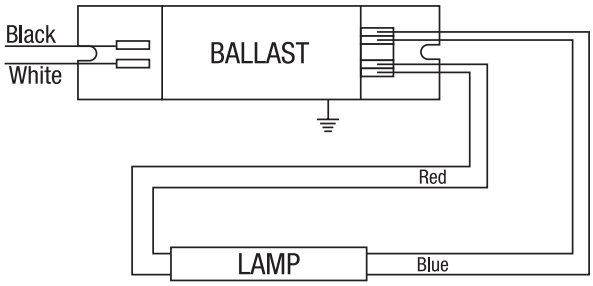
High ambient model (90°C case temp.)
49136 QTP 2x54T5HO/UNV PSN HT

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

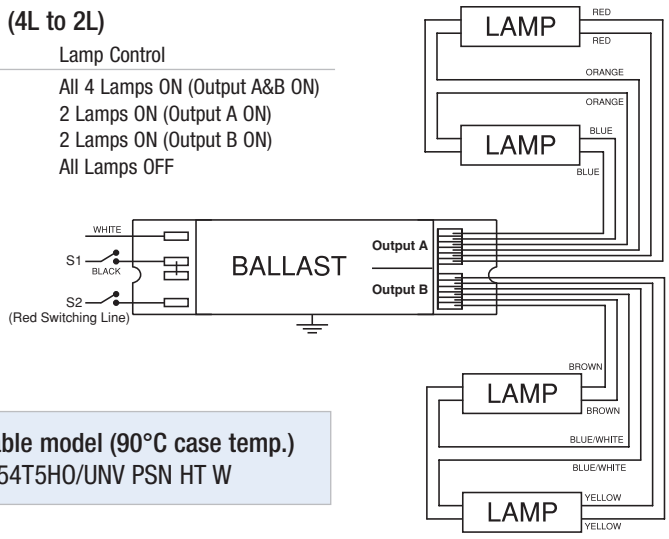
Catalog #	Date	Type
Project	Prepared by	
Comments		

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

RoHS compliant

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

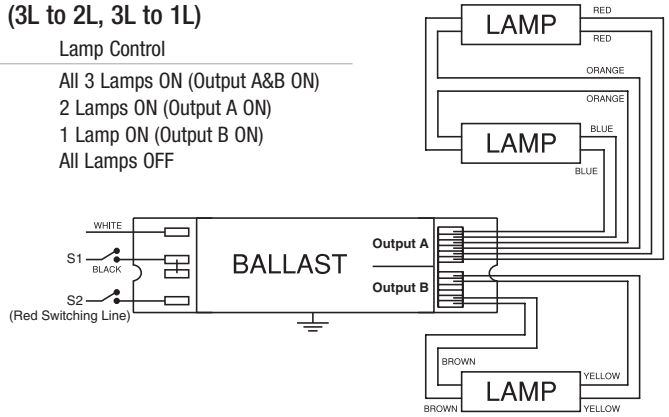
S1 (Output A)	S2 (Output B)	Lamp Control
Closed (ON)	Closed (ON)	All 4 Lamps ON (Output A&B ON)
Closed (ON)	Open (OFF)	2 Lamps ON (Output A ON)
Open (OFF)	Closed (ON)	2 Lamps ON (Output B ON)
Open (OFF)	Open (OFF)	All Lamps OFF



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

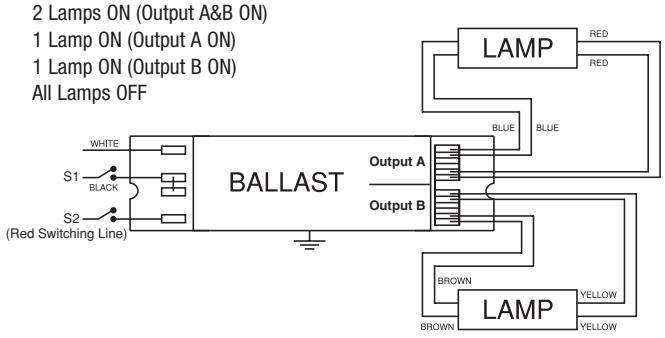
3-Lamp Switching Wiring Diagram (3L to 2L, 3L to 1L)

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**
QUICKTRONIC PROFESSIONAL
Number of Lamps
High Ambient Temperature (Case)
Starting/Ballast Factor
Line Voltage (120-277V)
Primary Lamp Wattage

4 LAMP T5HO UNV HT Switchable Ballast

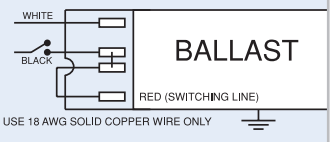
Professional Series

Switching Schematics

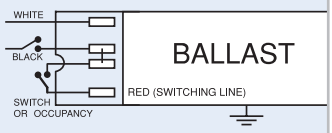
Installation Notes

- 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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QTP T5HO PSN HT

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

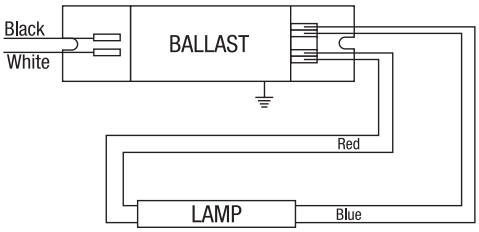
Catalog #	Date	Type
Project	Prepared by	
Comments		

Universal Voltage (120-277V)

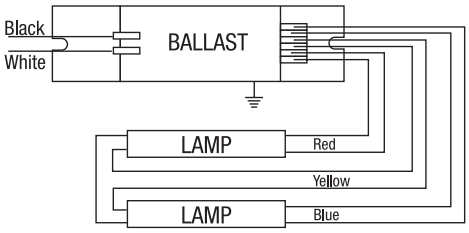
RoHS compliant

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

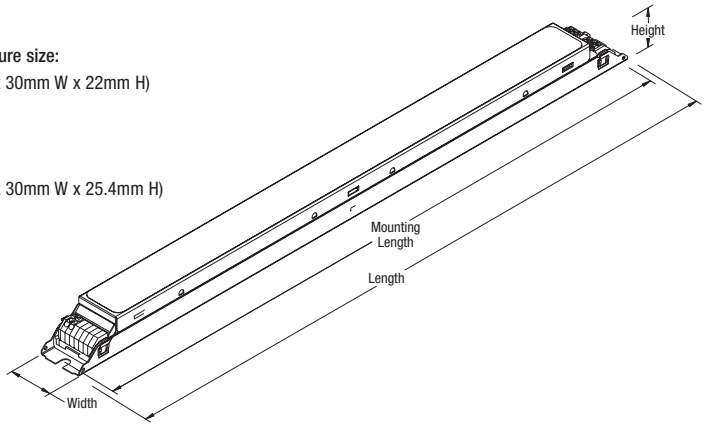
Dimensions:
Model QTP1x54T5HO/UNV PSN and QTP1x80T5HO/UNV PSN enclosure size:
Overall: 14.17"L x 1.18"W x 0.87"H (360mm L x 30mm W x 22mm H)
Mounting: 13.74" (349mm)

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:

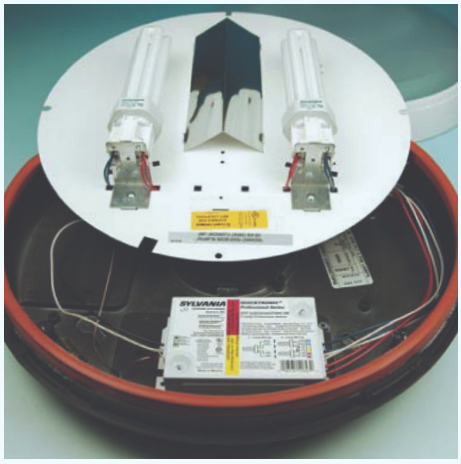
- Located on the side and bottom, these allow for increased mounting flexibility with one ballast and also increase ease of installation

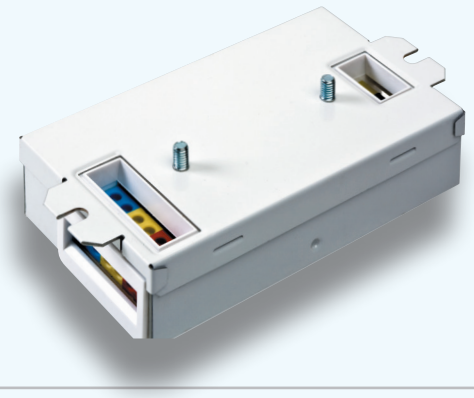
MULTI-WATT … MULTI-LAMP Models:

- 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

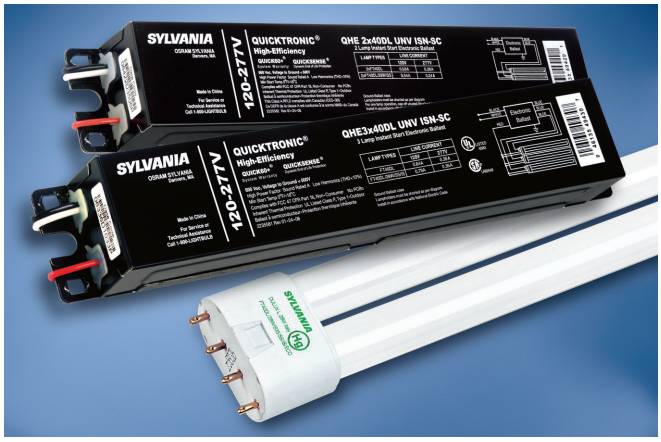
Application Information

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

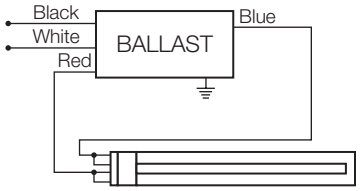
Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Universal Voltage (120-277V)

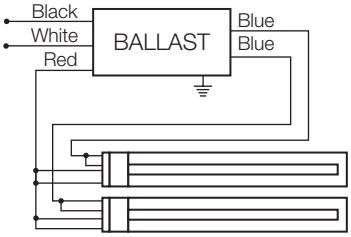
RoHS compliant

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**

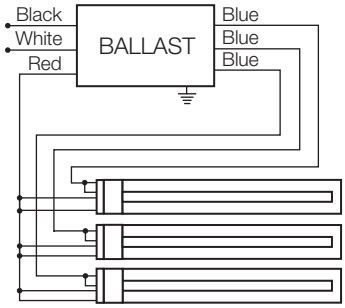
1 Ballast factor based upon 225mA nominal lamp current for FT40DL and FT40DL/25W/SS and 190mA nominal lamp current for FT40DL/28W/SS.
2 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Wattage (Note: calculation based on lowest input wattage).
3 System Efficacy calculation 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

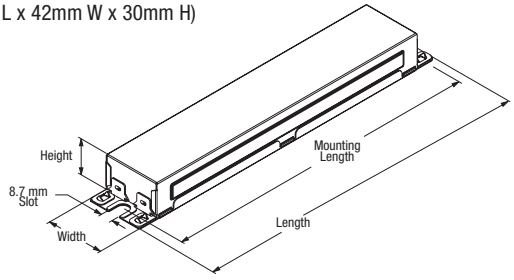


QUICKTRONIC® QHE 3x40DL/UNV ISN-SC

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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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.

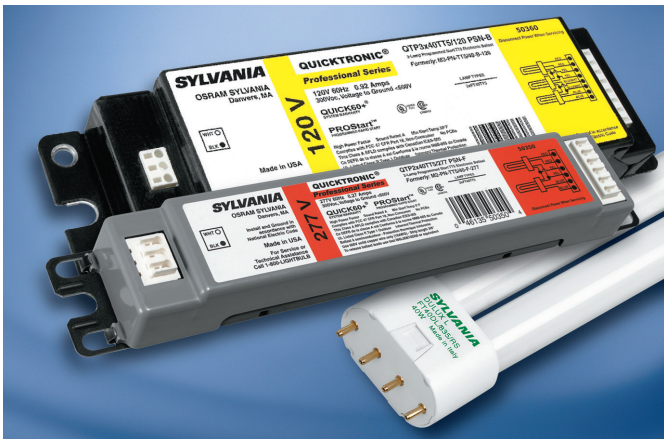
PROStart DL40 ballasts provide over 20% more lumen output than 34T12 systems. Also, the small lamp diameter and sleek profile provide new design options and improved fixture optics.

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

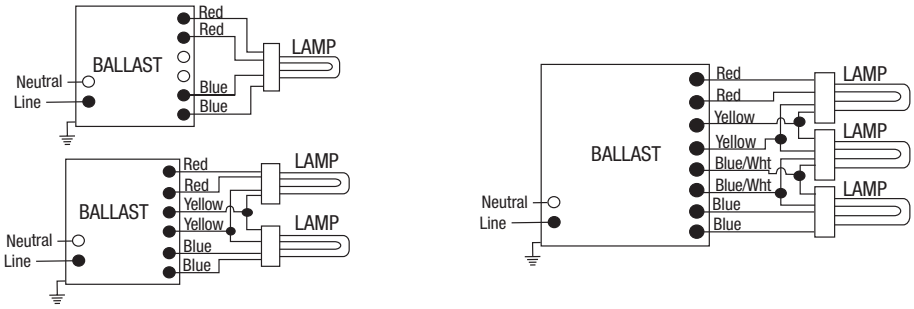
Catalog #	Date	Type
Project	Prepared by	
Comments		

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.



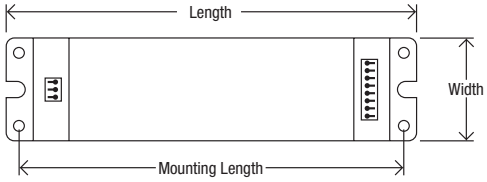
Dimensions "B" Enclosure:
Overall: 9.5" L x 2.38" W x 1.25" H
Mounting: 8.91"

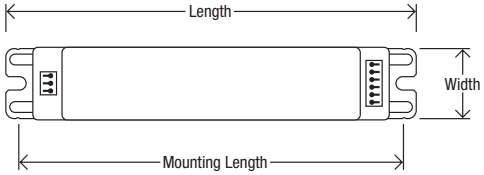
Packaging:
Quantity: 20 pieces
Weight: 1.3 lbs each

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.

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

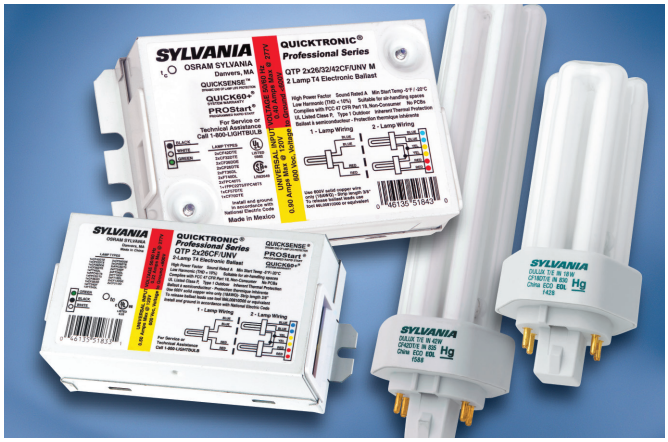
SYLVANIA QUICKTRONIC PROStart CF ballasts operate DULUX® D/E and T/E lamps with full lumen output and optimal system performance.

QUICKTRONIC CF ballasts feature one mounting style of low profile, lightweight enclosures to provide simple assembly for any fixture application.

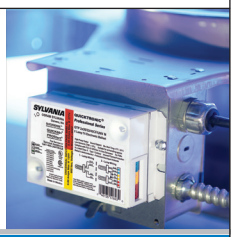
Universal input voltage (120–277V) and multi-lamp multi-watt capability allow for fewer SKUs to support a wide range of applications.

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

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

SPECIFICATION DATA

Catalog # Date Type

Project Prepared by

Comments

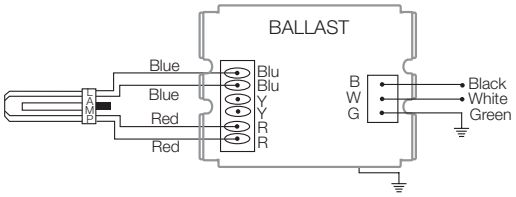
Universal Voltage (120-277V)

RoHS compliant

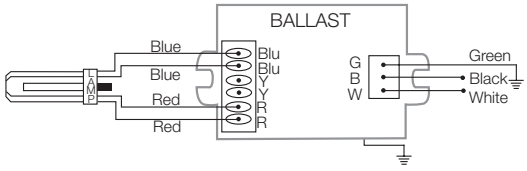
Item Number	Description[3]	Input Current (AMPS)	Lamp[1] Type	Rated[2] Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Mean Lumens	Input Power (Watts)	System Efficacy (lm/W)	BEF[4]
51818	QTP1/2x13CF/UNV DM	0.25/0.11	13W DD/E,T/E	900	1	1.00	900	775	16	56	6.25
			13W DD/E,T/E	900	2	1.00	1800	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

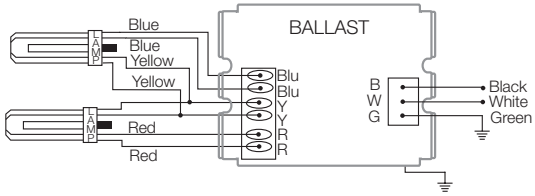
1 Also compatible with other manufacturers' equivalent 4 pin lamp types that meet ANSI specifications.
2 Rated lamp lumens and performance data based on DULUX T/E series 4 pin lamps.
3 Data is for all models within the brackets. The maximum input current is shown for maximum input power.
4 Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (Note: calculation based on lowest wattage value).

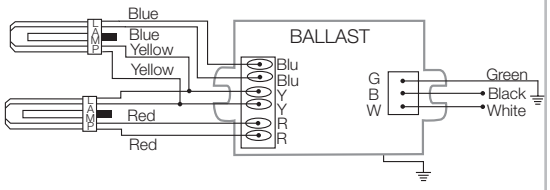
Metal Case (51843 & 51863)



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

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)
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the system solution®

Specifications subject to change without notice.