

# SYLVANIA QUICKTRONIC® Electronic Ballasts

 the system solution™



OSRAM SYLVANIA,  
the **global** leader in lighting systems, is  
committed to providing ballasts & lamps that are



innovative **solutions**  
that **exceed** customer  
**expectations** in meeting  
today's lighting requirements.



A global network of **design** and  
manufacturing brings ballast and lamp  
**knowledge** together to produce  
innovative, cost-effective systems.



## Complete Peace of Mind

### Quick 60+® Warranty

Once registered, all SYLVANIA QUICKTRONIC® ballasts are guaranteed for up to five years. When QUICKTRONIC ballasts are combined with SYLVANIA lamps to form a SYLVANIA SYSTEM SOLUTION, the lamps are also covered under the same warranty for up to 36 months. This is the essence of QUICK 60+ warranty, the first and most comprehensive system warranty in the industry.



### Exclusive FIXTURESIDE ASSISTANCE™ Option

The benefits of the QUICK 60+® system warranty can be extended even further. As needed, SYLVANIA LIGHTING SERVICES, the only dedicated national lighting service company, will back up the warranty with field service calls to resolve warranty claims. It's OSRAM SYLVANIA's version of "road-side assistance" — we call it FIXTURESIDE ASSISTANCE™.

A focused network of marketing, engineering, and manufacturing groups identify, design, and produce some of the leading innovations in the market.

Global teams optimize synergies while the specific needs of each local market are met.

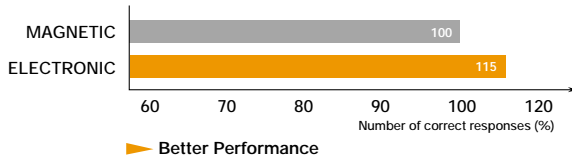
Co-development of ballasts and lamps by engineers working side-by-side ensures that each system provides the best solution.



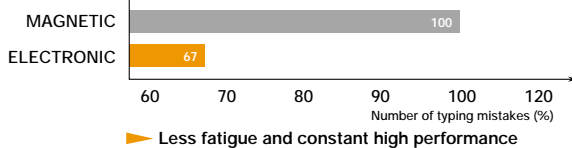
### Practical screen-based tasks

by the Christian Bartenbach Group in Innsbruck/Austria

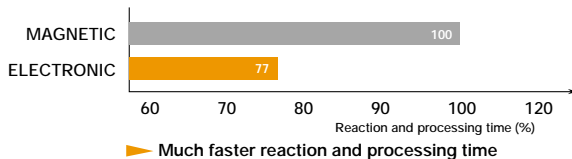
#### Recognition of words: correct responses



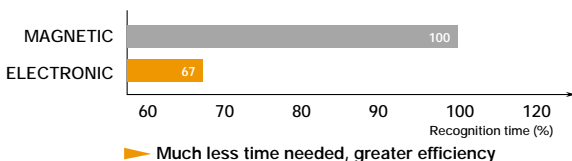
#### Input efficiency: text input mistakes



#### Overview of screen: reaction and processing time



#### Recognition of details and differences: recognition time



## Technology brought to life

The system solution has allowed technology to be developed that greatly improves the quality of life in many ways.

Electronic ballasts and their high frequency lamp operation have an extremely positive effect on the way we work.

Recent ergonomic studies have shown that lamps operated at high frequency reduce the eye stress caused by normal lamp flicker, especially for people working with computers.

Improvements in comfort, as well as significant increases in the quality of work in many key areas, have been identified.

The overall atmosphere of the workplace is greatly enhanced creating a more productive environment.

Many new lamps also have better color properties, longer life, and reduced mercury content to further improve the workplace. Add to that the efficient operation of electronic ballasts that use almost 50% less power and it's clearly evident how the system solution helps to combine ballast and lamp technologies to improve the quality of life.



## The system is the solution

OSRAM SYLVANIA's unique approach to developing ballasts and lamps has created some of the most innovative products in the market today. The ability to combine the inherent knowledge of our lamp engineers with the expertise of our electronics engineers early in the development cycle has furthered the state of the art to new heights.

### The Original System Solution

The first matched T8 lamp and ballast systems for optimized performance and longer life.

### PLUS Systems

T8 lamps are run at higher lumen levels to allow fewer lamps per fixture or higher light levels.

### QUICKSENSE®

The patented end-of-lamp-life sensing technology that helps prevent lamp overheating and established the benchmark for industry recommendations.

### SYLVANIA Xtreme Systems

QUICKTRONIC PROStart™ PSX Universal Voltage ballasts with OCTRON FO32 XPS ECOLOGIC 4-foot lamps. Up to 19% energy savings with comparable light output and twice the lamp life of standard instant start T8 systems.

### GEN IV™

Innovative QUICKTRONIC® GEN IV ballasts use the latest in surface mount electronic technology, creating a smaller and lighter generation of electronic ballasts.

### HELIOS™ DIMMING

The ultimate ballast with continuous 100- 5% dimming range (100-1% for T5HO). These ballasts can be controlled by a wide variety of 0-10 volt DC control devices, including daylight sensors, building automation systems and compatible wall box dimming controllers.

### ICETRON® Systems

Unique "Inductively Coupled Electrodeless Fluorescent Lamp Systems" that provide up to 100,000 hour lamp life for use in high maintenance cost areas.

### HVIC Microprocessor

High voltage integrated circuits that provide added control features and improve reliability.

### MULTIWATT

New electronic ballasts that offer the versatility to operate multiple lamp types of various wattages. These models also can vary the number of lamps operated (ie 1 or 2 lamps), therefore new multi-watt and multi-lamp models reduce the amount of ballast types required.

### PENTRON® HO

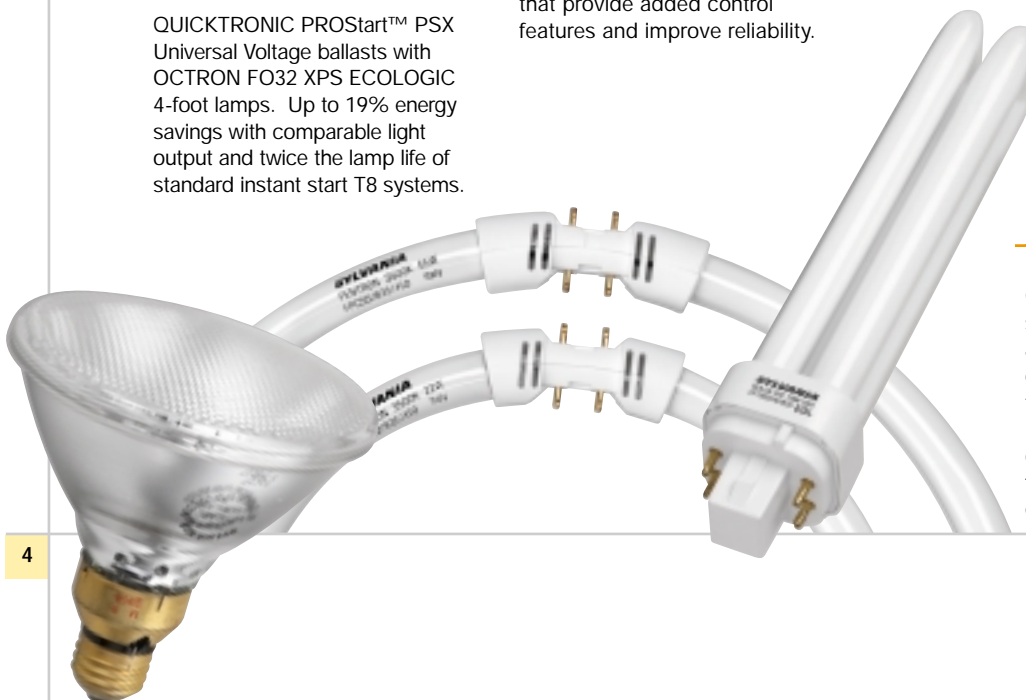
New T5 high output fluorescent lamp systems provide almost twice the lumen output of standard lamps and allow new low profile fixtures to be designed.

### PROStart™

A programmed starting method for fluorescent lamps that achieves up to 100,000 switching cycles which allows for increased used on occupancy sensors.

### UNIVERSAL VOLTAGE

Universal voltage models operate from 120 - 277 Volts, eliminating "incorrect line voltage" wiring errors and reducing the number of models in inventory by half.



 the system solution™

OSRAM SYLVANIA, the originator of the systems approach, has led the industry from a collection of products supplied by different companies, that were assumed to work together, to a systems approach that defines performance, assures compatibility, and delivers the assurance of quality that comes from focused, innovative marketing, engineering, and manufacturing efforts.



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Information in this guide subject to change at anytime without prior notice.

# QUICKTRONIC® T8 Instant Start

Normal Light Output

## Lamp/Ballast Guide

- 32W T8 - OCTRON**
- 1-lamp QT1x32 IS-SC
  - 2-lamp QT2x32 IS-SC
  - 3-lamp QT3x32 IS
  - 4-lamp QT4x32 IS
  - 3-lamp QT3x32T8 ISN-SC
  - 4-lamp QT4x32T8 ISN-SC

**Primary Lamp Types**  
FO32, FBO32, FBO31

**Also operates:**  
FO17, FO25, FO40  
FBO16, FBO24

**F40T8 operation:**  
1 lamp on 2L ballast  
2 lamps on 3L ballast  
3 lamps on 4L ballast

**SYLVANIA QUICKTRONIC 32IS, 32ISN-SC** operates OCTRON® T8 lamps with maximum efficacy and high lumen output, and provides 30-40% energy savings when compared to F40T12 magnetic systems.

New small can enclosure option allows for low profile fixture design and application. New size also provides transportation, inventory and ergonomic benefits.

Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

Setting the standard for quality, SYSTEM 32IS, 32ISN-SC is also covered by our QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.



SYSTEM 32IS, 32ISN-SC is available in one through four lamp models in 120V and 277V (and two lamp 347V) to cover a wide range of applications.

## Key System Features

- Standard enclosure size (3, 4-Lamp)
- New small enclosure size option
- 89-90% Ballast factor
- 30-40% Energy savings
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- Compatible with most powerline carrier systems.\*
- Quiet operation
- High power factor
- Low harmonic distortion
- Low in-rush current\*
- Lightweight
- UL, CSA, FCC

## System Information

QUICKTRONIC 32IS, 32ISN-SC uses 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.

QUICKTRONIC 32IS, 32ISN-SC electronic ballasts have low harmonic distortion with corresponding low in-rush current\* for optimal system performance.

QUICKTRONIC 32IS, 32ISN-SC electronic circuitry is designed to be compatible with powerline carrier systems.\*

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

\* 1, 2 & 3 lamp models and 4 lamp std enclosure

System Type	Input Wattage	Initial Lumens	System LPW
<b>2-lamp ISN-SC</b>			
F40T12 - Std. Magnetic Ballast	96	5795	60
F40T12 - E.S. Magnetic Ballast	86	5795	67
F34T12 - Std. Magnetic Ballast	82	4750	58
F34T12 - E.S. Magnetic Ballast	72	4750	66
F32T8/700 - Magnetic	71	5320	75
F32T8/800 - R.S. Electronic	62	5190	84
F032/XP - QT2x32IS-SC	59	5400	92
<b>4-lamp ISN</b>			
F40T12 - Std. Magnetic Ballast	192	11590	60
F40T12 - E.S. Magnetic Ballast	172	11590	67
F34T12 - Std. Magnetic Ballast	164	9500	58
F34T12 - E.S. Magnetic Ballast	144	9500	66
F32T8/700 - Magnetic	142	10640	75
F32T8/800 - R.S. Electronic	122	10380	85
F032/XP - QT4x32IS	114	10800	95

500 PC Pallet Packs – IS	Weight: 2.8 lbs each (approx)
49555 QT3x32/120IS-PAL	49557 QT4x32/120IS-PAL
49556 QT3x32/277IS-PAL	49558 QT4x32/277IS-PAL
49228 QT3x32/347IS-PAL	49229 QT4x32/347IS-PAL

840 PC Pallet Packs – ISN-SC	Weight: 1.6 lbs ea. (approx.)
49951 QT1x32/120IS-SC-PAL	49952 QT1x32/277IS-SC-PAL
49953 QT2x32/120IS-SC-PAL	49954 QT2x32/277IS-SC-PAL
49955 QT3x32T8/120ISN-SC-PAL	49956 QT3x32T8/277ISN-SC-PAL
49957 QT4x32T8/120ISN-SC-PAL	49958 QT4x32T8/277ISN-SC-PAL
49242 QT2X32/347IS-SC-PAL	

## Application Information

### SYLVANIA QUICKTRONIC 32ISN-SC

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New Construction
- Retrofit
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting



# T8 Instant Start Normal Ballast Factor

## <20% THD Electronic T8 Fluorescent Systems

### Performance Guide

Data shown based upon SYLVANIA OCTRON FO32/XP lamp(s). QUICKTRONIC 32IS and 32ISN-SC are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F17, F25 and F32 (and the U-Bend equivalent) T8 lamps. Complete performance data is available in the [QUICKSYSTEMS](#) section of the SYLVANIA Electronic Ballast Catalog.

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49911	QT 1x32/120 IS-SC	120	0.26	FO32/XP	3000	1	0.90	2700	30	90
49912	QT 1x32/277 IS-SC	277	0.11	FO32/XP	3000	1	0.90	2700	30	90
49913	QT 2x32/120 IS-SC	120	0.51	FO32/XP	3000	2	0.90	5400	59	92
49914	QT 2x32/277 IS-SC	277	0.22	FO32/XP	3000	2	0.90	5400	59	92
49515	QT 3x32/120 IS	120	0.77	FO32/XP	3000	3	0.90	8100	87	93
49516	QT 3x32/277 IS	277	0.33	FO32/XP	3000	3	0.90	8100	87	93
49517	QT 4x32/120 IS	120	0.98	FO32/XP	3000	4	0.90	10800	114	95
49518	QT 4x32/277 IS	277	0.43	FO32/XP	3000	4	0.90	10800	114	95
49915	QT 3x32T8/120 ISN-SC	120	0.74	FO32/XP	3000	3	0.89	8010	87	92
49916	QT 3x32T8/277 ISN-SC	277	0.32	FO32/XP	3000	3	0.89	8010	87	92
49917	QT 4x32T8/120 ISN-SC	120	0.96	FO32/XP	3000	4	0.89	10700	114	94
49918	QT 4x32T8/277 ISN-SC	277	0.42	FO32/XP	3000	4	0.89	10700	114	94
49240	QT 2x32/347 IS-SC	347	0.18	FO32/XP	3000	2	0.90	5400	59	92
49593	QT 3x32/347 IS	347	0.26	FO32/XP	3000	3	0.90	8100	87	93
49594	QT 4x32/347 IS	347	0.34	FO32/XP	3000	4	0.90	10800	114	95

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.

<sup>2</sup> Rated lamp lumens and performance data based on OCTRON XP™ series lamps.

### Specifications<sup>1</sup>

**Starting Method:** Instant Start  
**Ballast Factor:** 0.89-0.90  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**3 & 4 lamp SC models:** > 40KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F min.<sup>1</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**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  
 ANSI C62.41 Cat. A Transient Protection  
 Remote Mounting up to 18 feet

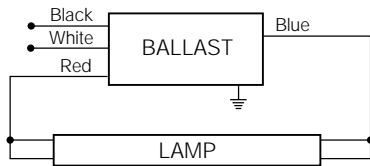
<sup>1</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

### System Life / Warranty

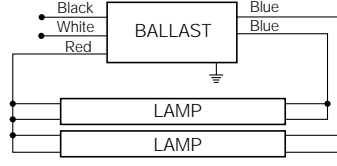
QUICKTRONIC products are covered by our **QUICK 60+ warranty**, a comprehensive lamp and ballast system warranty. For additional details, refer to our QUICK 60+ warranty bulletin.

### Ordering Guide

Specifications subject to change without notice.

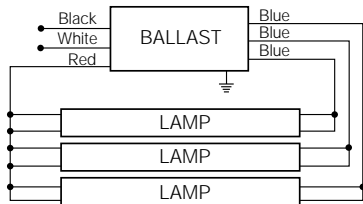


**QUICKTRONIC 1x32**



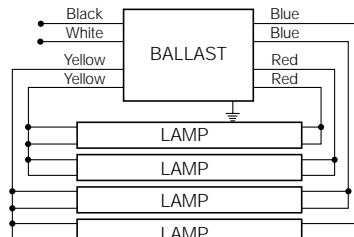
**QUICKTRONIC 2x32**

Note: For one lamp application, cap any blue lead. Insulate to 600 volts.



Note: For two lamp application, cap any blue lead. Insulate to 600 volts.

**QUICKTRONIC 3x32**

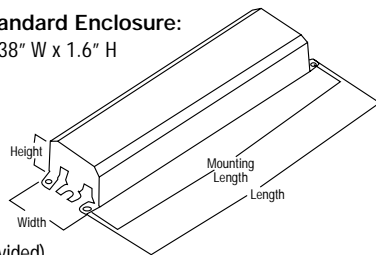


Note: For three lamp application, cap any unused blue lead. Insulate to 600 volts.

**QUICKTRONIC 4x32**

#### Dimensions Standard Enclosure:

Overall: 9.5" L x 2.38" W x 1.6" H  
 Mounting: 8.90"

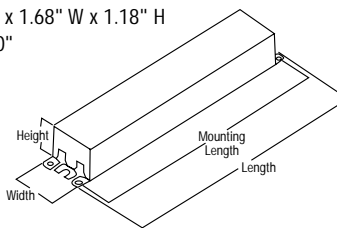


#### Wiring:

Leads only  
 (no connectors provided)

#### Dimensions "SC" Small Enclosure:

Overall: 9.5" L x 1.68" W x 1.18" H  
 Mounting: 8.90"



#### Packaging:

10 pieces

Item Number	49915 QT 3 x 32T8 / 120 ISN-SC	Case Size
QUICKTRONIC		Starting/Ballast Factor
Number of Lamps (1, 2, 3, 4)		Line Voltage
		Primary Lamp Wattage

# QUICKTRONIC® T8 Instant Start (PLUS)

High Light Output

## Lamp/Ballast Guide

32W T8 - OCTRON  
 2-lamp QT2x32PLUS  
 3-lamp QT3x32PLUS

Primary Lamp Types  
 FO32, FBO32, FBO31

"A" can models (BF=1.13) also operate FO25, FO17, FBO24 and FBO16 T8 lamps.

**SYLVANIA QUICKTRONIC 32 ISH (PLUS)** operates OCTRON® FO32, FBO32 and FBO31 T8 lamps with increased lumen output and high system efficacy.

SYSTEM 32 ISH provides 20% more lumen output than F40T12 magnetic systems while saving nearly 20% in energy. Compared to standard T8 systems, 32PLUS provides 30% more light output.

High light output and multi-lamp capability for up to three lamps allows fewer ballasts to be used in a fixture and provides tandem wiring options. Also, parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.



SYSTEM 32 ISH is available in two and three lamp models in 120V and 277V (and two lamps 347V) to cover a wide range of applications.

## Key System Features

- 120% Ballast factor\* (118, 113%)
- 30% More light output than standard T8 systems
- 0°F Starting
- Full lamp life
- High luminous efficacy
- Virtually eliminates lamp flicker
- Compatible with most powerline carrier systems
- Quiet operation
- High power factor
- Low harmonic distortion
- Low in-rush current
- Lightweight
- UL, CSA, FCC

Setting the standard for quality, SYSTEM 32 ISH is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

## System Information

SYSTEM 32 ISH uses 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. Lamps are operated at their rated current, but a higher frequency to provide maximum light output while ensuring rated lamp life.

System Type (2-lamp)		Input Wattage	Initial Lumens	System LPW
F40T12	Std. Magnetic Ballast	96	5795	60
	E.S. Magnetic Ballast	86	5795	67
F34T12	E.S. Magnetic Ballast	72	4750	66
F032/XP	<b>QT2x32PLUS</b>	78	7200	92
FB40T12/D41	E.S. Mag. Ballast	86	5795	67
F40T5IS	Electronic Ballast	75	6000	80
FBO32/XP	<b>QT2x32PLUS</b>	78	6960	89

## Application Information

**SYLVANIA QUICKTRONIC 32ISH** is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New Construction
- Retrofit
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

SYSTEM 32 ISH electronic ballasts have low harmonic distortion with corresponding low in-rush current\* for optimal system performance.

SYSTEM 32 ISH electronic circuitry is designed to be compatible with powerline carrier systems.\*

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

\* Except "A" can ballast



# T8 Instant Start High Ballast Factor

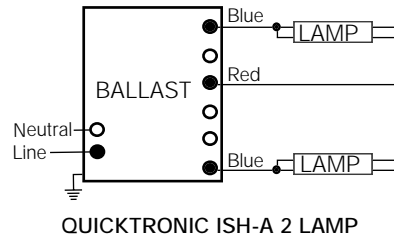
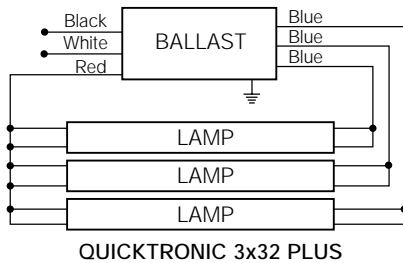
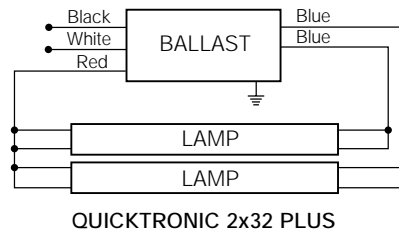
## <20% THD Electronic T8 Fluorescent Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)	
49523	QT 2x32/120 PLUS	120	0.67	F032/XP	3000	2	1.20	7200	78	92	
49524	QT 2x32/277 PLUS	277	0.29	F032/XP	3000	2	1.20	7200	78	92	
49525	QT 3x32/120 PLUS	120	0.96	F032/XP	3000	3	1.18	10600	112	95	
49526	QT 3x32/277 PLUS	277	0.42	F032/XP	3000	3	1.18	10600	112	95	
49226	QT 2x32/347 PLUS	347	0.23	F032/XP	3000	2	1.20	7200	78	92	
<b>Lighter Weight</b>		<b>Wiretrap connectors (with or without leads)</b>					<b>Ballast Factor: 1.13</b>				
50080	QT 2x32T8/120 ISH-A <i>Formerly: M2-IH-T8-GP-A-120</i>	120	0.64	F032/XP	3000	2	1.13	6780	77	88	
50090	QT 2x32T8/277 ISH-A <i>Formerly: M2-IH-T8-GP-A-277</i>	277	0.27	F032/XP	3000	2	1.13	6780	77	88	

New product check with OSRAM SYLVANIA for availability.

### New Small Can Enclosures

- 49923 QT 2x32T8/120-ISH-SC
- 49924 QT 2x32T8/277-ISH-SC



### Dimensions Standard Enclosure:

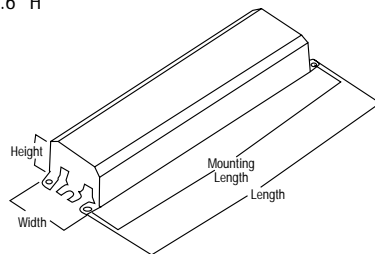
Overall: 9.5" L x 2.38" W x 1.6" H  
Mounting: 8.90"

### Wiring:

Leads only  
(no connectors provided)

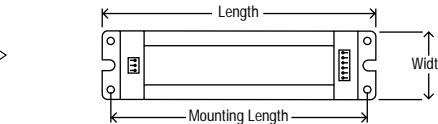
### Packaging:

Quantity: 10 pieces  
Weight: 2.8 lbs ea. (approx.)



### Dimensions "A" Enclosure:

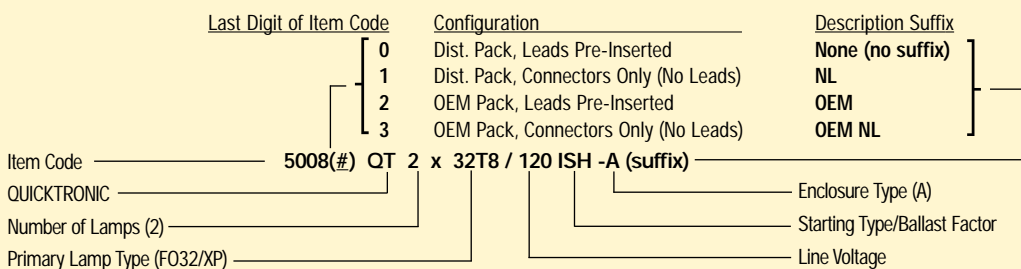
Overall: 9.5" L x 2.38" W x 1.5" H  
Mounting: 8.91"



### Packaging:

Quantity: 20 pieces  
Weight: 1.3 lbs ea. (approx.)

**Wiring/Packaging Configurations:** All ISH-A products are available in the following packaging/wiring configurations:



## Performance Guide

Data shown based upon SYLVANIA OCTRON F032/XP™ lamp(s). QUICKTRONIC 32PLUS is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F32 (and the U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Electronic Ballast Catalog.

## Specifications<sup>1</sup>

**Starting Method:** Instant Start  
**Ballast Factor:** 1.18-1.20  
(1.13 "A" can)

**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**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  
ANSI C62.41 Cat. A Transient Protection  
Remote Mounting up to 18 feet  
("A" enclosure remote up to 10 feet)

<sup>1</sup> Data based on F032/XP lamp. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.

<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

# QUICKTRONIC® T8 Instant Start (LP) Low Power

## Lamp/Ballast Guide

32W T8 - OCTRON  
 2-lamp QT2x32LP  
 3-lamp QT3x32LP  
 4-lamp QT4x32LP

Primary Lamp Types  
 FO32, FBO32, FBO31

Also operates:  
 FO17, FO25, FO40  
 FBO16, FBO24

F40T8 operation:  
 1 lamp on 2L ballast  
 2 lamps on 3L ballast  
 3 lamps on 4L ballast

**SYLVANIA QUICKTRONIC 32 ISL (LP)** Instant Start Low Ballast Factor Ballast operates OCTRON® T8 lamps at lower power levels for increased energy savings when reduced light is acceptable, and provides 35-45% energy savings when compared to F40T12 magnetic systems, and is perfectly suited to replace F34T12 energy saving lamp systems.

Multi-lamp capability for up to four lamps allows fewer ballasts to be used in a fixture and provides tandem wiring options.

Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

Setting the standard for quality, SYSTEM 32LP is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.



SYSTEM 32LP is available in two, three and four lamp models in 120V, 277V and 347V to cover a wide range of applications.

## Key System Features

- 77% Ballast factor
- 30-40% Energy savings
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- Compatible with most powerline carrier systems
- Quiet operation
- High power factor
- Low harmonic distortion
- Low in-rush current
- Lightweight
- UL, CSA, FCC

## System Information

SYSTEM LP combined with OCTRON XP™ T8 lamps provides equivalent maintained light levels of standard IS ballasts and 700 series T8 lamps and saves more than \$1 per lamp per year in energy!

SYSTEM 32LP uses 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.

SYSTEM 32LP electronic ballasts have low harmonic distortion with corresponding low in-rush current for optimal system performance.

SYSTEM 32LP electronic circuitry is designed to be compatible with powerline carrier systems.

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

System Type (4-lamp)	Input Wattage	Initial Lumens	System LPW
F40T12 - Std. Magnetic Ballast	192	11590	60
E.S. Magnetic Ballast	172	11590	67
F34T12 - Std. Magnetic Ballast	164	9500	58
E.S. Magnetic Ballast	144	9500	66
F32T8/700 - Electronic (88BF)	112	9850	88
F032/XP - QT4x32LP	98	9240	94

## Application Information

### SYLVANIA QUICKTRONIC 32 ISL

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New Construction
- Retrofit
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

# T8 Instant Start LP

## Low Ballast Factor

### <20% THD Electronic T8 Low Power Fluorescent Systems

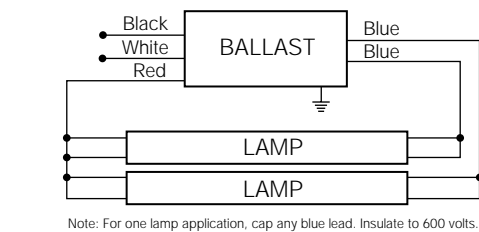
Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49533	QT 2x32/120 LP	120	0.44	FO32/XP	3000	2	0.77	4620	51	91
49534	QT 2x32/277 LP	277	0.19	FO32/XP	3000	2	0.77	4620	51	91
49535	QT 3x32/120 LP	120	0.66	FO32/XP	3000	3	0.77	6930	76	91
49536	QT 3x32/277 LP	277	0.29	FO32/XP	3000	3	0.77	6930	76	91
49537	QT 4x32/120 LP	120	0.84	FO32/XP	3000	4	0.77	9240	98	94
49538	QT 4x32/277 LP	277	0.37	FO32/XP	3000	4	0.77	9240	98	94
49241	QT 2x32/347 LP-SC	347	0.15	FO32/XP	3000	2	0.77	4620	51	91
49225	QT 4x32/347 LP	347	0.29	FO32/XP	3000	4	0.77	9240	98	94

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON XP series lamps.

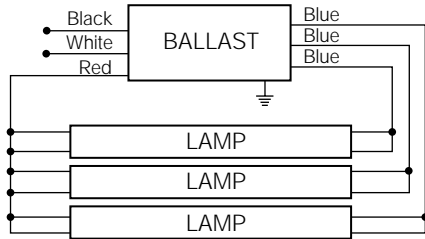
New product check with OSRAM SYLVANIA for availability.

#### New Small Can Enclosures

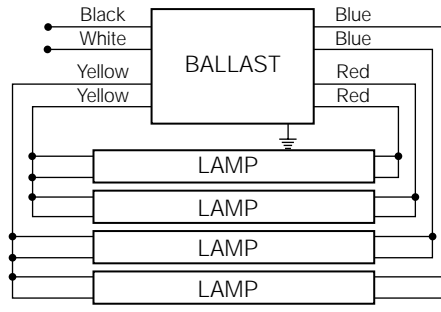
49933	QT 2x32T8/120-ISL-SC	49934	QT 2x32T8/277-ISL-SC
49935	QT 3x32T8/120-ISL-SC	49936	QT 3x32T8/277-ISL-SC



**QUICKTRONIC 2x32 (SC)**



**QUICKTRONIC 3x32**



**QUICKTRONIC 4x32**

### Specifications<sup>1,2</sup>

**Starting Method:** Instant Start  
**Ballast Factor:** 0.77  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**Voltage Range:** +/-10% of Rated Input

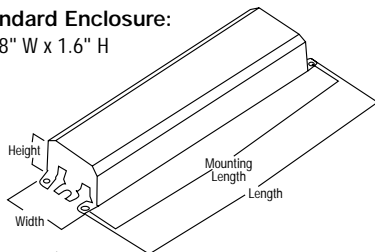
UL Listed Class P, Type 1 Outdoor  
 CSA Certified where applicable  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat A. Transient Protection  
 Remote Mounting up to 18 feet

<sup>1</sup> Data based on FO32/XP lamp. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.

<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

#### Dimensions Standard Enclosure:

Overall: 9.5" L x 2.38" W x 1.6" H  
 Mounting: 8.90"

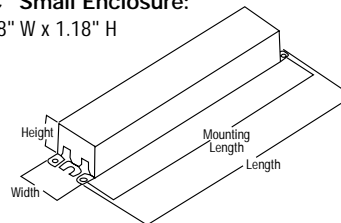


#### Packaging:

Quantity: 10 pieces  
 Weight: 2.8 lbs ea. (approx.)

#### Dimensions "SC" Small Enclosure:

Overall: 9.5" L x 1.68" W x 1.18" H  
 Mounting: 8.90"



#### Packaging:

Quantity: 10 pieces  
 Weight: 1.6 lbs ea. (approx.)

### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.

Item Number	49533	QT	2 x 32 /	120	LP	System Type – LP
QUICKTRONIC						Line Voltage
Number of Lamps (2, 3, 4)						Primary Lamp Wattage

<20% THD Electronic T8 Fluorescent Ballast

# QUICKTRONIC® T8 Instant Start

Wiretrap connectors  
(with or without leads)

T8 Instant Start  
Normal Ballast Factor



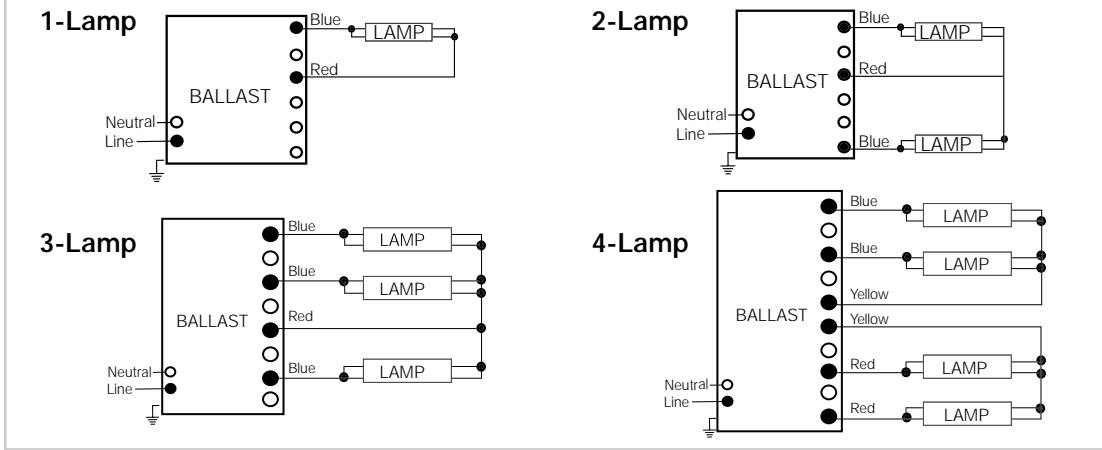
Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
51200	QT 1x32T8/120 ISN-D Formerly: M1-IN-T8-GP-D-120	120	0.25	FO32/XP	3000	1	0.875	2625	32	82
50010	QT 1x32T8/277 ISN-D Formerly: M1-IN-T8-GP-D-277	277	0.12	FO32/XP	3000	1	0.875	2625	31	85
50020	QT 2x32T8/120 ISN-D Formerly: M2-IN-T8-GP-D-120	120	0.50	FO32/XP	3000	2	0.875	5250	59	89
50030	QT 2x32T8/277 ISN-D Formerly: M2-IN-T8-GP-D-277	277	0.22	FO32/XP	3000	2	0.875	5250	58	91
50040	QT 3x32T8/120 ISN-A Formerly: M3-IN-T8-GP-D-120	120	0.76	FO32/XP	3000	3	0.875	7875	85	93
50050	QT 3x32T8/277 ISN-A Formerly: M3-IN-T8-GP-A-277	277	0.34	FO32/XP	3000	3	0.875	7875	84	94
50060	QT 4x32T8/120 ISN-A Formerly: M4-IN-T8-GP-D-120	120	1.01	FO32/XP	3000	4	0.875	10500	111	95
50070	QT 4x32T8/277 ISN-A Formerly: M4-IN-T8-GP-A-277	277	0.45	FO32/XP	3000	4	0.875	10500	112	94
50930	QT 1x32T8/347 ISN-D Formerly: M1-IN-T8-GP-D-347	347	0.09	FO32/XP	3000	1	0.875	2625	31	85
50940	QT 2x32T8/347 ISN-D Formerly: M2-IN-T8-GP-D-347	347	0.17	FO32/XP	3000	2	0.875	5250	59	89
50950	QT 3x32T8/347 ISN-A Formerly: M3-IN-T8-GP-A-347	347	0.30	FO32/XP	3000	3	0.875	7875	88	89
50960	QT 4x32T8/347 ISN-A Formerly: M4-IN-T8-GP-A-347	347	0.32	FO32/XP	3000	4	0.875	10500	110	95

## Specifications<sup>3</sup>

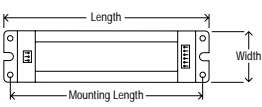
**Starting Method:** Instant Start  
**Ballast Factor:** 0.875  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F min.<sup>3</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**Voltage Range:** +/-10% of Rated Input  
**Lamp Types:** 32,25,17 T8 and the U-Bend equivalent lamps

UL Listed Class P, Type 1 Outdoor  
 CSA Certified (where applicable)  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Remote Mounting up to 18 feet

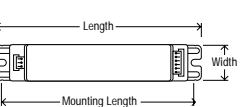
<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON XP series lamps.  
<sup>3</sup> Operation below 50°F may affect light output or lamp operation – contact OSRAM SYLVANIA for details.



**Dimensions "A" Enclosure:**  
 Overall: 9.5" L x 2.38" W x 1.5" H  
 Mounting: 8.91"  
 Weight: 1.3 lbs each



**Dimensions "D" Enclosure:**  
 Overall: 9.5" L x 1.7" W x 1.5" H  
 Mounting: 8.91"  
 Weight: 0.90 lbs each



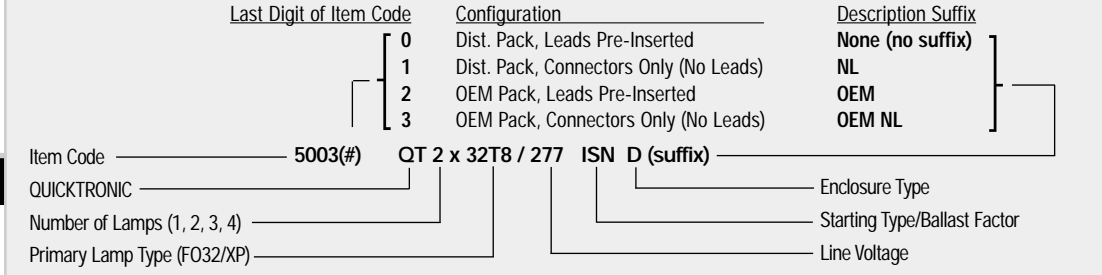
## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

**Wiring/Packaging Configurations:** All ISN-D, A products are available in the following packaging/wiring configurations:



<20% THD Electronic T8 Low Power Fluorescent Ballast

# QUICKTRONIC® T8 Instant Start

Wiretrap connectors  
(with or without leads)

## T8 Instant Start LP Low Ballast Factor

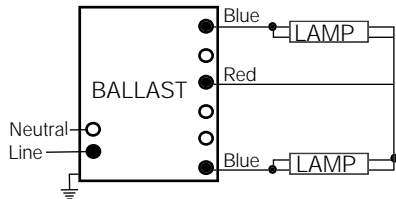
### Performance Guide



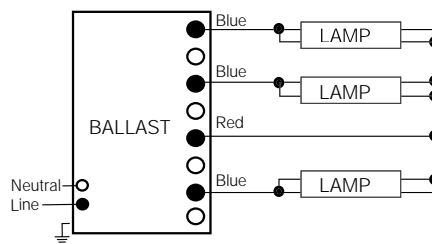
Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50100	QT 2x32T8/120 ISL-D Formerly: M2-IL-T8-GP-D-120	120	0.43	F032/XP	3000	2	0.77	4620	52	89
50110	QT 2x32T8/277 ISL-D Formerly: M2-IL-T8-GP-D-277	277	0.18	F032/XP	3000	2	0.77	4620	51	91
50120	QT 3x32T8/120 ISL-A Formerly: M3-IL-T8-GP-A-120	120	0.64	F032/XP	3000	3	0.77	6930	75	92
50130	QT 3x32T8/277 ISL-A Formerly: M3-IL-T8-GP-A-277	277	0.27	F032/XP	3000	3	0.77	6930	74	94
50140	QT 4x32T8/120 ISL-A Formerly: M4-IL-T8-GP-A-120	120	0.80	F032/XP	3000	4	0.77	9240	97	95
50150	QT 4x32T8/277 ISL-A Formerly: M4-IL-T8-GP-A-277	277	0.34	F032/XP	3000	4	0.77	9240	98	94
51180	QT 2x32T8/347 ISL-D Formerly: M2-IL-T8-GP-D-347	347	0.15	F032/XP	3000	2	0.77	4620	51	91

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON XP series lamps.

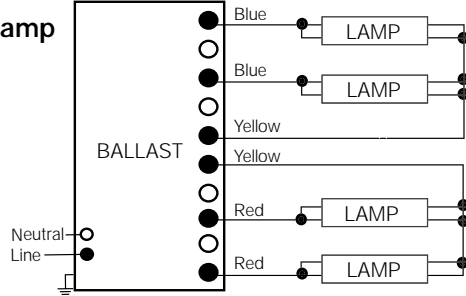
### 2-Lamp



### 3-Lamp



### 4-Lamp



### Specifications<sup>1</sup>

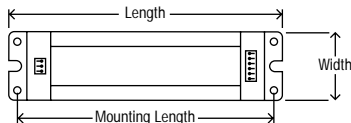
**Starting Method:** Instant Start  
**Ballast Factor:** 0.77  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**Voltage Range:** +/-10% of Rated Input  
**Lamp Types:** 32,25,17 T8 and the U-Bend equivalent lamps

UL Listed Class P, Type 1 Outdoor  
CSA Certified where applicable  
70°C Max Case Temperature  
FCC 47CFR Part 18 Non-Consumer  
Class A Sound Rating  
ANSI C62.41 Cat A. Transient Protection  
Remote Mounting up to 18 feet

<sup>1</sup> Data based on F032/XP lamp. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.  
<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

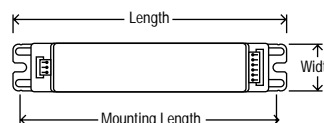
### Dimensions "A" Enclosure:

Overall: 9.5" L x 2.38" W x 1.5" H  
Mounting: 8.91"  
Weight: 1.3 lbs each

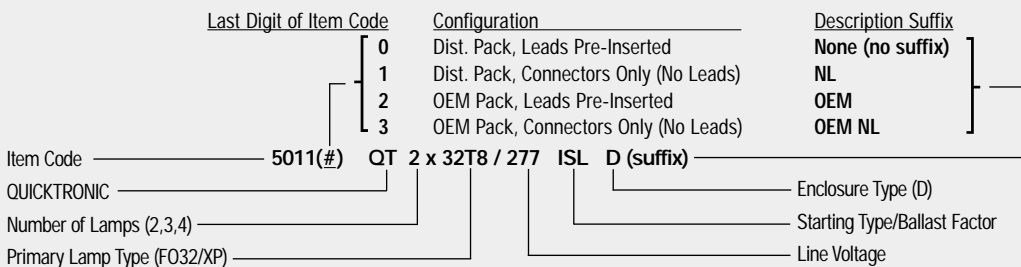


### Dimensions "D" Enclosure:

Overall: 9.5" L x 1.7" W x 1.5" H  
Mounting: 8.91"  
Weight: 0.90 lbs each



**Wiring/Packaging Configurations:** All ISL-A,D products are available in the following packaging/wiring configurations:



### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T8 Fluorescent Systems

# QUICKTRONIC® T8 Instant Start UNIVERSAL VOLTAGE

Professional Series

Normal Light Output

## Lamp/Ballast Guide

### 32W T8 - OCTRON

- 1-lamp QTP1x32T8 ISN-SC
- 2-lamp QTP2x32T8 ISN-SC
- 3-lamp QTP3x32T8 ISN-SC
- 4-lamp QTP4x32T8 ISN-SC

### Primary Lamp Types

FO32, FBO32, FBO31

### Also operates:

FO17, FO25, FO40  
FBO16, FBO24

### F40T8 operation:

- 1 lamp on 2L ballast
- 2 lamps on 3L ballast
- 3 lamps on 4L ballast

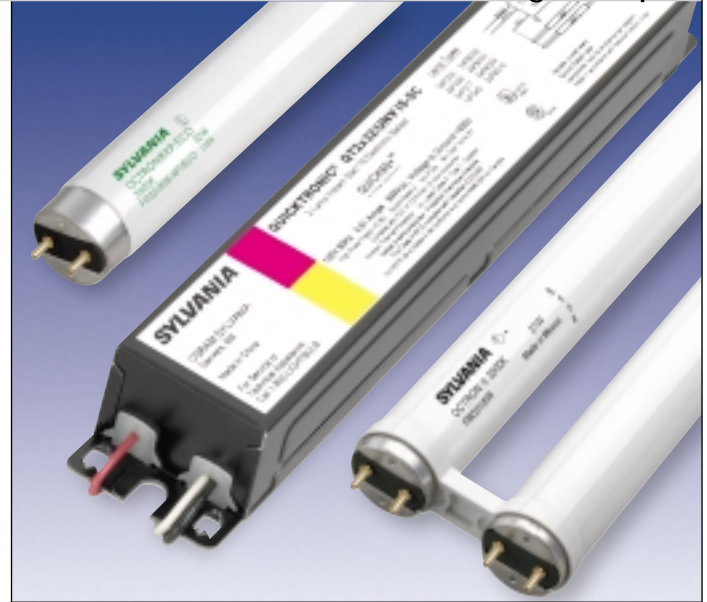
### SYLVANIA QUICKTRONIC

**SYSTEM 32 UNV** operates OCTRON® T8 lamps with maximum efficacy and high lumen output, and provides 30-40% energy savings when compared to F40T12 magnetic systems.

New small can enclosure allows for low profile fixture design and application. New size also provides transportation, inventory and ergonomic benefits.

Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

Setting the standard for quality, SYSTEM 32 ISN-SC-UNV is also covered by our QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.



## Key System Features

- New universal voltage (120-277)
- New small enclosure size
- 88% Ballast factor
- 30-40% Energy savings
- 0°F Starting
- <10% THD
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC

## System Information

SYSTEM 32 UNV operates from 120V through 277V, eliminating "wrong voltage" wiring errors and reducing the number of models in inventory by half.

QUICKTRONIC 32 ISN-SC-UNV uses 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.

QUICKTRONIC 32 ISN-SC-UNV electronic ballasts have very low harmonic distortion (<10% THD) for high system performance.

Ballast operates at >42kHz to reduce potential interference with infrared control systems.

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

System Type (2-lamp)	Input Wattage	Initial Lumens	System LPW
F40T12 - Std. Magnetic Ballast	96	5795	60
F40T12 - E.S. Magnetic Ballast	86	5795	67
F34T12 - Std. Magnetic Ballast	82	4750	58
F34T12 - E.S. Magnetic Ballast	72	4750	66
F32T8/700 - Magnetic	71	5320	75
F32T8/800 - R.S. Electronic	62	5190	84
F032/XP - QT2x32ISN-UNV	59	5280	89

## Application Information

### SYLVANIA QUICKTRONIC 32 UNV

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Retrofit
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

# T8 InstantStart UNIV VOLTAGE Normal Ballast Factor

## Performance Guide

Data shown based upon SYLVANIA OCTRON F032/XP lamp(s). QUICKTRONIC 32ISN-SC is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F17, F25 and F32 (and the U-Bend equivalent) T8 lamps. Complete performance data is available in the [QUICKSYSTEMS](#) section of the SYLVANIA Electronic Ballast Catalog.

## <10% THD Electronic T8 Fluorescent Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49941	QTP 1x32T8/UNV-ISN-SC	120-277	0.26/0.11	F032/XP	3000	1	0.88	2640	30	88
49943	QTP 2x32T8/UNV-ISN-SC	120-277	0.51/0.22	F032/XP	3000	2	0.88	5280	59	89
49945	QTP 3x32T8/UNV-ISN-SC	120-277	0.77/0.33	F032/XP	3000	3	0.88	7920	87	91
49947	QTP 4x32T8/UNV-ISN-SC	120-277	0.98/0.43	F032/XP	3000	4	0.88	10560	114	93

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON XP series lamps.

### 840 PC Pallet Packs

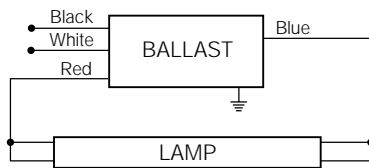
49942	QTP1x32T8/UNIV-ISN-SC-PAL	49944	QTP2x32T8/UNIV-ISN-SC-PAL
49946	QTP3x32T8/UNIV-ISN-SC-PAL	49948	QTP4x32T8/UNIV-ISN-SC-PAL

## Specifications<sup>1</sup>

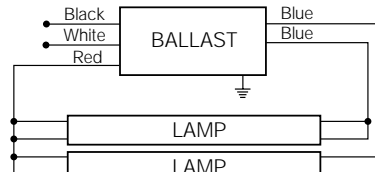
**Starting Method:** Instant Start  
**Ballast Factor:** 0.88  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 40KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F min.<sup>1</sup>  
**Input Frequency:** 50/60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** 108-305V

UL Listed Class P, Type 1 Outdoor  
CSA Certified (where applicable)  
75°C Max Case Temperature  
FCC 47CFR Part 18 Non-Consumer  
Class A Sound Rating  
ANSI C62.41 Cat. A Transient Protection  
Remote Mounting up to 18 feet

<sup>1</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

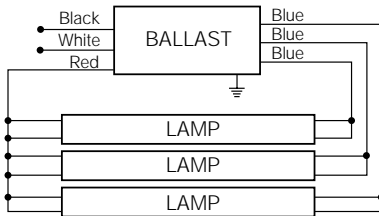


**QUICKTRONIC 1x32**



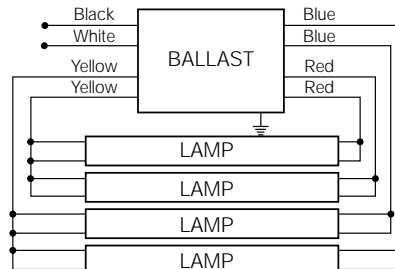
Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

**QUICKTRONIC 2x32**



Note: For two lamp application, cap any blue lead. Insulate to 600 volts.

**QUICKTRONIC 3x32**

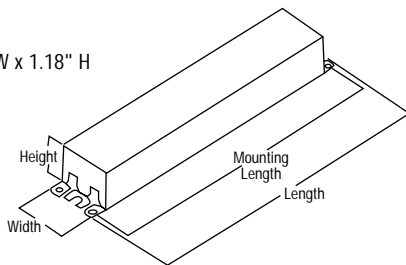


Note: For three lamp application, cap any unused blue lead. Insulate to 600 volts.

**QUICKTRONIC 4x32**

### Dimensions:

Overall: 9.5" L x 1.68" W x 1.18" H  
Mounting: 8.90"



### Packaging:

Quantity: 10 pieces/840 pieces  
Weight: 1.6 lbs each (approx)

### Wiring:

Leads only (no connectors provided)

## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

Item Number	49945	QTP 3	x 32T8 / UNV ISN-SC	Case Size
QUICKTRONIC PROFESSIONAL				Starting/Ballast Factor
Number of Lamps (1, 2, 3, 4)				Line Voltage (120-277V)
				Primary Lamp Wattage

<10% THD Electronic T8 Fluorescent Systems  
**QUICKTRONIC® T8 Instant Start**  
 Professional Series

Normal Light Output

**Lamp/Ballast Guide**

**32W T8 - OCTRON**

- 1-lamp QTP1x32T8 ISN-D
- 2-lamp QTP2x32T8 ISN-D
- 3-lamp QTP3x32T8 ISN-A
- 4-lamp QTP4x32T8 ISN-A

**Primary Lamp Types**

FO32, FBO32, FBO31

**Also operates:**

FO17, FO25, FBO16, FBO24

**SYLVANIA QUICKTRONIC PROFESSIONAL SERIES**

**SYSTEM 32 ISN** operates OCTRON® T8 lamps with maximum efficacy and high lumen output, and provides 30-40% energy savings when compared to F40T10 magnetic systems.

SYSTEM 32 ISN operates at very low total harmonic distortion (<10% THD) to meet high performance specifications and provide optimal power quality.

Setting the standard for quality, SYSTEM 32 ISN is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.



**Key System Features**

- <10% THD
- Wiretrap connectors
- 87.5% Ballast factor
- 30-40% Energy savings
- 0°F Starting
- Very lightweight
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- UL, CSA, FCC

**Application Information**

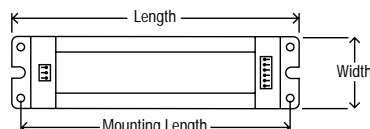
**SYLVANIA QUICKTRONIC 32ISN-A, D**

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Retrofit
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

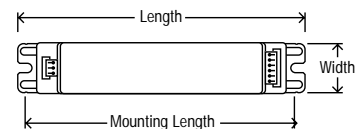
**Dimensions "A" Enclosure:**

Overall: 9.5" L x 2.38" W x 1.5" H  
 Mounting: 8.91"  
 Weight: 1.3 lbs each



**Dimensions "D" Enclosure:**

Overall: 9.5" L x 1.7" W x 1.5" H  
 Mounting: 8.91"  
 Weight: 0.90 lbs each



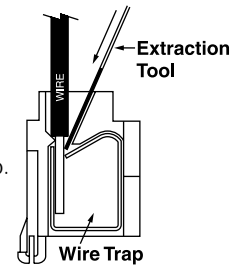
**Wire Trap Diagram**

**Wire Insertion**

- Strip 18 AWG solid copper wire 3/8"
- Insert stripped end into wiretrap.
- Pull gently to verify proper installation.

**Wire Extraction**

- Insert wiretrap extraction tool into wiretrap.
- Pull wire out of wiretrap.
- Remove extraction tool.





# T8 Instant Start Normal Ballast Factor

## Performance Guide<sup>1,2</sup>

<sup>1,2</sup> Data shown based upon SYLVANIA OCTRON FO32/XP™ lamp(s). QUICKTRONIC 32ISN-SC is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F17, F25 and F32 (and the U-Bend equivalent) T8 lamps. Complete performance data is available in the **QUICKSYSTEMS** section of the SYLVANIA Electronic Ballast Catalog.

## <10% THD Electronic T8 Fluorescent Systems

### Wiretrap connectors (with or without leads)

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50620	QTP 1x32T8/120 ISN-D Formerly: M1-IN-T8-D-120	120	0.25	FO32/XP	3000	1	0.875	2625	31	85
50630	QTP 1x32T8/277 ISN-D Formerly: M1-IN-T8-D-277	277	0.12	FO32/XP	3000	1	0.875	2625	32	82
50640	QTP 2x32T8/120 ISN-D Formerly: M2-IN-T8-D-120	120	0.50	FO32/XP	3000	2	0.875	5250	59	89
50650	QTP 2x32T8/277 ISN-D Formerly: M2-IN-T8-D-277	277	0.22	FO32/XP	3000	2	0.875	5250	58	91
50660	QTP 3x32T8/120 ISN-A Formerly: M3-IN-T8-A-120	120	0.76	FO32/XP	3000	3	0.875	7875	85	93
50670	QTP 3x32T8/277 ISN-A Formerly: M3-IN-T8-A-277	277	0.34	FO32/XP	3000	3	0.875	7875	84	94
50680	QTP 4x32T8/120 ISN-A Formerly: M4-IN-T8-A-120	120	1.01	FO32/XP	3000	4	0.875	10500	113	93
50690	QTP 4x32T8/277 ISN-A Formerly: M4-IN-T8-A-277	277	0.45	FO32/XP	3000	4	0.875	10500	112	94
50980	QTP 1x32T8/347 ISN-D Formerly: M1-IN-T8-D-347	347	0.09	FO32/XP	3000	1	0.875	2625	31	85
50990	QTP 2x32T8/347 ISN-D Formerly: M2-IN-T8-D-347	347	0.17	FO32/XP	3000	2	0.875	5250	59	89

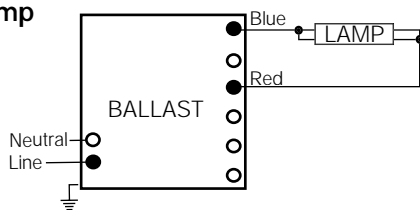
## Specifications<sup>1</sup>

**Starting Method:** Instant Start  
**Ballast Factor:** 0.875  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F min.<sup>1</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 99%  
**Voltage Range:** +/-10% of Rated Input

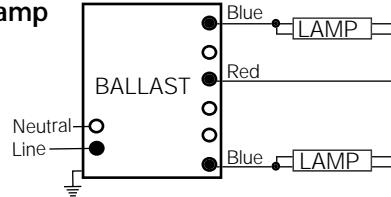
UL Listed Class P, Type 1 Outdoor  
 CSA Certified (where applicable)  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Remote Mounting up to 18 feet

<sup>1</sup> Operation below 50°F may affect light output or lamp operation – see “Low Temp. Starting” definition.

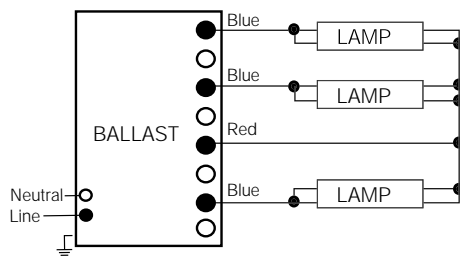
### 1-Lamp



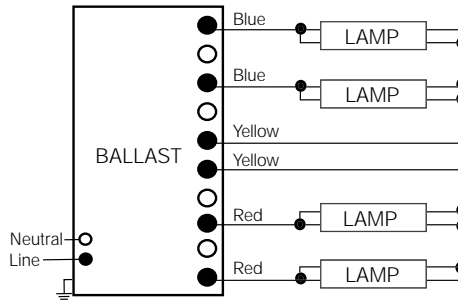
### 2-Lamp



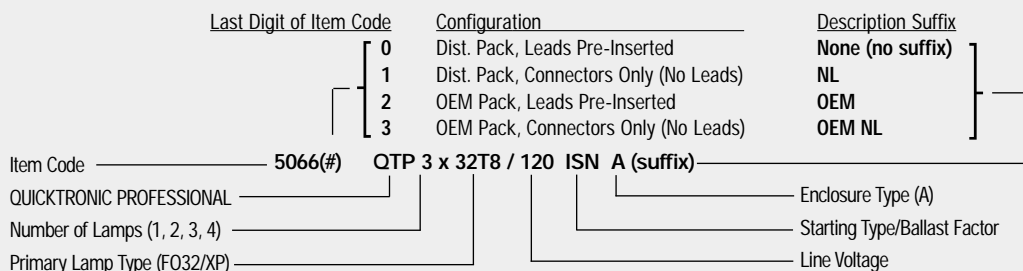
### 3-Lamp



### 4-Lamp



**Wiring/Packaging Configurations:** All ISN-A, D products are available in the following packaging/wiring configurations:



## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T8 Fluorescent Systems

# QUICKTRONIC® T8 Instant Start ISN-J (GEN IV™)

Professional Series

Low Profile 0.88" High

## Lamp/Ballast Guide

### 32W T8 - OCTRON

- 1-lamp QTP1x32ISN-G4-J
- 2-lamp QTP2x32ISN-G4-J

### Primary Lamp Types

FO32, FBO32, FBO31

### Also operates:

FO25, FBO24

### SYLVANIA QUICKTRONIC

**32 ISN-J (GEN IV™)** operates OCTRON® T8 lamps with maximum efficacy and high lumen output, and provides 30-40% energy savings when compared to F40T12 magnetic systems.

Very low profile (0.88" high) enclosure allows for low profile fixture design and application. New size also provides transportation, inventory and ergonomic benefits.

Parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

Setting the standard for quality, SYSTEM 32 ISN-J is also covered by our QUICK 60+® warranty, the first and most comprehensive lamp & ballast system warranty in the industry.

## Key System Features

- 0.88" High enclosure size
- 88% Ballast factor
- 30-40% Energy savings
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Very lightweight
- UL, CSA, FCC

## Application Information

### SYLVANIA QUICKTRONIC 32 ISN-J

is ideally suited for:

- Low Profile Fixtures
- Retail and Commercial
- Hospitality
- Institutional
- New Construction
- Retrofit
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting



## System Information

QUICKTRONIC 32 ISN-J GEN IV uses 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.

QUICKTRONIC 32 ISN-J GEN IV electronic ballasts have low harmonic distortion.

Ballast operates at >42kHz to reduce potential interference with infrared control systems.

System Type 2-lamp ISN-J-GEN IV	Input Wattage	Initial Lumens	System LPW
F40T12 - Std. Magnetic Ballast	96	5795	60
F40T12 - E.S. Magnetic Ballast	86	5795	67
F34T12 - Std. Magnetic Ballast	82	4750	58
F34T12 - E.S. Magnetic Ballast	72	4750	66
F32T8/700 - Magnetic	71	5320	75
F32T8/800 - R.S. Electronic	62	5190	84
F032/XP - QT2x32T8-ISN-J-G4	59	5250	89

# Instant Start T8 GEN IV 0.88" High Normal Ballast Factor

## <10% THD Instant Start Electronic T8 Fluorescent Systems

### Wiretrap connectors (with or without leads)

### Performance Guide<sup>1</sup>

<sup>1</sup> Data shown based upon SYLVANIA OCTRON FO32/XP lamp(s). QUICKTRONIC 32 ISN-J is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

All models will also operate F25 and F32 (and the U-Bend equivalent) T8 lamps. Complete performance data is available in the **QUICKSYSTEMS** section of the SYLVANIA Electronic Ballast Catalog.

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
51110	QTP 1x32T8/120 ISN-J-G4 <i>Formerly: M1-IN-T8-J-120</i>	120	0.28	FO32/XP	3000	1	0.875	2625	31	85
51120	QTP 1x32T8/277 ISN-J-G4 <i>Formerly: M1-IN-T8-J-277</i>	277	0.14	FO32/XP	3000	1	0.875	2625	31	85
51130	QTP 2x32T8/120 ISN-J-G4 <i>Formerly: M2-IN-T8-J-120</i>	120	0.55	FO32/XP	3000	2	0.875	5250	58	91
51140	QTP 2x32T8/277 ISN-J-G4 <i>Formerly: M2-IN-T8-J-277</i>	277	0.23	FO32/XP	3000	2	0.875	5250	60	88

The following products will be discontinued:

50160 QT 1x32T8/120 ISN-J-G4 (Formerly: M1-IN-T8-GP-J-120)	50170 QT 1x32T8/277 ISN-J-G4 (Formerly: M1-IN-T8-GP-J-277)
50180 QT 2x32T8/120 ISN-J-G4 (Formerly: M2-IN-T8-GP-J-120)	50190 QT 2x32T8/277 ISN-J-G4 (Formerly: M2-IN-T8-GP-J-277)
50200 QT 3x32T8/120 ISN-K-G4 (Formerly: M3-IN-T8-GP-K-120)	50210 QT 3x32T8/277 ISN-K-G4 (Formerly: M3-IN-T8-GP-K-277)

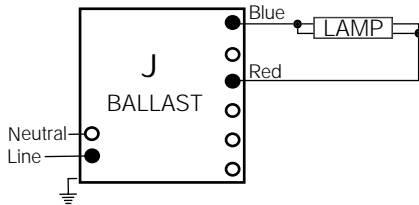
### Specifications<sup>1</sup>

**Starting Method:** Instant Start  
**Ballast Factor:** 0.875  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 40KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F min.<sup>1</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** +/-10% of Rated Input  
**Lamp Types:** 32, 25T8 and U-Bend equivalent lamps

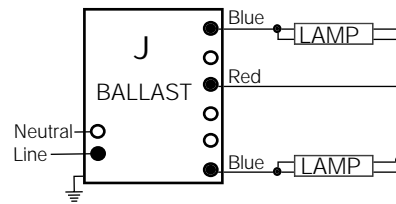
UL Listed Class P, Type 1 Outdoor  
 CSA Certified (where applicable)  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Remote Mounting up to 18 feet

<sup>1</sup> Operation below 50°F may affect light output or lamp operation – see “Low Temp. Starting” definition.

### 1-Lamp

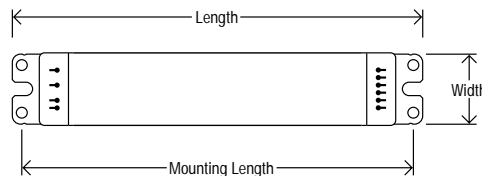


### 2-Lamp



### Dimensions "J" Enclosure:

Overall: 9.5" L x 1.57" W x .88" H  
 Mounting: 8.91"  
 Weight: 0.4 lbs each



**Wiring/Packaging Configurations:** All ISN-J G4 products are available in the following packaging/wiring configurations:

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL

Item Code \_\_\_\_\_ 5112(#)  
 QUICKTRONIC PROFESSIONAL \_\_\_\_\_  
 Number of Lamps (1, 2) \_\_\_\_\_  
 Primary Lamp Type (FO32/XP) \_\_\_\_\_

QTP 1 x 32T8 / 277 ISN J-G4 (suffix) \_\_\_\_\_

Enclosure Type \_\_\_\_\_  
 Starting Type/Ballast Factor \_\_\_\_\_  
 Line Voltage \_\_\_\_\_

### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T8 Fluorescent Programmed Rapid Start Systems

# QUICKTRONIC® PROStart™ T8

## Professional Series

Normal Light Output

### Lamp/Ballast Guide

**Primary Systems**

**32W T8**

- 1-lamp QTP1x32T8/PSN
- 2-lamp QTP2x32T8/PSN
- 3-lamp QTP3x32T8/PSN
- 4-lamp QTP4x32T8/PSN

**Also operates:**

- FBO32, FBO31, FO25, FBO24, FO17 (except 1L277V "F" can)

**SYLVANIA QUICKTRONIC**

**PROStart** programmed rapid start electronic ballasts operate linear and U-bend equivalent T8 lamps in applications where extended lamp life is required.

QUICKTRONIC PROStart ballasts utilize a micro-controller based circuit to apply a precise amount of cathode heat prior to starting the lamp. This ensures that the cathodes have reached optimum temperature before the lamp is started.

Once the lamp is ignited, the ballast reduces the amount of cathode heat to the optimum level, to assure long lamp life.

This coil heat reduction also has the added advantage of energy savings over typical electronic rapid start ballasts.



This advanced starting process drastically reduces the amount of cathode sputtering, resulting in increased lamp life, especially for short start cycles.

All SYLVANIA Professional Series (QTP) of electronic ballasts feature high power quality (<10% THD), lightweight, low profile designs.

### Key System Features

- PROStart™ Programmed Rapid Start
- QUICK 60+® ballast and lamp warranty
- <10% THD
- 0°F (-18°C) min. starting temperature
- Low profile cases (F, TC & SC)
- Maximum lamp life
- Wiretrap connectors—available with or without leads pre-inserted\*
- UL, CSA, FCC

\* 1 lamp "F" models only.  
2, 3 and 4 lamp models available with leads only (no connectors)

### System Information

QUICKTRONIC PROStart ballasts provide optimum starting conditions to provide over 50,000 switching cycles for occupancy sensor and building control system applications.

Ballast operates at >42kHz to reduce potential interference with infrared control systems.

When SYLVANIA lamps and electronic ballasts are used together as a system, they become eligible for our QUICK 60+ warranty coverage. QUICK 60+ warranty not only ensures system compatibility, but provides warranty coverage for both lamps and ballasts, and includes various service options. See our QUICK 60+ warranty bulletin for complete details.

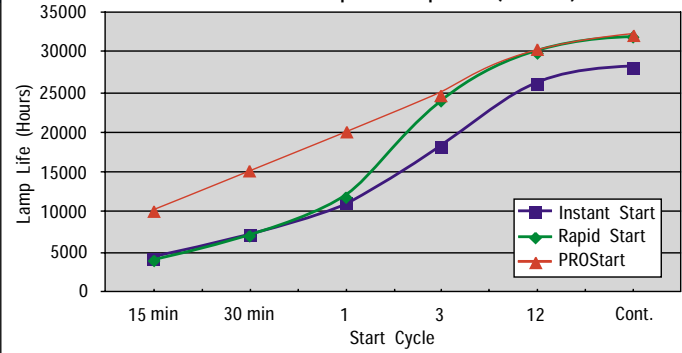
### Application Information

**SYLVANIA QUICKTRONIC PROStart T8**

is ideally suited for:

- Occupancy Sensors
- Building Control Systems
- Any applications where maximum lamp life is required to reduce maintenance costs

Fluorescent Lamp Life Comparison (F032/XP)



The QUICKTRONIC PROStart ballasts are ideally suited for applications requiring extended lamp life. In short cycle applications, our PROStart ballasts will deliver twice the number of start cycles compared to electronic Instant Start or Rapid Start ballast circuits. For longer start cycle applications (3 hours and longer), PROStart ballasts deliver equivalent lamp life to Rapid Start electronic systems.

**2 Lamp (F032/XP) System Comparison:**

Ballast Type	Input Watts	System Lumens (initial)	Lumens/Watt	Start Temp
PROStart	60	5280	88	0°F
Instant Start	59	5400	92	0°F
Rapid Start	63	5250	83	50°F

# PROStart T8 Normal Ballast Factor

## <10% THD Electronic T8 Fluorescent Programmed Rapid Start Systems

### Performance Guide

Data shown based upon SYLVANIA OCTRON® FO32/XP™ lamp performance. QUICKTRONIC PROStart ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QUICKTRONIC PROStart ballasts will operate F25 and F32 (and the U-Bend equivalent) T8 lamps. Complete performance data is available in the QUICKSYSTEMS section of the SYLVANIA Electronic Ballast Catalog.

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50790 50804	QTP 1x32T8/120 PSN-F* <i>QTP 1x32T8/120 PSN-TC (new TC case models will be available May '02)</i>	120	0.25	FO32/XP	3000	1	0.88	2640	32 30	83 88
50800 50806	QTP 1x32T8/277 PSN-F* <i>QTP 1x32T8/277 PSN-TC (new TC case models will be available May '02)</i>	277	0.11	FO32/XP	3000	1	0.88	2640	31 30	85 88
50814	QTP 2x32T8/120 PSN-SC <i>Discontinued items 50810, 50811, 50812, 50813 QTP 2x32T8/120 PSN-F* (formerly M2 PN T8 120 F) models</i>	120	0.50	FO32/XP	3000	2	0.88	5280	60	88
50824	QTP 2x32T8/277 PSN-SC <i>Discontinued items 50820, 50821, 50822, 50823 QTP 2x32T8/277 PSN-F* (formerly M2 PN T8 277-F) models</i>	277	0.22	FO32/XP	3000	2	0.88	5280	60	88
50830	QTP 3x32T8/120 PSN-SC	120	0.75	FO32/XP	3000	3	0.88	7920	88	90
50840	QTP 3x32T8/277 PSN-SC	277	0.32	FO32/XP	3000	3	0.88	7920	88	90
50850	QTP 4x32T8/120 PSN-SC	120	1.00	FO32/XP	3000	4	0.88	10560	118	90
50860	QTP 4x32T8/277 PSN-SC	277	0.43	FO32/XP	3000	4	0.88	10560	115	92

### Specifications

**Starting Method:** Programmed Rapid-Start  
**Ballast Factor:** 0.88  
**Circuit Type:** Series  
**Lamp Frequency:** > 40 KHz  
**Lamp CCF:** Less than 1.6  
**Starting Temp.:** 0°F min.<sup>1</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** +/-10%

UL Listed Class P, Type 1, Outdoor CSA Certified  
 70°C Max Case Temp.  
 FCC 47CFR Part 18 Non-Consumer Class A Sound Rating  
 ANSI C62.41 Cat A. Transient Remote Mounting up to 18 feet (keep blue wires short)

<sup>1</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

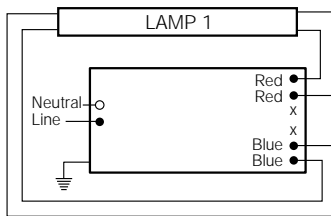
### System Life / Warranty

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

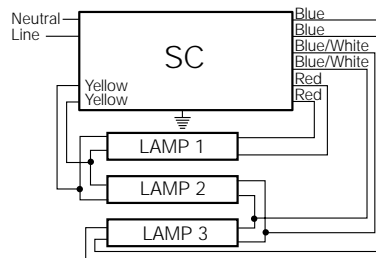
### Ordering Guide

Specifications subject to change without notice.

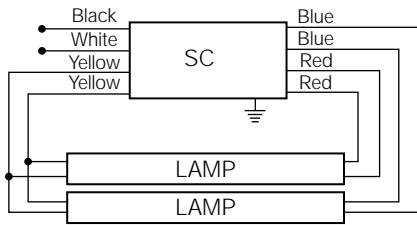
#### 1 lamp



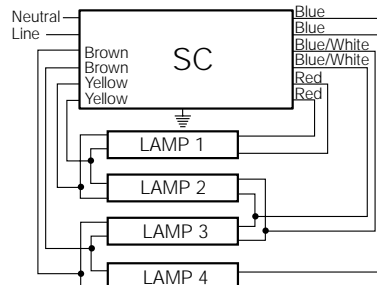
#### 3 lamp



#### 2 lamp

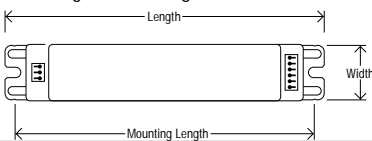


#### 4 lamp



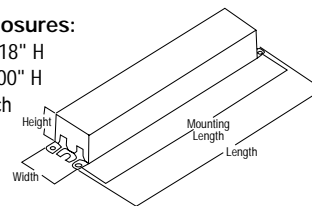
#### Dimensions "F" Enclosure:

Overall: 9.5" L x 1.60" W x 1.0" H  
 Mounting: 8.91" Weight: 0.75 lbs each



#### Dimensions "TC & SC" Enclosures:

"SC": Overall: 9.5" L x 1.68" W x 1.18" H  
 "TC": Overall: 9.5" L x 1.68" W x 1.00" H  
 Mounting: 8.90" Weight: 1.6 lbs each



**Wiring/Packaging Configurations:** \*1 lamp PROStart "F" case" products are available in the following packaging/wiring configs.

1, 2, 3 and 4 lamp TC & SC models: **Wiring – Leads only (No connectors provided)**

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL

Item Number: 5079 (#) QTP 1 x 32T8 / 120 PSN F (suffix)

QUICKTRONIC PROFESSIONAL

Number of Lamps (1, 2, 3, 4)

Primary Lamp Type (F32T8)

Enclosure Type (F, TC or SC)

Starting Type/Ballast Factor – PROStart/Normal BF

Line Voltage

<10% THD Electronic T8 Fluorescent Rapid Start Ballast

**QUICKTRONIC® T8 Rapid Start**

Professional Series

Wiretrap connectors  
(with or without leads)

**Rapid Start T8**  
Normal Ballast Factor



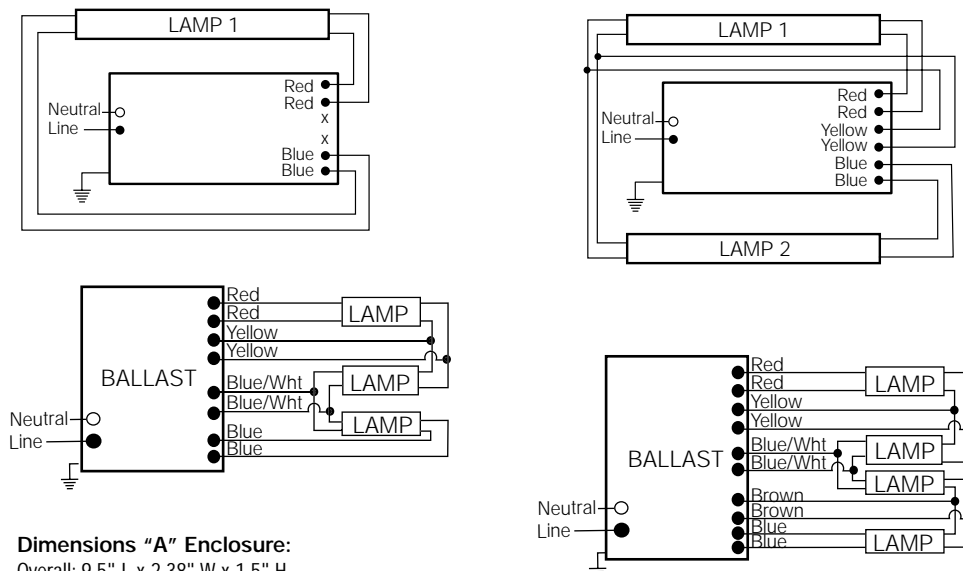
Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50380	QTP 1x32T8/120 RSN-D <i>Formerly: M1-RN-T8-1LL-D-120</i>	120	0.28	F032/XP	3000	1	0.875	2625	31	85
51583	QTP 1x32T8/277 RSN (A*) <i>Discontinued items 50390, 50391, 50392, 50394 QTP 1x32T8/277 RSN-D (formerly: M1-RN-T8-1LL-D-277) New NAEDS 51583 dist, 51575 dist NL, 51584 OEM, 51551 OEM NL</i>	277	0.12	F032/XP	3000	1	0.875	2625	32	82
50400	QTP 2x32T8/120 RSN-D <i>Formerly: M2-RN-T8-1LL-D-120</i>	120	0.53	F032/XP	3000	2	0.875	5250	63	83
50410	QTP 2x32T8/277 RSN-D <i>Formerly: M2-RN-T8-1LL-D-277</i>	277	0.22	F032/XP	3000	2	0.875	5250	61	86
50420	QTP 3x32T8/120 RSN-A <i>Formerly: M3-RN-T8-1LL-A-120</i>	120	0.76	F032/XP	3000	3	0.875	7875	92	86
50430	QTP 3x32T8/277 RSN-A <i>Formerly: M3-RN-T8-1LL-A-277</i>	277	0.33	F032/XP	3000	3	0.875	7875	90	88
50440	QTP 4x32T8/120 RSN-B <i>Formerly: M4-RN-T8-1LL-B-120</i>	120	1.05	F032/XP	3000	4	0.875	10500	122	86
50450	QTP 4x32T8/277 RSN-A <i>Formerly: M4-RN-T8-1LL-A-277</i>	277	0.40	F032/XP	3000	4	0.875	10500	114	92

**Specifications<sup>1</sup>**

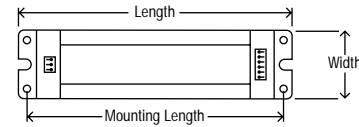
- Starting Method:** Rapid Start
- Ballast Factor:** 0.875
- Circuit Type:** Series
- Lamp Frequency:** > 20KHz
- Lamp CCF:** Less than 1.5
- Starting Temp.:** 50°F minimum
- Input Frequency:** 60 Hz
- Low THD:** < 10%
- Power Factor:** > 99%
- Voltage Range:** +/-10% of Rated Input
- Lamp Types:** 32,25,17T8 and U-Bend equivalent types

UL Listed Class P, Type 1 Outdoor  
CSA Certified  
70°C Maximum Case Temperature  
FCC 47CFR Part 18 Non-Consumer  
Class A Sound Rating  
ANSI C62.41 Cat. A Transient Protection  
Remote Mounting up to 19 feet

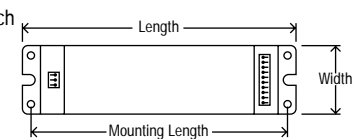
<sup>1</sup> Data based on F32T8 lamp types. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other lamp combinations.



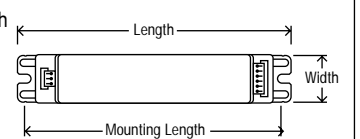
**Dimensions "A" Enclosure:**  
Overall: 9.5" L x 2.38" W x 1.5" H  
Mounting: 8.91"  
Weight: 1.3 lbs each



**Dimensions "B" Enclosure:**  
Overall: 9.5" L x 2.38" W x 1.25" H  
Mounting: 8.91"  
Weight: 1.3 lbs each



**Dimensions "D" Enclosure:**  
Overall: 9.5" L x 1.7" W x 1.5" H  
Mounting: 8.91"  
Weight: 0.90 lbs each

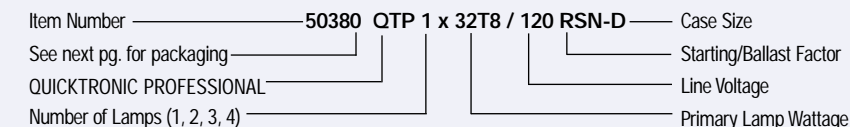


**System Life / Warranty**

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

**Ordering Guide**

Specifications subject to change without notice.



<10% THD Electronic T8 Fluorescent Rapid Start Ballast

# QUICKTRONIC® T8 Rapid Start

## Professional Series

Wiretrap connectors  
(with or without leads)

### Rapid Start T8 Low Ballast Factor

#### Performance Guide



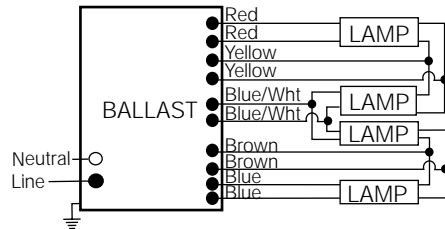
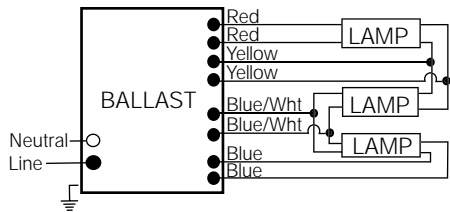
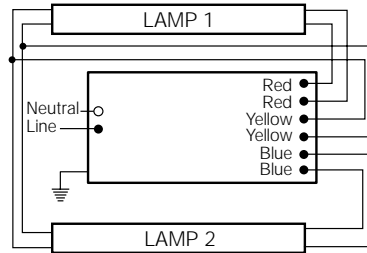
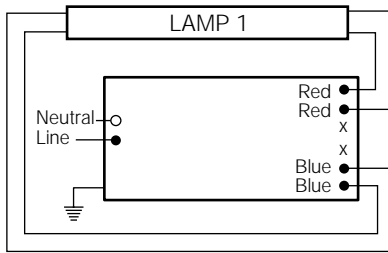
Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50480	QTP 1x32T8/120 RSL-A <i>Formerly: M1-RL-T8-1LL-A-120</i>	120	0.26	F032/XP	3000	1	0.77	2310	30	77
50490	QTP 1x32T8/277 RSL-A <i>Formerly: M1-RL-T8-1LL-A-277</i>	277	0.11	F032/XP	3000	1	0.77	2310	27	86
50500	QTP 2x32T8/120 RSL-A <i>Formerly: M2-RL-T8-1LL-A-120</i>	120	0.48	F032/XP	3000	2	0.77	4620	55	84
50510	QTP 2x32T8/277 RSL-A <i>Formerly: M2-RL-T8-1LL-A-277</i>	277	0.21	F032/XP	3000	2	0.77	4620	55	84
50520	QTP 3x32T8/120 RSL-B <i>Formerly: M3-RL-T8-1LL-A-120</i>	120	0.71	F032/XP	3000	3	0.77	6930	83	83
50530	QTP 3x32T8/277 RSL-A <i>Formerly: M3-RL-T8-1LL-A-277</i>	277	0.32	F032/XP	3000	3	0.77	6930	79	88
50540	QTP 4x32T8/120 RSL-B <i>Formerly: M4-RL-T8-1LL-B-120</i>	120	1.01	F032/XP	3000	4	0.77	9240	110	84
50550	QTP 4x32T8/277 RSL-A <i>Formerly: M4-RL-T8-1LL-A-277</i>	277	0.40	F032/XP	3000	4	0.77	9240	102	91

#### Specifications<sup>1</sup>

- Starting Method:** Rapid Start
- Ballast Factors:** 0.77
- Circuit Type:** Series
- Lamp Frequency:** > 20 KHz
- Lamp CCF:** Less than 1.5
- Starting Temp.:** 50°F minimum
- Input Frequency:** 60 Hz
- Low THD:** < 10%
- Power Factor:** > 99%
- Voltage Range:** +/-10% of Rated Input
- Lamp Types:** 1 and 2 lamp models operate 32, 25 and 17 T8 lamps and U-Bend equivalent lamps.
- 3 and 4 lamp models operate 32T8 lamps and U-Bend equivalent lamps.

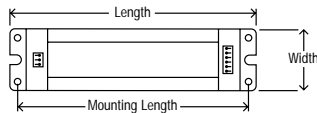
- UL Listed Class P, Type 1 Outdoor
- CSA Certified
- 70°C Maximum Case Temperature
- FCC 47CFR Part 18 Non-Consumer Class A Sound Rating
- ANSI C62.41 Cat. A Transient Protection
- Remote Mounting up to 19 feet

<sup>1</sup> Data based on F32T8 lamp types. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other lamp combinations.



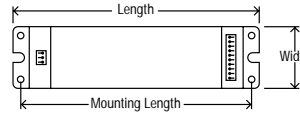
#### Dimensions "A" Enclosure:

Overall: 9.5" L x 2.38" W x 1.5" H  
Mounting: 8.91"  
Weight: 1.3 lbs each



#### Dimensions "B" Enclosure:

Overall: 9.5" L x 2.38" W x 1.25" H  
Mounting: 8.91"  
Weight: 1.3 lbs each



**Wiring/Packaging Configurations:** All RSN-A,B,D & RSL-A,B products are available in the following packaging/wiring configurations.

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL

Item Number: 5053(#)  
QUICKTRONIC PROFESSIONAL  
Number of Lamps (1, 2, 3, 4)  
Primary Lamp Type (F32T8)

QTP 3 x 32T8 / 277 RSL A (suffix)  
Enclosure Type (F)  
Starting Type/Ballast Factor – PROStart/Normal BF  
Line Voltage

#### System Life / Warranty

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

#### Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T8 Fluorescent Programmed Rapid Start Systems

# QUICKTRONIC® PROStart™ PSX T8 UNIVERSAL VOLTAGE

Professional Series

Low Power

## Lamp/Ballast Guide

Primary Systems  
32W T8

- 1-lamp QTP1x32T8/PSX\*
- 2-lamp QTP2x32T8/PSX
- 3-lamp QTP3x32T8/PSX\*
- 4-lamp QTP4x32T8/PSX\*

Also operates:

- FBO32, FBO31, FO25,
- FBO24

\* Available 1st quarter '02

All 1, 3 & 4 lamp specifications are preliminary and subject to change.

**SYLVANIA QUICKTRONIC PROStart PSX** programmed rapid start electronic ballasts are specifically designed to be combined with the OCTRON® XPS high performance T8 lamps.

The extra low (0.74) ballast factor PROStart ballast combined with the high lumen output (3200 lm) OCTRON XPS T8 lamps deliver equivalent light output compared to a standard 700 series T8/88% BF system while saving over 15% in energy.

Compared to typical ES T12/Magnetic lighting systems, SYLVANIA Xtreme Systems will deliver equivalent light output while saving over 35% in energy.

In addition to substantial energy savings, QUICKTRONIC Xtreme delivers an optimized programmed start which extends OCTRON XPS lamp life to 30k hours (3 hours/start).



This advanced starting process drastically reduces the amount of cathode sputtering, resulting in improved lamp life in all applications.

All SYLVANIA Professional Series (QTP) of electronic ballasts feature high power quality (<10% THD), lightweight, low profile designs.

## Key System Features

- PROStart Programmed Rapid Start
- Universal Input Voltage
- QUICK 60+® ballast and lamp warranty
- 0°F (-18°C) min. starting temperature
- Low profile enclosures (F, SC)
- Maximum lamp life
- Wiretrap connectors – available with or without leads pre-inserted\*
- UL, CSA

\* 1 and 2 lamp models only.  
3 and 4 lamp models available with leads only

## System Information

QUICKTRONIC PROStart ballasts provide optimized starting conditions for the OCTRON XPS lamp to provide up to 100,000 switching cycles and extended lamp life for occupancy sensor and building control system applications.

QUICKTRONIC PSX operates at >42KHz to avoid interference with infrared control systems. In addition, the ballast incorporates Universal Voltage.

When SYLVANIA lamps and electronic ballasts are used together as a system, they become eligible for our QUICK 60+® warranty coverage. Our QUICK 60+ warranty not only ensures system compatibility, but provides warranty coverage for both lamps and ballasts, and includes various service options. See the QUICK 60+ warranty bulletin for complete details.

Lamp & Ballast	System Wattage	Ballast Factor	Initial System Lumens	Lumen Maint. Factor @ 8000 Hours	System Lumens @ 8000 Hours	Relative Light Output @ 8000 Hours	Relative Lamp Life
2-F032/700 QT 2x32 IS	59	.90	5040	.90	4536	100%	100%
2-F032/800/XP/ECO QT 2x32 LP	51	.77	4620	.95	4389	97%	120%
2-F032/800/XPS QT 2x32 PSX/UNV	48	.74	4735	.95	4500	99%	200%

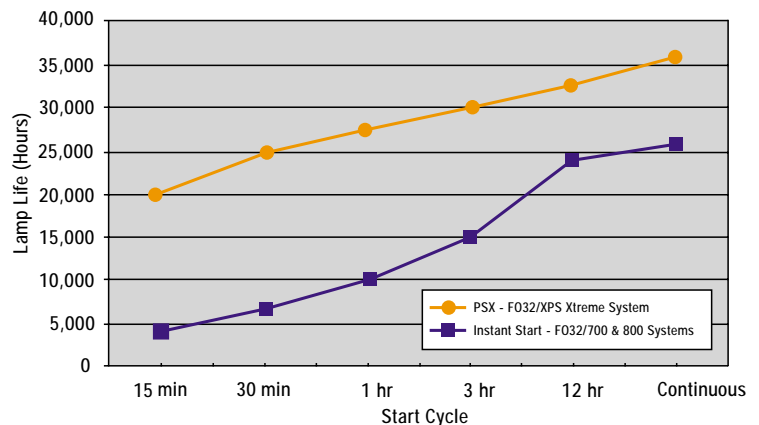
## Application Information

### SYLVANIA QUICKTRONIC PROStart Ballast

is ideally suited for:

- Energy Retrofits
- Occupancy Sensors
- Building Control Systems
- Any applications where maximum lamp life is required to reduce maintenance costs

Fluorescent Lamp Life Comparison





# PROstart T8 PSX UNIV VOLTAGE Low Ballast Factor

## Performance Guide

Data shown based upon SYLVANIA OCTRON FO32/XPS lamp performance. QUICKTRONIC PROstart PSX is also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

QUICKTRONIC PROstart ballasts will operate F25 and F32 (and the U-Bent equivalents) lamps. Complete performance data is available in the [QUICKSYSTEMS](#) section of the SYLVANIA Electronic Ballast Catalog.

## <10% THD Electronic T8 Fluorescent Programmed Rapid Start Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
51210	QTP 1x32T8/UNV PSX-F	120-277	0.21/0.09	FO32/XPS	3200	1	0.74	2370	25	95
51220	QTP 2x32T8/UNV PSX-F	120-277	0.42/0.18	FO32/XPS	3200	2	0.74	4735	49/48	97/99
51230	QTP 3x32T8/UNV PSX-SC	120-277	0.61/0.27	FO32/XPS	3200	3	0.74	7105	72	99
51240	QTP 4x32T8/UNV PSX-SC	120-277	0.79/0.34	FO32/XPS	3200	4	0.74	9470	94	101

## Specifications

**Starting Method:** Programmed Rapid-Start

**Ballast Factor:** 0.74

**Circuit Type:** Series

**Lamp Frequency:** > 40 KHz

**Lamp CCF:** Less than 1.6

**Starting Temp.:** 0°F min.<sup>1</sup>

**Input Frequency:** 50/60 Hz

**Low THD:** < 10%

**Power Factor:** > 98%

**Voltage Range:** +/-10%

UL Listed Class P, Type 1 Outdoor  
CSA Certified  
70°C Max Case Temp.  
FCC 47CFR Part 18 Non-Consumer  
Class A Sound Rating  
ANSI C62.41 Cat A. Transient  
Remote Mounting up to 10 feet

<sup>1</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

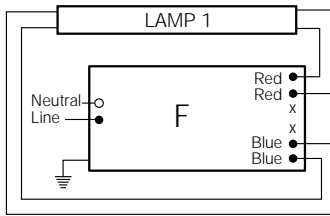
## System Life / Warranty

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

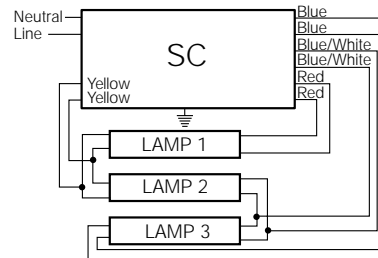
## Ordering Guide

Specifications subject to change without notice.

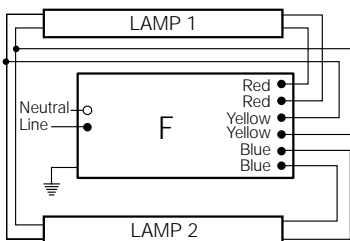
### 1 lamp



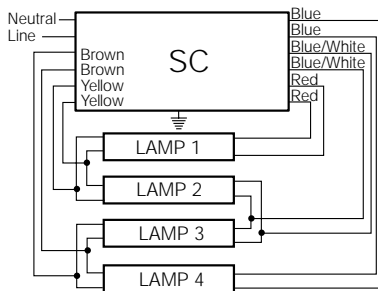
### 3 lamp



### 2 lamp



### 4 lamp

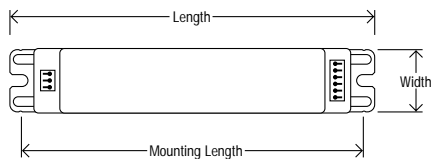


### Dimensions "F" Enclosure:

Overall: 9.5" L x 1.60" W x 1.0" H

Mounting: 8.91"

Weight: 0.75 lbs each

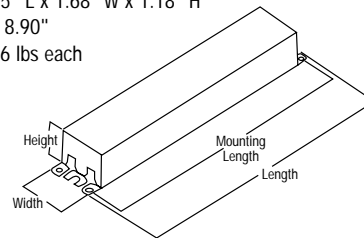


### Dimensions "SC" Enclosure:

Overall: 9.5" L x 1.68" W x 1.18" H

Mounting: 8.90"

Weight: 1.6 lbs each



**Wiring/Packaging Configurations:** \*1 and 2 lamp PROstart UNV products are available in the following packaging/wiring configurations. 3 and 4 lamp models: Wiring – Leads only (No connectors provided)

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL

Item Number: 5122(#)  
 QUICKTRONIC PROFESSIONAL: QTP  
 Number of Lamps (1, 2, 3, 4): 2 x 32T8 / UNV PSX F (suffix)  
 Primary Lamp Type (F32T8): F (Enclosure Type F)  
 Starting Type/Ballast Factor – PROstart/X – Very Low BF  
 Line Voltage

# Electronic T8 Fluorescent Controllable Lighting Systems

## QUICKTRONIC® HELIOS™ T8 DIMMING

### Professional Series

#### Lamp/Ballast Guide

##### 32W T8

- 1-lamp QTP1x32T8/DIM5
- 2-lamp QTP2x32T8/DIM5
- 3-lamp QTP3x32T8/DIM5\*
- 4-lamp QTP4x32T8/DIM10

##### Also operates:

FBO32, FBO31

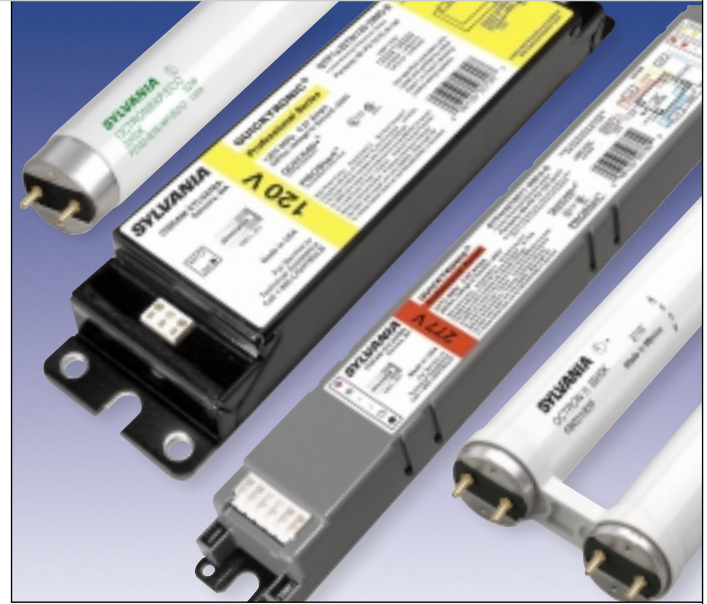
\* Available 1Q02

##### SYLVANIA QUICKTRONIC

**HELIOS** dimming electronic ballasts operate linear and U-bend equivalent T8 lamps over a wide (100–5%\*) dimming range.

QUICKTRONIC HELIOS ballasts are controlled via standard 0–10V fluorescent dimmers, and is ideal for both energy management and architectural applications.

All SYLVANIA Professional Series (QTP) of electronic ballasts feature high power quality (<10% THD), lightweight, low profile designs.



#### Key System Features

- 100–5% Dimming Range\*
  - Programmed Rapid Start
  - QUICK 60+® ballast and lamp warranty
  - Anti-flash Circuitry – Turns on in dimmed mode
  - Control may be wired for either Class 1 or Class 2 application
  - Lightweight unpotted design
  - Wiretrap connectors – available with or without leads pre-inserted
  - Operates at >42kHz to reduce potential IR interference
- \* 100–10% for 4 lamp models

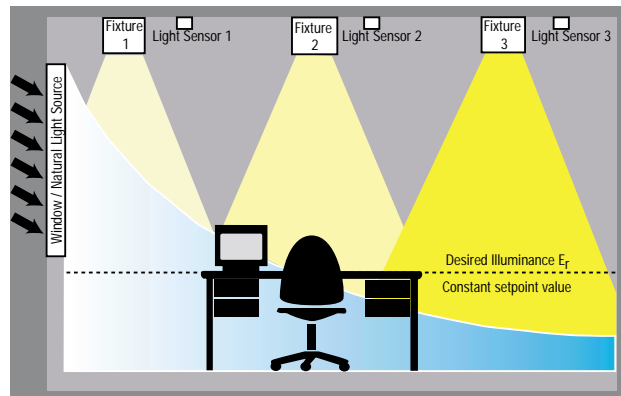
2 lamp QUICKTRONIC HELIOS models offer higher (0.96 vs. 0.88) ballast factor than competitors' models. This allows the dimming system to be configured to compensate for lamp lumen depreciation.

1 lamp QUICKTRONIC HELIOS ballasts will operate F17, F25, and F32T8 lamps (and equivalent U bend versions). The 2, 3, and 4 lamp models operate the 32W (linear and U-bent) lamps only.

Setting the standard for quality, QUICKTRONIC HELIOS is also covered by our [QUICK 60+® warranty](#), the first and most comprehensive lamp & ballast system warranty in the industry.

#### System Information

QUICKTRONIC HELIOS Dimming T8 systems can be used in Daylight Harvesting applications to maintain a pre-set light level, dimming the appropriate fixture(s) when natural daylight is available. Depending upon the specific application, energy savings of up to 60% compared to fixed output T8 electronic systems can be realized. Each lighting fixture is controlled by it's own photo-sensor which regulates the ambient light levels.



#### Application Information

##### SYLVANIA QUICKTRONIC HELIOS

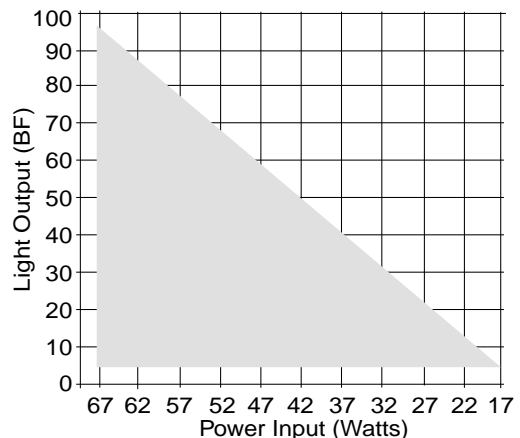
is ideally suited for:

- Daylight Harvesting
- Energy Management
- Load Shedding
- A/V presentation rooms
- Conference rooms
- Occupancy Sensors
- Creative lighting design applications

For optimal dimming performance, fluorescent lamps may require seasoning for up to 100 hours before dimming to lowest light levels.

All QUICKTRONIC HELIOS models include a line voltage protection circuit, which protects the ballast in the event that line voltage is inadvertently applied to the control inputs.

QTP2x32T8DIM



# HELIOS T8 DIMMING

## Performance Guide

Data shown based upon SYLVANIA OCTRON® FO32/XP™ lamp(s). QUICKTRONIC HELIOS ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

1 lamp QUICKTRONIC HELIOS ballasts will operate F17, F25, and F32T8 lamps (and equivalent U bend versions). The 2, 3, and 4 lamp models operate the 32W (linear and U-bent) lamps only.

\* All 3 lamp specifications are preliminary and subject to change.

## Electronic T8 Fluorescent Controllable Lighting Systems

Item Number	Description	Input Voltage (VAC)	Input Current (Amps)	Lamp Type [# lamps]	Rated Lumens	Control Setting	Input Watts (W)	Ballast Factor (BF)	System Lumens
50700	QTP 1x32T8/120 DIM5-B <i>formerly M1-PD-T8-5C-B-120</i>	120	0.27 0.08	F032XP [1]	3000	100% 5%	32 8	0.94 0.05	2820 150
50710	QTP 1x32T8/277 DIM5-B <i>formerly M1-PD-T8-5C-B-277</i>	277	0.12 0.03	F032XP [1]	3000	100% 5%	32 8	0.94 0.05	2820 150
50720	QTP 2x32T8/120 DIM5-B <i>formerly M2-PD-T8-5C-B-120</i>	120	0.57 0.16	F032XP [2]	3000	100% 5%	68 17	0.96 0.05	5760 300
50730	QTP 2x32T8/277 DIM5-B <i>formerly M2-PD-T8-5C-B-277</i>	277	0.25 0.08	F032XP [2]	3000	100% 5%	67 17	0.96 0.05	5760 300
50750	QTP 3x32T8/120 DIM5-Q*	120	0.78 0.17	F032XP [3]	3000	100% 5%	92 19	0.88 0.05	7920 450
50760	QTP 3x32T8/277 DIM5-Q*	277	0.34 0.07	F032XP [3]	3000	100% 5%	92 19	0.88 0.05	7920 450
50770	QTP 4x32T8/120 DIM10-Q	120	1.10 0.35	F032XP [4]	3000	100% 10%	120 38	0.88 0.10	10560 1200
50780	QTP 4x32T8/277 DIM10-Q <i>formerly M4-PD-T8-10C-Q-277</i>	277	0.55 0.15	F032XP [4]	3000	100% 10%	120 38	0.88 0.10	10560 1200

## Specifications

**Starting Method:** Programmed Rapid Start

**Circuit Type:** Series

**Lamp Frequency:** > 40 KHz

**Lamp CCF:** Less than 1.7

**Starting Temp.:** 60°F min.

**Input Frequency:** 60 Hz

**Low THD:** < 10% @ full Output  
< 20% @ full Dim

**Power Factor:** > 99% @ full Output  
> 95% @ full Dim

**Voltage Range:** +/-10%

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

Remote Mounting up to 7 feet

## Control Information

QUICKTRONIC HELIOS ballasts are compatible with a wide range of 0-10V controllers available from various manufacturers. A list of compatible controllers and wiring examples are on [pg 28-29](#).

**Control Specifications:**

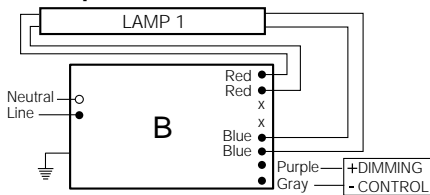
1 – 10V (dc) two wire control.

Ballast will source up to 0.5mA for control purposes. May be wired as Class 1 or Class 2 circuit – consult Local and National Electrical Codes

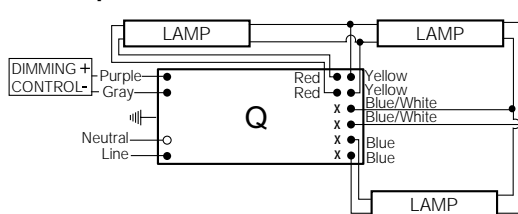
## Ordering Guide

Specifications subject to change without notice.

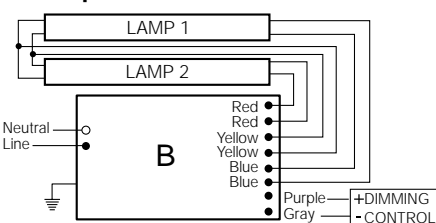
### 1 lamp



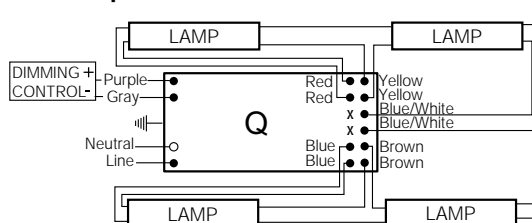
### 3 lamp



### 2 lamp



### 4 lamp

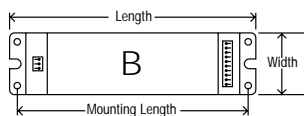


### Dimensions "B" Enclosure:

Overall: 9.5" L x 2.38" W x 1.25" H

Mounting: 8.91"

Weight: 1.3 lbs

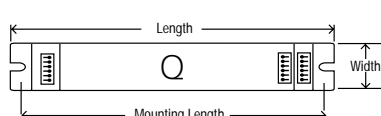


### Dimensions "Q" Enclosure:

Overall: 14.0" L x 1.6" W x 1.0" H

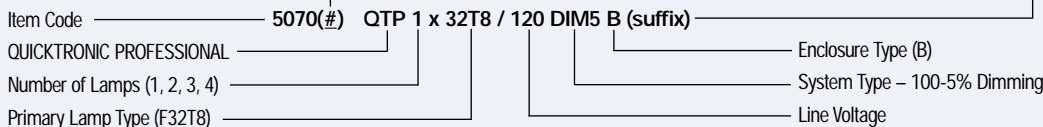
Mounting: 13.5"

Weight: 1.0 lbs



**Wiring/Packaging Configurations:** All HELIOS products are available in the following packaging/wiring configurations:

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL



OSRAM SYLVANIA National Customer Support Center

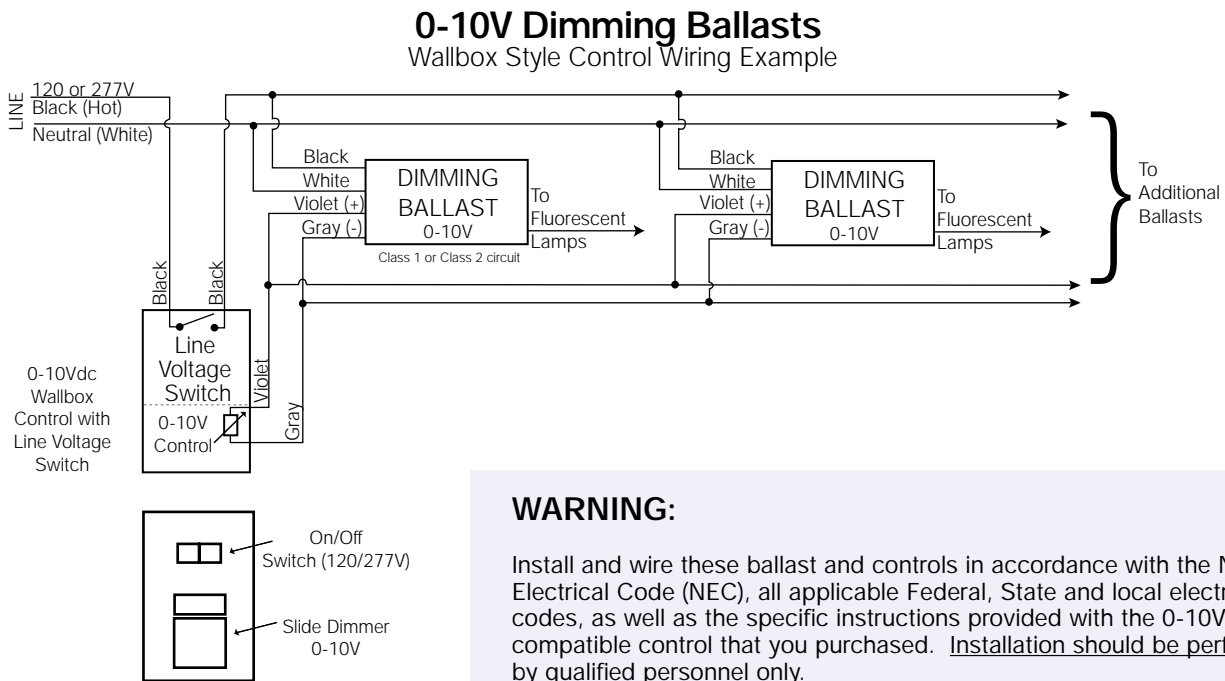
1-800-LIGHTBULB (1-800-544-4828)

[www.sylvania.com](http://www.sylvania.com)

# QUICKTRONIC® 0-10V DIMMING CONTROL

## 0-10V Dimming Control Wiring Examples

### Wallbox Style Control Wiring Example



#### WARNING:

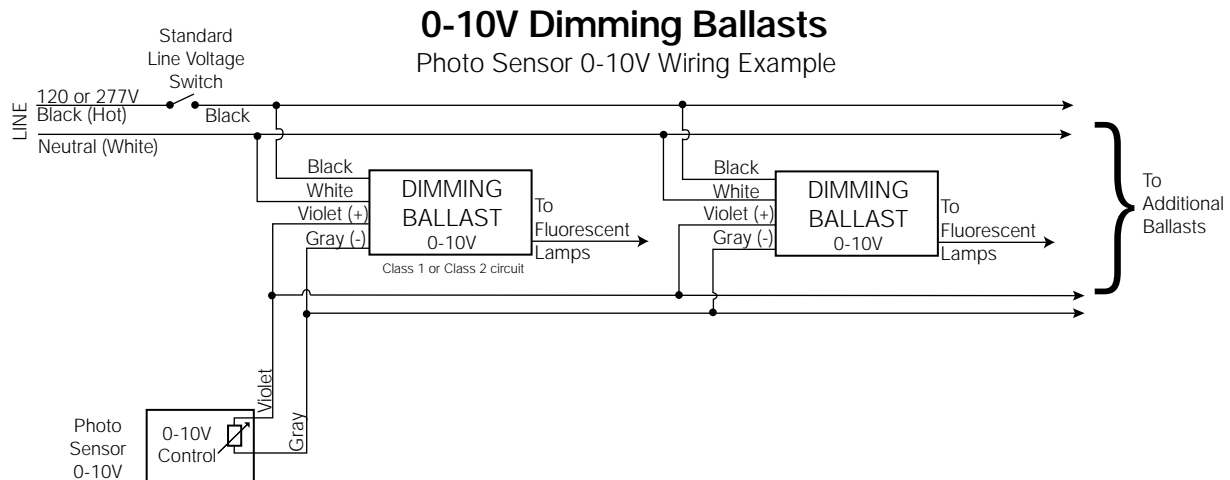
Install and wire these ballast and controls in accordance with the National Electrical Code (NEC), all applicable Federal, State and local electrical codes, as well as the specific instructions provided with the 0-10Vdc compatible control that you purchased. Installation should be performed by qualified personnel only.

These instructions are guidelines only. Installation may vary for different controls/fixtures/applications. Be sure to follow the control instructions and all applicable codes and standards when installing dimming systems.

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

NOTE: HELIOS T8 & T5 HO Dimming ballasts source < 0.5mA (1-10V control input)

### Photo Sensor 0-10V Wiring Example



## QUICKTRONIC® 32 HELIOS & PHO-DIM

Controls Cross Reference Chart (0-10 Volt controls)

### Cross Reference Guide

Controls Manufacturer	Slide Dimmer 0-10 Volt dc	Photo Sensor 10 -0 Volts	Photo Sensor Switch	Occupancy Sensor Switch
Hunt Controls 970- 484-9048	PS-010 Series			
LevitonMfg 800 – 824 - 3005	Please contact Leviton for their latest list of 0-10V controls			
Lightlier Controls 800-526-2731	Sunrise* ZP600FAM120 ZP1500FAM12 Momentum* V2000FAMU	Photo Set* PSN-1K-AM Note 2		
Lithonia Controls 770-987-4400 800-533-2719	Equinox* LEQ BC;Note 1 SLD LVBC LEQ LVBC	Equinox* LEQ DPC		
Magnetek 1-800 BALLAST 1-800 MAGNETEK	Ballastar Controls BC-SD-WH	Ballastar Controls BC-PS/V-WH	Ballastar Controls BC-PS/S-WH Note 3	Ballastar Controls BC-LL/OS-WH
PLC Multipoint 425-353-7552		EDS and RCD PC1A switching controller		
Sensor Switch 203-265-2842 800-727-7483		CM-ALC		
UNENCO 800-245-9135	DT-D	Daylight Tracker* DT	Daylight Tracker*	
Watt Stopper 800-879-8585		Light Saver* LS-30 Isole IRC-1000	Light Saver* LS-100	

Please contact controls manufacturers to order/specify controls.  
For the latest controls list go to [www.sylvania.com](http://www.sylvania.com)

### Footnotes

- 1 Wallbox control with 0-10V slide dimming and 120/277 V on/off line switch
- 2 Photocell with on/off switch
- 3 Use with Power Paks (Magnetek P/N) BC\_PP/120 or BC-PP/277

\* Photo Set, Element, Equinox ,and Daylight Tracker represent product brand names of various manufacturers listed

These 0-10 Volt controls are also compatible with QTP MH-DIM models.

Control Specifications/model numbers may change, please consult manufacturers listed for other compatible controls and their latest information on 0-10V models.

Electronic T8 8-foot Standard Fluorescent Systems

**QUICKTRONIC® 59IS, ISN and QUICKTRONIC 59ISN**

*Professional Series*

**Lamp/Ballast Guide**

59W T8 8-Foot - OCTRON  
2-lamp QT2x59IS\*

Primary Lamp Type:  
FO96T8

\* QT2x59/120IS and  
QT2x59/277IS also operate  
FO72T8 lamps

**SYLVANIA QUICKTRONIC 59 ISN** operates OCTRON® FO96 T8 lamps with maximum efficacy and high lumen output and provides over 30 percent energy savings when compared to F96T12 magnetic systems.

Multi-lamp capability allows fewer ballasts to be used in a fixture and provides tandem wiring options. Also, parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

Setting the standard for quality, SYSTEM 59 ISN is also covered by our Quick 60+® warranty, the first and most comprehensive system warranty in the industry.

SYSTEM 59 ISN is available in two-lamp models in 120V, 277V and 347V for a wide range of applications in the North American market.



**Key System Features**

- 88-85% Ballast factor
- Over 30% Energy savings
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- Compatible with most powerline carrier systems
- Quiet operation
- High power factor
- Low harmonic distortion
- Low in-rush current
- Lightweight
- UL, CSA, FCC

**System Information**

SYSTEM 59 ISN uses 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.

SYSTEM 59 IS electronic ballasts have low harmonic distortion with corresponding low in-rush current\* for optimal system performance.

SYSTEM 59 IS electronic circuitry is designed to be compatible with powerline carrier systems.\*

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

\* Except "A" can ballast

System Type (2-lamp)	Input Wattage	Initial Lumens	System LPW
F96T12 - Magnetic	160	11350	71
F96T12/SS - Magnetic	125	9330	75
QT2x59IS - FO96/800	110	10380	94
QT2x59IS - FO96/XP	110	10910	99
QT4x32IS - FO32/800	114	10620	93
QT4x32LP - FO32/800	98	9085	93
QT2x59PLUS - FO96/800	151	14040	93
QT2x59PLUS - FO96/XP	151	14750	98

**Application Information**

**SYLVANIA QUICKTRONIC 59 ISN**

is ideally suited for:

- Commercial
- Retail
- Direct
- New Construction
- Industrial
- Schools
- Hospitality
- Indirect
- Retrofit

## Electronic T8 8-foot Standard Fluorescent Systems

### Performance Guide

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
<b>Quicktronic 59W 96T8 Instant Start</b>										
<b>&lt;20%THD</b>										
49581	QT 2x59/120 IS	120	0.95	F096T8/800 F096T8/XP	5900 6200	2 2	0.88 0.88	10380 10910	110 110	94 99
49582	QT 2x59/277 IS	277	0.41	F096T8/800 F096T8/XP	5900 6200	2 2	0.88 0.88	10380 10910	110 110	94 99
49217	QT 2x59/347 IS	347	0.33	F096T8/800 F096T8/XP	5900 6200	2 2	0.88 0.88	10380 10910	110 110	94 99
<b>Lighter Weight Wiretrap connectors (with or without leads) Ballast Factor: 0.85 &lt;20%THD</b>										
50240	QT 2x59T8/120 ISN-A <i>Formerly: M2-IN-T8-8GP-A-120</i>	120	0.97	F096T8/XP	6200	2	0.85	10540	107	99
50250	QT 2x59T8/277 ISN-A <i>Formerly: M2-IN-T8-8GP-A-277</i>	277	0.41	F096T8/XP	6200	2	0.85	10540	107	99
<b>Lighter Weight Wiretrap connectors (with or without leads) Quicktronic Professional &lt;10%THD</b>										
50280	QTP 2x59T8/120 ISN-A <i>Formerly: M2-IN-T8-8FT-A-120</i>	120	0.97	F096T8/XP	6200	2	0.85	10540	107	99
50290	QTP 2x59T8/277 ISN-A <i>Formerly: M2-IN-T8-8FT-A-277</i>	277	0.41	F096T8/XP	6200	2	0.85	10540	107	99

### Specifications<sup>1,2</sup>

**Starting Method:** Instant Start  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20 KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
 ("A" enclosure 50°F minimum)  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%, QTP: < 10%  
**Power Factor:** > 97%  
 (QTP > 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  
 ANSI C62.41 Cat A. Transient Protection  
 Remote Mounting up to 18 feet  
 ("A" enclosure remote up to 10 feet)

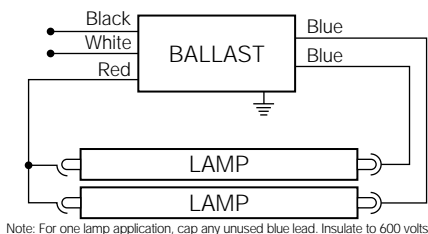
<sup>1</sup> Data based on F096 lamp. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.

<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON 800 and XP series lamps.

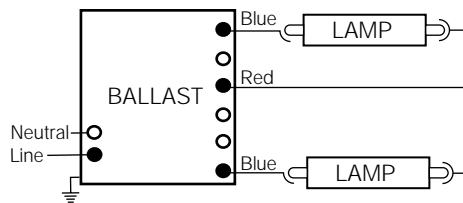
#### 500 PC Pallet Packs

49585 QT2x59/120IS-PAL  
 49586 QT2x59/277IS-PAL



Note: For one lamp application, cap any unused blue lead. Insulate to 600 volts.

**QUICKTRONIC 2x59**



**QUICKTRONIC ISN-A 2 LAMP**

#### Dimensions Standard Enclosure:

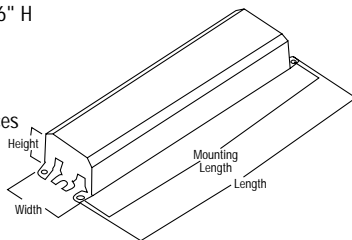
Overall: 9.5" L x 2.38" W x 1.6" H  
 Mounting: 8.90"

#### Packaging:

Quantity: 10 pieces / 500 pieces  
 Weight: 2.8 lbs ea. (approx.)

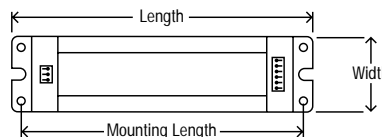
#### Wiring:

Leads only,  
 no connectors provided



#### Dimensions "A" Enclosure:

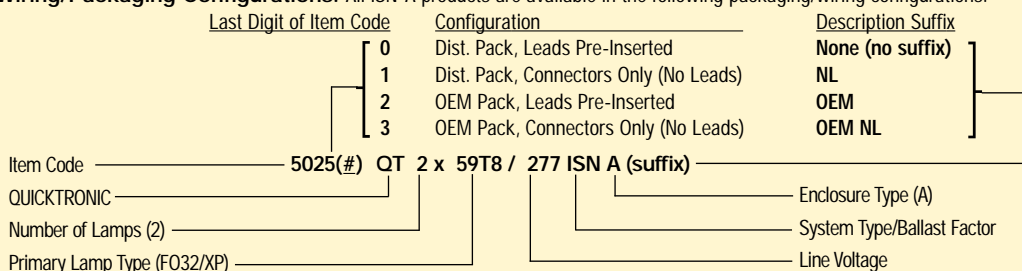
Overall: 9.5" L x 2.38" W x 1.5" H  
 Mounting: 8.91"  
 Weight: 1.3 lbs



### System Life / Warranty

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

#### Wiring/Packaging Configurations: All ISN-A products are available in the following packaging/wiring configurations:



### Ordering Guide

Specifications subject to change without notice.

<20% THD Electronic T8 8-Foot High Light Output Systems

# QUICKTRONIC® 59 (PLUS) ISH

## Lamp/Ballast Guide

59W T8 8-Foot - OCTRON  
2-lamp QT2x59PLUS

Primary Lamp Type:  
FO96T8

**SYLVANIA QUICKTRONIC 59PLUS** operates OCTRON® FO96 T8 lamps with increased lumen output while providing high system efficacy.

SYSTEM 59PLUS provides 30 percent more light output than standard T8 systems and 20 percent more light output than F96T12 systems. SYSTEM 59PLUS also saves 25 percent in energy when compared to F96T12HO/SS systems.

High light output and multi-lamp capability allows fewer lamps to be used in a fixture and provides tandem wiring options. Also, parallel circuitry is utilized to keep the remaining lamps lit if one or more should go out.

## Key System Features

- 119% Ballast factor
- Over 30% more light output than standard T8 8 foot systems
- 0°F Starting
- Full lamp life
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Low in-rush current
- UL, CSA, FCC

## Application Information

### SYLVANIA QUICKTRONIC 59PLUS

is ideally suited for:

- Commercial
- Retail
- Direct
- New Construction
- Industrial
- Hospitality
- Indirect
- Retrofit

## System Information

SYSTEM 59PLUS uses 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.

SYSTEM 59PLUS electronic ballasts have low harmonic distortion with corresponding low in-rush current for optimal system performance.

SYSTEM 59PLUS electronic circuitry is designed to be compatible with powerline carrier systems.

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



Setting the standard for quality, SYSTEM 59PLUS is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

SYSTEM 59PLUS is available in two-lamp models in 120V and 277V to cover a wide range of applications.

System Type (2-lamp)	Input Wattage	Initial Lumens	System LPW
F96T12/HO - Magnetic	240	16720	70
F96T12/HO/SS - Magnetic	210	14720	70
F96T12/HO/SS - Electronic	180	14080	78
F96T12 - Magnetic	160	11350	71
F96T8/HO - Electronic	160	14430	90
QT2x59PLUS - FO96/800	151	14040	93
QT2x59PLUS - FO96/XP	151	14750	98



# 59 (PLUS) ISH High Ballast Factor

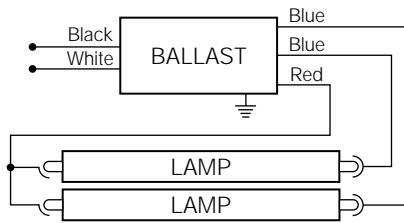
## <20% THD Electronic T8 8-Foot High Light Output Fluorescent Systems

### Performance Guide

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49583	QT 2x59/120 PLUS	120	1.30	F096T8/800	5900	2	1.19	14040	151	93
				F096T8/XP	6200	2	1.19	14750	151	98
49584	QT 2x59/277 PLUS	277	0.56	F096T8/800	5900	2	1.19	14040	151	93
				F096T8/XP	6200	2	1.19	14750	151	98

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON 800 and XP series lamps.

### Specifications<sup>1,2</sup>



**QUICKTRONIC 2x59 PLUS**

**Starting Method:** Instant Start  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**Voltage Range:** +/- 10% of Rated Input

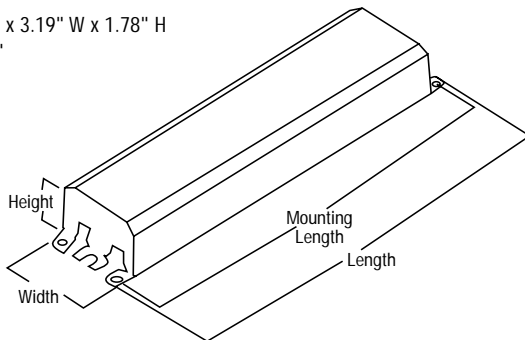
UL Listed Class P, Type 1 Outdoor  
 CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat A. Transient Protection  
 Remote Mounting up to 18 feet

<sup>1</sup> Data based on F096 lamp.

<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

#### Dimensions:

Overall: 11.75" L x 3.19" W x 1.78" H  
 Mounting: 11.14"



#### Packaging:

Quantity: 6 pieces  
 Weight: 3.5 lbs (approx)

### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.

Item Number ————— **49583** **QT** **2 x 59 / 120** **PLUS** ————— System Type – PLUS  
 QUICKTRONIC ————— Line Voltage  
 Number of Lamps (2) ————— Primary Lamp Wattage

<10% THD Electronic T8 8-Foot Systems  
**QUICKTRONIC® 86 T8HO RapidStart**

*Professional Series*

**Lamp/Ballast Guide**

86W T8 8-Foot - OCTRON  
 1-lamp QTP1x86HO/RSN

Primary Lamp Type:  
 FO96T8HO

**SYLVANIA QUICKTRONIC 86 T8HO** operates OCTRON® FO96 T8HO lamps with optimal lumen output while providing high system efficacy.

SYSTEM 86 T8HO provides 30 percent more light output than standard T8 systems and 20 percent more light output than F96T12 systems.

Setting the standard for quality, SYSTEM 86 T8HO is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.



**Key System Features**

- 87.5% Ballast factor
- Over 30% more light output than standard T8 8 foot systems
- 32°F Starting
- Full lamp life
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- UL, CSA, FCC

**System Information**

SYSTEM 86 T8HO electronic ballasts have low harmonic distortion.

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

**Application Information**

**SYLVANIA QUICKTRONIC 86 T8 HO** is ideally suited for:

- Commercial
- Retail
- Direct
- New Construction
- Industrial
- Hospitality
- Indirect
- Retrofit

System Type (1-lamp)	Input Wattage	Initial Lumens	System LPW
F96T8/HO - Electronic	88	7175	82

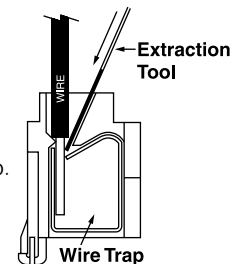
**Wire Trap Diagram**

**Wire Insertion**

- Strip 18 AWG solid copper wire 3/8"
- Insert stripped end into wiretrap.
- Pull gently to verify proper installation.

**Wire Extraction**

- Insert wiretrap extraction tool into wiretrap.
- Pull wire out of wiretrap.
- Remove extraction tool.



# RapidStart HO F96T8HO

## <10% THD Electronic T8 8-Foot High Light Fluorescent Systems

### Performance Guide

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50300	QTP 1x86T8HO/120 RSN-A <i>Formerly: M1-RN-T8/HO-A-120</i>	120	0.72	F96T8/HO	8200	1	0.875	7175	88	82
50310	QTP 1x86T8HO/277 RSN-A <i>Formerly: M1-RN-T8/HO-A-277</i>	277	0.31	F96T8/HO	8200	1	0.875	7175	88	82

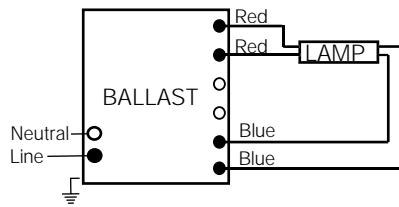
<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on OCTRON F96T8/HO series lamps.

### Specifications<sup>1,2</sup>

**Starting Method:** Rapid Start  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 32°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 99%  
**Voltage Range:** +/- 10% of Rated Input

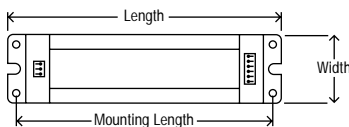
UL Listed Class P, Type 1 Outdoor  
 CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat A. Transient Protection  
 Remote Mounting up to 10 feet

<sup>1</sup> Data based on F096T8HO lamp.  
<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.



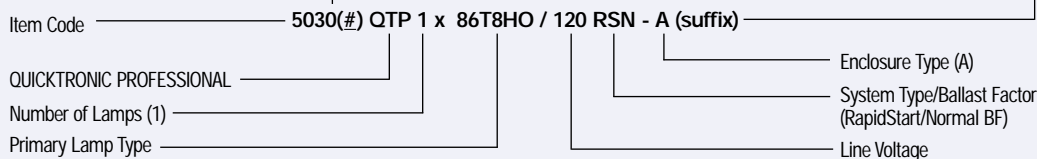
#### Dimensions "A" Enclosure:

Overall: 9.5" L x 2.38" W x 1.5" H  
 Mounting: 8.91"  
 Weight: 1.3 lbs each



#### Wiring/Packaging Configurations: All above products are available in the following packaging/wiring configurations:

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL



### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.

Electronic T12 Fluorescent Ballast

**QUICKTRONIC® 96IS, ISN-A, (InstantStart) and 96HO (RapidStart)**

Normal Light Output

**96T12/96T12HO  
96IS/96HO**



Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2,3</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50260	QT 2x60T12/120 ISN-A <i>Formerly: M2-IN-T12-8GP-A-120</i>	120	0.91	F96SS	5300	2	0.88	9330	112	83
50270	QT 2x60T12/277 ISN-A <i>Formerly: M2-IN-T12-8GP-A-277</i>	277	0.41	F96SS	5300	2	0.88	9330	112	83
49881	QT 2x96/120 IS	120	1.20	F96SS F96	5300 6420	2	0.88	9330 11300	110 135	85 84
49882	QT 2x96/277 IS	277	0.52	F96SS F96	5300 6420	2	0.88	9330 11300	110 135	85 84
49883	QT 2x96/120 HO	120	1.79	F96HOSS F96HO	8000 9050	2	0.88	14080 15930	180 210	78 76
49884	QT 2x96/277 HO	277	0.78	F96HOSS F96HO	8000 9050	2	0.88	14080 15930	180 210	78 76

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> 96IS rated lamp lumens and performance data based on F96T12CW/SS and F96T12/D41 series lamps.  
<sup>3</sup> 96HO rated lamp lumens and performance data based on F96T12CW/HO/SS and F96T12/HOD41 series lamps.

**Specifications<sup>1</sup>**

**Starting Method:** IS - Instant Start  
HO - Rapid Start

**Circuit Type:** IS - Parallel  
HO - Series

**Starting Temp.:** IS - 0°F min<sup>2</sup>  
HO - 50°F min<sup>2</sup>

**Lamp CCF:** Less than 1.7

**Lamp Frequency:** > 20KHz

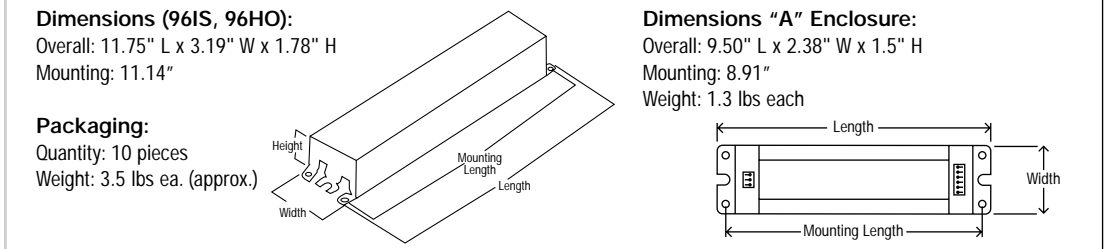
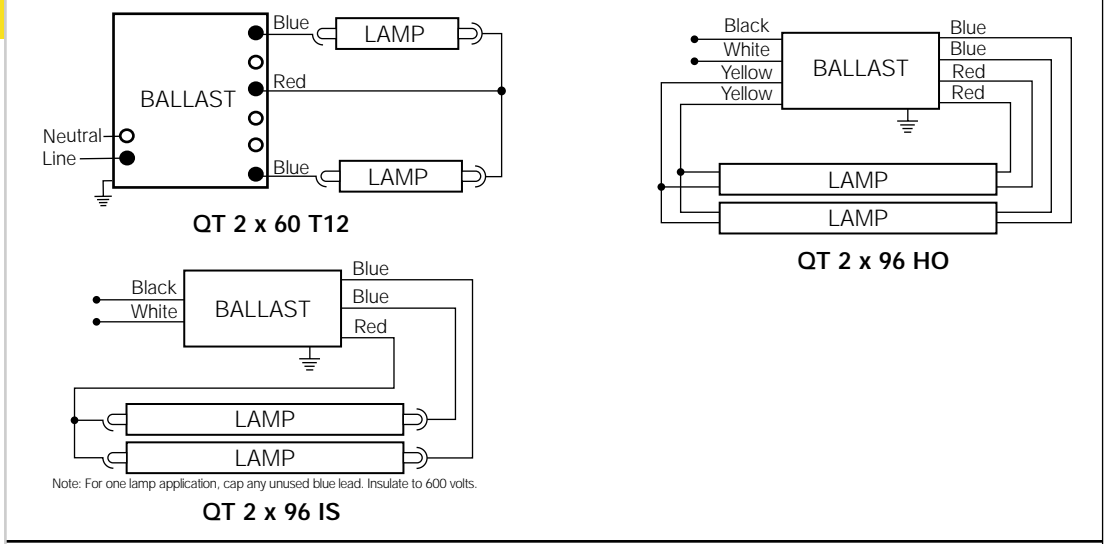
**Low THD:** < 20%

**Voltage Range:** +/- 10% of Rated Input

**Input Frequency:** 60 Hz

**Power Factor:** > 97%

UL Listed Class P, Type 1 Outdoor  
 CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating (IS)  
 ANSI C62.41 Cat A. Transient Protection  
 Remote Mounting up to 10 feet  
 Class B Sound Rating (HO)



**Dimensions (96IS, 96HO):**  
 Overall: 11.75" L x 3.19" W x 1.78" H  
 Mounting: 11.14"

**Packaging:**  
 Quantity: 10 pieces  
 Weight: 3.5 lbs ea. (approx.)

**System Life / Warranty**

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

**Wiring/Packaging Configurations:** All 2 lamp "A" Enclosure products are available in the following packaging/wiring configurations:  
 QT96IS/96HO Wiring — Leads only (no connectors provided)

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL

Item Code: 5026(#)  
 QUICKTRONIC  
 Number of Lamps (2)  
 Primary Lamp Type

5026(#)  
 QT 2 x 60T12 / 120 ISN A (suffix)  
 Enclosure Type (A)  
 System Type/Ballast Factor – InstantStart/Normal BF  
 Line Voltage

**Ordering Guide**

Specifications subject to change without notice.



<10% THD Electronic T12 Fluorescent Ballast  
**QUICKTRONIC® 40 T12 RapidStart**  
 Professional Series

Normal Light Output

**40T12**  
**RapidStart**  
 Normal Ballast Factor

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50560	QTP 1x40T12/120 RSN-B <i>Formerly: M1-RN-T12-1LL-B-120</i>	120	0.34	F40T12/D41	3200	1	0.875	2800	38	74
50570	QTP 1x40T12/277 RSN-B <i>Formerly: M1-RN-T12-1LL-B-277</i>	277	0.14	F40T12/D41	3200	1	0.875	2800	38	74
50580	QTP 2x40T12/120 RSN-B <i>Formerly: M2-RN-T12-1LL-B-120</i>	120	0.68	F40T12/D41	3200	2	0.840	5376	69	78
50590	QTP 2x40T12/277 RSN-B <i>Formerly: M2-RN-T12-1LL-B-277</i>	277	0.27	F40T12/D41	3200	2	0.835	5344	68	79
50600	QTP 3x40T12/120 RSN-B <i>Formerly: M3-RN-T12-1LL-B-120</i>	120	0.92	F40T12/D41	3200	3	0.875	8400	109	77
50610	QTP 3x40T12/277 RSN-B <i>Formerly: M3-RN-T12-1LL-B-277</i>	277	0.45	F40T12/D41	3200	3	0.865	8304	105	79

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on F40T12/D41 series lamps.

Performance Guide

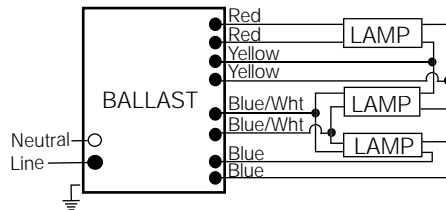
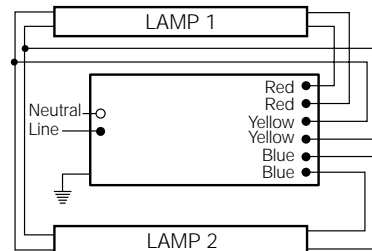
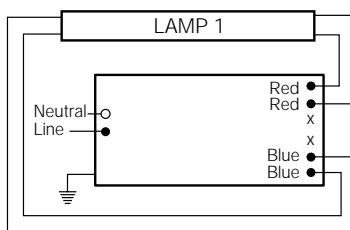


Specifications<sup>1</sup>

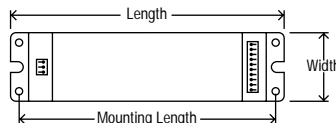
**Starting Method:** Rapid Start  
**Circuit Type:** Series  
**Starting Temp.:** 50°F min  
**Lamp CCF:** Less than 1.7  
**Lamp Frequency:** > 20KHz  
**Low THD:** < 10%  
**Voltage Range:** +/- 10% of Rated Input  
**Input Frequency:** 60 Hz  
**Power Factor:** > 0.99%

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  
 Remote Mounting up to 8 feet

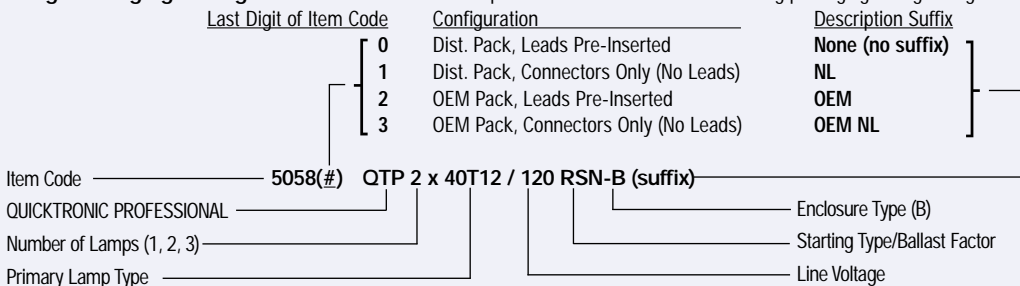
<sup>1</sup> Data based on F40T12 lamps. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.



**Dimensions "B" Enclosure:**  
 Overall: 9.50" L x 2.38" W x 1.25" H  
 Mounting: 8.91"  
 Weight: 1.3 lbs each



**Wiring/Packaging Configurations:** All ISN-A & RSN-B products are available in the following packaging/wiring configurations:



System Life / Warranty

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

Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T5 Fluorescent Programmed Rapid Start Systems

# QUICKTRONIC® PROStart™ T5

## Professional Series

Normal Light Output

### Lamp/Ballast Guide

**28W T5 - PENTRON**

- 1-lamp QT1x28PS
- 2-lamp QT2x28PS

**Primary Lamp Types:**

FP28

**Also Operates:**

FP14, FP21, FP35

QTP 2x28 T5 PSN-F operates 14, 21, 28 WT5 lamps only

**SYLVANIA QUICKTRONIC**

**PS** operates PENTRON® T5 lamps with full lumen output and optimal system performance.

SYSTEM PS provides over 10% more lumen output than T8 systems at comparable power levels. Also, a new benchmark for 2-lamp system efficacy of 93 LPW has been achieved through newly developed HVIC (High Voltage Integrated Chip) technology.

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

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



SYSTEM PS is available in one and two lamp models in 120V and 277V to cover a wide range of applications.

### Key System Features

- 100% Ballast factor\*
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- PROStart programmed start ballast
- QUICK 60+ warranty
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC
- \* Primary lamp application

### System Information

PROStart ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing 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 PS comes in a 30 x 30 mm profile, and PENTRON lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.

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

System Type (2-lamp)	Input Wattage	Initial Lumens	System LPW
F40T12 - Standard Magnetic	96	5795	60
Energy Saver Magnetic	86	5795	67
F34T12 - Energy Saver Magnetic	72	4750	66
QT2x32IS - F032/800	59	5310	90
QT2x28PS - FP28/800	62	5800	93

### Application Information

**SYLVANIA QUICKTRONIC PS**

is ideally suited for:

- Commercial
- Retail
- Hospitality
- New Construction
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

# PROStart T5 Normal Ballast Factor

## Performance Guide

### <10% THD Electronic T5 Fluorescent Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2,3</sup> Lumens (lm)	No. of Lamps	Ballast <sup>1</sup> Factor (BF)	System <sup>3</sup> Lumens	Input <sup>3</sup> Wattage (W)	System Efficacy (lm/W)
49681	QT1x28/120PS*	120	0.28	FP28T5	2900	1	1.00	2900	32	91
49682	QT1x28/277PS*	277	0.12	FP28T5	2900	1	1.00	2900	32	91
49683	QT2x28/120PS*	120	0.55	FP28T5	2900	2	1.00	5800	62	93
49684	QT2x28/277PS*	277	0.24	FP28T5	2900	2	1.00	5800	62	93
50890	QTP 1x28T5/120 PSN-F <i>Formerly: M1-PN-T5-F-120</i>	120	0.34	FP28T5	2900	1	1.00	2900	32	91
50900	QTP 1x28T5/277 PSN-F <i>Formerly: M1-PN-T5-F-277</i>	277	0.14	FP28T5	2900	1	1.00	2900	31	94
50910	QTP 2x28T5/120 PSN-F <i>Formerly: M2-PN-T5-F-120</i>	120	0.55	FP28T5	2900	2	1.00	5800	66	88
50920	QTP 2x28T5/277 PSN-F <i>Formerly: M2-PN-T5-F-277</i>	277	0.23	FP28T5	2900	2	1.00	5800	65	89

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on PENTRON lamps.  
<sup>3</sup> At 35°C lamp ambient temperature.

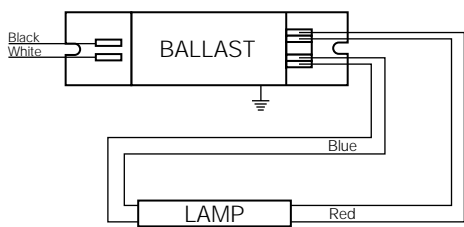
## Specifications<sup>1,2</sup>

**Starting Method:** Programmed Start  
**Ballast Factor:** 1.00  
**Circuit Type:** Series  
**Lamp Frequency:** > 40 KHz  
**Lamp CCF:** Less than 1.6  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** +/-10% of Rated Input

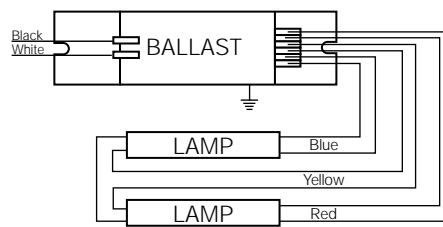
UL Listed Class P, Type 1 Outdoor  
 CSA Certified  
 70°C Maximum Case Temperature  
 FCC 47CFR Part 18 Non-Consumer Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Dynamic End-of-Lamp-Life Sensing  
 Remote Mounting up to 10 feet

<sup>1</sup> Data based on PENTRON 28W lamp types. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other Pentron lamps combinations.

<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.



1 LAMP



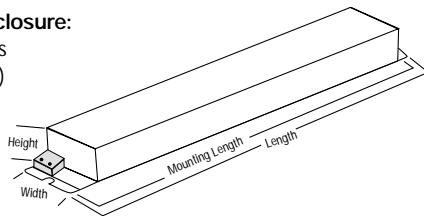
2 LAMP

### Dimensions "E" Enclosure:

\*QT models are "E" can  
 Overall: 425mm L x 30mm W x 30mm H  
 Mounting: 415mm

### Wiring "E" Enclosure:

Push-in connectors  
 (no leads provided)  
 Use 18AWG solid copper wire only

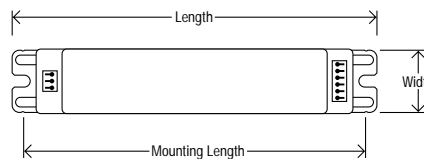


### Packaging:

Quantity: 20  
 Weight: 1.0 lbs each (approx.)

### Dimensions "F" Enclosure:

Overall: 9.5" L x 1.6" W x 1.0" H  
 Mounting: 8.91"  
 Weight: 0.75 lbs each



**Wiring/Packaging Configurations:** All PSN-F products are available in the following packaging/wiring configurations:

Last Digit of Item Code	Configuration	Description Suffix
0	Dist. Pack, Leads Pre-Inserted	None (no suffix)
1	Dist. Pack, Connectors Only (No Leads)	NL
2	OEM Pack, Leads Pre-Inserted	OEM
3	OEM Pack, Connectors Only (No Leads)	OEM NL

Item Code: 5090(##) QTP 1 x 28T5 / 277 PSN F (suffix)

QUICKTRONIC PROFESSIONAL

Number of Lamps (1, 2)

Primary Lamp Type (FP28T5)

Enclosure Type (F)

Starting Type/Ballast Factor

Line Voltage

## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T5HO Fluorescent Programmed Rapid Start Systems

# QUICKTRONIC® PROStart™ T5HO

Professional Series

Normal Light Output

## Lamp/Ballast Guide

### 54W T5 - PENTRON HO

- 1-lamp QT1x54PHO
- 2-lamp QT2x54PHO

Also operates:

FT55DL, FPC55

### 39W T5 - PENTRON HO

- 1-lamp QT1x39-24PHO
- 2-lamp QT2x39-24PHO

### 24W T5 - PENTRON HO

- 1-lamp QT1x39-24PHO
- 2-lamp QT2x39-24PHO

Also operates:

FT36DL, FT24DL, CF24DF, CF36DF, FPC40, FPC22

### 80WT5 - PENTRON HO

- 1-lamp QTP1x80T5HO PSN

## Key System Features

- 100% Ballast factor\*
  - QUICKSENSE ballast technology (end-of-lamp-life sensing)
  - PROStart programmed start, ballast
  - QUICK 60+ warranty
  - 0°F Starting
  - High luminous efficacy
  - Virtually eliminates lamp flicker
  - High power factor
  - Low harmonic distortion
  - Lightweight
  - UL, CSA, FCC
- \* 110% for FP24/T5 applications

## Application Information

### SYLVANIA QUICKTRONIC PHO

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

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

SYSTEM PHO 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.

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

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

## System Information

PROStart ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing 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 PHO comes in a 30 x 30 mm profile, and PENTRON lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.



SYSTEM PHO is available in one and two lamp models in 120V and 277V to cover a wide range of applications.

System Type	Input Wattage	Initial Lumens	System LPW
F40T12 - E.S. Magnetic Ballast (4-lamp)	172	11590	67
F34T12 - E.S. Magnetic Ballast (4-lamp)	144	9500	66
F032T8/XP - QT4x32IS (4-lamp)	114	10800	95
FP54T5 - QT2x54PHO (2-lamp)	117	10000	85
F032T8/XP - QT2x32IS (2-lamp)	59	5400	92
FP54T5 - QT1x54PHO (1-lamp)	61	5000	82

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



# PROStart T5HO Normal Ballast Factor

## Performance Guide

### <10% THD Electronic T5 HO Fluorescent Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2,3</sup> Lumens (lm)	No. of Lamps	Ballast <sup>3</sup> Factor (BF)	System <sup>3</sup> Lumens	Input <sup>3</sup> Wattage (W)	System Efficacy (lm/W)
49631	QT 1x39-24/120 PHO*	120	0.35	FP24T5HO	2000	1	1.10	2200	28	79
49632	QT 1x39-24/277 PHO*	277	0.15	FP24T5HO	2000	1	1.10	2200	27	81
49633	QT 2x39-24/120 PHO*	120	0.73	FP24T5HO	2000	2	1.10	4400	54	81
49634	QT 2x39-24/277 PHO*	277	0.31	FP24T5HO	2000	2	1.10	4400	53	83
49631	QT 1x39-24/120 PHO*	120	0.35	FP39T5HO	3500	1	1.00	3500	42	83
49632	QT 1x39-24/277 PHO*	277	0.15	FP39T5HO	3500	1	1.00	3500	42	83
49633	QT 2x39-24/120 PHO*	120	0.73	FP39T5HO	3500	2	1.00	7000	87	80
49634	QT 2x39-24/277 PHO*	277	0.31	FP39T5HO	3500	2	1.00	7000	85	82
49651	QT 1x54/120 PHO*	120	0.52	FP54T5HO	5000	1	1.00	5000	62	81
49652	QT 1x54/277 PHO*	277	0.22	FP54T5HO	5000	1	1.00	5000	61	82
49653	QT 2x54/120 PHO*	120	1.00	FP54T5HO	5000	2	1.00	10000	120	83
49654	QT 2x54/277 PHO*	277	0.45	FP54T5HO	5000	2	1.00	10000	117	85
49660	QTP 1x80T5HO/120 PSN-E	120	0.76	FP80T5HO	7000	1	1.00	7000	91	77
49670	QTP 1x80T5HO/277 PSN-E	277	0.33	FP80T5HO	7000	1	1.00	7000	90	78

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on PENTRON HO lamps.  
<sup>3</sup> At 35°C lamp ambient temperature.

## Specifications<sup>1</sup>

**Starting Method:** Programmed Start  
**Ballast Factor:** (1.00–1.10)  
**Circuit Type:** Series  
**Lamp Frequency:** > 40 KHz  
**Lamp CCF:** Less than 1.6  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** +/-10% of Rated Input

UL Listed Class P, Type 1, Outdoor CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Dynamic End-of-Lamp-Life Sensing  
 Remote Mounting up to 10 feet

<sup>1</sup> Data based on PENTRON HO lamp types. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for Pentron Circline, DULUX L/F and other combinations.

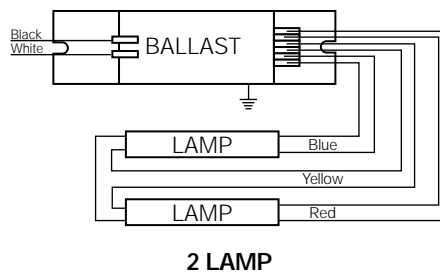
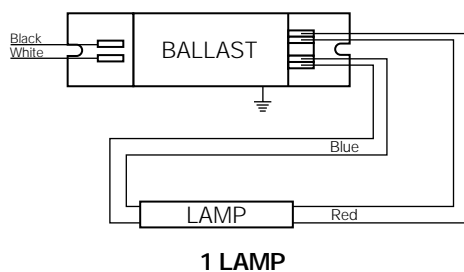
<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.

## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.



### Dimensions "E" Enclosure

\*All models above are "E" enclosure

Overall: 425mm L x 30mm W x 30mm H

Mounting: 415mm

### Wiring:

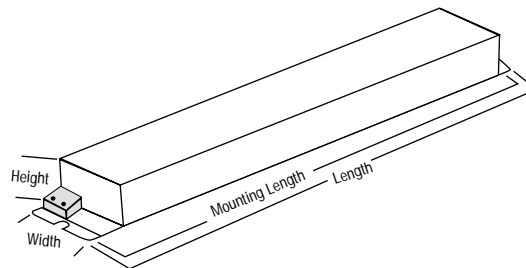
Push-in connectors (no leads provided)

Use 18AWG solid copper wire only

### Packaging:

Quantity: 20

Weight: 1.0 lbs each (approx)



Item Number ————— **49653** **QT** **2 x 54 / 120** **PHO** ————— System Type – PHO  
 QUICKTRONIC ————— Line Voltage  
 Number of Lamps (1, 2) ————— Primary Lamp Wattage

<10% THD Electronic T5 HO Fluorescent Controllable Lighting Systems

# QUICKTRONIC® HELIOS™ T5 HO Dimming

## Professional Series

### Lamp/Ballast Guide

54W T5 – PENTRON HO  
 1-lamp QT1x54PHO-DIM  
 2-lamp QT2x54PHO-DIM

Also operates:  
 FT55DL, FPC55

**SYLVANIA QUICKTRONIC PHO-DIM** operates PENTRON® HO, PENTRON HO Circline, and DULUX® L T5 lamps over a wide (100–1%) dimming range.

SYSTEM PHO-DIM 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.

SYSTEM PHO-DIM is appropriate for lighting control for aesthetic reasons as well as lighting management for energy conservation through daylight harvesting or building automation.

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



SYSTEM PHO-DIM is available in one and two lamp models in 120V and 277V to cover a wide range of applications.

### Key System Features

- 100–1% Dimming range
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- PROStart programmed start ballast
- QUICK 60+ warranty
- 1–10V Control
- Anti-flash circuitry—turns on in dimmed mode
- High luminous efficacy
- Virtually eliminates lamp flicker
- High power factor
- Low harmonic distortion
- Lightweight
- UL, CSA, FCC

### System Information

PROStart ballasts provide optimum starting conditions to provide up to 100,000 switching cycles for use on occupancy sensors and building control systems.

QUICKSENSE® ballast technology helps to protect against overheated bases and sockets, as well as cracking of the glass wall, and uses dynamic end-of-lamp-life sensing, over the entire dimming range, to avoid false shutdowns caused by some static sensing methods. QUICKSENSE ballast technology will auto-reset when the end-of-life lamps are replaced with new ones.

SYSTEM PHO-DIM comes in a 30 x 30 mm profile, and PENTRON lamps are designed to provide peak performance at 35°C fixture ambient, allowing for smaller and more innovative fixtures.

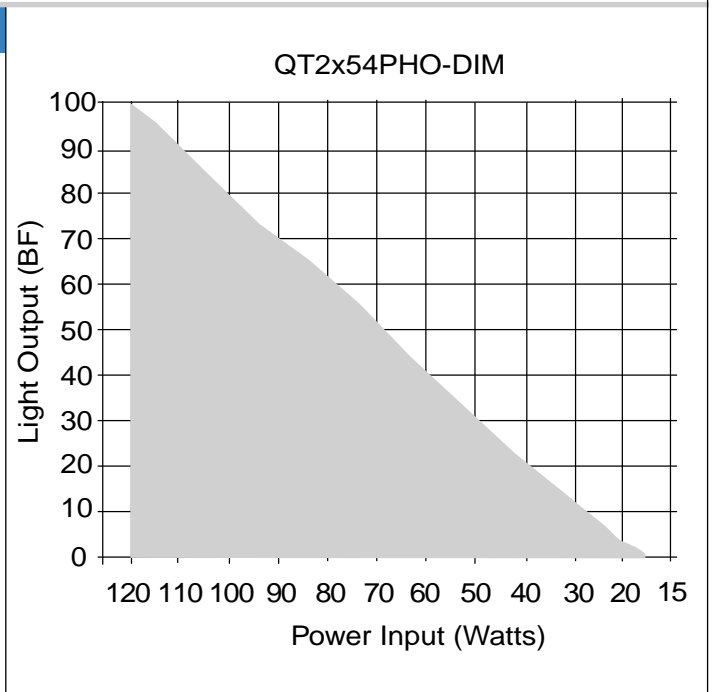
A complete OSRAM SYLVANIA System Performance Guide showing performance characteristics of lamps and ballasts is available upon request.

### Application Information

#### SYLVANIA QUICKTRONIC PHO-DIM

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- New Construction
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting



# PHO-DIM

## Normal Ballast Factor

### <10% THD Electronic T5 HO Fluorescent Dimming Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2,3</sup> Lumens (lm)	No. of Lamps	Ballast <sup>3</sup> Factor (BF)	System <sup>3</sup> Lumens	Input <sup>3</sup> Wattage (W)	System Efficacy (lm/W)
49671	QT1x54/120PHO-DIM	120	0.54	FP54T5HO	5000	1	1.00 0.01	5000 50	62 8	81
49672	QT1x54/277PHO-DIM	277	0.23	FP54T5HO	5000	1	1.00 0.01	5000 50	61 8	82
49673	QT2x54/120PHO-DIM	120	1.07	FP54T5HO	5000	2	1.00 0.01	10000 100	120 18	83
49674	QT2x54/277PHO-DIM	277	0.45	FP54T5HO	5000	2	1.00 0.01	10000 100	117 18	85

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on PENTRON HO lamps.  
<sup>3</sup> At 35°C lamp ambient temperature

### Performance Guide

### Specifications<sup>1</sup>

**Starting Method:** Programmed Start

**Circuit Type:** Series  
**Lamp Frequency:** > 40 KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 50°F minimum  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** +/-10% of Rated Input

UL Listed Class P, Type 1 Outdoor  
 CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Dynamic End-of-Lamp-Life Sensing  
 Remote Mounting up to 7 feet

<sup>1</sup> Data based on PENTRON HO lamp type. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other lamp combinations.

### Dimming Control Specifications<sup>2</sup>

**Dimming Control<sup>2</sup>:** 1-10Vdc two wire control (10V = full output, 1V = minimum output)

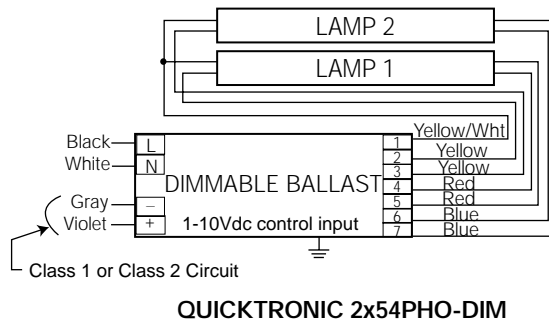
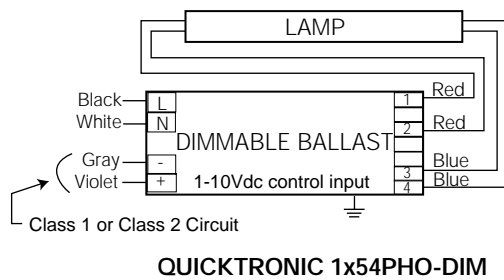
**Line Voltage Protection:** Ballast goes to 90% if line voltage is inadvertently applied to control leads. Ballast will source up to 0.5mA for control purposes. May be wired as Class 1 or Class 2 circuit.

### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.



A list of compatible controllers and wiring examples are on [pages 28 & 29](#).

#### Dimensions:

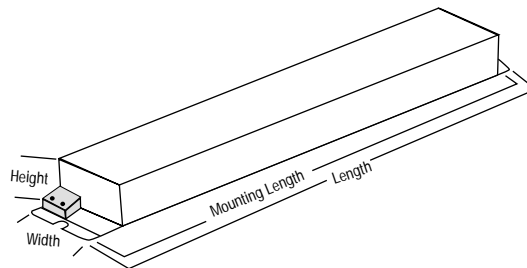
Overall: 425mm L x 30mm W x 30mm H  
 Mounting: 415 mm

#### Wiring:

Push-in connectors (no leads provided)  
 Use 18AWG solid copper wire only

#### Packaging:

Quantity: 20  
 Weight: 1.0 lbs ea. (approx)



Item Number \_\_\_\_\_ **49673** **QT** **2 x 54 / 120** **PHO-DIM** \_\_\_\_\_ System Type – PHO-DIM  
 QUICKTRONIC \_\_\_\_\_ Line Voltage  
 Number of Lamps (1, 2) \_\_\_\_\_ Primary Lamp Wattage

# QUICKTRONIC® Instant Start DL40

Normal Light Output

## Lamp/Ballast Guide

40W T5 - DULUX L  
 1-lamp QT1x40DL  
 2-lamp QT2x40DL  
 3-lamp QT3x40DL

Primary Lamp Type:  
 FT40DL

**SYLVANIA QUICKTRONIC DL40** operates DULUX® L 40W lamps with maximum efficacy and high lumen output.

SYSTEM DL40 provides over 30% more lumen output than 34T12 systems at nearly the same power input. 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 DL40 is available in one, two, and three lamp models in 120V and 277V to cover a wide range of applications.

## Key System Features

- 96% Ballast factor
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- Compatible with most powerline carrier systems
- Quiet operation
- High power factor
- Low harmonic distortion
- Low in-rush current
- Lightweight
- UL, CSA, FCC

Setting the standard for quality, SYSTEM DL40 is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

## System Information

SYSTEM DL40 uses 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.

The 96% ballast factor helps to realize the full potential of DL lamps versus modified T8 ballasts with 85% ballast factor.

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. This also applies if fewer lamps are used (e.g 2 lamps on a 3-lamp ballast).

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

System Type (2 x 2)	Input Wattage	Initial Lumens	System LPW
FB40T12 - Std. Magnetic Ballast	96	5795	60
E.S. Magnetic Ballast	86	5795	67
FB34T12 - E.S. Magnetic Ballast	72	4575	66
FB032T8 - Magnetic	71	5415	76
DL40 - QT2x40DL	75	6045	81
DL40 - QT3x40DL	110	9070	82

## Application Information

### SYLVANIA QUICKTRONIC DL40

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New Construction
- Direct Lighting
- Indirect Lighting
- Surface Mount
- Cove Lighting

# INSTANT START DL40 Normal Ballast Factor

## Performance Guide

### <20% THD Electronic TT5 Compact Fluorescent Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49641	QT 1x40/120 DL	120	0.33	FT40T5	3150	1	0.96	3020	40	76
49642	QT 1x40/277 DL	277	0.14	FT40T5	3150	1	0.96	3020	40	76
49643	QT 2x40/120 DL	120	0.63	FT40T5	3150	2	0.96	6045	75	81
49644	QT 2x40/277 DL	277	0.28	FT40T5	3150	2	0.96	6045	75	81
49645	QT 3x40/120 DL	120	0.94	FT40T5	3150	3	0.96	9070	110	82
49646	QT 3x40/277 DL	277	0.42	FT40T5	3150	3	0.96	9070	110	82

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.

<sup>2</sup> Rated lamp lumens and performance data based on DULUX L 40 series lamps.

#### 500 pc Pallet Packs

49621 QT 1x40/120 DL-PAL    49623 QT 2x40/120 DL-PAL    49625 QT 3x40/120 DL-PAL  
 49622 QT 1x40/277 DL-PAL    49624 QT 2x40/277 DL-PAL    49626 QT 3x40/277 DL-PAL

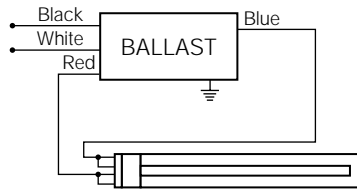
## Specifications<sup>1</sup>

**Starting Method:** Instant Start  
**Ballast Factor:** 0.96  
**Circuit Type:** Parallel  
**Lamp Frequency:** > 20KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** 0°F minimum<sup>2</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 20%  
**Power Factor:** > 97%  
**Voltage Range:** +/-10% of Rated Input

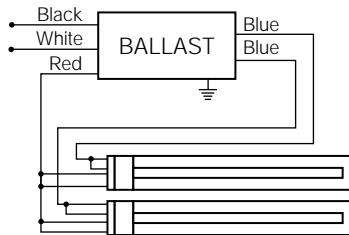
UL Listed Class P, Type 1 Outdoor  
 CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Class A Sound Rating  
 ANSI C62.41 Cat. A Transient Protection  
 Remote Mounting up to 18 feet

<sup>1</sup> Data based on DL40 lamps. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.

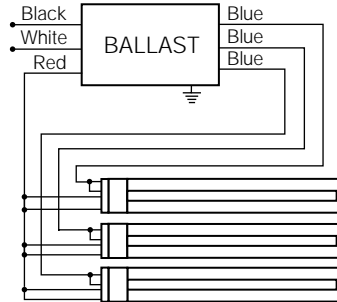
<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.



**QUICKTRONIC 1x40DL**



**QUICKTRONIC 2x40DL**



**QUICKTRONIC 3x40DL**

Note: For one lamp application, cap any blue lead. Insulate to 600 volts.

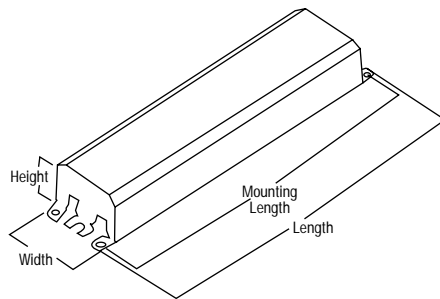
Note: For two lamp application, cap any blue lead. Insulate to 600 volts.

#### Dimensions:

Overall: 9.5" L x 2.38" W x 1.6" H  
 Mounting: 8.90"

#### Packaging:

Quantity: 10 pieces  
 Weight: 2.8 lbs ea. (approx.)



## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

Item Number ———— **49643** **QT** **2 x 40 / 120** **DL** ———— System Type – DL  
 QUICKTRONIC ———— Line Voltage  
 Number of Lamps (1, 2, 3) ———— Primary Lamp Wattage

<10% THD Electronic T5 Fluorescent Programmed Rapid Start Systems

# QUICKTRONIC® PROStart™ DL40

Normal Light Output

## Professional Series

### Lamp/Ballast Guide

**40W T5 - DULUX L**

- 1-lamp QTP1x40TT5 PSN-F
- 2-lamp QTP2x40TT5 PSN-F
- 3-lamp QTP3x40TT5 PSN-B

Primary Lamp Type:  
FT40DL

**SYLVANIA QUICKTRONIC PROStart DL40** operates DULUX® L 40 lamps with maximum efficacy and high lumen output.

PROStart DL40 provides 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.

Setting the standard for quality, SYSTEM DL40 is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.



SYSTEM PROStart DL40 is available in one, two, and three lamp models in 120V and 277V to cover a wide range of applications.

### Key System Features

- PROStart Programmed Rapid Start Ballast
- 88% Ballast factor
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- 0°F Starting
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Lightweight
- Wiretrap connectors – available with or without leads pre-inserted
- UL, CSA, FCC

### 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 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.

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

System Type (2 x 2)	Input Wattage	Initial Lumens	System LPW
FB40T12 - Std. Magnetic Ballast	96	5795	60
E.S. Magnetic Ballast	86	5795	67
FB34T12 - E.S. Magnetic Ballast	72	4575	66
FB032T8 - Magnetic	71	5415	76
DL40 - QTP2x40TT5-PSN	76	5545	73
DL40 - QTP3x40TT5-PSN	110	8315	76

### Application Information

**SYLVANIA QUICKTRONIC PROStart DL40**

is ideally suited for:

- Occupancy Sensors
- Building Control Systems
- Any applications where maximum lamp life is required to reduce maintenance costs

# PROStart DL40 Normal Ballast Factor

## Performance Guide

### <10% THD Electronic TT5 Compact Fluorescent Systems

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
50320	QTP 1x40TT5/120 PSN-F <i>Formerly: M1-PN-TT5/40-F-120</i>	120	0.32	FT40T5	3150	1	0.88	2770	38	73
50330	QTP 1x40TT5/277 PSN-F <i>Formerly: M1-PN-TT5/40-F-277</i>	277	0.13	FT40T5	3150	1	0.88	2770	37	75
50340	QTP 2x40TT5/120 PSN-F <i>Formerly: M2-PN-TT5/40-F-120</i>	120	0.63	FT40T5	3150	2	0.88	5545	76	73
50350	QTP 2x40TT5/277 PSN-F <i>Formerly: M2-PN-TT5/40-F-277</i>	277	0.27	FT40T5	3150	2	0.88	5545	73	76
50360	QTP 3x40TT5/120 PSN-B <i>Formerly: M3-PN-TT5/40-B-120</i>	120	0.92	FT40T5	3150	3	0.88	8315	110	76
50370	QTP 3x40TT5/277 PSN-B <i>Formerly: M3-PN-TT5/40-B-277</i>	277	0.39	FT40T5	3150	3	0.88	8315	108	77

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on DULUX L 40 series lamps.

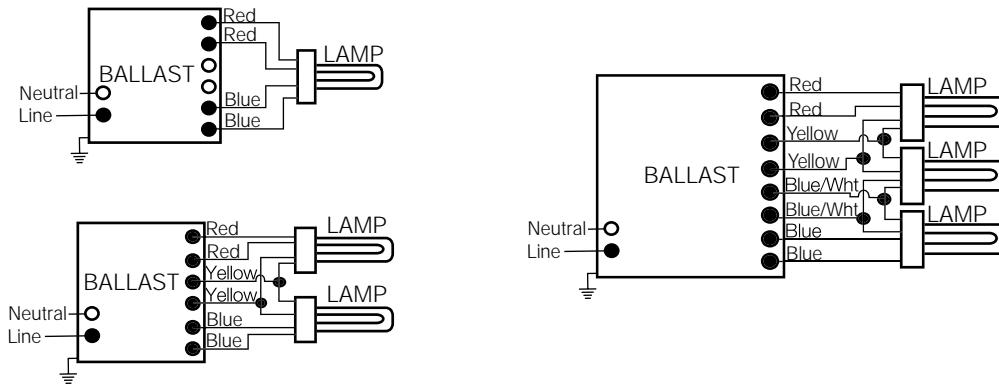
## Specifications<sup>1,2</sup>

**Starting Method:** Programmed Rapid Start  
**Ballast Factor:** 0.88  
**Circuit Type:** Series  
**Lamp Frequency:** > 40 KHz  
**Lamp CCF:** Less than 1.5  
**Starting Temp.:** 0°F<sup>2</sup>  
**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  
 ANSI C62.41 Cat. A Transient Protection  
 Remote Mounting up to 10 feet

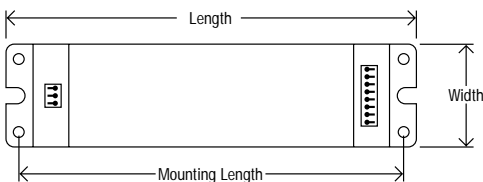
<sup>1</sup> Data based on DL40 lamps. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for other system combinations.

<sup>2</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temp. Starting" definition.



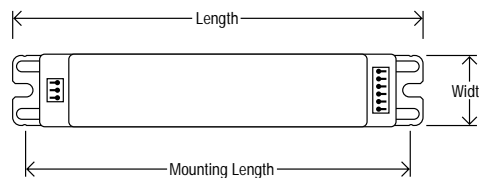
### Dimensions "B" Enclosure:

Overall: 9.5" L x 2.38" W x 1.25" H  
 Mounting: 8.91"  
 Weight: 1.3 lbs each

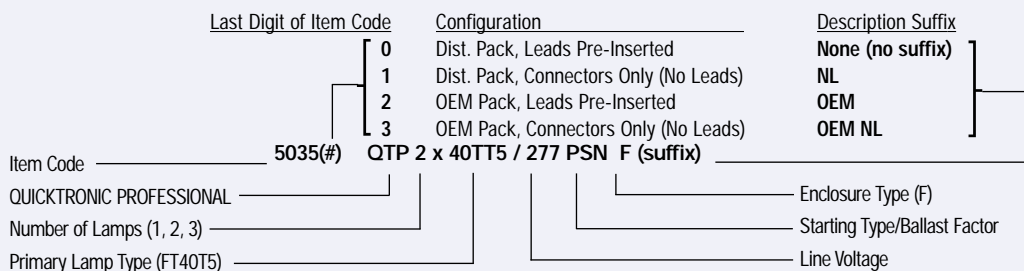


### Dimensions "F" Enclosure

Overall: 9.5" L x 1.6"W x 1.0"H  
 Mounting: 8.91"  
 Weight: 0.75 lbs each



**Wiring/Packaging Configurations:** All PSN-F,B products are available in the following packaging/wiring configurations:



## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

<10% THD Electronic T4 Compact Fluorescent Systems

# QUICKTRONIC® CF – UNIVERSAL

## Professional Series

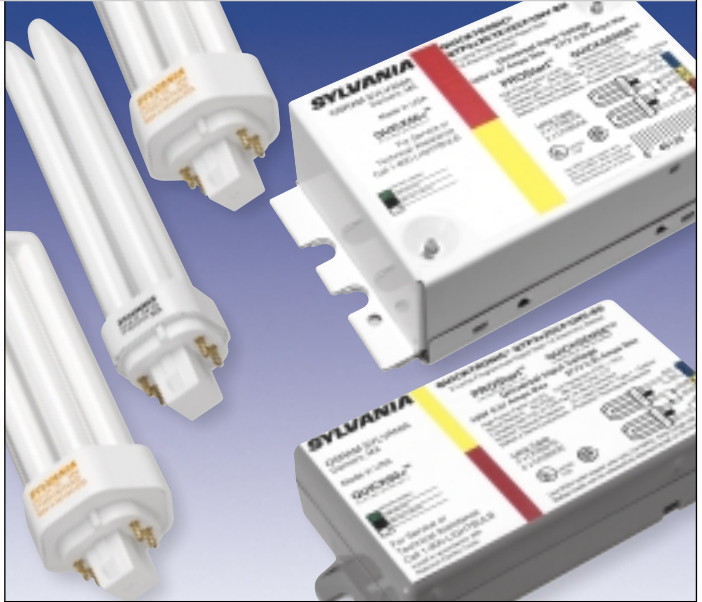
Lamp/Ballast Guide	
13W T4 – DULUX D/E, T/E	1-lamp or 2-lamp QTP1/2x13CF/UNV
18W T4 – DULUX D/E, T/E	1-lamp or 2-lamp QTP1/2x18CF/UNV
26W T4 – DULUX D/E, T/E	1-lamp QTP1x26/32/42CF/UNV QTP1/2xCF/UNV
	2-lamp QTP2x26CF/UNV QTP1/2xCF/UNV
32 or 42W T4 – DULUX T/E	1-lamp QTP1x26/32/42CF/UNV QTP1/2xCF/UNV
	2-lamp QTP2x26/32/42CF/UNV
57W T4 – DULUX T/E	1-lamp QTP1x57CF/UNV

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

QUICKTRONIC CF features four mounting styles of low profile, lightweight enclosures to provide simple assembly for any fixture application. Quick Mount, our distinctive snap-and-lock design, speeds assembly by eliminating the use of mounting screws.

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

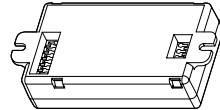
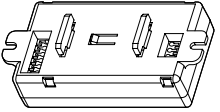
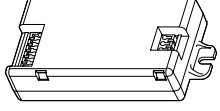
Setting the standard for quality, QUICKTRONIC CF is also covered by our QUICK 60+® warranty, the first and most comprehensive system warranty in the industry.

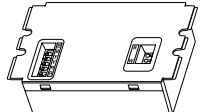
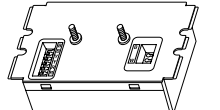
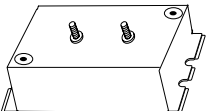


Key System Features
■ Universal Input Voltage
■ PROStart Ballasts
■ QUICKSENSE® Ballast Technology
■ High Power Factor
■ Low Harmonic Distortion
■ Small size and lightweight
■ Metal or plastic enclosure
■ Four mounting styles
■ UL, CSA, FCC
■ QUICK 60+ warranty

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 comes with wire-trap connectors for quick and easy installation.
A complete OSRAM SYLVANIA System Performance Guide showing performance characteristics of lamps and ballasts is available upon request.

Application Information
<b>SYLVANIA QUICKTRONIC CF</b> is ideally suited for:
■ Recessed Downlights
■ Wall Sconces
■ Ceiling Fixtures
■ Commercial
■ Retail
■ Hospitality
■ Institutional

Plastic Enclosure Styles (S)	
	<b>BS</b> = Bottom Mount for recessed downlight fixtures
	<b>QS</b> = Quick Mount for recessed downlight fixtures
	<b>TS</b> = Top Mount for ceiling and wall sconce installation

Metal Enclosure Styles (M)	
	<b>BM</b> = Bottom Mount for recessed downlight fixtures
	<b>PM</b> = Bottom Mount with PEM studs for recessed downlight fixtures
	<b>TM</b> = Top Mount with PEM studs for ceiling and wall sconce installation



### <10% THD Electronic T4 Compact Fluorescent Systems

Item Number	Description <sup>3</sup>	Input Voltage (VAC)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)	
51718	QTP 1/2x13CF/UNV BS	120-277	13W DD/E,T/E	900	1	1.00	900	16	56	
51778										QTP 1/2x13CF/UNV QS
51748										QTP 1/2x13CF/UNV TS
51723	QTP 1/2x18CF/UNV BS	120-277	18W DD/E,T/E	1200	1	1.00	1200	20	60	
51783										QTP 1/2x18CF/UNV QS
51753										QTP 1/2x18CF/UNV TS
51728	QTP 1x26/32/42CF/UNV BS	120-277	26W DD/E,T/E	1800	1	1.00	1800	28	64	
51788										QTP 1x26/32/42CF/UNV QS
51758										QTP 1x26/32/42CF/UNV TS
51733	QTP 2x26CF/UNV BS	120-277	26W DD/E,T/E	1800	2	1.02	3670	55	67	
51793										QTP 2x26CF/UNV QS
51763										QTP 2x26CF/UNV TS
51738	QTP 1/2xCF/UNV BM <i>formerly M1/2-CF-(B,P,T)-M-UNV</i>	120-277	26W DD/E,T/E	1800	1	1.02	1830	28	65	
51798			26W DD/E,T/E	1800	2	1.02	3670	57	64	
51768			32W DT/E	2400	1	0.97	2330	36	65	
			42W DT/E	3200	1	1.00	3200	46	70	
51743	QTP 2x26/32/42CF/UNV BM	120-277	26W DT/E	1800	2	1.02	3670	54	68	
51803										QTP 2x26/32/42CF/UNV PM
51773										QTP 2x26/32/42CF/UNV TM
<i>formerly M2-CF-26/34/42-(B,P,T)-M-UNV</i>										
51740	QTP 1x57CF/UNV BM	120-277	57W DT/E	4300	1	1.00	4300	62	69	
51800	QTP 1x57CF/UNV PM									

<sup>1</sup> Also compatible with other manufacturers' equivalent 4 pin lamp types that meet ANSI standards.

<sup>2</sup> Rated lamp lumens and performance data based on DULUX T/E series 4 pin lamps.

<sup>3</sup> Data is for all three models within the brackets.

### Specifications<sup>1,2</sup>

**Starting Method:** Programmed Rapid-Start

**Circuit Type:** Series

**Lamp Frequency:** > 40KHz

**Lamp CCF:** Less than 1.7

**Starting Temp.:** -5°F/-20°C min.<sup>3</sup>

**Input Frequency:** 50/60 Hz

**Low THD:** < 10%

**Power Factor:** > 98%

**Voltage Range:** 108-305V

UL Listed Class P, Type 1 Outdoor

CSA or C/UL Certified

70°C Max Case Temp.

FCC 47CFR Part 18 Non-Consumer Sound Rated A

ANSI C62.41 Cat. A Transient Protection

Dynamic End-of-Lamp-Life Sensing

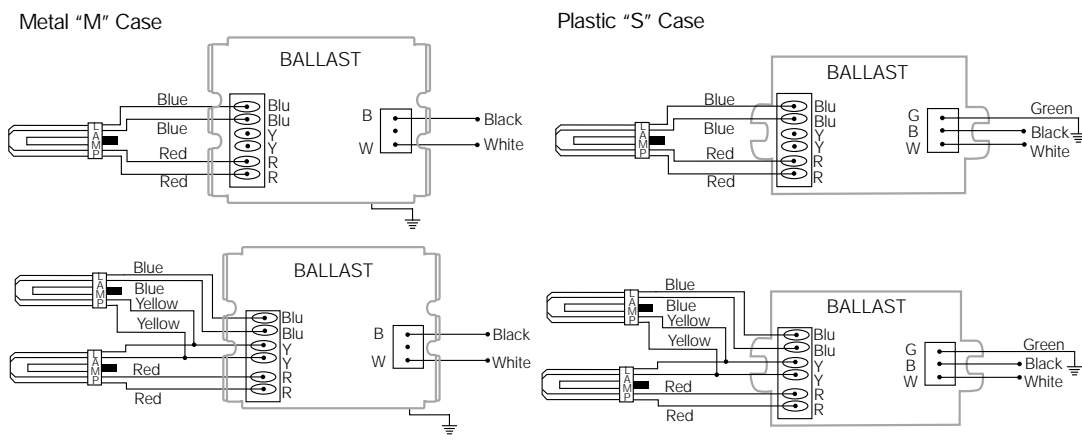
Remote Mounting Capability<sup>4</sup>

### System Life / Warranty

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

### Ordering Guide

Specifications subject to change without notice.



<b>Dimensions:</b>	<b>Wiring:</b>	<b>Packaging:</b>
Metal "M" case: 4.95" L x 2.93" W x 1.35" H	Push-in connectors	Quantity: 20 pieces for -BS, -TS and -BM
Plastic "S" case: 4.95" L x 2.37" W x 1.10" H	(no leads provided)	18 pieces for -PM and -TM
Mounting: Utilize flanges (4.57" L), Quick Mount or (2) #8-32 x 0.375" Long PEM studs on 2" centers	Use 18AWG solid copper wire only	16 pieces for -QS
		Weight: 0.40 lbs ea. (Plastic "S" case)
		0.90 lbs ea. (Metal "M" case)

<sup>1</sup> See the SYLVANIA QUICKTRONIC Electronic Ballast Technology & Specification Guide (ECS-ELECTRONIC) for additional information.

<sup>2</sup> See wiring diagrams for proper installation.

<sup>3</sup> Operation below 50°F may affect light output or lamp operation – see "Low Temperature Starting" definition.

<sup>4</sup> Typically 6 ft. with suitable ground plane, but varies by model and application – please contact ECS Application Engineering for information on longer applications.

Item Number	51743 QTP 2 x 26/32/42 CF/UNV BM	Case Type (Mounting Style)
QUICKTRONIC PROFESSIONAL		Line Voltage
Number of Lamps (1, 2)		Primary Lamp Wattage

<10% THD Electronic T4 Compact Fluorescent Systems

# QUICKTRONIC® CF – DEDICATED VOLTAGE

Professional Series

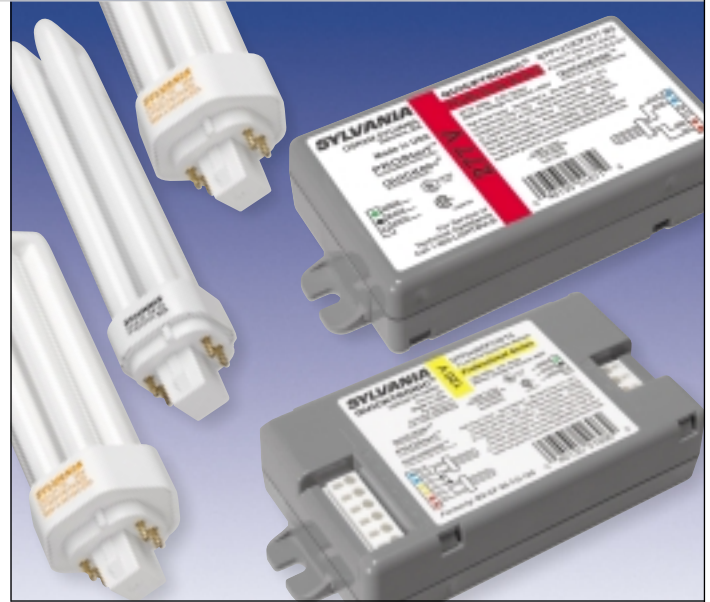
## Lamp/Ballast Guide

**13W T4 – DULUX® D/E, T/E**  
 1-lamp QTP 1x13CF/120  
 QTP 1x13CF/277  
 2-lamp QTP 2x13CF/120  
 QTP 2x13CF/277

**18W T4 – DULUX D/E, T/E**  
 1-lamp QTP 1x18CF/120  
 QTP 1x18CF/277  
 2-lamp QTP 2x18CF/120  
 QTP 2x18CF/277

**26W T4 – DULUX D/E, T/E**  
 1-lamp QTP 1x26CF/120  
 QTP 1x26CF/277  
 2-lamp QTP 2x26CF/120  
 QTP 2x26CF/277

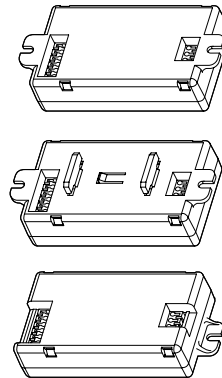
**32 or 42W T4 – DULUX T/E**  
 1-lamp QTP 1x32CF/120  
 QTP 1x32CF/277  
 QTP 1x42CF/120  
 QTP 1x42CF/277



## Key System Features

- Dedicated Voltage
- PROStart™ Ballasts
- QUICKSENSE® Ballast Technology
- High Power Factor
- Low Harmonic Distortion
- Small size and lightweight
- Plastic enclosure
- Three mounting styles
- UL, CSA, FCC
- QUICK 60+® warranty

## Plastic Enclosure Styles (S)



- BS** = Bottom Mount for recessed downlight fixtures
- QS** = Quick Mount for recessed downlight fixtures
- TS** = Top Mount for ceiling and wall sconce installation

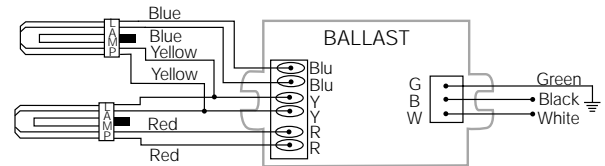
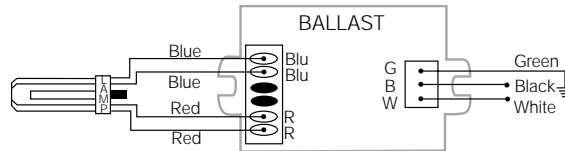
## Application Information

### SYLVANIA QUICKTRONIC CF

is ideally suited for:

- Recessed Downlights
- Wall Sconces
- Ceiling Fixtures
- Commercial
- Retail
- Hospitality
- Institutional

## Wiring Diagrams Plastic "S" Case



**Dimensions:**  
 Weight: 0.40 lbs ea.  
 Overall: 4.95" L x 2.37" W x 1.10" H  
 Mounting: Utilize flanges (4.57" L)  
 or Quick Mount

**Packaging:**  
 Quantity: 20 pieces for -BS, -TS  
 16 pieces for -QS only

**Wiring:**  
 Push-in connectors  
 (no leads provided)  
 Use 18AWG solid copper wire only

# CF Dedicated Voltage

## Performance Guide

### <10% THD Electronic T4 Compact Fluorescent Systems

Item * Number	Description <sup>2</sup>	Input Voltage (VAC)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)								
51670 51702 51686	QTP 1x13CF/120 BS QTP 1x13CF/120 QS QTP 1x13CF/120 TS	120	13W DD/E,T/E	900	1	1.00	900	16	56								
51671 51703 51687	QTP 1x13CF/277 BS QTP 1x13CF/277 QS QTP 1x13CF/277 TS									277	13W DD/E,T/E	900	1	1.00	900	16	56
51672 51704 51688	QTP 2x13CF/120 BS QTP 2x13CF/120 QS QTP 2x13CF/120 TS																
51673 51705 51689	QTP 2x13CF/277 BS QTP 2x13CF/277 QS QTP 2x13CF/277 TS	277	13W DD/E,T/E	900	2	1.03	1855	30	62								
51674 51706 51690	QTP 1x18CF/120 BS QTP 1x18CF/120 QS QTP 1x18CF/120 TS									120	18W DD/E,T/E	1200	1	1.00	1200	21	57
51675 51707 51691	QTP 1x18CF/277 BS QTP 1x18CF/277 QS QTP 1x18CF/277 TS																
51676 51708 51692	QTP 2x18CF/120 BS QTP 2x18CF/120 QS QTP 2x18CF/120 TS	120	18W DD/E,T/E	1200	2	1.03	2470	41	60								
51677 51709 51693	QTP 2x18CF/277 BS QTP 2x18CF/277 QS QTP 2x18CF/277 TS									277	18W DD/E,T/E	1200	2	1.05	2520	41	61
51678 51710 51694	QTP 1x26CF/120 BS QTP 1x26CF/120 QS QTP 1x26CF/120 TS																
51679 51711 51695	QTP 1x26CF/277 BS QTP 1x26CF/277 QS QTP 1x26CF/277 TS	277	26W DD/E,T/E	1800	1	1.00	1800	29	62								
51680 51712 51696	QTP 2x26CF/120 BS QTP 2x26CF/120 QS QTP 2x26CF/120 TS									120	26W DD/E,T/E	1800	2	0.98	3530	54	65
51681 51713 51697	QTP 2x26CF/277 BS QTP 2x26CF/277 QS QTP 2x26CF/277 TS																
51682 51714 51698	QTP 1x32CF/120 BS QTP 1x32CF/120 QS QTP 1x32CF/120 TS	120	32W DT/E	2400	1	0.97	2330	36	65								
51683 51715 51699	QTP 1x32CF/277 BS QTP 1x32CF/277 QS QTP 1x32CF/277 TS									277	32W DT/E	2400	1	0.97	2330	36	65
51684 51716 51700	QTP 1x42CF/120 BS QTP 1x42CF/120 QS QTP 1x42CF/120 TS																
51685 51717 51701	QTP 1x42CF/277 BS QTP 1x42CF/277 QS QTP 1x42CF/277 TS	277	42W DT/E	3200	1	0.97	3105	45	69								

## Specifications<sup>1,2</sup>

**Starting Method:** Programmed Rapid-Start  
**Circuit Type:** Series  
**Lamp Frequency:** > 40KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** -5°F/-20°C min.<sup>3</sup>  
**Input Frequency:** 60 Hz  
**Low THD:** < 10%  
**Power Factor:** > 98%  
**Voltage Range:** +/-10% of rated input

UL Listed Class P, Type 1 Outdoor  
 CSA or C/UL Certified  
 70°C Max Case Temp.  
 FCC 47CFR Part 18 Non-Consumer  
 Sound Rated A  
 ANSI C62.41 Cat. A Transient Protection  
 Dynamic End-of-Lamp-Life Sensing  
 Remote Mounting Capability<sup>4</sup>

<sup>1</sup> See the SYLVANIA QUICKTRONIC Electronic Ballast Technology & Specification Guide (ECS-ELECTRONIC) for additional information.  
<sup>2</sup> See wiring diagrams for proper installation.  
<sup>3</sup> Operation below 50°F may affect light output or lamp operation – see “Low Temperature Starting” definition.  
<sup>4</sup> Typically 6 ft. with suitable ground plane, but varies by model and application – please contact ECS Application Engineering for information on longer applications.

## System Life / Warranty

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

## Ordering Guide

Specifications subject to change without notice.

Item Number 51680 QTP 2 x 26 CF/120 BS Case Type (Mounting Style)  
 QUICKTRONIC PROFESSIONAL Line Voltage  
 Number of Lamps (1, 2) Primary Lamp Wattage

<sup>1</sup> Also compatible with other manufacturers' equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on DULUX T/E lamps.  
<sup>3</sup> Data is for all three models within the brackets.  
<sup>4</sup> All QTP models were formerly M1 or M2-CF-dedicated voltage series, see page 79 for cross reference.

# Electronic T2 Fluorescent Subminiature Systems

## QUICKTRONIC® FM

### Lamp/Ballast Guide

6W	T2 - FM	
	1-lamp	QT-FM
	2-lamp	QT-FM
8W	T2 - FM	
	1-lamp	QT-FM
	2-lamp	QT-FM
11W	T2 - FM	
	1-lamp	QT-FM
	2-lamp	QT-FM
13W	T2 - FM	
	1-lamp	QT-FM
	2-lamp	QT-FM

**SYLVANIA QUICKTRONIC FM** operates SYLVANIA T2 fluorescent miniature lamps with maximum efficacy and full lumen output. SYSTEM FM provides up to 70% energy savings when compared with incandescent alternatives.

The Universal Voltage/Universal lamp feature of SYSTEM FM allows 1 or 2 FM lamps (6, 8, 11, or 13W) to be operated from the same ballast, from a line voltage of either 120 or 277V.

The small diameter of the lamp and low profile of the ballast create new design opportunities for luminaires and open up a whole new set of applications for fluorescent lighting.



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

### Key System Features

- Universal voltage
- Universal lamp
- 100% Ballast factor
- Programmed start
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- Less than 3/4" high profile
- Lightweight
- UL, CSA, FCC

### System Information

The programmed starting feature provides optimum starting conditions to reduce end blackening and long lamp life, with maximum energy efficiency.

QUICKTRONIC FM utilizes poke-in wire connectors for ease of installation.

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

System Type	Input Wattage	Initial Lumens	System LPW
Incandescent	60	870	14
CFL13W - Magnetic	17	780	46
QT-FM (1x13W)	17	860	51
F42T6 - Magnetic	38	1640	43
QT-FM (2x13W)	33	1720	52

### Application Information

#### SYLVANIA QUICKTRONIC QT-FM

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Wall mount
- Display case
- Edge lighting
- Cabinet
- Sign lighting
- Back-lit displays

## Electronic T2 Fluorescent Subminiature Systems

### Performance Guide

Item Number	Description	Input Voltage (VAC)	Lamp <sup>1</sup> Type	Rated <sup>2</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49734	QT-FM	120-277	FM 6/H	310	1	1.00	310	9	34
49734	QT-FM	120-277	FM 8/H	500	1	1.00	500	11	45
49734	QT-FM	120-277	FM 11/H	680	1	1.00	680	14	48
49734	QT-FM	120-277	FM 13/H	860	1	1.00	860	17	51
49734	QT-FM	120-277	FM 6/H	310	2	1.00	620	15	41
49734	QT-FM	120-277	FM 8/H	500	2	1.00	1000	20	50
49734	QT-FM	120-277	FM 11/H	680	2	1.00	1360	28	49
49734	QT-FM	120-277	FM 13/H	860	2	1.00	1720	33	52

<sup>1</sup> Also compatible with other manufacturer's equivalent lamp types that meet ANSI standards.  
<sup>2</sup> Rated lamp lumens and performance data based on SYLVANIA T2 subminiature lamps.

### Specifications<sup>1</sup>

**Starting Method:** Programmed Start

**Circuit Type:** Series

**Lamp Frequency:** > 40 KHz

**Lamp CCF:** Less than 1.7

**Starting Temp.:** 50°F minimum

**Input Frequency:** 60 Hz

**Low THD:** < 15%

**Power Factor:** > 90%

**Voltage Range:** 108–305VAC

**Max. Current:** 0.28A/120V  
0.14A/277V

UL Listed Class P, Type 1, Outdoor  
CSA Certified

75°C Max Case Temperature

FCC 47CFR Part 18 Non-Consumer

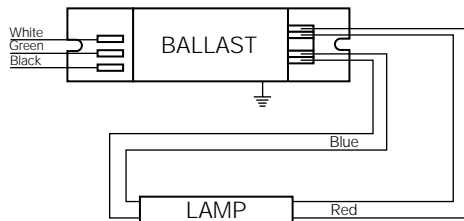
Sound Rated A

ANSI C62.41 Cat. A Transient Protection

End-of-Lamp-Life Sensing

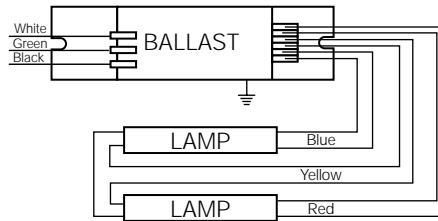
Remote Mounting up to 18 feet

<sup>1</sup> Data based on FM lamp types. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for more information.



**QUICKTRONIC FM (1 LAMP)**

Green ground wire to terminal required.



**QUICKTRONIC FM (2 LAMP)**

Green ground wire to terminal required.

#### Dimensions:

Overall: 14.13" L x 1.24" W x 0.73" H

Mounting: 13.78"

#### Wiring:

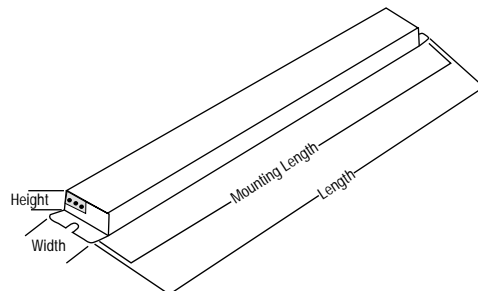
Push-in connectors (no leads provided)

Use 18AWG solid copper wire only

#### Packaging:

Quantity: 50

Weight: 0.60 lbs ea. (approx.)



### System Life / Warranty

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

Item Number **49734** **QT - FM** System Type – FM  
 QUICKTRONIC

### Ordering Guide

Specifications subject to change without notice.

Note: Universal Voltage 120–277V

# Electrodeless Fluorescent Systems

## QUICKTRONIC® ICE

### Lamp/Ballast Guide

<b>100W ICE</b>	
1-lamp	QT1x100ICE/UNV
1-lamp	QT1x150ICE/UNV
<b>150W ICE</b>	
1-lamp	QT1x150ICE/UNV

**SYLVANIA QUICKTRONIC ICE** operates SYLVANIA ICETRON® electrodeless fluorescent lamps with maximum efficacy and full lumen output.

SYSTEM ICE provides the longest life available from a fluorescent system in the market today. ICETRON lamps can last up to 100,000 hours, greatly reducing maintenance costs and extending relamping cycles.

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

The universal voltage lamp feature of SYSTEM ICE allows operation from a line voltage of either 120 or 277V.

### Key System Features

- 100% Ballast factor
- 100,000 Hour lamp life
- Universal voltage
- Inductively coupled lamp operation
- High luminous efficacy
- Virtually eliminates lamp flicker
- Quiet operation
- High power factor
- Low harmonic distortion
- UL, CSA, FCC

### Application Information

#### SYLVANIA QUICKTRONIC ICE

is ideally suited for:

- Commercial
- Retail
- Hospitality
- Sign Lighting
- Street Lighting
- Tunnel Lighting

### System Information

The inductively coupled lamp operation allows the coil to be removed from the lamp, eliminating the main weak point in a fluorescent system. It reduces blackening and provides long lamp life of up to 100,000 hours, with maximum energy efficiency.

QUICKTRONIC ICE utilizes a special wire/connector system required for inductively coupled systems.

Lamp amalgam tip position will effect light output at various temperatures.

A complete ICETRON system design guide is available and recommended to ensure proper fixture design for thermal management to achieve system performance and rated life.



System Type	Input Wattage	Initial Lumens	System LPW
Metal Halide 100W FB031 3-lamp	125 84	8500 7360	68 88
ICE100	107	8000	75
Metal Halide 150W	180	13300	74
ICE150	157	12000	76

**Electrodeless Fluorescent Systems**

**Performance Guide**

Item Number	Description	Input Voltage (VAC)	Input Current (AMPS)	Lamp Type	Rated <sup>1</sup> Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
49751*	QT 1x100 ICE/UNV <i>Formerly QT 1x100/120-277 ICE</i>	120-277	0.90/0.45	ICE100	8000	1	1.00	8000	107	75
49771*	QT 1x150 ICE/UNV <i>Formerly QT 1x150/120-277 ICE</i>	120-277	1.35/0.60	ICE150	12000	1	1.00	12000	157	76
		120-277	1.27/0.56	ICE100	8000	1	1.38	11000	150	73

<sup>1</sup> Rated lamp lumens and performance data based on SYLVANIA ICETRON lamps.

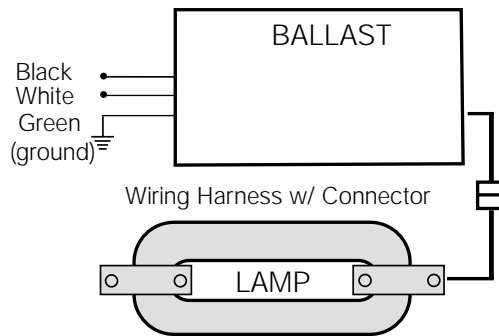
\* 49751 replaces 49750 (discontinued)

49771 replaces 49770 (discontinued)

**Use only with SYLVANIA ICETRON lamps.**

Item Number	Lamp Description	Item Number	Lamp Description
26100	ICE100/835	26150	ICE150/835
26101	ICE100/841	26151	ICE150/841

**Specifications<sup>1</sup>**



**Starting Method:** I.C.E.  
**Circuit Type:** I.C.E.  
**Lamp Frequency:** 200–300KHz  
**Lamp CCF:** Less than 1.7  
**Starting Temp.:** –40°F min<sup>2</sup>  
**Input Frequency:** 50/60 Hz  
**Low THD:** < 15%  
**Power Factor:** > 90%  
**Voltage Range:** 108–305V

UL Listed Class P, Type 1, Outdoor  
 CSA Certified  
 70°C Max Case Temperature  
 FCC 47CFR Part 18 Non-Consumer  
 Sound Rated A  
 ANSI C62.41 Cat. A Transient Protection  
 Remote mounting defined by  
 harness length

<sup>1</sup> Data based on ICETRON lamp types. See the SYLVANIA QUICKTRONIC Electronic Ballast Technology and Specification Guide (ECS-ELECTRONIC) for more information.

<sup>2</sup> Refer to SYLVANIA'S ICETRON DESIGN GUIDE for details

**System Life / Warranty**

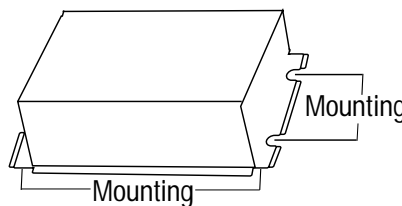
QUICKTRONIC products are covered by our **QUICK 60+ warranty**, a comprehensive lamp and ballast system warranty. For additional details, refer to our QUICK 60+ warranty bulletin.

**Dimensions:**

Overall: 7.15" L x 3.96" W x 1.70" H  
 Mounting: 6.7" L x 1.9" W

**Packaging:**

Quantity: 5  
 Weight: 2.9 lbs ea. (approx.)



**Ordering Guide**

Item Number	49751	QT	1 x 100 ICE / UNV	Line Voltage
QUICKTRONIC				System Type – ICE
Number of Lamps (1)				Primary Lamp Wattage

Specifications subject to change without notice.

## Electronic Metal Halide Systems

# QUICKTRONIC® MH

### Professional Series

#### Lamp/Ballast Guide\*

##### QTP 1x39MH/UNV<sup>1</sup>

M130: PAR20, PAR30  
or T-6

##### QTP 1x70MH/UNV

M143/M98: PAR30, PAR38  
or ED-17  
M139: T-6

##### QTP 1x100MH/UNV<sup>2</sup>

M140/M90: PAR38 or ED-17

\* Ceramic metal halide lamps or approved equivalent

<sup>1</sup> Available 1Q02

<sup>2</sup> Available 2Q02

**SYLVANIA QUICKTRONIC MH** features a state of the art electronic design to deliver performance levels unattainable with standard magnetic based lighting systems.

Small and efficient, QUICKTRONIC MH operates silently and provides energy savings up to 50%.

Installation is simplified by our single-piece ballast that replaces the ballast, capacitor, ignitor and mounting brackets of conventional systems. Two lightweight mounting styles allow for easy assembly in any fixture application.

QUICKTRONIC MH is also available in dimmable versions that provide continuous dimming control down to 30% light output with energy savings to 50%.



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

#### Key System Features

- Constant Power Regulation
- Universal Input Voltage
- High Power Factor
- Low Harmonic Distortion
- Small size and lightweight
- 90°C Case Temperature
- UL, CSA, FCC
- QUICK 60+® warranty

#### System Information

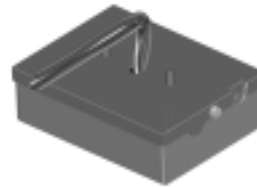
SYLVANIA QUICKTRONIC MH and SYLVANIA TRU-COLOR™ METALARC® CERAMIC lamps are perfectly matched to provide optimal system performance.

Our electronically controlled system delivers several advantages over conventional components, including improved lumen maintenance and extended photometric life.

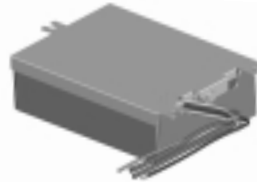
The superior power regulation design produces consistently brilliant light output and color throughout the life of the lamp. This circuitry also provides constant light output during periods of varying supply voltage.

Sensing technology shuts down lamp power when an inoperative or malfunctioning lamp is present.

#### Enclosure Styles



**J** = J-Box Mount with PEM studs for recessed downlight fixtures (All leads exit middle/bottom of ballast, as shown.)



**F** = Feet Mount for track light fixtures (All leads exit side of ballast, as shown.)

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

#### Application Information

##### SYLVANIA QUICKTRONIC MH

is ideally suited for:

- Display Lighting
- Down Lighting
- Landscape Lighting
- Retail
- Hospitality
- Institutional
- Commercial



## Electronic Metal Halide Systems

# MH

### Performance Guide

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast with universal input voltage.

Item Number	Description	Input Voltage (VAC)	Lamp Type	Mean <sup>1</sup> Rated Lumens	Ballast Factor (BF)	System Lumens	Input Wattage (W)	System Efficacy (lm/W)
51940 51941	QTP 1x39MH/UNV F QTP 1x39MH/UNV J	120-277	39W T-6	2720	1.0	2720	45	60
51942 51943	QTP 1x70MH/UNV F QTP 1x70MH/UNV J							
51944 51945	QTP 1x100MH/UNV F QTP 1x100MH/UNV J	120-277	100W ED-17	6900	1.0	6900	112	62
<b>Optional Dimming Models<sup>2,3</sup></b>								
51900 51902	QTP 1x70MH/UNV DIM F QTP 1x70MH/UNV DIM J	120-277	70W ED-17	4600	1.0 0.3	4600 1375	80 45	58 31
51904 51906	QTP 1x100MH/UNV DIM F QTP 1x100MH/UNV DIM J							

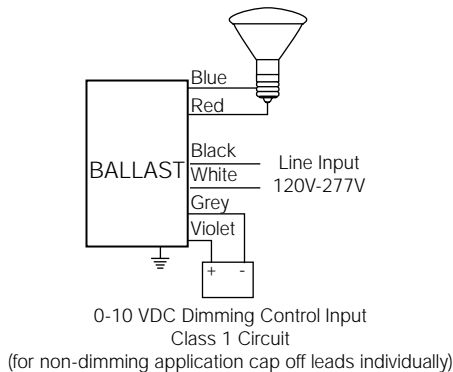
1. Typical mean lamp lumens – performance varies by lamp type and manufacturer.
2. Dimming function is disabled for the first 15 minutes of operation to allow lamp stabilization.
3. A list of compatible controllers and wiring examples are on [pages 28-29](#).

### Specifications<sup>1,2</sup>

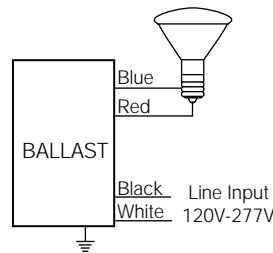
**Input Voltage:** 108–305V  
**Input Frequency:** 50/60 Hz  
**Lamp Frequency:** 90Hz Square Wave  
**Power Factor:** > 98%  
**Low THD:** < 10%  
**Starting Temp.:** –5°F/–20°C min.

UL Listed, Type 1, Outdoor  
 Suitable for recessed use  
 90°C Max. Case Temperature,  
 Thermally Protected  
 FCC 47CFR Part 18 Non-Consumer  
 Sound Rated A  
 ANSI C62.41 Cat. B3 Transient Protection  
 Remote mounting capability<sup>3</sup>

#### DIMMING MODELS



#### NON-DIMMING MODELS



### System Life / Warranty

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

#### Case Dimensions:

"F"-Case: 5.47" L x 3.50" W x 1.45" H  
 5.20" L Mounting  
 "J"-Case: 4.82" L x 3.50" W x 1.45" H  
 (2) #8-32 x 0.375" Long PEM studs on 2" centers  
 Lead Wires: 10"

#### Packaging:

Quantity: 10 pieces per carton  
 Weight: 13 lbs. per carton  
 (1.3 lbs each)

- <sup>1</sup> See the SYLVANIA QUICKTRONIC Electronic Ballast Technology & Specification Guide (ECS-ELECTRONIC) for additional information.
- <sup>2</sup> See wiring diagrams for proper installation.
- <sup>3</sup> Typically 6 ft but varies by application, remote capability up to 15 ft contact OSRAM SYLVANIA for details.

Item Number ———— **51942 QTP 1** x **70** **MH / UNV F** ———— Case Type (Mounting Style)  
 QUICKTRONIC PROFESSIONAL ———— Line Voltage  
 Number of Lamps (1) ———— Primary Lamp Wattage

### Ordering Guide

Specifications subject to change without notice.

# QUICKSYSTEMS

## Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

FO17XP 1400 lumens <sup>3</sup>	# of Lamps	Former Description <sup>1</sup>	Ballast Type <sup>1</sup>	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3,4</sup>
	1	N/A	QT 1x32T8 IS-SC	6-7	Instant	Parallel	18	0.17	0.09	>.92	<25%	1.000	1400
	1	M1-IN-T8-GP-D	QT 1x32T8 ISN-D	12	Instant	Parallel	19/18	0.16	0.09	>.95	<20%	0.875	1225
	1	M1-PD-T8-5C-B	QTP 1x32T8 DIM5-B (@ 100%)	26-27	PROStart	Series	17	0.16	0.07	>.99	<10%	0.940	1316
	1	M1-PD-T8-5C-B	QTP 1x32T8 DIM5-B (@ 5%)	26-27	PROStart	Series	6	N/A	N/A	>.95	<20%	0.050	70
	1	M1-IN-T8-D	QTP 1x32T8 ISN-D	16-17	Instant	Parallel	18	0.15	0.08	>.99	<10%	0.875	1225
	1	M1-PN-T8-F	QTP 1x32T8 PSN-F	20-21	PROStart	Series	17	0.17	0.08	>.99	<10%	0.875	1225
	1	M1-RL-T8-1LL-A	QTP 1x32T8 RSL-A	23	Rapid	Series	15/14	0.13	0.06	>.99	<10%	0.770	1078
	1	M1-RN-T8-1LL-D	QTP 1x32T8 RSN-D	22	Rapid	Series	19/16	0.17	0.08	>.99	<10%	0.875	1225
	1	N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	18	0.15	0.07	>.98	<15%	0.920	1288
	1	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	21	0.19	0.09	>.90	<20%	1.060	1484
	2	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	33	0.31	0.13	>.92	<30%	1.000	2800
	2	N/A	QT 2x32 LP	10-11	Instant	Parallel	29	0.26	0.11	>.95	<18%	0.820	2296
	2	M2-IL-T8-GP-D	QT 2x32T8 ISL-D	13	Instant	Parallel	30	0.26	0.12	>.95	<20%	0.770	2156
	2	M2-IN-T8-GP-D	QT 2x32T8 ISN-D	12	Instant	Parallel	31/32	0.29	0.13	>.95	<20%	0.875	2450
	2	M2-IN-T8-D	QTP 2x32T8 ISN-D	16-17	Instant	Parallel	31	0.29	0.13	>.99	<10%	0.875	2450
	2	M2-PN-T8-F	QTP 2x32T8 PSN-F	20-21	PROStart	Series	32	0.30	0.14	>.99	<10%	0.875	2450
	2	M2-RL-T8-1LL-A	QTP 2x32T8 RSL-A	23	Rapid	Series	28/29	0.26	0.11	>.99	<10%	0.770	2156
	2	M2-RN-T8-1LL-D	QTP 2x32T8 RSN-D	22	Rapid	Series	39/31	0.35	0.14	>.99	<10%	0.875	2450
	2	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	32	0.27	0.12	>.95	<10%	0.930	2604
	2	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	37	0.32	0.14	>.90	<20%	1.040	2912
	2	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	39	0.33	0.15	>.95	<20%	1.150	3220
	3	N/A	QT 3x32 IS	6-7	Instant	Parallel	48	0.44	0.19	>.90	<20%	0.950	3990
	3	N/A	QT 3x32 LP	10-11	Instant	Parallel	42	0.39	0.17	>.90	<20%	0.820	3444
	3	M3-IL-T8-GP-A	QT 3x32T8 ISL-A	13	Instant	Parallel	41	0.39	0.17	>.95	<20%	0.770	3234
	3	M3-IN-T8-GP-D	QT 3x32T8 ISN-A	12	Instant	Parallel	47/46	0.45	0.19	>.95	<20%	0.875	3675
	3	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	50	0.46	0.19	>.91	<30%	1.000	4200
	3	M3-IN-T8-A	QTP 3x32T8 ISN-A	16-17	Instant	Parallel	47/46	0.45	0.19	>.99	<10%	0.875	3675
	3	N/A	QTP 3x32T8 PSN-SC	20-21	PROStart	Series	50/46	0.43	0.17	>.98	<10%	0.900	3780
	3	M3-RN-T8-1LL-A	QTP 3x32T8 RSN-A	22	Rapid	Series	51/46	0.51	0.20	>.99	<10%	0.875	3675
	3	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	48	0.40	0.18	>.95	<20%	0.930	3906
	3	N/A	QT 4x32 IS	6-7	Instant	Parallel	54	0.49	0.21	>.90	<30%	1.050	4410
	3	N/A	QT 4x32 LP	10-11	Instant	Parallel	46	0.42	0.18	>.90	<25%	0.900	3780
	3	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	52	0.45	0.20	>.95	<25%	1.050	4410
	3	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	49	0.42	0.18	>.95	<20%	1.010	4242
	4	N/A	QT 4x32 IS	6-7	Instant	Parallel	62	0.56	0.25	>.90	<25%	0.950	5320
	4	N/A	QT 4x32 LP	10-11	Instant	Parallel	54	0.50	0.21	>.90	<25%	0.820	4592
	4	M4-IL-T8-GP-A	QT 4x32T8 ISL-A	13	Instant	Parallel	53/54	0.48	0.22	>.95	<20%	0.770	4312
	4	M4-IN-T8-GP-D	QT 4x32T8 ISN-A	12	Instant	Parallel	60/62	0.55	0.24	>.95	<20%	0.875	4900
	4	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	62	0.53	0.23	>.97	<20%	0.950	5320
	4	M4-IN-T8-A	QTP 4x32T8 ISN-A	16-17	Instant	Parallel	61/62	0.55	0.24	>.99	<10%	0.875	4900
	4	N/A	QTP 4x32T8 PSN-SC	20-21	PROStart	Series	65/61	0.55	0.23	>.98	<10%	0.900	5040
	4	M4-RN-T8-1LL-B	QTP 4x32T8 RSN-B	22	Rapid	Series	65/63	0.60	0.25	>.99	<10%	0.875	4900
	4	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	59	0.50	0.22	>.95	<20%	0.910	5096

Linear T8  
Fluorescent Lamps

# of Lamps	Former Description <sup>1</sup>	Ballast Type <sup>1</sup>	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3,4</sup>	FO25XP 2250 lumens <sup>3</sup>
1	N/A	QT 1x32 IS-SC	6-7	Instant	Parallel	25	0.22	0.09	>.97	<20%	0.960	2160	
1	M1-IN-T8-GP-D	QT 1x32T8 ISN-D	12	Instant	Parallel	26/25	0.21	0.11	>.95	<20%	0.875	1969	
1	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	30	0.28	0.12	>.90	<32%	1.160	2610	
1	N/A	QT 2x32 LP	10-11	Instant	Parallel	25	0.23	0.10	>.90	<20%	0.910	2048	
1	M1-PD-T8-5C-B	QTP 1x32T8 DIM5-B (@ 100%)	26-27	PROStart	Series	25	0.23	0.10	>.99	<10%	0.940	2115	
1	M1-PD-T8-5C-B	QTP 1x32T8 DIM5-B (@ 5%)	26-27	PROStart	Series	7	N/A	N/A	>.99	<10%	0.050	113	
1	M1-IN-T8-D	QTP 1x32T8 ISN-D	16-17	Instant	Parallel	25	0.22	0.10	>.99	<10%	0.875	1969	
1	M1-IN-T8-J	QTP 1x32T8 ISN-J-G4	18-19	Instant	Parallel	25	0.24	0.10	>.95	<10%	0.875	1969	
1	M1-PN-T8-F	QTP 1x32T8 PSN-F	20-21	PROStart	Series	24/25	0.24	0.10	>.99	<10%	0.875	1969	
1	M1-RL-T8-1LL-A	QTP 1x32T8 RSL-A	23	Rapid	Series	23/21	0.19	0.09	>.99	<10%	0.770	1733	
1	M1-RN-T8-1LL-D	QTP 1x32T8 RSN-D	22	Rapid	Series	25/23	0.23	0.10	>.99	<10%	0.875	1969	
1	N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	27	0.23	0.10	>.99	<10%	0.900	2025	
1	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	29	0.25	0.11	>.95	<15%	1.050	2363	
2	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	48	0.42	0.18	>.97	<20%	0.960	4320	
2	N/A	QT 2x32 LP	10-11	Instant	Parallel	41	0.35	0.15	>.95	<18%	0.790	3555	
2	M2-IL-T8-GP-D	QT 2x32T8 ISL-D	13	Instant	Parallel	40/41	0.38	0.17	>.95	<20%	0.770	3465	
2	M2-IN-T8-GP-D	QT 2x32T8 ISN-D	12	Instant	Parallel	46	0.42	0.19	>.95	<20%	0.875	3938	
2	N/A	QT 3x32 IS	6-7	Instant	Parallel	53	0.48	0.21	>.90	<20%	1.020	4590	
2	N/A	QT 3x32 LP	10-11	Instant	Parallel	47	0.43	0.19	>.90	<25%	0.870	3915	
2	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	55	0.49	0.21	>.93	<27%	1.070	4815	
2	M2-IN-T8-D	QTP 2x32T8 ISN-D	16-17	Instant	Parallel	46/45	0.41	0.19	>.99	<10%	0.875	3938	
2	M2-IN-T8-J	QTP 2x32T8 ISN-J-G4	18-19	Instant	Parallel	46/47	0.43	0.19	>.95	<10%	0.875	3938	
2	M2-PN-T8-F	QTP 2x32T8 PSN-F	20-21	PROStart	Series	48/47	0.44	0.19	>.99	<10%	0.875	3938	
2	M2-RL-T8-1LL-A	QTP 2x32T8 RSL-A	23	Rapid	Series	42/44	0.38	0.17	>.99	<10%	0.770	3465	
2	M2-RN-T8-1LL-D	QTP 2x32T8 RSN-D	22	Rapid	Series	52/47	0.47	0.19	>.99	<10%	0.875	3938	
2	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	45	0.40	0.17	>.97	<10%	0.920	4140	
2	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	55	0.46	0.20	>.95	<20%	1.020	4590	
2	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	54	0.46	0.21	>.97	<20%	1.130	5085	
3	N/A	QT 3x32 IS	6-7	Instant	Parallel	68	0.59	0.26	>.95	<20%	0.920	6210	
3	N/A	QT 3x32 LP	10-11	Instant	Parallel	60	0.52	0.23	>.95	<20%	0.790	5333	
3	M3-IL-T8-GP-A	QT 3x32T8 ISL-A	13	Instant	Parallel	57	0.52	0.22	>.95	<20%	0.770	5198	
3	M3-IN-T8-GP-D	QT 3x32T8 ISN-A	12	Instant	Parallel	65	0.61	0.27	>.95	<20%	0.875	5906	
3	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	72	0.62	0.26	>.97	<20%	0.950	6413	
3	N/A	QT 4x32 IS	6-7	Instant	Parallel	76	0.66	0.29	>.95	<25%	1.030	6953	
3	N/A	QT 4x32 LP	10-11	Instant	Parallel	65	0.57	0.25	>.95	<20%	0.870	5873	
3	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	77	0.65	0.30	>.97	<20%	1.030	6953	
3	M3-IN-T8-A	QTP 3x32T8 ISN-A	16-17	Instant	Parallel	65	0.61	0.27	>.99	<10%	0.875	5906	
3	N/A	QTP 3x32T8 PSN-SC	20-21	PROStart	Series	71/68	0.60	0.25	>.98	<10%	0.890	6008	
3	M3-RN-T8-1LL-A	QTP 3x32T8 RSN-A	22	Rapid	Series	70/69	0.66	0.28	>.99	<10%	0.875	5906	
3	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	72	0.61	0.26	>.97	<15%	0.900	6075	
3	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	73	0.61	0.27	>.98	<15%	0.990	6683	
4	N/A	QT 4x32 IS	6-7	Instant	Parallel	91	0.79	0.34	>.95	<20%	0.920	8280	
4	N/A	QT 4x32 LP	10-11	Instant	Parallel	79	0.69	0.30	>.95	<20%	0.790	7110	
4	M4-IL-T8-GP-A	QT 4x32T8 ISL-A	13	Instant	Parallel	75	0.70	0.30	>.95	<20%	0.770	6930	
4	M4-IN-T8-GP-D	QT 4x32T8 ISN-A	12	Instant	Parallel	84/87	0.80	0.35	>.95	<20%	0.875	7875	
4	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	92	0.79	0.34	>.97	<20%	0.920	8280	
4	M4-IN-T8-A	QTP 4x32T8 ISN-A	16-17	Instant	Parallel	87	0.80	0.35	>.99	<10%	0.875	7875	
4	N/A	QTP 4x32T8 PSN-SC	20-21	PROStart	Series	93/89	0.79	0.33	>.98	<10%	0.890	8010	
4	M4-RN-T8-1LL-B	QTP 4x32T8 RSN-B	22	Rapid	Series	92/91	0.85	0.35	>.99	<10%	0.875	7875	
4	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	88	0.74	0.32	>.97	<15%	0.890	8010	

1 Actual model description includes input voltage type. Except for input amps, performance data is equivalent except where shown in system watts column.  
 2 When ballast factor is >1.20, lamp life may not reach published value. Operation is not recommended and is not covered under warranty.  
 3 Initial ANSI system lumens based on 800XP series OCTRON®/DULUX®/PENTRON®/FM, D41 standard T12, and CW energy saving T12 lamps.  
 4 Initial system lumens based on FB016, FB024, and F096 800 series lamp lumens.

# QUICKSYSTEMS

## Linear T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

FO32XP 3000 lumens <sup>3</sup>	# of Lamps	Former Description <sup>1</sup>	Ballast Type <sup>1</sup>	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3,4</sup>
	1	N/A	QT 1x32 IS-SC	6-7	Instant	Parallel	30	0.26	0.11	>.97	<20%	0.900	2700
	1	M1-IN-T8-GP-D	QT 1x32T8 ISN-D	12	Instant	Parallel	32/31	0.25	0.12	>.97	<20%	0.875	2625
	1	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	37	0.33	0.14	>.90	<28%	1.130	3390
	1	N/A	QT 2x32 LP	10-11	Instant	Parallel	32	0.28	0.12	>.95	<20%	0.900	2700
	1	N/A	QT 2x32 PLUS	8-9	Instant	Parallel	51	0.44	0.19	>.95	<25%	1.500 <sup>2</sup>	4500
	1	M1-PD-T8-5C-B	QTP 1x32T8 DIM5-B (@ 100%)	26-27	PROStart	Series	32	0.27	0.12	>.99	<10%	0.940	2820
	1	M1-PD-T8-5C-B	QTP 1x32T8 DIM5-B (@ 5%)	26-27	PROStart	Series	8	N/A	N/A	>.95	<20%	0.050	150
	1	M1-IN-T8-D	QTP 1x32T8 ISN-D	16-17	Instant	Parallel	31/32	0.25	0.12	>.99	<20%	0.875	2625
	1	M1-IN-T8-J	QTP 1x32T8 ISN-J-G4	18-19	Instant	Parallel	31	0.28	0.14	>.97	<10%	0.875	2625
	1	M1-PN-T8-F	QTP 1x32T8 PSN-F	20-21	PROStart	Series	32/31	0.25	0.11	>.98	<10%	0.880	2640
	1	M1-RL-T8-1LL-A	QTP 1x32T8 RSL-A	23	Rapid	Series	30/27	0.26	0.11	>.99	<10%	0.770	2310
	1	M1-RN-T8-1LL-D	QTP 1x32T8 RSN-D	22	Rapid	Series	31/32	0.28	0.12	>.99	<10%	0.875	2625
	1	N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	30	0.26	0.11	>.99	<10%	0.880	2640
	1	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	36	0.30	0.14	>.95	<10%	1.040	3120
	2	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	59	0.51	0.22	>.97	<20%	0.900	5400
	2	N/A	QT 2x32 LP	10-11	Instant	Parallel	51	0.44	0.19	>.97	<20%	0.770	4620
	2	N/A	QT 2x32 PLUS	8-9	Instant	Parallel	78	0.67	0.29	>.97	<20%	1.200	7200
	2	M2-IH-T8-GP-A	QT 2x32T8 ISH-A	8-9	Instant	Parallel	77	0.64	0.27	>.97	<20%	1.130	6780
	2	M2-IL-T8-GP-D	QT 2x32T8 ISL-D	13	Instant	Parallel	52/51	0.43	0.18	>.97	<20%	0.770	4620
	2	M2-IN-T8-GP-D	QT 2x32T8 ISN-D	12	Instant	Parallel	59/58	0.50	0.22	>.97	<20%	0.875	5250
	2	N/A	QT 3x32 IS	6-7	Instant	Parallel	66	0.58	0.25	>.95	<20%	1.010	6060
	2	N/A	QT 3x32 LP	10-11	Instant	Parallel	59	0.51	0.22	>.95	<20%	0.860	5160
	2	N/A	QT 3x32 PLUS	8-9	Instant	Parallel	86	0.75	0.32	>.95	<20%	1.300 <sup>2</sup>	7800
	2	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	67	0.58	0.25	>.97	<21%	1.040	6240
	2	N/A	QT 4x32 IS	6-7	Instant	Parallel	72	0.63	0.27	>.95	<25%	1.080	6480
	2	N/A	QT 4x32 LP	10-11	Instant	Parallel	62	0.56	0.25	>.90	<25%	0.930	5580
	2	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	72	0.60	0.27	>.97	<20%	1.080	6480
	2	M2-PD-T8-5C-B	QTP 2x32T8 DIM5-B (@ 100%)	26-27	PROStart	Series	68/67	0.57	0.25	>.99	<10%	0.960	5760
	2	M2-PD-T8-5C-B	QTP 2x32T8 DIM5-B (@ 5%)	26-27	PROStart	Series	17	N/A	N/A	>.95	<20%	0.050	300
	2	M2-IN-T8-D	QTP 2x32T8 ISN-D	16-17	Instant	Parallel	59/58	0.50	0.22	>.99	<20%	0.875	5250
	2	M2-IN-T8-J	QTP 2x32T8 ISN-J-G4	18-19	Instant	Parallel	58/60	0.55	0.23	>.97	<10%	0.875	5250
	2	M2-PN-T8-F	QTP 2x32T8 PSN-F	20-21	PROStart	Series	60	0.45	0.20	>.98	<10%	0.880	5280
	2	M2-RL-T8-1LL-A	QTP 2x32T8 RSL-A	23	Rapid	Series	55	0.48	0.21	>.99	<10%	0.770	4620
	2	M2-RN-T8-1LL-D	QTP 2x32T8 RSN-D	22	Rapid	Series	63/61	0.53	0.22	>.99	<10%	0.875	5250
	2	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	59	0.51	0.22	>.98	<10%	0.880	5280
	2	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	65	0.55	0.24	>.97	<15%	1.020	6120
	2	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	69	0.59	0.25	>.98	<15%	1.110	6660
	3	N/A	QT 3x32 IS	6-7	Instant	Parallel	87	0.77	0.33	>.98	<20%	0.900	8100
	3	N/A	QT 3x32 LP	10-11	Instant	Parallel	76	0.66	0.29	>.97	<20%	0.770	6930
	3	N/A	QT 3x32 PLUS	8-9	Instant	Parallel	112	0.96	0.42	>.97	<20%	1.180	10620
	3	M3-IL-T8-GP-A	QT 3x32T8 ISL-A	13	Instant	Parallel	75/74	0.64	0.27	>.97	<20%	0.770	6930
	3	M3-IN-T8-GP-D	QT 3x32T8 ISN-A	12	Instant	Parallel	85/84	0.76	0.34	>.97	<20%	0.875	7875
	3	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	87	0.74	0.32	>.97	<20%	0.890	8010
	3	N/A	QT 4x32 IS	6-7	Instant	Parallel	95	0.81	0.35	>.97	<20%	1.000	9000
	3	N/A	QT 4x32 LP	10-11	Instant	Parallel	82	0.70	0.30	>.97	<20%	0.840	7560
	3	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	96	0.80	0.35	>.97	<20%	1.000	9000
	3	N/A	QTP 3x32T8 DIM5-Q (@ 100%)	26-27	PROStart	Series	92	0.78	0.34	>.99	<10%	0.880	7920
	3	N/A	QTP 3x32T8 DIM5-Q (@ 5%)	26-27	PROStart	Series	19	N/A	N/A	>.95	<20%	0.050	450
	3	M3-IN-T8-A	QTP 3x32T8 ISN-A	16-17	Instant	Parallel	85/84	0.76	0.34	>.99	<20%	0.875	7875
	3	N/A	QTP 3x32T8 PSN-SC	20-21	PROStart	Series	88	0.75	0.32	>.98	<10%	0.880	7920
	3	M3-RL-T8-1LL-A	QTP 3x32T8 RSL-A	23	Rapid	Series	83/79	0.71	0.32	>.99	<10%	0.770	6930
	3	M3-RN-T8-1LL-A	QTP 3x32T8 RSN-A	22	Rapid	Series	92/90	0.76	0.33	>.99	<10%	0.875	7875
	3	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	87	0.77	0.33	>.98	<10%	0.880	7920
	3	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	92	0.77	0.33	>.98	<15%	0.970	8730

**Linear T8  
Fluorescent Lamps**

# of Lamps	Former Description <sup>1</sup>	Ballast Type <sup>1</sup>	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3,4</sup>	FO32XP 3000 lumens <sup>3</sup>
4	N/A	QT 4x32 IS	6-7	Instant	Parallel	114	0.98	0.43	>.98	<20%	0.900	10800	
4	N/A	QT 4x32 LP	10-11	Instant	Parallel	98	0.84	0.37	>.97	<20%	0.770	9240	
4	M4-IL-T8-GP-A	QT 4x32T8 ISL-A	13	Instant	Parallel	97/98	0.80	0.34	>.97	<20%	0.770	9240	
4	M4-IN-T8-GP-D	QT 4x32T8 ISN-A	12	Instant	Parallel	111/112	1.01	0.45	>.97	<20%	0.875	10500	
4	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	114	0.96	0.42	>.97	<20%	0.890	10680	
4	M4-PD-T8-10C-Q	QTP 4x32T8 DIM10-Q (@ 100%)	26-27	PROStart	Series	120	1.10	0.55	>.99	<10%	0.880	10560	
4	M4-PD-T8-10C-Q	QTP 4x32T8 DIM10-Q (@ 10%)	26-27	PROStart	Series	38	N/A	N/A	>.95	<20%	0.100	1200	
4	M4-IN-T8-A	QTP 4x32T8 ISN-A	16-17	Instant	Parallel	113/112	1.01	0.45	>.99	<20%	0.875	10500	
4	N/A	QTP 4x32T8 PSN-SC	20-21	PROStart	Series	118/115	1.00	0.43	>.98	<10%	0.880	10560	
4	M4-RL-T8-1LL-B	QTP 4x32T8 RSL-B	23	Rapid	Series	110/102	1.01	0.40	>.99	<10%	0.770	9240	
4	M4-RN-T8-1LL-B	QTP 4x32T8 RSN-B	22	Rapid	Series	122/114	1.05	0.40	>.99	<10%	0.875	10500	
4	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	114	0.98	0.43	>.98	<10%	0.880	10560	
1	N/A	QTP 1X32T8UNV PSX-F	24-25	PROStart	Series	25	0.20	0.09	>.98	<10%	0.740	2368	FO32XPS 3200 lumens <sup>3</sup>
2	N/A	QTP 2X32T8UNV PSX-F	24-25	PROStart	Series	49/48	0.40	0.17	>.98	<10%	0.740	4736	
3	N/A	QTP 3x32T8UNV PSX-SC	24-25	PROStart	Series	72	0.61	0.27	>.98	<10%	0.740	7104	
4	N/A	QTP 4x32T8UNV PSX-SC	24-25	PROStart	Series	94	0.79	0.33	>.98	<10%	0.740	9472	
1	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	38	0.33	0.14	>.93	<27%	1.130	4373	FO40XP 3870 lumens <sup>3</sup>
1	N/A	QT 2x32 LP	10-11	Instant	Parallel	39	0.34	0.15	>.95	<20%	0.880	3406	
1	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	43	0.37	0.16	>.97	<10%	1.030	3986	
2	N/A	QT 3x32 IS	6-7	Instant	Parallel	80	0.70	0.30	>.95	<20%	1.000	7740	
2	N/A	QT 3x32 LP	10-11	Instant	Parallel	73	0.64	0.28	>.95	<20%	0.840	6502	
2	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	67	0.58	0.25	>.97	<21%	1.050	8127	
2	N/A	QT 4x32 IS	6-7	Instant	Parallel	86	0.74	0.32	>.95	<25%	1.060	8204	
2	N/A	QT 4x32 LP	10-11	Instant	Parallel	76	0.69	0.30	>.90	<25%	0.910	7043	
2	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	79/78	0.67	0.29	>.98	<10%	1.000	7740	
3	N/A	QT 4x32 IS	6-7	Instant	Parallel	116	0.98	0.43	>.97	<20%	0.980	11378	
3	N/A	QT 4x32 LP	10-11	Instant	Parallel	103	0.87	0.38	>.97	<20%	0.820	9520	
3	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	115	0.96	0.42	>.98	<20%	1.000	11610	
3	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	113	0.95	0.40	>.98	<10%	0.950	11030	
1	N/A	QT 2x59 IS	30-31	Instant	Parallel	56	0.51	0.21	>.90	<30%	1.150	5348	FO72XP 4650 lumens <sup>3</sup>
2	N/A	QT 2x59 IS	30-31	Instant	Parallel	86	0.73	0.32	>.97	<20%	0.920	8556	
1	N/A	QT 2x59 IS	30-31	Instant	Parallel	70	0.61	0.27	>.95	<30%	1.130	7006	FO96XP 6200 lumens <sup>3</sup>
1	N/A	QT 2x59 PLUS	32-33	Instant	Parallel	91	0.78	0.34	>.95	<20%	1.400 <sup>2</sup>	8680	
2	N/A	QT 2x59 IS	30-31	Instant	Parallel	110	0.95	0.41	>.97	<20%	0.880	10912	
2	N/A	QT 2x59 PLUS	32-33	Instant	Parallel	151	1.30	0.56	>.97	<20%	1.190	14756	
2	M2-IN-T8-8GP-A	QT 2x59T8 ISN-A	30-31	Instant	Parallel	107	0.97	0.41	>.97	<20%	0.850	10540	
2	M2-IN-T8-8FT-A	QTP 2x59T8 ISN-A	30-31	Instant	Parallel	107	0.97	0.41	>.99	<10%	0.850	10540	
1	M1-RN-T8/HO-A	QTP 1X86T8HO RSN-A	34-35	Rapid	Series	88	0.72	0.31	>.97	<10%	0.875	7175	FO96HO 8200 lumens <sup>3</sup>

1 Actual model description includes input voltage type. Except for input amps, performance data is equivalent except where shown in system watts column.  
 2 When ballast factor is >1.20, lamp life may not reach published value. Operation is not recommended and is not covered under warranty.  
 3 Initial ANSI system lumens based on 800XP series OCTRON®/DULUX®/PENTRON®/FM, D41 standard T12, and CW energy saving T12 lamps.  
 4 Initial system lumens based on FB016, FB024, and FO96 800 series lamp lumens.

# QUICKSYSTEMS

## U-Shaped CURVALUME® T8 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

FBO16 1125 lumens <sup>3</sup>	# of Lamps	Former Description <sup>1,5</sup>	Ballast Type <sup>1</sup>	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3,4</sup>	
FBO16 1125 lumens <sup>3</sup>	1	N/A	QT 1x32 IS-SC	6-7	Instant	Parallel	17	0.16	0.07	>.90	<27%	1.010	1136	
	1	N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	17	0.14	0.07	>.97	<15%	0.870	979	
	2	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	30	0.29	0.12	>.90	<31%	1.010	2273	
		N/A	QT 2x32 LP	10-11	Instant	Parallel	27	0.23	0.10	>.95	<18%	0.820	1845	
		N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	31	0.26	0.12	>.95	<15%	0.930	2093	
		N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	31	0.26	0.12	>.95	<15%	0.930	2093	
	3	N/A	QT 3x32 IS	6-7	Instant	Parallel	45	0.41	0.18	>.90	<20%	0.950	3206	
		N/A	QT 3x32 LP	10-11	Instant	Parallel	40	0.37	0.16	>.90	<20%	0.820	2768	
		N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	46	0.45	0.19	>.90	<32%	1.020	3443	
		N/A	QT 4x32 IS	6-7	Instant	Parallel	51	0.45	0.20	>.90	<30%	1.050	3544	
		N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	48	0.43	0.18	>.95	<28%	1.040	3510	
		N/A	QT 4x32 LP	10-11	Instant	Parallel	43	0.40	0.18	>.90	<25%	0.900	3038	
		N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	45	0.38	0.17	>.94	<17%	0.920	3105	
		N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	47	0.40	0.18	>.95	<20%	0.970	3274	
	4	N/A	QT 4x32 IS	6-7	Instant	Parallel	58	0.53	0.23	>.90	<25%	0.950	4275	
		N/A	QT 4x32 LP	10-11	Instant	Parallel	50	0.46	0.20	>.90	<25%	0.820	3690	
		N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	58	0.50	0.21	>.96	<20%	0.950	4275	
		N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	57	0.48	0.21	>.95	<17%	0.900	4050	
	FBO24 1925 lumens <sup>3</sup>	1	N/A	QT 1x32 IS-SC	6-7	Instant	Parallel	23	0.21	0.09	>.97	<20%	0.970	1867
		1	N/A	QTP 2x32T8UNV IS-SC	14-15	Instant	Parallel	28	0.23	0.11	>.95	<15%	1.060	2041
1		N/A	QT 2x32 LP	10-11	Instant	Parallel	23	0.21	0.09	>.90	<20%	0.910	1752	
1		N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	23	0.19	0.08	>.97	<15%	0.860	1656	
2		N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	44	0.38	0.16	>.97	<20%	0.970	3735	
		N/A	QT 2x32 LP	10-11	Instant	Parallel	39	0.33	0.15	>.95	<18%	0.790	3042	
		N/A	QT 3x32 IS	6-7	Instant	Parallel	51	0.46	0.20	>.90	<20%	1.020	3927	
		N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	50	0.45	0.20	>.90	<30%	1.090	4197	
		N/A	QT 3x32 LP	10-11	Instant	Parallel	45	0.41	0.18	>.90	<25%	0.870	3350	
		N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	43	0.36	0.16	>.98	<15%	0.920	3542	
		N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	48	0.41	0.18	>.95	<20%	1.030	3966	
		N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	48	0.41	0.18	>.95	<20%	1.030	3966	
3		N/A	QT 3x32 IS	6-7	Instant	Parallel	65	0.57	0.25	>.95	<20%	0.920	5313	
		N/A	QT 3x32 LP	10-11	Instant	Parallel	57	0.50	0.22	>.95	<20%	0.790	4562	
		N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	65	0.56	0.24	>.96	<25%	0.970	5602	
		N/A	QT 4x32 IS	6-7	Instant	Parallel	73	0.64	0.28	>.95	<25%	1.030	5948	
		N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	69	0.58	0.25	>.95	<20%	1.000	5775	
		N/A	QT 4x32 LP	10-11	Instant	Parallel	62	0.54	0.23	>.95	<20%	0.870	5024	
		N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	63	0.53	0.23	>.96	<15%	0.910	5255	
		N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	66	0.55	0.25	>.95	<15%	0.970	5602	
4	N/A	QT 4x32 IS	6-7	Instant	Parallel	87	0.76	0.33	>.95	<20%	0.920	7084		
	N/A	QT 4x32 LP	10-11	Instant	Parallel	75	0.65	0.28	>.95	<20%	0.790	6083		
	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	84	0.71	0.30	>.97	<20%	0.940	7238		
	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	80	0.67	0.29	>.97	<15%	0.870	6699		
FBO31XP 2775 lumens <sup>3</sup>	1	N/A	QT 1x32 IS-SC	6-7	Instant	Parallel	30	0.26	0.11	>.97	<20%	0.930	2581	
	1	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	36	0.32	0.14	>.90	<29%	1.100	3053	
	1	N/A	QT 2x32 LP	10-11	Instant	Parallel	30	0.26	0.12	>.95	<20%	0.900	2498	
	1	N/A	QT 2x32 PLUS	8-9	Instant	Parallel	50	0.43	0.19	>.95	<25%	1.500 <sup>2</sup>	4163	
	1	N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	30	0.25	0.11	>.98	<10%	0.850	2359	
	1	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	35	0.29	0.13	>.95	<15%	1.040	2886	
	2	N/A	QT 2x32 IS	6-7	Instant	Parallel	57	0.49	0.21	>.98	<15%	0.900	4995	
		N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	57	0.48	0.21	>.97	<20%	0.930	5162	
		N/A	QT 2x32 LP	10-11	Instant	Parallel	49	0.42	0.18	>.98	<15%	0.770	4274	
		N/A	QT 2x32 PLUS	8-9	Instant	Parallel	76	0.64	0.28	>.98	<18%	1.200	6660	
		N/A	QT 3x32 IS	6-7	Instant	Parallel	64	0.56	0.24	>.95	<20%	1.010	5606	
		N/A	QT 3x32 IS	6-7	Instant	Parallel	64	0.56	0.24	>.95	<20%	1.010	5606	

**U-Shaped CURVALUME®  
T8 Fluorescent Lamps**

# of Lamps	Former Description <sup>1</sup>	Ballast Type <sup>1</sup>	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3,4</sup>	FBO31XP 2775 lumens <sup>3</sup>
2	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	65	0.55	0.25	>.95	<25%	1.050	5828	
2	N/A	QT 3x32 LP	10-11	Instant	Parallel	56	0.49	0.21	>.95	<20%	0.860	4773	
2	N/A	QT 3x32 PLUS	8-9	Instant	Parallel	84	0.73	0.31	>.95	<20%	1.300 <sup>2</sup>	7215	
2	N/A	QT 4x32 IS	6-7	Instant	Parallel	70	0.61	0.27	>.95	<25%	1.080	5994	
2	N/A	QT 4x32 LP	10-11	Instant	Parallel	60	0.55	0.24	>.90	<25%	0.930	5162	
2	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	56	0.47	0.20	>.98	<10%	0.910	5051	
2	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	64	0.54	0.24	>.95	<15	1.010	5606	
3	N/A	QT 3x32 IS	6-7	Instant	Parallel	84	0.72	0.31	>.98	<15%	0.900	7493	
3	N/A	QT 3x32 LP	10-11	Instant	Parallel	73	0.62	0.27	>.98	<15%	0.770	6410	
3	N/A	QT 3x32 PLUS	8-9	Instant	Parallel	109	0.93	0.41	>.98	<18%	1.180	9824	
3	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	84	0.72	0.31	>.97	<20%	0.930	7742	
3	N/A	QT 4x32 IS	6-7	Instant	Parallel	92	0.78	0.34	>.97	<20%	1.000	8325	
3	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	91	0.77	0.34	>.97	<15%	1.000	8325	
3	N/A	QT 4x32 LP	10-11	Instant	Parallel	79	0.67	0.29	>.97	<20%	0.840	6993	
3	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	84	0.71	0.31	>.98	<12%	0.890	7409	
3	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	89	0.74	0.32	>.95	<15%	0.950	7909	
4	N/A	QT 4x32 IS	6-7	Instant	Parallel	110	0.94	0.41	>.98	<18%	0.900	9990	
4	N/A	QT 4x32 LP	10-11	Instant	Parallel	94	0.80	0.35	>.97	<18%	0.770	8547	
4	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	110	0.92	0.41	>.97	<20%	0.920	10212	
4	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	108	0.91	0.39	>.98	<12%	0.880	9768	
1	N/A	QT 1x32 IS-SC	6-7	Instant	Parallel	30	0.26	0.11	>.97	<20%	0.900	2610	FBO32XP 2900 lumens <sup>3</sup>
1	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	37	0.33	0.14	>.90	<28%	1.130	3277	
1	N/A	QT 2x32 LP	10-11	Instant	Parallel	32	0.28	0.12	>.95	<20%	0.900	2610	
1	N/A	QT 2x32 PLUS	8-9	Instant	Parallel	51	0.44	0.19	>.95	<25%	1.500 <sup>2</sup>	4350	
1	N/A	QTP 1x32T8UNV ISN-SC	14-15	Instant	Parallel	30	0.26	0.11	>.99	<10%	0.880	2552	
1	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	36	0.30	0.14	>.95	<10%	1.040	3016	
2	N/A	QT 2x32 IS-SC	6-7	Instant	Parallel	59	0.51	0.22	>.97	<20%	0.900	5220	
2	N/A	QT 2x32 LP	10-11	Instant	Parallel	51	0.43	0.19	>.98	<15%	0.770	4466	
2	N/A	QT 2x32 PLUS	8-9	Instant	Parallel	78	0.67	0.29	>.98	<18%	1.200	6960	
2	N/A	QT 3x32 IS	6-7	Instant	Parallel	66	0.58	0.25	>.95	<20%	1.010	5858	
2	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	67	0.58	0.25	>.97	<21%	1.040	6032	
2	N/A	QT 3x32 LP	10-11	Instant	Parallel	59	0.51	0.22	>.95	<20%	0.860	4988	
2	N/A	QT 3x32 PLUS	8-9	Instant	Parallel	86	0.75	0.32	>.95	<20%	1.300 <sup>2</sup>	7540	
2	N/A	QT 4x32 IS	6-7	Instant	Parallel	72	0.63	0.27	>.95	<25%	1.080	6264	
2	N/A	QT 4x32 LP	10-11	Instant	Parallel	62	0.56	0.25	>.90	<25%	0.930	5394	
2	N/A	QTP 2x32T8UNV ISN-SC	14-15	Instant	Parallel	59	0.51	0.22	>.98	<10%	0.880	5104	
2	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	65	0.55	0.24	>.97	<15%	1.020	5916	
2	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	69	0.59	0.25	>.98	<15%	1.110	6438	
3	N/A	QT 3x32 IS	6-7	Instant	Parallel	87	0.74	0.32	>.98	<15%	0.900	7830	
3	N/A	QT 3x32 LP	10-11	Instant	Parallel	76	0.65	0.28	>.98	<15%	0.770	6699	
3	N/A	QT 3x32 PLUS	8-9	Instant	Parallel	112	0.95	0.41	>.98	<18%	1.180	10266	
3	N/A	QT 3x32T8 ISN-SC	6-7	Instant	Parallel	87	0.74	0.32	>.97	<20%	0.890	7743	
3	N/A	QT 4x32 IS	6-7	Instant	Parallel	95	0.81	0.35	>.97	<20%	1.000	8700	
3	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	96	0.80	0.35	>.97	<20%	1.000	8700	
3	N/A	QT 4x32 LP	10-11	Instant	Parallel	82	0.70	0.30	>.97	<20%	0.840	7308	
3	N/A	QTP 3x32T8UNV ISN-SC	14-15	Instant	Parallel	87	0.77	0.33	>.98	<10%	0.880	7656	
3	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	92	0.77	0.33	>.98	<15%	0.970	8439	
4	N/A	QT 4x32 IS	6-7	Instant	Parallel	114	0.97	0.42	>.98	<18%	0.900	10440	
4	N/A	QT 4x32 LP	10-11	Instant	Parallel	98	0.84	0.36	>.97	<18%	0.770	8932	
4	N/A	QT 4x32T8 ISN-SC	6-7	Instant	Parallel	114	0.96	0.42	>.97	<20%	0.890	10324	
4	N/A	QTP 4x32T8UNV ISN-SC	14-15	Instant	Parallel	114	0.98	0.43	>.98	<10%	0.880	10208	

1 Actual model description includes input voltage type. Except for input amps, performance data is equivalent except where shown in system watts column.  
 2 When ballast factor is >1.20, lamp life may not reach published value. Operation is not recommended and is not covered under warranty.  
 3 Initial ANSI system lumens based on 800XP series OCTRON®/DULUX®/PENTRON®/FM, D41 standard T12, and CW energy saving T12 lamps.  
 4 Initial system lumens based on FBO16, FBO24, and F096 800 series lamp lumens.

# System Performance Guide

## QUICKSYSTEMS

### T5 Fluorescent Lamps

As the industry's leading systems company, OSRAM SYLVANIA offers the most comprehensive data on how QUICKTRONIC® electronic ballasts will perform with various combinations of lamps.

Lamp Type	# of Lamps	Lamp Lumens	Ballast Type <sup>1</sup> (Former Description)	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3</sup>
FP14T5	1	1350	QT 1x28 PS	38-39	PROStart	Series	16	0.14	0.06	>.97	<10%	1.000	1350
FP14T5	2	1350	QT 2x28 PS	38-39	PROStart	Series	32	0.27	0.12	>.97	<10%	1.000	2700
FP21T5	1	2100	QT 1x28 PS	38-39	PROStart	Series	24	0.21	0.09	>.97	<10%	1.000	2100
FP21T5	2	2100	QT 2x28 PS	38-39	PROStart	Series	48	0.41	0.18	>.97	<10%	1.000	4200
FP28T5	1	2900	QT 1x28 PS	38-39	PROStart	Series	32	0.28	0.12	>.97	<10%	1.000	2900
FP28T5	1	2900	QTP 1x28T5 PSN-F (M1-PN-T5-F)	38-39	PROStart	Series	32/31	0.34	0.14	>.97	<10%	1.000	2900
FP28T5	2	2900	QT 2x28 PS	38-39	PROStart	Series	62	0.55	0.24	>.97	<10%	1.000	5800
FP28T5	2	2900	QTP 2x28T5 PSN-F (M2-PN-T5-F)	38-39	PROStart	Series	66/65	0.55	0.23	>.97	<10%	1.000	5800
FP35T5	1	3650	QT 1x28 PS	38-39	PROStart	Series	40	0.34	0.15	>.97	<10%	1.000	3650
FP35T5	2	3650	QT 2x28 PS	38-39	PROStart	Series	80	0.68	0.30	>.97	<10%	1.000	7300
FP24T5/HO	1	2000	QT 1x39-24 PHO	40-41	PROStart	Series	28/27	0.35	0.15	>.98	<10%	1.100	2200
FP24T5/HO	2	2000	QT 2x39-24 PHO	40-41	PROStart	Series	54/53	0.73	0.31	>.98	<10%	1.100	4400
FP39T5/HO	1	3500	QT 1x39-24 PHO	40-41	PROStart	Series	42	0.35	0.15	>.98	<10%	1.000	3500
FP39T5/HO	2	3500	QT 2x39-24 PHO	40-41	PROStart	Series	87/85	0.73	0.31	>.98	<10%	1.000	7000
FP54T5/HO	1	5000	QT 1x54 PHO	40-41	PROStart	Series	62/61	0.52	0.22	>.98	<10%	1.000	5000
FP54T5/HO	2	5000	QT 2x54 PHO	40-41	PROStart	Series	120/117	1.00	0.45	>.98	<10%	1.000	10000
FP80T5HO	1	7000	QTP 1X80T5HO PSN-E	40-41	PROStart	Series	91/90	0.76	0.33	>.98	<10%	1.000	7000
FPC22T5HO	1	1800	QT 1x39-24 PHO	40-41	PROStart	Series	28/27	0.23	0.10	>.97	<10%	1.130	2034
FPC22T5HO	2	1800	QT 2x39-24 PHO	40-41	PROStart	Series	54/53	0.45	0.19	>.97	<10%	1.130	4068
FPC40T5HO	1	3200	QT 1x39-24 PHO	40-41	PROStart	Series	47	0.35	0.15	>.97	<10%	1.060	3392
FPC40T5HO	2	3200	QT 2x39-24 PHO	40-41	PROStart	Series	93/92	0.73	0.31	>.97	<10%	1.060	6784
FPC22/FPC40T5	1+1 <sup>4</sup>	1800/3200	QT 2x39-24 PHO	40-41	PROStart	Series	75/74	0.61	0.37	>.97	<10%	1.080	5400
FPC55T5HO	1	4000	QT 1x54 PHO	40-41	PROStart	Series	62/61	0.52	0.22	>.97	<10%	0.980	3920
FPC55T5HO	2	4000	QT 2x54 PHO	40-41	PROStart	Series	120/117	1.00	0.45	>.97	<10%	0.980	7840
FP54T5/HO	1	5000	QT 1x54 PHO-DIM (@100%)	42-43	PROStart	Series	62/61	0.54	0.23	>.97	<10%	1.000	5000
FP54T5/HO	1	5000	QT 1x54 PHO-DIM (@1%)	42-43		8						0.010	50
FP54T5/HO	2	5000	QT 2x54 PHO-DIM (@100%)	42-43	PROStart	Series	120/117	1.07	0.45	>.97	<10%	1.000	10000
FP54T5/HO	2	5000	QT 2x54 PHO-DIM (@1%)	42-43		18						0.010	100
FPC55T5HO	1	4000	QT 1x54 PHO-DIM (@100%)	42-43	PROStart	Series	62/61	0.52	0.22	>.97	<10%	0.980	3920
FPC55T5HO	1	4000	QT 1x54 PHO-DIM (@1%)	42-43		8						0.010	40
FPC55T5HO	2	4000	QT 2x54 PHO-DIM (@100%)	42-43	PROStart	Series	120/117	1.00	0.45	>.97	<10%	0.980	7840
FPC55T5HO	2	4000	QT 2x54 PHO-DIM (@1%)	42-43		18						0.010	80
FT55T5DL	1	4800	QT 1x54 PHO-DIM (@100%)	42-43	PROStart	Series	62/61	0.52	0.22	>.97	<10%	0.980	4704
FT55T5DL	1	4800	QT 1x54 PHO-DIM (@1%)	42-43		8						0.010	48
FT55T5DL	2	4800	QT 2x54 PHO-DIM (@100%)	42-43	PROStart	Series	120/117	1.00	0.45	>.97	<10%	0.980	9408
FT55T5DL	2	4800	QT 2x54 PHO-DIM (@1%)	42-43		18						0.010	96
FT24T5DL	1	1800	QT 1x39-24 PHO	40-41	PROStart	Series	28/27	0.23	0.10	>.97	<10%	1.100	1980
FT24T5DL	2	1800	QT 2x39-24 PHO	40-41	PROStart	Series	54/53	0.45	0.19	>.97	<10%	1.100	3960
FT36T5DL	1	2900	QT 1x39-24 PHO	40-41	PROStart	Series	35/34	0.29	0.13	>.97	<10%	0.950	2755
FT36T5DL	2	2900	QT 2x39-24 PHO	40-41	PROStart	Series	73/72	0.62	0.26	>.97	<10%	0.950	5510
CF24T5DF	1	1700	QT 1x39-24 PHO	40-41	PROStart	Series	28/27	0.23	0.10	>.97	<10%	1.100	1870
CF24T5DF	2	1700	QT 2x39-24 PHO	40-41	PROStart	Series	54/53	0.45	0.19	>.97	<10%	1.100	3740
CF36T5DF	1	2800	QT 1x39-24 PHO	40-41	PROStart	Series	35/34	0.29	0.13	>.97	<10%	0.950	2660
CF36T5DF	2	2800	QT 2x39-24 PHO	40-41	PROStart	Series	73/72	0.62	0.26	>.97	<10%	0.950	5320
FT55T5DL	1	4800	QT 1x54 PHO	40-41	PROStart	Series	62/61	0.52	0.22	>.97	<10%	0.980	4704
FT55T5DL	2	4800	QT 2x54 PHO	40-41	PROStart	Series	120/117	1.00	0.45	>.97	<10%	0.980	9408



**T5, T2 & T12  
Fluorescent Lamps**

Lamp Type	# of Lamps	Lamp Lumens	Ballast Type <sup>1</sup> (Former Description)	Page#	Start Type	Lamp Circuit	120/277 System Watts	120V Input Amps	277V Input Amps	Power Factor	THD	Ballast Factor <sup>2</sup>	System Lumens <sup>3</sup>
FT40T5DL	1	3150	QT 1x40 DL	44-45	Instant	Parallel	40	0.33	0.14	>.97	<20%	0.960	3024
FT40T5DL	1	3150	QT 2x40 DL	44-45	Instant	Parallel	48	0.41	0.18	>.97	<20%	1.100	3465
FT40T5DL	2	3150	QT 2x40 DL	44-45	Instant	Parallel	75	0.63	0.28	>.97	<20%	0.960	6048
FT40T5DL	2	3150	QT 3x40 DL	44-45	Instant	Parallel	85	0.73	0.32	>.97	<20%	1.100	6930
FT40T5DL	3	3150	QT 3x40 DL	44-45	Instant	Parallel	110	0.94	0.42	>.97	<20%	0.960	9072
FT40T5DL	1	3150	QTP 1x40TT5 PSN-F (M1-PN-TT5/40-F)	46-47	PROStart	Series	38/37	0.32	0.13	>.97	<10%	0.880	2772
FT40T5DL	2	3150	QTP 2x40TT5 PSN-F (M2-PN-TT5/40-F)	46-47	PROStart	Series	76/73	0.63	0.27	>.97	<10%	0.880	5544
FT40T5DL	3	3150	QTP 3x40TT5 PSN-B (M3-PN-TT5/40-B)	46-47	PROStart	Series	110/108	0.92	0.39	>.97	<10%	0.880	8316
FM6/H	1	310	QT-FM	52-53	PROStart	Series	9	N/A	N/A	>.90	<15%	1.000	310
FM8/H	1	500	QT-FM	52-53	PROStart	Series	11	N/A	N/A	>.90	<15%	1.000	500
FM11/H	1	680	QT-FM	52-53	PROStart	Series	14	N/A	N/A	>.90	<15%	1.000	680
FM13/H	1	860	QT-FM	52-53	PROStart	Series	17	N/A	N/A	>.90	<15%	1.000	860
FM6/H	2	310	QT-FM	52-53	PROStart	Series	15	N/A	N/A	>.90	<15%	1.000	620
FM8/H	2	500	QT-FM	52-53	PROStart	Series	20	N/A	N/A	>.90	<15%	1.000	1000
FM11/H	2	680	QT-FM	52-53	PROStart	Series	28	N/A	N/A	>.90	<15%	1.000	1360
FM13/H	2	860	QT-FM	52-53	PROStart	Series	33	0.28	0.14	>.90	<15%	1.000	1720
F48T12	2	2875	QT 2x96 IS	36	Instant	Parallel	85	0.72	0.31	>.98	<25%	1.000	5750
F48T12/SS	2	2500	QT 2x96 IS	36	Instant	Parallel	75	0.64	0.28	>.98	<25%	1.000	5000
F60T12	1	3700	QT 2x96 IS	36	Instant	Parallel	65	0.59	0.26	>.91	<30%	1.150	4255
F60T12	2	3700	QT 2x96 IS	36	Instant	Parallel	105	0.89	0.39	>.98	<20%	0.980	7252
F72T12	1	4500	QT 2x96 IS	36	Instant	Parallel	70	0.62	0.27	>.93	<30%	1.130	5085
F72T12	2	4500	QT 2x96 IS	36	Instant	Parallel	110	0.93	0.40	>.98	<20%	0.950	8550
F84T12	1	5300	QT 2x96 IS	36	Instant	Parallel	80	0.69	0.30	>.96	<25%	1.100	5830
F84T12	2	5300	QT 2x96 IS	36	Instant	Parallel	127	1.07	0.47	>.98	<20%	0.900	9540
F96T12	1	6420	QT 2x96 IS	36	Instant	Parallel	85	0.73	0.32	>.97	<25%	1.080	6934
F96T12	2	6420	QT 2x96 IS	36	Instant	Parallel	135	1.20	0.52	>.97	<20%	0.880	11299
F96T12/SS	2	6420	QT 2x60T12 ISN-A (M2-IN-T12-8GP-A)	36	Instant	Parallel	112	0.91	0.41	>.97	<20%	0.880	11299
F96T12/SS	1	5300	QT 2x96 IS	36	Instant	Parallel	70	0.59	0.26	>.97	<25%	1.080	5724
F96T12/SS	2	5300	QT 2x96 IS	36	Instant	Parallel	110	1.20	0.52	>.97	<20%	0.880	9328
F48T12/HO	2	4050	QT 2x96 HO	36	Rapid	Series	125	1.11	0.48	>.93	<30%	0.980	7938
F48T12/HO/SS	2	3750	QT 2x96 HO	36	Rapid	Series	115	0.05	0.45	>.91	<30%	0.980	7350
F60T12/HO	2	5200	QT 2x96 HO	36	Rapid	Series	150	1.30	0.57	>.95	<25%	0.960	9984
F72T12/HO	2	6250	QT 2x96 HO	36	Rapid	Series	170	1.45	0.63	>.97	<20%	0.920	11500
F84T12/HO	2	7550	QT 2x96 HO	36	Rapid	Series	190	1.62	0.70	>.97	<20%	0.900	13590
F96T12/HO	2	9050	QT 2x96 HO	36	Rapid	Series	210	1.79	0.78	>.97	<20%	0.880	15928
F96T12/HO/SS	2	8000	QT 2x96 HO	36	Rapid	Series	180	1.79	0.78	>.97	<20%	0.880	14080

1 Actual model description includes input voltage type. Except for input amps, performance data is equivalent except where shown in system watts column.  
 2 When ballast factor is >1.20, lamp life may not reach published value. Operation is not recommended and is not covered under warranty.  
 3 Initial ANSI system lumens based on 800XP series OCTRON®/DULUX®/PENTRON®/FM, D41 standard T12, and CW energy saving T12 lamps.  
 4 FPC22 and FPC40T5 lamp types are used in combination for this ballast.

# Energy Savings Guide

## QUICKSAVINGS

4-Foot Lamps (2 lamps per system)	Ballast Type	Lamps	Lamp Lumens	Ballast Factor	System Lumens	Relative Light Output	Input Watts	System LPW	Annual Energy Cost	
QUICKTRONIC® high frequency electronic ballasts are more efficient than other ballast types. High performance QUICKTRONIC ballasts save money – year after year.	STD MAGNETIC	F40T12CW	3050	0.950	5,795	100%	96	60	\$38.40	
	STD MAGNETIC	F34T12CW	2700	0.880	4,752	82%	82	58	\$32.80	
	ES MAGNETIC	F40T12CW	3050	0.950	5,795	100%	86	67	\$34.40	
	ES MAGNETIC	F34T12CW	2700	0.880	4,752	82%	72	66	\$28.80	
	ES MAGNETIC	F40T12D41	3200	0.950	6,080	105%	86	71	\$34.40	
	ES MAGNETIC	F34T12D41	2800	0.880	4,928	85%	72	68	\$28.80	
	<i>NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of \$.10/kWh.</i>	ELECTRONIC RS	F40T12CW	3050	0.880	5,368	93%	72	75	\$28.80
		ELECTRONIC RS	F34T12CW	2700	0.880	4,752	82%	62	77	\$24.80
		ELECTRONIC RS	F40T12D41	3200	0.880	5,632	97%	72	78	\$28.80
		ELECTRONIC RS	F34T12D41	2800	0.880	4,928	85%	62	79	\$24.80
ES MAGNETIC		F032T8/800XP	3000	0.950	5,700	98%	74	77	\$29.60	
ES MAGNETIC		F032T8/700	2800	0.950	5,320	92%	74	72	\$29.60	
QT 2x32 IS-SC		F032T8/800XP	3000	0.900	5,400	93%	59	92	\$23.60	
QT 2x32 IS-SC		F032T8/700	2800	0.900	5,040	87%	59	85	\$23.60	
QT 2x32 PLUS		F032T8/800XP	3000	1.200	7,200	124%	78	92	\$31.20	
QT 2x32 PLUS		F032T8/700	2800	1.200	6,720	116%	78	86	\$31.20	
QT 2x32 LP	F032T8/800	2950	0.770	4,620	80%	51	91	\$20.40		
QT 2x32 LP	F032T8/700	2800	0.770	4,312	74%	51	85	\$20.40		
QTP 2x32T8 UNV ISN-SC	F032XP/800/XP	3000	0.880	5,280	91%	59	89	\$23.60		
QTP 2x32T8 UNV ISN-SC	F032/700	2800	0.880	4,928	85%	59	84	\$23.60		
QTP 2x32T8 PSN	F032T8/800XP	3000	0.880	5,280	91%	60	88	\$24.00		
QTP 2x32T8 PSN	F032T8/700	3000	0.880	5,250	91%	60	88	\$24.00		
QTP 2x32T8 RSN	F032T8/800XP	3000	0.875	5,250	91%	63	83	\$25.20		
QTP 2x32T8 RSN	F032T8/700	2800	0.875	4,928	85%	63	78	\$25.20		
QTP 2x32T8 RSL	F032XP/800/XP	3000	0.770	4,650	80%	55	85	\$22.00		
QTP 2x32T8 RSL	F032/700	2800	0.770	4,312	74%	55	78	\$22.00		
QTP 2x32T8 UNV PSX	F032XP/800/XP	3200	0.740	4,735	82%	72	66	\$28.80		
QTP 2x32T8 UNV PSX	F032/700	2800	0.740	4,144	72%	72	58	\$28.80		
4-Foot Lamps (4 lamps per system)	STD MAGNETIC(2)	F40T12CW	3050	0.950	11,590	100%	192	60	\$76.80	
	STD MAGNETIC(2)	F34T12CW	2700	0.880	9,504	82%	164	58	\$65.60	
<i>NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of \$.10/kWh.</i>	ES MAGNETIC(2)	F40T12CW	3050	0.950	11,590	100%	172	67	\$68.80	
	ES MAGNETIC(2)	F34T12CW	2700	0.880	9,504	82%	144	66	\$57.60	
	ES MAGNETIC(2)	F40T12D41	3200	0.950	12,160	105%	172	71	\$68.80	
	ES MAGNETIC (2)	F34T12D41	2800	0.880	9,856	85%	144	68	\$57.60	
	ELECTRONIC RS (2)	F40T12CW	3050	0.880	10,736	93%	144	75	\$57.60	
	ELECTRONIC RS (2)	F34T12CW	2700	0.880	9,504	82%	124	77	\$49.60	
	ELECTRONIC RS (2)	F40T12D41	3200	0.880	11,264	97%	144	78	\$57.60	
	ELECTRONIC RS (2)	F34T12D41	2800	0.880	9,856	85%	124	79	\$49.60	
	ES MAGNETIC (2)	F032T8/800XP	3000	0.950	11,400	98%	148	77	\$59.20	
	ES MAGNETIC (2)	F032T8/700	2800	0.950	10,640	92%	148	72	\$59.20	
	QT 4x32 IS	F032T8/800XP	3000	0.900	10,800	93%	114	95	\$45.60	
	QT 4x32 IS	F032T8/700	2800	0.900	10,080	87%	114	88	\$45.60	
	QT 4x32T8 ISN-SC	F032T8/800XP	3000	0.890	10,700	92%	114	94	\$45.60	
	QT 4x32T8 ISN-SC	F032T8/700	2800	0.890	9,968	86%	114	87	\$45.60	
	QT 2x32 PLUS (2)	F032T8/800XP	3000	1.200	14,400	124%	156	92	\$62.40	
	QT 2x32 PLUS (2)	F032T8/700	2800	1.200	13,440	116%	156	86	\$62.40	
	QT 4x32 LP	F032T8/800XP	3000	0.770	9,240	80%	98	94	\$39.20	
	QT 4x32 LP	F032T8/700	2800	0.770	8,624	74%	98	88	\$39.20	
QTP 4x32T8 UNV ISN-SC	F032T8/800XP	3000	0.880	10,560	91%	114	93	\$45.60		
QTP 4x32T8 UNV ISN-SC	F032/700	2800	0.880	9,856	85%	114	86	\$45.60		
QTP 4x32T8 PSN-SC	F032T8/800XP	3000	0.880	10,560	91%	115	92	\$46.00		
QTP 4x32T8 PSN-SC	F032/700	2800	0.880	9,856	85%	115	86	\$46.00		
QTP 4x32T8 RSN	F032T8/800XP	3000	0.875	10,500	91%	122	86	\$48.80		
QTP 4x32T8 RSN	F032T8/700	2800	0.875	9,856	85%	122	81	\$48.80		
QTP 4x32T8 RSL	F032T8/800XP	3000	0.770	9,240	80%	110	84	\$44.00		
QTP 4x32T8 RSL	F032T8/700	2800	0.770	8,624	74%	110	78	\$44.00		
QTP 4x32T8 UNV PSX-SC	F032T8/800XP	3200	0.740	9,470	82%	94	101	\$37.60		
QTP 4x32T8 UNV PSX-SC	F032/700	2800	0.740	8,288	72%	94	88	\$37.60		

## Energy Savings Guide

Ballast Type	Lamps	Lamp Lumens	Ballast Factor	System Lumens	Relative Light Output	Input Watts	System LPW	Annual Energy Cost
STD MAGNETIC	FB40T12CW	3000	0.950	5,700	100%	96	59	\$38.40
STD MAGNETIC	FB34T12CW	2600	0.880	4,576	80%	82	56	\$32.80
ES MAGNETIC	FB40T12CW	3000	0.950	5,700	100%	86	66	\$34.40
ES MAGNETIC	FB34T12CW	2600	0.880	4,576	80%	72	64	\$28.80
ELECTRONIC RS	FB40T12D41	3050	0.880	5,368	94%	72	75	\$28.80
ELECTRONIC RS	FB34T12CW	2600	0.880	4,576	80%	62	74	\$24.80
ES MAGNETIC	FB032T8/800XP	2900	0.950	5,510	97%	71	78	\$28.40
ES MAGNETIC	FB032T8/700	2750	0.950	5,225	92%	71	74	\$28.40
QT 2x32 IS-SC	FB032T8/800XP	2900	0.900	5,220	92%	59	88	\$23.60
QT 2x32 IS-SC	FB032T8/700	2750	0.900	4,950	87%	59	84	\$23.60
QT 2x32 IS-SC	FB031T8/800XP	2775	0.900	4,995	88%	57	88	\$22.80
QT 2x32 PLUS	FB032T8/800XP	2900	1.200	6,980	122%	78	89	\$31.20
QT 2x32 PLUS	FB032T8/700	2750	1.200	6,600	116%	78	85	\$31.20
QT 2x32 LP	FB032T8/800XP	2900	0.770	4,466	78%	51	88	\$20.40
QT 2x32 LP	FB032T8/700	2750	0.770	4,235	74%	51	83	\$20.40
QTP 2x32T8 UNV ISN-SC	FB032T8/800XP	2900	0.880	5,104	90%	59	87	\$23.60
QTP 2x32T8 UNV ISN-SC	FB032T8/700	2750	0.880	4,840	85%	59	82	\$23.60
QTP 2x32T8 PSN	FB032T8/800XP	2900	0.880	5,104	90%	62	82	\$24.80
QTP 2x32T8 PSN	FB032T8/700	2750	0.880	4,840	85%	62	78	\$24.80
QTP 2x32T8 RSN	FB032T8/800XP	2900	0.880	5,104	90%	62	82	\$24.80
QTP 2x32T8 RSN	FB032T8/700	2750	0.880	4,840	85%	62	78	\$24.80
QTP 2x32T8 RSL	FB032T8/800XP	2900	0.770	4,466	78%	55	81	\$22.00
QTP 2x32T8 RSL	FB032T8/700	2750	0.770	4,235	74%	55	77	\$22.00
QTP 2x32T8 UNV PSX	FB032T8/800XP	2900	0.740	4,292	75%	49	88	\$19.60
QTP 2x32T8 UNV PSX	FB032T8/700	2750	0.740	4,070	71%	49	83	\$19.60
STD ELECTRONIC IS	FT40DL/800	3150	0.880	5,544	97%	70	79	\$28.00
QT 2x40 DL	FT40DL/800	3150	0.960	6,045	106%	75	81	\$30.00
STD ELECTRONIC RS	FT50BX/800	4000	0.970	7,760	136%	106	73	\$42.40
QT 2x54 PHO	FT55DL/800	4800	0.980	9,400	165%	120	78	\$48.00
QT 2x32 PLUS	FB031T8/800XP	2775	1.200	6,660	117%	76	88	\$30.40
MAGNETIC	F96T12CW	6100	0.930	11,346	100%	160	71	\$64.00
MAGNETIC	F96T12CW/ES	5300	0.880	9,328	82%	125	75	\$50.00
MAGNETIC	F96T12D41	6420	0.930	11,941	105%	160	75	\$64.00
MAGNETIC	F96T12D41/ES	5600	0.880	9,856	87%	125	79	\$50.00
QT 2x96 IS	F96T12CW	6100	0.880	10,736	95%	135	80	\$54.00
QT 2x96 IS	F96T12CW/ES	5300	0.880	9,328	82%	110	85	\$44.00
QT 2x96 IS	F96T12D41	6420	0.880	11,299	100%	135	84	\$54.00
QT 2x96 IS	F96T12D41/ES	5600	0.880	9,856	87%	110	90	\$44.00
QT 2x59 IS	F096T8/800XP	6200	0.880	11,090	98%	110	101	\$44.00
QT 2x59 IS	F096T8/700	5700	0.880	10,032	88%	110	91	\$44.00
MAGNETIC	F96T12CW/HO	8800	0.950	16,720	147%	240	70	\$96.00
MAGNETIC	F96T12CW/HO/ES	8000	0.920	14,720	130%	210	70	\$84.00
MAGNETIC	F96T12D41/HO	9050	0.950	17,195	152%	240	72	\$96.00
MAGNETIC	F96T12D41/HO/ES	8350	0.920	15,364	135%	210	73	\$84.00
QT 2x96 HO	F96T12CW/HO	8800	0.880	15,488	137%	210	74	\$84.00
QT 2x96 HO	F96T12CW/HO/ES	8000	0.880	14,080	124%	180	78	\$72.00
QT 2x96 HO	F96T12D41/HO	9050	0.880	15,928	140%	210	76	\$84.00
QT 2x96 HO	F96T12D41/HO/ES	8350	0.880	14,696	130%	180	82	\$72.00
ELECTRONIC T8 HO	F96T8HO/800	8200	0.880	14,432	127%	160	90	\$64.00
ELECTRONIC T8 HO	F96T8HO/700	7900	0.880	13,904	123%	160	87	\$64.00
QT 2x59 PLUS	F096T8/800XP	6200	1.190	15,000	132%	151	99	\$60.40
QT 2x59 PLUS	F096T8/700	5700	1.190	13,566	120%	151	90	\$60.40

### CURVALUME® Lamps (2 lamps per system)

*NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of \$.10/kWh.*

### 8-Foot Lamps (2 lamps per system)

*NOTE: Annual energy costs based on assumption of 4000 operating hours per year with energy cost of \$.10/kWh.*

$$\text{eg. } \frac{\text{Input Watts} \times \text{Operating Hours per year} \times \text{\$/kWh}}{1000} = \text{Annual Energy Cost} \quad \frac{59W \times 4,000 \text{ hrs} \times \$0.10 \text{ kWh}}{1000} = \$23.60$$

# System Performance Guide

## QUICKLENGTH

NAED	Description	Formerly	Black		White		Red		Blue		Yellow		Brown		Blue/Whit		Green		Purple		Grey	
			length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit
49911	QT 1X32/120 IS-SC		24"	L	24"	L	36"	L	30"	R												
49912	QT 1X32/277 IS-SC		24"	L	24"	L	36"	L	30"	R												
49913	QT 2X32/120 IS-SC		24"	L	24"	L	36"	L	30"(x2)	R												
49914	QT 2X32/277 IS-SC		24"	L	24"	L	36"	L	30"(x2)	R												
49515	QT 3X32/120 IS		24"	L	24"	L	36"	L	30"(x3)	R												
49516	QT 3X32/277 IS		24"	L	24"	L	36"	L	30"(x3)	R												
49517	QT 4X32/120 IS		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49518	QT 4X32/277 IS		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49915	QT 3X32T8/120 ISN-SC		24"	L	24"	L	36"	L	30"(x3)	R												
49916	QT 3X32T8/277 ISN-SC		24"	L	24"	L	36"	L	30"(x3)	R												
49917	QT 4X32T8/120 ISN-SC		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49918	QT 4X32T8/277 ISN-SC		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49240	QT 2X32/347 IS-SC		24"	L	24"	L	36"	L	30"(x2)	R												
49593	QT 3X32/347 IS		24"	L	24"	L	36"	L	30"(x3)	R							12"	L				
49594	QT 4X32/347 IS		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L					12"	L				
49523	QT 2X32/120 PLUS		24"	L	24"	L	36"	L	30"(x2)	R												
49524	QT 2X32/277 PLUS		24"	L	24"	L	36"	L	30"(x2)	R												
49525	QT 3X32/120 PLUS		24"	L	24"	L	36"	L	30"(x3)	R												
49526	QT 3X32/277 PLUS		24"	L	24"	L	36"	L	30"(x3)	R												
49226	QT 2X32/347 PLUS		24"	L	24"	L	36"	L	30"(x2)	R							12"	L				
49533	QT 2X32/120 LP		24"	L	24"	L	36"	L	30"(x2)	R												
49534	QT 2X32/277 LP		24"	L	24"	L	36"	L	30"(x2)	R												
49535	QT 3X32/120 LP		24"	L	24"	L	36"	L	30"(x3)	R												
49536	QT 3X32/277 LP		24"	L	24"	L	36"	L	30"(x3)	R												
49537	QT 4X32/120 LP		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49538	QT 4X32/277 LP		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49241	QT 2X32/347 LP-SC		24"	L	24"	L	36"	L	30"(x2)	R												
49225	QT 4X32/347 LP		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L					12"	L				
49941	QTP 1x32T8/UNV ISN-SC		24"	L	24"	L	36"	L	30"	R												
49943	QTP 2x32T8/UNV ISN-SC		24"	L	24"	L	36"	L	30"(x2)	R												
49945	QTP 3x32T8/UNV ISN-SC		24"	L	24"	L	36"	L	30"(x3)	R												
49947	QTP 4x32T8/UNV ISN-SC		24"	L	24"	L	30"(x2)	R	30"(x2)	R	40"(x2)	L										
49581	QT 2x59/120 IS		24"	L	24"	L	72"	L	47"(x2)	R												
49582	QT 2x59/277 IS		24"	L	24"	L	72"	L	47"(x2)	R												
49217	QT 2x59/347 IS		24"	L	24"	L	48"	L	56"(x2)	R							14"	L				
49583	QT 2x59/120 PLUS		24"	L	24"	L	65"	R	58"(x2)	R												
49584	QT 2x59/277 PLUS		24"	L	24"	L	65"	R	58"(x2)	R												
49881	QT 2x96/120 IS		22"	L	22"	L	70"	L	46"(x2)	R												
49882	QT 2x96/277 IS		22"	L	22"	L	70"	L	46"(x2)	R												
49883	QT 2x96/120 HO		22"	L	22"	L	45"(x2)	R	45"(x2)	R	67"(x2)	L										
49884	QT 2x96/277 HO		22"	L	22"	L	45"(x2)	R	45"(x2)	R	67"(x2)	L										
49641	QT 1X40/120 DL		24"	L	24"	L	36"	L	32"	R												
49642	QT 1X40/277 DL		24"	L	24"	L	36"	L	32"	R												
49643	QT 2X40/120 DL		24"	L	24"	L	36"	L	32"(x2)	R												
49644	QT 2X40/277 DL		24"	L	24"	L	36"	L	32"(x2)	R												
49645	QT 3X40/120 DL		24"	L	24"	L	36"	L	32"(x3)	R												
49646	QT 3X40/277 DL		24"	L	24"	L	36"	L	32"(x3)	R												
50080	QT 2x32T8/120 ISH-A	M2IHT8GPA120	24"	L	24"	L	42"	R	42"(x2)	R												
50090	QT 2x32T8/277 ISH-A	M2IHT8GPA277	24"	L	24"	L	42"	R	42"(x2)	R												

# QUICKLENGTH

NAED	Description	Formerly	Black		White		Red		Blue		Yellow		Brown		Blue/Wht		Green		Purple		Grey	
			length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit
51200	QT 1x32T8/120 ISN-D	M1INT8GPD120	24"	L	24"	L	42"	R	42"	R												
50010	QT 1x32T8/277 ISN-D	M1INT8GPD277	24"	L	24"	L	42"	R	42"	R												
50020	QT 2x32T8/120 ISN-D	M2INT8GPD120	24"	L	24"	L	42"	R	42"(x2)	R												
50030	QT 2x32T8/277 ISN-D	M2INT8GPD277	24"	L	24"	L	42"	R	42"(x2)	R												
50040	QT 3x32T8/120 ISN-A	M3INT8GPD120	24"	L	24"	L	42"	R	36"(x3)	R												
50050	QT 3x32T8/277 ISN-A	M3INT8GPD277	24"	L	24"	L	42"	R	36"(x3)	R												
50060	QT 4x32T8/120 ISN-A	M4INT8GPA120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50070	QT 4x32T8/277 ISN-A	M4INT8GPA277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50930	QT 1x32T8/347 ISN-D	M1INT8GPD347	24"	L	24"	L	42"	R	42"	R												
50940	QT 2x32T8/347 ISN-D	M2INT8GPD347	24"	L	24"	L	42"	R	42"(x2)	R												
50950	QT 3x32T8/347 ISN-A	M3INT8GPA347	24"	L	24"	L	42"	R	36"(x3)	R												
50960	QT 4x32T8/347 ISN-A	M4INT8GPA347	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50100	QT 2x32T8/120 ISL-D	M2ILT8GPD120	24"	L	24"	L	42"	R	42"(x2)	R												
50110	QT 2x32T8/277 ISL-D	M2ILT8GPD277	24"	L	24"	L	42"	R	42"(x2)	R												
50120	QT 3x32T8/120 ISL-A	M3ILT8GPA120	24"	L	24"	L	42"	R	36"(x3)	R												
50130	QT 3x32T8/277 ISL-A	M3ILT8GPA277	24"	L	24"	L	42"	R	36"(x3)	R												
50140	QT 4x32T8/120 ISL-A	M4ILT8GPA120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50150	QT 4x32T8/277 ISL-A	M4ILT8GPA277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
51180	QT 2x32T8/347 ISL-D	M2ILT8GPD347	24"	L	24"	L	42"	R	42"(x2)	R												
50620	QTP 1x32T8/120 ISN-D	M1INT8120	24"	L	24"	L	42"	R	42"	R												
50630	QTP 1x32T8/277 ISN-D	M1INT8277	24"	L	24"	L	42"	R	42"	R												
50640	QTP 2x32T8/120 ISN-D	M2INT8D120	24"	L	24"	L	42"	R	42"(x2)	R												
50650	QTP 2x32T8/277 ISN-D	M2INT8D277	24"	L	24"	L	42"	R	42"(x2)	R												
50660	QTP 3x32T8/120 ISN-A	M3INT8120	24"	L	24"	L	42"	R	36"(x3)	R												
50670	QTP 3x32T8/277 ISN-A	M3INT8277	24"	L	24"	L	42"	R	36"(x3)	R												
50680	QTP 4x32T8/120 ISN-A	M4INT8120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50690	QTP 4x32T8/277 ISN-A	M4INT8277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50980	QTP 1x32T8/347 ISN-D	M1INT8347	24"	L	24"	L	42"	R	42"	R												
50990	QTP 2x32T8/347 ISN-D	M2INT8D347	24"	L	24"	L	42"	R	42"(x2)	R												
51110	QTP 1x32T8/120 ISN-J-G4	M1INT8J120	24"	L	24"	L	28"	R	43"	R												
51120	QTP 1x32T8/277 ISN-J-G4	M1INT8J277	24"	L	24"	L	28"	R	43"	R												
51130	QTP 2x32T8/120 ISN-J-G4	M2INT8J120	24"	L	24"	L	28"	R	43"(x2)	R												
51140	QTP 2x32T8/277 ISN-J-G4	M2INT8J277	24"	L	24"	L	28"	R	43"(x2)	R												
50790	QTP 1x32T8/120 PSN-F	M1PNT8F120	24"	L	24"	L	36"(x2)	R	36"(x2)	R												
50800	QTP 1x32T8/277 PSN-F	M1PNT8F277	24"	L	24"	L	36"(x2)	R	36"(x2)	R												
50810	QTP 2x32T8/120 PSN-F	M2PNT8F120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50820	QTP 2x32T8/277 PSN-F	M2PNT8F277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50830	QTP 3x32T8/120 PSN-SC		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	L				36"(x2)	R					
50840	QTP 3x32T8/277 PSN-SC		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	L				36"(x2)	R					
50850	QTP 4x32T8/120 PSN-SC		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	L	42"(x2)	L		36"(x2)	R					
50860	QTP 4x32T8/277 PSN-SC		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	L	42"(x2)	L		36"(x2)	R					
50380	QTP 1x32T8/120 RSN-D	M1RNT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R												
50390	QTP 1x32T8/277 RSN-D	M1RNT81LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R												
50400	QTP 2x32T8/120 RSN-D	M2RNT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50410	QTP 2x32T8/277 RSN-D	M2RNT81LL230	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R										
50420	QTP 3x32T8/120 RSN-A	M3RNT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R				36"(x2)	R					
50430	QTP 3x32T8/277 RSN-A	M3RNT81LL230	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R				36"(x2)	R					
50440	QTP 4x32T8/120 RSN-B	M4RNT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R	42"(x2)	R		36"(x2)	R					
50450	QTP 4x32T8/277 RSN-A	M4RNT81LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R	42"(x2)	R		36"(x2)	R					

# System Performance Guide

## QUICKLENGTH

NAED	Description	Formerly	Black		White		Red		Blue		Yellow		Brown		Blue/Wht		Green		Purple		Grey		
			length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length	exit	length
50480	QTP 1x32T8/120 RSL-A	M1RLT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50490	QTP 1x32T8/277 RSL-A	M1RLT81LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50500	QTP 2x32T8/120 RSL-A	M2RLT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50510	QTP 2x32T8/277 RSL-A	M2RLT81LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50520	QTP 3x32T8/120 RSL-B	M3RLT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R							
50530	QTP 3x32T8/277 RSL-A	M3RLT81LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R							
50540	QTP 4x32T8/120 RSL-B	M4RLT81LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R	42"(x2)	R	36"(x2)	R							
50550	QTP 4x32T8/277 RSL-A	M4RLT81LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R	42"(x2)	R	36"(x2)	R							
51210	QTP 1x32T8/UNV PSX-F		24"	L	24"	L	36"(x2)	R	36"(x2)	R													
51220	QTP 2x32T8/UNV PSX-F		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
51230	QTP 3x32T8/UNV PSX-SC		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	L			36"(x2)	R							
51240	QTP 4x32T8/UNV PSX-SC		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	L	42"(x2)	L	36"(x2)	R							
50700	QTP 1x32T8/120 DIM5-B	M1PDT85CB120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R								36"	R	36"	R
50710	QTP 1x32T8/277 DIM5-B	M1PDT85CB277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R								36"	R	36"	R
50720	QTP 2x32T8/120 DIM5-B	M2PDT85CB120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R								36"	R	36"	R
50730	QTP 2x32T8/277 DIM5-B	M2PDT85CB277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R								36"	R	36"	R
50750	QTP 3x32T8/120 DIM5-Q		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R				24"	L	24"	L
50760	QTP 3x32T8/277 DIM5-Q		24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R				24"	L	24"	L
50770	QTP 4x32T8/120 DIM10-Q		24"	L	24"	L	42"(x2)	R	42"(x2)	R	36"(x2)	R	36"(x2)	R	62"(x2)	R				24"	L	24"	L
50780	QTP 4x32T8/277 DIM10-Q	M4PDT810CQ277	24"	L	24"	L	42"(x2)	R	42"(x2)	R	36"(x2)	R	36"(x2)	R	62"(x2)	R				24"	L	24"	L
50240	QT 2x59T8/120 ISN-A	M2INT88GPA120	24"	L	24"	L	68"	R	60"(x2)	R													
50250	QT 2x59T8/277 ISN-A	M2INT88GPA277	24"	L	24"	L	68"	R	60"(x2)	R													
50280	QTP 2x59T8/120 ISN-A	M2INT88FTA120	24"	L	24"	L	68"	R	60"(x2)	R													
50290	QTP 2x59T8/277 ISN-A	M2INT88FTA277	24"	L	24"	L	68"	R	60"(x2)	R													
50300	QTP 1x86T8HO/120 RSN-A	M1RNT8/HOA120	24"	L	24"	L	72"(x2)	R	72"(x2)	R													
50310	QTP 1x86T8HO/277 RSN-A	M1RNT8/HOA277	24"	L	24"	L	72"(x2)	R	72"(x2)	R													
50260	QT 2x60T12/120 ISN-A	M2INT128GPA120	24"	L	24"	L	42"	R	42"(x2)	R													
50270	QT 2x60T12/277 ISN-A	M2INT128GPA277	24"	L	24"	L	42"	R	42"(x2)	R													
50560	QTP 1x40T12/120 RSN-B	M1RNT121LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50570	QTP 1x40T12/277 RSN-B	M1RNT121LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50580	QTP 2x40T12/120 RSN-B	M2RNT121LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50590	QTP 2x40T12/277 RSN-B	M2RNT121LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50600	QTP 3x40T12/120 RSN-B	M3RNT121LL120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R							
50610	QTP 3x40T12/277 RSN-B	M3RNT121LL277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R							
50890	QTP 1x28T5/120 PSN-F	M1PNT5F120	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50900	QTP 1x28T5/277 PSN-F	M1PNT5F277	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50910	QTP 2x28T5/120 PSN-F	M2PNT5F120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50920	QTP 2x28T5/277 PSN-F	M2PNT5F277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50320	QTP 1x40TT5/120 PSN-F	M1PNTT5/40F120	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50330	QTP 1x40TT5/277 PSN-F	M1PNTT5/40F277	24"	L	24"	L	36"(x2)	R	36"(x2)	R													
50340	QTP 2x40TT5/120 PSN-F	M2PNTT5/40F120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50350	QTP 2x40TT5/277 PSN-F	M2PNTT5/40F277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R											
50360	QTP 3x40TT5/120 PSN-B	M3PNTT5/40B120	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R							
50370	QTP 3x40TT5/277 PSN-B	M3PNTT5/40B277	24"	L	24"	L	36"(x2)	R	36"(x2)	R	42"(x2)	R			36"(x2)	R							

Note: eg. 30"(x2) means two 30" wires  
30"(x3) means three 30" wires

L = wire(s) exit the ballast from the left side (black and white/line input side)  
R = wire(s) exit the ballast from the right side

Lead Lengths (+2"), (-1")  
Specifications subject to change without notice.

**Section 16500.  
Electronic Ballast**

Ballast shall be a \_\_\_\_\_ fluorescent SYLVANIA QUICKTRONIC® \_\_\_\_\_ electronic ballast with a \_\_\_\_\_ ballast factor and be covered by a lamp and ballast system warranty:

1. Ballasts for lamps of T5, T4 or T2 diameter shall contain dynamic end-of-lamp-life sensing circuitry.
2. See individual product specifications for information required to fill in this form.
3. Comments: \_\_\_\_\_

**Section I  
Performance Requirements**

- 1.0 Ballast shall operate lamps at a frequency above 20KHz (or > \_\_\_\_\_KHz) and lamps shall have no detectable flicker.
- 1.1 Ballast shall operate from 60 or 50 Hz input source of +/- 10% nominal ballast line voltage.
- 1.2 Ballast nominal line voltage \_\_\_\_\_ 120V, \_\_\_\_\_ 277V, \_\_\_\_\_ Universal Voltage (120-277V), \_\_\_\_\_ 347V.
- 1.3 Ballast shall have input power factor above \_\_\_\_\_ >97% (\_\_\_\_\_ >98% for Professional Series).
- 1.4 Ballast shall have Total Harmonic Distortion of \_\_\_\_\_ <20% (\_\_\_\_\_ <10% for Professional Series).
- 1.5 Ballast shall provide lamp starting conditions and operating parameters consistent with lamp manufacturers recommendations.
- 1.6 Ballast shall be \_\_\_\_\_ instant start, \_\_\_\_\_ rapid start, or \_\_\_\_\_ programmed rapid start.
- 1.7 Instant start models shall operate lamps in parallel, such that if one lamp fails, others will remain lit. Rapid start and programmed start models operate lamps in series.
- 1.8 Ballast shall provide for a minimum lamp starting temp. of 0°F for instant start and programmed start models or \_\_\_\_\_°F for other models (see model specifications for min. starting temp.).
- 1.9 Ballast shall have remote / tandem wiring capability of up to \_\_\_\_\_ feet maximum depending on installation conditions (see model specifications for remote mounting lengths).
- 1.10 Ballasts for lamp types of T5, T4 and T2 diameter shall have dynamic end-of-lamp-life sensing helping protect against overheated bases and sockets.
- 1.11 Ballast shall have a maximum enclosure temperature rating of 70°C or \_\_\_\_\_°C for other models (see model specifications for maximum case temp.).
- 1.12 Ballast shall have internal electrical protection to prevent catastrophic failure.

**Section II  
Regulatory Requirements**

- 2.0 The electronic ballast shall be Underwriters Laboratories (UL) listed, Class P, Type 1. CSA or CUL certified (where applicable).
- 2.1 Ballast shall meet FCC standard for EMI/RFI (FCC 47CFR Part 18 Non-consumer), ensuring suitability for both commercial and industrial installations.
- 2.2 Ballast shall comply with applicable ANSI/IEEE standards/guides for harmonic distortion and line voltage transient protection.
- 2.3 Ballast shall have audible noise rating of Class A.
- 2.4 Leaded and connector style ballasts shall be color-coded to ANSI standard C82.11 (where applicable).

**Section III  
Other**

- 3.0 Lamp and ballast shall be covered by the OSRAM SYLVANIA QUICK 60+® warranty. Covered ballasts shall carry up to a \_\_\_\_\_ warranty and include a nominal replacement labor allowance. Covered lamps shall carry up to a \_\_\_\_\_ warranty and will be manufactured by the same company as the ballast. Refer to OSRAM SYLVANIA warranty for additional details to fill in blanks.
- 3.1 Ballast size and mounting configuration shall be compatible with existing electromagnetic ballast for same application (see individual product specifications for case dimensions and mounting).
- 3.2 Ballast shall not contain PCBs (Polychlorinated Biphenyls).

# QUICKANSWERS

## General Information

### GENERAL INFORMATION

**Ballast Types:** There are three types of lighting ballasts.

- 1) Magnetic: an inefficient device that uses a core and coil assembly transformer to perform the minimum functions required to start and operate the lamp.
- 2) Hybrid or "low frequency electronic": essentially a magnetic ballast with a few electronic components that switch off voltage to the lamp coil once the lamp has started. A minimal increase in efficiency is obtained via more expensive magnetic core material and the absence of power to the lamp coils during operation.
- 3) High frequency electronic: a ballast that operates lamps at frequencies above 20,000 Hz. Maximum efficiency is obtained through the use of electronic circuitry and optimum lamp operating characteristics.

**Ballast Basics:** Ballasts have two primary functions:

- 1) start the lamp and
- 2) control operation of the lamp once it has started.

High frequency electronic ballasts operate lamps more efficiently (30-40% at equivalent light output) and eliminate the hum and visible flicker normally associated with standard magnetic ballasts. Electronic ballasts also typically have better power quality than magnetic ballasts (higher power factor and lower THD).

**Where's the Watts?:** OSRAM SYLVANIA's two-lamp FO32T8 electronic instant start ballast has an input of 59 watts. This figure is comprised of lamp wattage plus ballast losses (the power that is dissipated as heat instead of being converted to light). Each FO32T8 lamp is rated for 100% light output at 32 watts low frequency rapid start, but only 28 watts when operated on high frequency electronic instant start ballasts (due to the fact that lamps operate more efficiently at high frequency). Therefore, each of the two lamps operates at  $28 \times 0.90$  ballast factor = 26 watts per lamp. The other seven watts in this system are the ballast losses.

**"Squiggle":** The "sine wave" graphic logo of the Electronic Control Systems division of OSRAM SYLVANIA. Signifies the transition from old technology to the high frequency, high technology electronic ballasts of the future.

**American National Standards Institute (ANSI):** An organization that develops voluntary product performance standards for several industries. ANSI C82.11 applies to electronic ballasts.

**Performance Certification:** The OSRAM SYLVANIA Test and Measurement Laboratory holds accreditation for testing of Energy Efficient Lighting Products under the National Voluntary Laboratory Accreditation Program (NVLAP). This is the same organization that certifies other various test facilities and programs such as ETL, CBM, etc. This assures that our measurements meet strict guidelines for precision and accuracy.

**Quality Assurance:** All OSRAM SYLVANIA production facilities are ISO 9002 certified, and all production is subject to incremental quality control, assuring the highest quality and reliability. Customer feedback and field reliability data have shown exceptional performance of OSRAM SYLVANIA electronic ballasts.

#### MTBF - Mean Time Between Failures:

A calculation of ballast life based on thermal conditions, component values, and circuit characteristics used to develop relative predictions of ballast life. OSRAM SYLVANIA uses a methodology that typically provides a 1:10 actual life prediction based on MTBF calculations.

**Safety:** Ballasts should be installed and operated in compliance with the National Electric Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations. As it is possible to come in contact with potentially hazardous voltages, only qualified personnel should perform ballast installation. All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off.

**Grounding:** The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.

**Fusing:** All OSRAM SYLVANIA QUICKTRONIC ballasts contain inherent electrical protection. Although there is no need to externally fuse the ballast, should code or regulation require one, 3 amp slow blow fuses are recommended.

**Fluorescent Lamp:** An electric discharge device in which ultraviolet energy excites the lamp's phosphor coating and transforms that energy into visible light. Diameter is measured in eighths of an inch (T8 lamp equals one inch diameter).



**Socket Wiring/Lamp Connections:** Proper connection to good quality sockets, wired according to the diagram shown on the product label is essential. As some applications may not require the use of all the ballast output leads, unconnected leads should be capped individually and insulated to at least 600 volts.

## BALLAST OPERATING CHARACTERISTICS

**PROStart™ (PS):** A programmed method of starting fluorescent lamps where cathode heat is applied prior to lamp ignition, then removed or reduced once the lamp has ignited. PROStart ballasts maximize the number of lamp starting cycles while maintaining energy efficiency. This is the preferred mode of lamp starting for applications with occupancy sensors and several on/off cycles per day. Additionally, the lamps will strike reliably in cold conditions down to 0° F.

**Rapid Start (RS):** Rapid start ballasts apply a low filament voltage to preheat the cathodes. Simultaneously, a starting voltage (lower than that used in instant start) is also applied to strike the arc. When the cathodes are hot enough, the lamp will strike. The filament voltage continues to be applied throughout the operation of the lamp. Rapid start ballasts appear to have a slight turn on delay compared to instant start. They will typically not be able to start lamps reliably under 50° F.

**Instant Start (IS):** Instant start ballasts apply high voltage across the lamp with no preheating of the cathode. This is the most energy efficient starting method for fluorescent lamp ballasting. IS ballasts use 1.5 to 2 watts less per lamp than rapid start ballast. Other IS ballast benefits typically include parallel lamp circuitry, longer remote wiring distance, easier installation due to less complicated wiring, and capability to start lamps at 0° (versus 50° F for rapid start).

**Instant Start (IS) vs. Rapid Start (RS):** Instant start (high voltage is applied across the lamp with no preheating of the cathode) is the most energy efficient starting method for fluorescent lamp ballasting. IS ballasts use 1.5 to 2 watts less per lamp than rapid start ballasts (low voltage is applied to the cathodes prior to lamp ignition and is maintained throughout operation). Other IS ballast benefits typically include parallel lamp circuitry, longer remote wiring distance, easier installation due to less complicated wiring, and capability to start lamps at 0°F (versus 50°F for rapid start).

**Glow to Arc Transition:** In order to achieve full rated lamp life, a ballast should start a lamp

so that the time from when the lamp begins to glow to the time the lamp arc strikes should be short as possible. OSRAM SYLVANIA instant start ballasts typically accomplish this task within 50 msec.

**Parallel vs. Series:** Wiring configurations for ballasts. Ballasts with parallel lamp circuitry have the benefit of companion lamps remaining lit, even if one of the lamps operated by the ballast should fail. Systems with series lamp wiring (magnetic ballasts and many rapid start and programmed rapid start electronic types) result in all lamps operated on the ballast going out if one should fail.

**Lamp Current Crest Factor (LCCF):** The ratio of peak lamp current to the RMS (average) lamp current. Lamp manufacturers require a LCCF of less than 1.70 in order to achieve full lamp life. Values less than 1.70 do not achieve higher than rated lamp life.

**Lamp Flicker:** High frequency electronic ballasts provide a minimal level of lamp flicker. Lamp flicker from magnetic ballasts can cause eye fatigue for some people.

**Power Factor:** A measure of the effectiveness with which an electrical device converts volt-amperes to watts; devices with power factors (>0.90) are "high power factor" devices.

**Total Harmonic Distortion (THD):** A measure of the distortion of an electrical wave form. Excessive THD (defined by ANSI as greater than 32%) may cause adverse effects to the electrical system. <20% THD ballasts are fine for most applications. However, in buildings with neutral problems caused by high THD loads such as computers, printers, DC supplies, etc., the <10% THD products can help reduce the overall % of Total Harmonic Distortion.

**K-Factor:** A measurement that quantifies the effect of non-linear equipment, such as lighting ballasts, on an electrical system. Lighting systems should be designed so that the transformer rating is sufficient for the ballasts used (typically K-Factor <4). All OSRAM SYLVANIA ballasts meet this specification.

**EMI/RFI:** Electronic Ballasts contain circuits that limit electrical noise conducted onto the power line or radiated through the air, otherwise referred to as EMI/RFI. OSRAM SYLVANIA ballasts comply with FCC 47 CFR Part 18, non-consumer limits for commercial applications. Ballasts for residential applications must meet consumer limits. OSRAM SYLVANIA has a complete line of magnetic ballasts for residential use.

## Ballast Operating Characteristics

## QUICKANSWERS

## Ballast Operating Characteristics

**Transient Protection:** OSRAM SYLVANIA ballasts meet ANSI 62.41 Category A. This helps ensure immunity to electrical disturbances such as power line transients, and temporary line voltage dropouts, surges and sags.

**Ballast Losses:** Power consumed by a ballast that dissipates as heat instead of being converted into light. Electronic ballasts operate more efficiently than magnetic or hybrid ballasts. A typical ballast loss for a standard two lamp magnetic ballast is 20 watts, while an electronic equivalent would be only 7 watts.

**Ballast Factor (BF):** Relative light output as compared to a reference ballast (i.e. BF of 0.90 would yield 90% of a lamp's rated lumens). OSRAM SYLVANIA offers T8 systems in three ranges of light output:  
Normal: (0.85-1.0) BF;  
Low Power (LP): (0.74-0.80) BF; and  
High Light Output (PLUS): (1.15-1.20) BF.

**Ballast Efficacy Factor (BEF):** Relative light output (ballast factor) divided by input power (watts). Used to measure the level of efficiency of similar ballast models. For example, the OSRAM SYLVANIA QT2X32IS which has ballast factor of 0.90 and input watts of 59 (BEF = 1.53), is more efficient than competitors' electronic ballasts with ballast factor of 0.875 and input watts of 62 (BEF = 1.41).

**Maximum Case Temperature:** All OSRAM SYLVANIA electronic ballasts have a maximum allowable case temperature of 70°C. Applications in which the case temperature exceeds this maximum void all warranties.

**Potting Compound:** Some OSRAM SYLVANIA ballasts are encapsulated with potting compound. This ensures thermal as well as structural integrity. Ballasts without potting compound may lower maximum allowable case temperature and if not properly thermally designed may shorten ballast life.

**Ballast Life:** OSRAM SYLVANIA ballasts are designed to have a life expectancy of 60,000 hours. To maximize life, ambient temperature should be kept as low as possible. It is also important to maintain effective dissipation of heat using the lighting fixture as a heatsink for the ballast enclosure.

**Enclosure Size:** OSRAM SYLVANIA ballasts typically have an enclosure size the same as the magnetic type in which it is intended to retrofit. In an effort to aid fixture designers in their ability to create more efficient fixtures, the industry trend is towards narrower and shallower enclosures.

**High Voltage Integrated Circuit (HVIC):** Proprietary microprocessor control that is featured in selected QUICKTRONIC® ballasts. Replaces over one-third of the components used in conventional ballasts while providing enhanced features such as higher efficiency, improved lamp starting, end-of-lamp-life sensing, circuitry to limit in-rush current, and constant light output over a wide range of input voltages.

**Audible Noise (Sound):** All fluorescent lamp ballasts produce some noise. OSRAM SYLVANIA brand ballasts are sound rated A (up to 75% quieter than magnetic types) and are acceptable for most applications. Care should be taken when mounting the ballast to reduce vibration.

**Polychlorinated Biphenyls (PCBs):** This material, formerly used in ballast capacitors, is now considered hazardous and disposal is regulated. A ballast should be assumed to contain PCBs unless stated otherwise on the ballast label (contact manufacturer for confirmation). OSRAM SYLVANIA ballasts do not contain PCBs.

## SYSTEM CONSIDERATIONS

**SYSTEM SOLUTION:** Optimum choice when planning the lighting system for a lighting retrofit or new construction. In the case of OSRAM SYLVANIA, the same manufacturer supplies both lamp and ballast, assuring combinations that have been specifically designed to provide optimal system performance. OSRAM SYLVANIA is the only company in the world that makes its own ballasts and lamps, and has its own lighting services division.

**QUICKSENSE®:** Patented technology that utilizes "dynamic power sensing" to detect end-of-life for lamps of T5 and less diameter. Dynamic sensing minimizes incidence of false shutdowns and ensures maximum system safety even in low and high line input voltage conditions. If gone unchecked, the heat generated by small diameter lamps at end of lamp life can melt lamp sockets and cause the lamp glass wall to crack and break.

**QUICK 60+®:** The first and most comprehensive system warranty in the industry. QUICK 60+ offers the end user coverage for both lamp and ballast. This eliminates the common occurrence of "finger pointing" between lamp and ballast manufacturers over whose product failed and which party is responsible. One phone call by the end user to OSRAM SYLVANIA provides problem resolution and customer satisfaction.

## System Considerations

**FIXTURESIDE ASSISTANCE™:** There are three options for the end user to choose from to service the QUICK 60+ system warranty. OSRAM SYLVANIA is the first lighting company to offer "FIXTURESIDE ASSISTANCE™", an option where OSRAM SYLVANIA will send a service technician to the installation and perform the necessary replacements. Other options include coordinating a contractor of the end user's choice to perform the required service, or reimbursing the end user for labor incurred during service.

**Light Level:** Light output from a system is a function of rated lamp lumens, ballast factor, fixture efficiency, and ambient temperature. All of these factors must be considered when designing or retrofitting a lighting system.

**Fixture Watts:** The input wattage shown in the ballast specifications is measured as per ANSI specification (ballast and lamps are measured while placed on benchtop at room temperature). Actual operation in an enclosed fixture, due to the ambient heating of the lamps, is approximately 1.5 watts less per lamp than the ANSI input wattage specification.

**SYSTEM LP:** Designed to operate OCTRON® T8 lamps at lower power levels, when reduced light output is acceptable. SYSTEM 32 LP is ideally suited to retrofit 34W T12 magnetic ballast systems because it provides equivalent light output at energy savings of 30%.

**SYSTEM PLUS:** For applications where maximum light output is desired (i.e. retail, manufacturing, display, etc.), PLUS systems are ideal. A ballast factor of 1.20 offers 30% more light output than standard T8 and T12 systems, while maintaining full rated lamp life. Applications with eight-foot lamps that require higher light levels can use 59PLUS and the standard FO96 T8 lamp, simplifying inventory and minimizing cost. All PLUS systems operate standard OCTRON T8 lamps, achieve full rated lamp life, and are covered by the QUICK 60+ comprehensive system warranty.

**Low Temperature Starting:** OSRAM SYLVANIA QUICKTRONIC instant start and programmed start electronic ballasts have the capability to start fluorescent lamps at temperatures down to 0°F providing the following conditions are met:

1. The ballast is operated at rated nominal line voltage.
2. Ballast cannot be tandem/remote wired for low temperature starting applications.

Please note, starting time may increase at 0°F ambient temperatures. Enclosed fixtures are recommended as fluorescent lamps have

reduced light output at cooler ambient temperatures. (See specifications for each model's starting temperature rating.)

**Lamp Seasoning:**

**1. Low Temperature Applications**

For optimal performance, fluorescent lamps may require seasoning for up to 100 hours prior to low temperature starting.

**2. Dimming Applications**

For optimal dimming performance, fluorescent lamps may require seasoning for up to 100 hours before dimming to lowest light levels. Please consult the lamp manufacturer to obtain specific requirements for low temperature or dimming applications.

**In-Rush Current:** When a lighting system is energized, a momentary surge of current occurs called "in-rush". This current must be limited so that it does not harm auxiliary lighting controls. Most electronic ballasts rated at <20% THD contain a passive front end inductor that typically results in lower levels of in-rush. Ballasts that have <10% THD typically use active power factor correction and, unless limiting circuitry is included, can have 40 amps or more of in-rush current. This may damage mechanical switches and contacts. In-rush current should be considered when designing or retrofitting a lighting system.

**Remote Wiring Capability:** QUICKTRONIC T8 instant start systems can be mounted remotely from the lamp sockets at a distance up to 18 feet. (See ballast specifications for each model.)

**Connectors:** QUICKTRONIC ballasts with push-in/poke-in/wire trap connectors require use of 18 AWG solid copper wire only.

**Infrared Interference:** Some infrared controls may be susceptible to interaction with fluorescent systems. This is due to infrared energy from the lamps. Either increasing the distance between the fluorescent lamp and the infrared receiver, or shielding the infrared receiver from the lamp, can alleviate this interaction.

**Powerline Carriers:** Schools, institutions and some industrial installations utilize powerline carrier control systems (to control time clocks, alarms, etc.) on the same circuit panel as the lighting system. Some electronic ballasts are incompatible with these powerline carriers and inhibit their performance (the electronic circuitry blocks or alters the carrier signal characteristics). OSRAM SYLVANIA offers a full line of compatible T8 electronic ballasts for installations using powerline carrier control systems. (See ballast specifications for each model.)

Advance Description	Magnetek/G.E. (U.L.T.)* Description	Power Lighting Products Description	Howard Industries Description	OSRAM SYLVANIA Description	Page
<b>T8 Instant Start &lt;20%THD, Normal Ballast Factor</b>					
REL-1P32-SC	B132I120RH-A		E1/32IS-120SC	QT 1x32/120 IS-SC	6-7
VEL-1P32-SC	B132I277RH-A		E1/32IS-277SC	QT 1x32/277 IS-SC	6-7
REL-2P32-SC	B232I120RH-A		E2/32IS-120SC	QT 2x32/120 IS-SC	6-7
VEL-2P32-SC	B232I277RH-A		E2/32IS-277SC	QT 2x32/277 IS-SC	6-7
REL-3P32-SC	B332I120RH-A			QT 3x32T8/120 ISN-SC	6-7
VEL-3P32-SC	B332I277RH-A			QT 3x32T8/277 ISN-SC	6-7
REL-4P32-SC	B432I120RH-A			QT 4x32T8/120 ISN-SC	6-7
VEL-4P32-SC	B432I277RH-A			QT 4x32T8/277 ISN-SC	6-7
GEL-2P32-SC				QT 2X32/347 IS-SC	6-7
REL-1P32-RH-TP	B132I120RH	E132PI120G01	E1/32IS-120	QT 1x32/120 IS (disc. use -SC model)	6-7
				QT 1x32T8/120 ISN-D	12
VEL-1P32-RH-TP	B132I277RH	E132PI277G01	E1/32IS-277	QT 1x32/277 IS (disc. use -SC model)	6-7
				QT 1x32T8/277 ISN-D	12
REL-2P32-RH-TP	B232I120RH	E232PI120G01	E2/32IS-120	QT 2x32/120 IS (disc. use -SC model)	6-7
				QT 2x32T8/120 ISN-D	12
VEL-2P32-RH-TP	B232I277RH	E232PI277G01	E2/32IS-277	QT 2x32/277 IS (disc. use -SC model)	6-7
				QT 2x32T8/277 ISN-D	12
REL-3P32-RH-TP	B332I120RH	E332PI120G01	E3/32IS-120	QT 3x32/120 IS	6-7
				QT 3x32T8/120 ISN-A	12
VEL-3P32-RH-TP	B332I277RH	E332PI277G01	E3/32IS-277	QT 3x32/277 IS	6-7
				QT 3x32T8/277 ISN-A	12
REL-4P32-RH-TP	B432I120RH	E432PI120G11	E4/32IS-120	QT 4x32/120 IS	6-7
				QT 4x32T8/120 ISN-A	12
VEL-4P32-RH-TP	B432I277RH	E432PI277G11	E4/32IS-277	QT 4x32/277 IS	6-7
				QT 4x32T8/277 ISN-A	12
GEL-1P32-RH-TP				QT 1x32T8/347 ISN-D	12
GEL-2P32-RH-TP	B232I347RH			QT 2x32/347 IS-SC (QT 2x32/347 IS)	6-7
				QT 2x32T8/347 ISN-D	12
GEL-3P32-RH-TP	B332I347RH			QT 3x32/347 IS	6-7
				QT 3x32T8/347 ISN-A	12
GEL-4P32-RH-TP	B432I347RH			QT 4x32/347 IS	6-7
				QT 4x32T8/347 ISN-A	12
<b>T8 Instant Start &lt;20%THD, High Ballast Factor</b> (High Ballast Factor ballasts may vary greatly in ballast factor between manufacturers/models – please refer to actual specs for details)					
REL-2P32-HL-RH-TP	B232I120RHH	E232PI120H	EH2/32IS-120	QT 2X32/120 PLUS	8-9
				QT 2x32T8/120 ISH-A	8-9
VEL-2P32-HL-RH-TP	B232I277RHH	E232PI277H	EH2/32IS-277	QT 2X32/277 PLUS	8-9
				QT 2x32T8/277 ISH-A	8-9
REL-3P32-HL	B332I120RHH		EH3/32IS-120	QT 3X32/120 PLUS	8-9
VEL-3P32-HL	B332I277RHH		EH3/32IS-277	QT 3X32/277 PLUS	8-9
<b>T8 Instant Start &lt;20%THD, Low Ballast Factor</b>					
REL-2P32-LW-RH-TP	B232I120L	E232PI120L	EL2/32IS-120	QT 2X32/120 LP	10-11
				QT 2x32T8/120 ISL-D	13
VEL-2P32-LW-RH-TP	B232I277L	E232PI277L	EL2/32IS-277	QT 2X32/277 LP	10-11
				QT 2x32T8/277 ISL-D	13
REL-3P32-LW-RH-TP	B332I120L	E332PI120L	EL3/32IS-120	QT 3X32/120 LP	10-11
				QT 3x32T8/120 ISL-A	13
VEL-3P32-LW-RH-TP	B332I277L	E332PI277L	EL3/32IS-277	QT 3X32/277 LP	10-11
				QT 3x32T8/277 ISL-A	13
REL-4P32-LW-RH-TP	B432I120L	E432PI120L	EL4/32IS-120	QT 4X32/120 LP	10-11
				QT 4x32T8/120 ISL-A	13
VEL-4P32-LW-RH-TP	B432I277L	E432PI277L	EL4/32IS-277	QT 4X32/277 LP	10-11
				QT 4x32T8/277 ISL-A	13
GEL-2P32-LW-RH-TP				QT 2X32/347 LP-(SC)	10-11
				QT 2x32T8/347 ISL-D	13
GEL-4P32-LW-RH-TP				QT 4X32/347 LP	10-11

Advance Description	Magnetek/G.E. (U.L.T.)* Description	Power Lighting Products Description	Howard Industries Description	OSRAM SYLVANIA Description	Page
<b>T8 Instant Start &lt;10%THD UNIVERSAL VOLTAGE, Normal Ballast Factor</b>					
ICN-1P32-SC	B132IUNVHP-B			QTP 1x32T8/UNV-SC	14-15
ICN-2P32-SC	B232IUNVHP-B			QTP 2x32T8/UNV-SC	14-15
ICN-3P32-SC	B332IUNVHP-A			QTP 3x32T8/UNV-SC	14-15
ICN-4P32-SC	B432IUNVHP-A			QTP 4x32T8/UNV-SC	14-15
<b>T8 Instant Start &lt;10%THD, Normal Ballast Factor</b>					
RCN-1P32	B132I120HP			QTP 1X32T8/120 ISN-D	16-17
VCN-1P32	B132I277HP			QTP 1X32T8/277 ISN-D	16-17
RCN-2P32	B232I120HP	U232P120S	EP2/32IS-120	QTP 2X32T8/120 ISN-D	16-17
VCN-2P32	B232I277HP	U232PI277S	EP2/32IS-277	QTP 2X32T8/277 ISN-D	16-17
RCN-3P32	B332I120HP	U332PI120S	EP3/32IS-120	QTP 3X32T8/120 ISN-A	16-17
VCN-3P32	B332I277HP	U332PI277S	EP3/32IS-277	QTP 3X32T8/277 ISN-A	16-17
RCN-4P32	B432I120HP	U432PI120S	EP4/32IS-120	QTP 4X32T8/120 ISN-A	16-17
VCN-4P32	B432I277HP	U432PI277S	EP4/32IS-277	QTP 4X32T8/277 ISN-A	16-17
				QTP 1X32T8/347 ISN-D	16-17
GCN-2P32	B232I347HP			QTP 2X32T8/347 ISN-D	16-17
<b>T8 Programmed Rapid Start &lt;10%THD, Normal Ballast Factor (Magnetek P models below 15-20%THD)</b>					
RIC-1S32-SC	B132P120RH			QTP 1x32T8/120 PSN-F	20-21
VIC-1S32-SC	B132P277RH			QTP 1x32T8/277 PSN-F	20-21
RIC-2S32-SC	B232P120RH			QTP 2x32T8/120 PSN-F	20-21
VIC-2S32-SC	B232P277RH			QTP 2x32T8/277 PSN-F	20-21
RIC-3S32-SC	B332P120RH			QTP 3x32T8/120 PSN-SC	20-21
VIC-3S32-SC	B332P277RH			QTP 3x32T8/277 PSN-SC	20-21
	B432P120RH			QTP 4x32T8/120 PSN-SC	20-21
	B432P277RH			QTP 4x32T8/277 PSN-SC	20-21
<b>T8 Rapid Start &lt;10%THD, Normal Ballast Factor</b>					
RCN-1S32 (SC)	B132R120HP			QTP 1x32T8/120 RSN-D	22
VCN-1S32 (SC)	B132R277HP			QTP 1x32T8/277 RSN-D	22
RCN-2S32 (SC)	B232R120HP			QTP 2x32T8/120 RSN-D	22
VCN-2S32 (SC)	B232R277HP			QTP 2x32T8/277 RSN-D	22
RCN-3S32 (SC)	B332R120HP			QTP 3x32T8/120 RSN-A	22
VCN-3S32 (SC)	B332R277HP			QTP 3x32T8/277 RSN-A	22
RCN-4S32 (SC)	B432R120HP			QTP 4x32T8/120 RSN-B	22
VCN-4S32 (SC)	B432R277HP			QTP 4x32T8/277 RSN-A	22
<b>T8 Rapid Start &lt;10%THD, Low Ballast Factor</b>					
				QTP 1x32T8/120 RSL-A	23
				QTP 1 x32T8/277 RSL-A	23
RCN-2S32-LW				QTP 2x32T8/120 RSL-A	23
VCN-2S32-LW				QTP 2x32T8/277 RSL-A	23
				QTP 3x32T8/120 RSL-A	23
				QTP 3x32T8/277 RSL-A	23
				QTP 4x32T8/120 RSL-B	23
				QTP 4x32T8/277 RSL-A	23
<b>8FT 96T8 (59W) Instant Start &lt;20%THD, Normal Ballast Factor and High Ballast Factor</b>					
REL-2P59-S-RH-TP	B259I120RH	E296F0PI120G01		QT 2x59/120 IS	30-31
				QT 2x59T8/120 ISN-A	30-31
VEL-2P59-S-RH-TP	B259I277RH	E296F0PI277G01		QT 2x59/277 IS	30-31
				QT 2x59T8/277 ISN-A	30-31
GEL-2P59				QT 2x59/347 IS	30-31
REL-2P59-HL	B259I120RHH	N/A		QT 2x59/120 PLUS	32-33
VEL-2P59-HL	B259I277RHH	N/A		QT 2x59/277 PLUS	32-33

Advance Description	Magnetek/G.E. (U.L.T.)* Description	Power Lighting Products Description	Howard Industries Description	OSRAM SYLVANIA Description	Page
<b>8FT 96T8 (59W) Instant Start &lt;10%THD, Normal Ballast Factor</b>					
RCN-2P59	B259I120RH	E296FOP120G01	E2/59IS-120	QTP 2x59T8/120 ISN-A	30-31
VCN-2P59	B259I277RH	U259PI277S	E2/59IS-277	QTP 2x59T8/277 ISN-A	30-31
<b>T8 Dimming (0-10 Volt control)</b>					
RZT-1S32	B132R120V5			QTP 1x32T8/120 DIM5-B	26-27
VZT-1S32	B132R277V5			QTP 1x32T8/277 DIM5-B	26-27
RZT-2S32	B232SR120V5			QTP 2x32T8/120 DIM5-B	26-27
VZT-2S32	B232SR277V5			QTP 2x32T8/277 DIM5-B	26-27
RZT-3S32	B332SR120V5			QTP 3x32T8/120 DIM5-Q	26-27
VZT-3S32	B332SR277V5			QTP 3x32T8/277 DIM5-Q	26-27
				QTP 4x32T8/120 DIM10-Q	26-27
				QTP 4x32T8/277 DIM10-Q	26-27
<b>T5 Programmed Rapid Start &lt;10%THD, Normal Ballast Factor (Ballast Can Size varies between manufacturers – please refer to specifications for details)</b>					
RCN-1S28	BT5-128/120			QT 1x28/120 PS	38-39
VCN-1S28	BT5-128/277			QT 1x28/277 PS	38-39
RCN-2S28	BT5-228/120			QT 2x28/120 PS	38-39
VCN-2S28	BT5-228/277			QT 2x28/277 PS	38-39
				QTP 1x28T5/120 PSN-F	38-39
				QTP 1x28T5/277 PSN-F	38-39
				QTP 2x28T5/120 PSN-F	38-39
				QTP 2x28T5/277 PSN-F	38-39
<b>40W TT5 Instant Start, Normal Ballast Factor</b>					
	C240I120RH (1 lamp)	E140PB120S		QT 1x40/120 DL	44-45
	C240I277RH (1 lamp)	E140PB277S		QT 1x40/277 DL	44-45
	C240I120RH	E240PB120S		QT 2x40/120 DL	44-45
	C240I277RH	E240PB277S		QT 2x40/277 DL	44-45
	C340I120RH	E340PB120S		QT 3x40/120 DL	44-45
	C340I277RH	E340PB277S		QT 3x40/277 DL	44-45
<b>40W TT5 Programmed Rapid Start, Normal Ballast Factor</b>					
REL-1TTS40				QTP 1x40TT5/120 PSN-F	46-47
VEL-1TTS40				QTP 1x40TT5/277 PSN-F	46-47
REL-2TTS40				QTP 2x40TT5/120 PSN-F	46-47
VEL-2TTS40				QTP 2x40TT5/277 PSN-F	46-47
				QTP 3x40TT5/120 PSN-B	46-47
				QTP 3x40TT5/277 PSN-B	46-47
<b>Compact Fluorescent – UNIVERSAL VOLTAGE Universal Products run multiple lamp combinations and have various mounting/case styles. (refer to actual product specs)</b>					
Advance	Magnetek/G.E. (U.L.T.)*	Robertson	ESI	OSRAM SYLVANIA	Page
ICF-2S13-H1-LD	C213UNVBE		ES-2/1-CFQ-13/10-UNV-C	QTP 1/2x13CF/UNV BS	48-49
ICF-2S18-H1-LD	C218UNVBE	PSM218CQMV	ES-2/1-CFQ-18-UNV-C	QTP 1/2x18CF/UNV BS	48-49
ICF-2S26-H1-LD	C2642UNV	PSM226CQMV	ES-2/1-CFQ-26-UNV-C	QTP 1x26/32/42CF/UNV BS	48-49
ICF-2S26-H1-LD	C2642UNV	PSM226CQMV	ES-2/1-CFQ-26-UNV-C	QTP 2x26CF/UNV BS	48-49
ICF-2S42-M2	C2642UNV		ES-2-CFH-32/26-UNV-H	QTP 2x26/32/42CF/UNV BM	48-49
ICF-2S42-M2 (2x42)			ES-2-CFH-42/32/26-UNV-H	QTP 2x26/32/42CF/UNV BM	48-49
<p>This cross reference guide is intended as an aid for identifying comparable products as a convenience to the user. OSRAM SYLVANIA does not warrant or guarantee the accuracy or correctness of the content. Case sizes, wiring diagrams and performance specifications may vary, please refer to manufacturers specifications.</p> <p>Please refer to the OSRAM SYLVANIA catalog for verification of product specifications appropriate for the application. Information in this cross reference is subject to change at any time without prior notice. Please contact 1-800-LIGHTBULB or www.sylvania.com for additional information.</p> <p>* Magnetek Lighting has changed its name to Universal Lighting Technologies</p>					

Former MOTOROLA Description	Current SYLVANIA Description	Page	Former MOTOROLA Description	Current SYLVANIA Description	Page
M1/2-CF-B-M-UNIV	QTP 1/2xCF/UNV BM	48-49	M2-CF-26/34/42-B-M-UNIV	QTP 2x26/32/42CF/UNV BM	48-49
M1/2-CF-P-M-UNIV	QTP 1/2xCF/UNV PM	48-49	M2-CF-26/34/42-P-M-UNIV	QTP 2x26/32/42CF/UNV PM	48-49
M1/2-CF-T-M-UNIV	QTP 1/2xCF/UNV TM	48-49	M2-CF-26/34/42-T-M-UNIV	QTP 2x26/32/42CF/UNV TM	48-49
M1-CF-13-B-S-120	QTP 1x13CF/120 BS	50-51	M2-CF-26-B-S-120	QTP 2x26CF/120 BS	50-51
M1-CF-13-B-S-277	QTP 1x13CF/277 BS	50-51	M2-CF-26-B-S-277	QTP 2x26CF/277 BS	50-51
M1-CF-13-Q-S-120	QTP 1x13CF/120 QS	50-51	M2-CF-26-Q-S-120	QTP 2x26CF/120 QS	50-51
M1-CF-13-Q-S-277	QTP 1x13CF/277 QS	50-51	M2-CF-26-Q-S-277	QTP 2x26CF/277 QS	50-51
M1-CF-13-T-S-120	QTP 1x13CF/120 TS	50-51	M2-CF-26-T-S-120	QTP 2x26CF/120 TS	50-51
M1-CF-13-T-S-277	QTP 1x13CF/277 TS	50-51	M2-CF-26-T-S-277	QTP 2x26CF/277 TS	50-51
M1-CF-18-B-S-120	QTP 1x18CF/120 BS	50-51	M2-IH-T8-GP-A-120	QT 2x32T8/120 ISH-A	8-9
M1-CF-18-B-S-277	QTP 1x18CF/277 BS	50-51	M2-IH-T8-GP-A-277	QT 2x32T8/277 ISH-A	8-9
M1-CF-18-Q-S-120	QTP 1x18CF/120 QS	50-51	M2-IL-T8-GP-D-120	QT 2x32T8/120 ISL-D	13
M1-CF-18-Q-S-277	QTP 1x18CF/277 QS	50-51	M2-IL-T8-GP-D-277	QT 2x32T8/277 ISL-D	13
M1-CF-18-T-S-120	QTP 1x18CF/120 TS	50-51	M2-IL-T8-GP-D-347	QT 2x32T8/347 ISL-D	13
M1-CF-18-T-S-277	QTP 1x18CF/277 TS	50-51	M2-IN-T12-8GP-A-120	QT 2x60T12/120 ISN-A	36
M1-CF-26-B-S-120	QTP 1x26CF/120 BS	50-51	M2-IN-T12-8GP-A-277	QT 2x60T12/277 ISN-A	36
M1-CF-26-B-S-277	QTP 1x26CF/277 BS	50-51	M2-IN-T8-8FT-A-120	QTP 2x59T8/120 ISN-A	30-31
M1-CF-26-Q-S-120	QTP 1x26CF/120 QS	50-51	M2-IN-T8-8FT-A-277	QTP 2x59T8/277 ISN-A	30-31
M1-CF-26-Q-S-277	QTP 1x26CF/277 QS	50-51	M2-IN-T8-8GP-A-120	QT 2x59T8/120 ISN-A	30-31
M1-CF-26-T-S-120	QTP 1x26CF/120 TS	50-51	M2-IN-T8-8GP-A-277	QT 2x59T8/277 ISN-A	30-31
M1-CF-26-T-S-277	QTP 1x26CF/277 TS	50-51	M2-IN-T8-D-120	QTP 2x32T8/120 ISN-D	16-17
M1-CF-32-B-S-120	QTP 1x32CF/120 BS	50-51	M2-IN-T8-D-277	QTP 2x32T8/277 ISN-D	16-17
M1-CF-32-B-S-277	QTP 1x32CF/277 BS	50-51	M2-IN-T8-D-347	QTP 2x32T8/347 ISN-D	16-17
M1-CF-32-Q-S-120	QTP 1x32CF/120 QS	50-51	M2-IN-T8-GP-D-120	QT 2x32T8/120 ISN-D	12
M1-CF-32-Q-S-277	QTP 1x32CF/277 QS	50-51	M2-IN-T8-GP-D-277	QT 2x32T8/277 ISN-D	12
M1-CF-32-T-S-120	QTP 1x32CF/120 TS	50-51	M2-IN-T8-GP-D-347	QT 2x32T8/347 ISN-D	12
M1-CF-32-T-S-277	QTP 1x32CF/277 TS	50-51	M2-IN-T8-J-120	QTP 2x32T8/120 ISN-J-G4	18-19
M1-CF-42-B-S-120	QTP 1x42CF/120 BS	50-51	M2-IN-T8-J-277	QTP 2x32T8/277 ISN-J-G4	18-19
M1-CF-42-B-S-277	QTP 1x42CF/277 BS	50-51	M2-PD-T8-5C-B-120	QTP 2x32T8/120 DIM5-B	26-27
M1-CF-42-Q-S-120	QTP 1x42CF/120 QS	50-51	M2-PD-T8-5C-B-277	QTP 2x32T8/277 DIM5-B	26-27
M1-CF-42-Q-S-277	QTP 1x42CF/277 QS	50-51	M2-PN-T5-F-120	QTP 2x28T5/120 PSN-F	38-39
M1-CF-42-T-S-120	QTP 1x42CF/120 TS	50-51	M2-PN-T5-F-277	QTP 2x28T5/277 PSN-F	38-39
M1-CF-42-T-S-277	QTP 1x42CF/277 TS	50-51	M2-PN-T8-120-F	QTP 2x32T8/120 PSN-F	20-21
M1-IN-T8-D-120	QTP 1x32T8/120 ISN-D	16-17	M2-PN-T8-277-F	QTP 2x32T8/277 PSN-F	20-21
M1-IN-T8-D-277	QTP 1x32T8/277 ISN-D	16-17	M2-PN-TT5/40-F-120	QTP 2x40TT5/120 PSN-F	46-47
M1-IN-T8-D-347	QTP 1x32T8/347 ISN-D	16-17	M2-PN-TT5/40-F-277	QTP 2x40TT5/277 PSN-F	46-47
M1-IN-T8-GP-D-120	QT 1x32T8/120 ISN-D	12	M2-RL-T8-1LL-A-120	QTP 2x32T8/120 RSL-A	23
M1-IN-T8-GP-D-277	QT 1x32T8/277 ISN-D	12	M2-RL-T8-1LL-A-277	QTP 2x32T8/277 RSL-A	23
M1-IN-T8-GP-D-347	QT 1x32T8/347 ISN-D	12	M2-RN-T12-1LL-B-120	QTP 2x40T12/120 RSN-B	37
M1-IN-T8-J-120	QTP 1x32T8/120 ISN-J-G4	18-19	M2-RN-T12-1LL-B-277	QTP 2x40T12/277 RSN-B	37
M1-IN-T8-J-277	QTP 1x32T8/277 ISN-J-G4	18-19	M2-RN-T8-1LL-D-120	QTP 2x32T8/120 RSN-D	22
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QTP 2x26/32/42CF/UNV BM	M2-CF-26/34/42-B-M-UNIV	48-49			

# QUICK 60+® Limited Warranty

The Heart of a Comprehensive System Service Program  
Compare lighting system warranties – you'll see that our QUICK 60+ warranty offers better coverage, more service options and, more important, peace of mind.

## Combination Lamp and Ballast System Limited Warranty

OSRAM SYLVANIA Products Inc. ("OSPI") warrants SYLVANIA lamps installed on QUICKTRONIC® ballasts to be free from defects in material and workmanship and to operate from the date of installation (or date of manufacture if installation date is not known or available) for the time periods and subject to the Terms and Conditions

specified below. If lamps fail to operate for the warranty period, OSPI will provide a free replacement lamp (but no labor allowance). If a QUICKTRONIC ballast fails to operate within the warranty period, OSPI will provide a free replacement ballast and labor allowance in accordance with the "Labor Options" set forth below.

System <sup>5</sup>	Lamp	Ballast Warranty Period*	Lamp Warranty Period*
QUICKTRONIC T8	OCTRON® XP™, XPS™	60 months	36 months
QUICKTRONIC PSX T8	OCTRON XPS	60 months	36 months <sup>1</sup>
QUICKTRONIC T8	OCTRON Family <sup>6</sup>	60 months	30 months
QUICKTRONIC 59	OCTRON FO96XP, 72XP	60 months	30 months
QUICKTRONIC 59	OCTRON FO96	60 months	24 months
QUICKTRONIC 86T8HO	OCTRON FO96T8HO	60 months	30 months
QUICKTRONIC 96IS/96HO& 40T12	N/A	60 months	N/A
QUICKTRONIC T5/T5HO/DIM	PENTRON® Family	60 months	24 months
QUICKTRONIC DL40	DULUX® L40	60 months	12 months
QUICKTRONIC CF	DULUX D/E, T/E	60 months	6 months
QUICKTRONIC FM	FM	24 months	6 months
QUICKTRONIC ICE	ICETRON®	60 months	60 months
QUICKTRONIC MH	METALARC® CERAMIC Family <sup>2,3</sup>	60 months @ <80° C <sup>4</sup>	6 months <sup>2,3</sup>

\*Note – Warranty periods are based on typical 4000 hr/yr operation; other operating cycles may affect warranty period.  
Lamp portion of warranty renews when installation is group relamped. Contact OSRAM SYLVANIA for details.

<sup>1</sup> Occupancy sensor application allowed for the SYLVANIA Xtreme System (PSX ballasts with XPS lamps).

<sup>2</sup> Contact OSRAM SYLVANIA for a list of METALARC CERAMIC lamps that are approved on the QUICKTRONIC MH HID ballasts.

<sup>3</sup> Lamps must be operated on a 10 hour cycle minimum.

<sup>4</sup> QUICKTRONIC MH ballast warranty is 36 months @ <90° C.

<sup>5</sup> QUICKTRONIC and QUICKTRONIC Professional Series including all IS, RS, PS & DIM models where applicable.

<sup>6</sup> OCTRON SUPERSAVER® lamps operate on QUICKTRONIC ballasts and QUICKTRONIC Professional Instant Start models only.

### TERMS AND CONDITIONS

SYLVANIA lamps and QUICKTRONIC ballasts must be installed together as a system and be installed and operated under suitable environmental conditions and in accordance with the latest National Electrical Code, Underwriters Laboratory Bulletins, and ANSI Specifications. This warranty will not apply in the event of conditions demonstrating abnormal use or stress, such as operating temperatures in excess of maximum rated temperatures, under/over voltage conditions, excessive switching cycles or operating hours, dirty or cracked sockets, or improper lamp or ballast installation. Replacement of SYLVANIA lamps with lamps of other manufacturers will void the lamp portion of this warranty. Replacement of the QUICKTRONIC ballast with any other ballast will void the entire warranty.

### WARRANTY ACTIVATION / SERVICE CLAIMS

The QUICK 60+ warranty is automatically activated after OSPI receives a completed QUICK 60+ warranty registration form within 30 days after installation. An acknowledgment will be sent for each registration along with a reference number for future correspondence. Service claims can be made by contacting 1-800-LIGHTBULB to initiate the process for problem resolution.

### LABOR OPTIONS (Ballast Only)

**No labor allowance is made for lamp replacement.**

OSPI provides for several labor options for service under the QUICK 60+ warranty program.

1. OSPI will provide full service coverage through SYLVANIA LIGHTING SERVICES at no cost to the user of the ballast, or

2. OSPI will contact a service provider and coordinate replacement at no cost to the user of the ballast, or

3. OSPI will reimburse the purchaser reasonable, customary and necessary labor charges required to install the ballast replacement.

4. Labor options must be pre-approved by OSPI. Any labor option or cost that is not pre-approved will not be eligible for reimbursement.

### RETURN OF DEFECTIVE PRODUCT

After contacting OSRAM SYLVANIA and receiving a return AUTHORIZATION NUMBER, the user shall promptly return the product at the user's expense to OSRAM SYLVANIA after receiving instructions as to if, when and where to ship product. Failure to follow this procedure shall void this warranty.

### REPLACEMENT OF PRODUCT, LIMITS OF LIABILITY

The foregoing shall constitute the sole and exclusive remedy of the purchaser and the sole and exclusive liability of OSPI. NO WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. OSPI will not, under any circumstance, whether as a result of breach of contract or warranty, tort, or otherwise, be liable for any incidental, special or consequential damages, including lost profits or revenues or any other costs or damages.

OSPI reserves the right to examine all failed lamps and/or ballasts and reserves the right to be the sole judge as to whether any lamps and/or ballasts are defective and covered under this warranty.

Registration Form

Photocopy the form below and use it to register any installation featuring QUICKTRONIC<sup>®</sup> ballast systems. Also available, is our on-line version which you may find by visiting our web site at [www.sylvania.com](http://www.sylvania.com). The warranty coverage begins from the date of installation, but you must register an installation in order to receive warranty service.

**Installation Information**

Location Name: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Send Registration To: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Installation Date: \_\_\_\_\_

Operating Hours: \_\_\_\_\_ hours/day \_\_\_\_\_ days/year

Occupancy Sensors \_\_\_\_\_ (Yes/No)

Comments \_\_\_\_\_

**Type & Quantities** (Description and NAED Item # as Shown on Product Packaging)

Ballast Description	NAED Item #	Quantity	Lamp Description	NAED Item #	Quantity	Comments
<i>e.g. QT2X32/120IS</i>	<i>49513</i>	<i>1200</i>	<i>FO32/741</i>	<i>21824</i>	<i>2400</i>	

**Please Complete and Return To:**  
**OSRAM SYLVANIA**  
 Electronic Control Systems  
 800 North Church Street, Lake Zurich, IL 60047

**Or Complete and Fax To:**  
**OSRAM SYLVANIA**  
 Electronic Control Systems  
**Fax #: 847/726-6426 Tel #: 800/654-0089**

**United States**  
**OSRAM SYLVANIA**  
**Headquarters**  
100 Endicott Street  
Danvers, MA 01923 USA  
1-800-LIGHTBULB  
www.sylvania.com

**Canada**  
**OSRAM SYLVANIA LTD./LTÉE**  
**Headquarters**  
2001 Drew Road  
Mississauga, Ontario L5S 1S4  
1-800-LIGHTBULB  
www.sylvania.com

**For Orders and  
General Information  
in the United States:**

**OSRAM SYLVANIA**  
**National Customer  
Support Center**  
18725 N. Union Street  
Westfield, IN 46074

**Special Markets**  
Phone: 800-762-7191  
Fax: 800-762-7192

**National Accounts**  
Phone: 800-562-4671  
Fax: 800-562-4674

**Industrial & Commercial**  
Phone: 800-255-5042  
Fax: 800-255-5043

**Consumer Products**  
Phone: 800-842-7010  
Fax: 800-842-7011

**Photo-Optic**  
Phone: 888-677-2627  
Fax: 800-762-7192

**Electronic Control Systems**  
800 North Church Street  
Lake Zurich, IL 60047  
Phone: 800-654-0089  
Fax: 847-726-6426

**For Orders and  
General Information  
in Canada:**

**OSRAM SYLVANIA LTD./LTÉE**  
**Headquarters**  
2001 Drew Road  
Mississauga, Ontario L5S 1S4

**Special Markets**  
Phone: 800-265-2852  
Fax: 800-667-6772

**Industrial & Commercial**  
Phone: 800-263-2852  
Fax: 800-667-6772

**Consumer Markets**  
Phone: 800-720-2852  
Fax: 800-667-6772

**Automotive/Miniature**  
Phone: 800-265-2852  
Fax: 800-667-6772

**OSRAM**  
**SYLVANIA**