

Electrical Specifications

| IOPA3P32HLSC@120V | | | | | | |
|-------------------------------|------------|--|--|--|--|--|
| Brand Name OPTANIUM | | | | | | |
| Ballast Type | Electronic | | | | | |
| Starting Method Instant Start | | | | | | |
| Lamp Connection | Parallel | | | | | |
| Input Voltage | 120-277 | | | | | |
| Input Frequency 50/60 HZ | | | | | | |
| Status | Active | | | | | |

| Lamp Type | Num. of | Rated Lamp Watts | Min. Start Temp (°F/C) | Input Current (Amps) | Input Power (ANSI | Ballast Factor | MAX THD | Power Factor | MAX Lamp Current Crest | B.E.F. |
|----------------|------------|---------------------|---------------------------|-------------------------|----------------------|-------------------|------------|-----------------|---------------------------|--------|
| | Lamps | | | | Watts) | | % | | Factor | |
| * F17T8 | 2 | 17 | -20/-29 | 0.39 | 47 | 1.37 | 10 | 0.99 | 1.6 | 2.91 |
| F17T8 | 3 | 17 | -20/-29 | 0.49 | 59 | 1.22 | 10 | 0.99 | 1.6 | 2.07 |
| F25T8 | 2 | 25 | -20/-29 | 0.54 | 64 | 1.32 | 10 | 0.99 | 1.6 | 2.06 |
| F25T8 | 3 | 25 | -20/-29 | 0.70 | 84 | 1.20 | 10 | 0.99 | 1.6 | 1.43 |
| F32T8 | 2 | 32 | -20/-29 | 0.67 | 80 | 1.38 | 10 | 0.99 | 1.6 | 1.73 |
| F32T8 | 3 | 32 | -20/-29 | 0.94 | 113 | 1.18 | 10 | 0.99 | 1.6 | 1.04 |
| F32T8/ES (25W) | 2 | 25 | 60/16 | 0.59 | 70 | 1.32 | 10 | 0.99 | 1.6 | 1.89 |
| F32T8/ES (25W) | 3 | 25 | 60/16 | 0.74 | 88 | 1.17 | 10 | 0.99 | 1.6 | 1.33 |
| F32T8/ES (28W) | 2 | 28 | 60/16 | 0.62 | 74 | 1.31 | 10 | 0.99 | 1.6 | 1.77 |
| F32T8/ES (28W) | 3 | 28 | 60/16 | 0.81 | 98 | 1.15 | 10 | 0.99 | 1.6 | 1.17 |
| F32T8/ES (30W) | 2 | 30 | 60/16 | 0.65 | 78 | 1.31 | 10 | 0.99 | 1.6 | 1.68 |
| F32T8/ES (30W) | 3 | 30 | 60/16 | 0.88 | 106 | 1.20 | 10 | 0.99 | 1.6 | 1.13 |
| F40T8 | 2 | 40 | 32/00 | 0.85 | 102 | 0.85 | 10 | 0.99 | 1.6 | 0.83 |

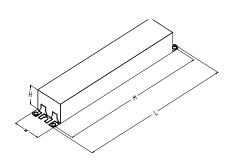
The wiring diagram that appears above is for the lamp type denoted by the asterisk (*)

Standard Lead Length (inches)

| | in. | cm. |
|--------|-----|------|
| Black | 25 | 63.5 |
| White | 25 | 63.5 |
| Blue | 31 | 78.7 |
| Red | 37 | 94 |
| Yellow | | 0 |
| Gray | | 0 |
| Violet | | 0 |

| | in. | cm. |
|--------------|-----|-----|
| Yellow/Blue | | 0 |
| Blue/White | | 0 |
| Brown | | 0 |
| Orange | | 0 |
| Orange/Black | | 0 |
| Black/White | | 0 |
| Red/White | | 0 |

Enclosure



Enclosure Dimensions

| OverAll (L) | Width (W) | Height (H) | Mounting (M) |
|-------------|-----------|------------|--------------|
| 9.50 " | 1.7 " | 1.18 " | 8.90 " |
| 9 1/2 | 1 7/10 | 1 9/50 | 8 9/10 |
| 24.1 cm | 4.3 cm | 3 cm | 22.6 cm |





Revised 08/22/12



Electrical Specifications

| IOPA3P32HLSC@120V | | | | | | |
|---------------------------|--------|--|--|--|--|--|
| Brand Name OPTANII | JM | | | | | |
| Ballast Type Electron | ic | | | | | |
| Starting Method Instant S | Start | | | | | |
| Lamp Connection Parallel | | | | | | |
| Input Voltage 120-277 | | | | | | |
| Input Frequency 50/60 HZ | • • | | | | | |
| Status Active | | | | | | |

Notes:

Section I - Physical Characteristics

- 1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
- 1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

Section II - Performance

- 2.1 Ballast shall be _____ (Instant or Programmed) Start.
- 2.2 Ballast shall provide Independent Lamp Operation (ILO) for Instant Start or Programmed Start Parallel ballasts allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.4 Ballast shall operate from 50/60 Hz input source of _____ (120V through 277V or 347V) with sustained variations of +/- 10% (voltage and frequency).
- 2.5 Ballast shall be high frequency electronic type and operate lamps at a frequency between 42 kHz and 52 kHz to avoid interference with infrared devices, eliminate visible flicker and avoid Article Surveillance System, such as anti-theft devices.
- 2.6 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.7 Ballast shall have a minimum ballast factor for primary lamp application as follows: 0.77 for Low Watt, 0.87 for Normal Light Output, and
- 1.18 for High Light for Instant Start ballasts or 0.71 for Low Watt and 0.88 for Normal Light Output for Programmed Start ballasts.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating for all 4-foot lamps and smaller.
- 2.11 Ballast shall have a minimum starting temperature of -29C (-20F) on Instant Start ballasts or -18C (0F) on Programmed Start ballasts for standard T8 lamps and 16C (60F) for energy-saving T8 lamps. Consult lamp manufacturer for temperature versus light output characteristics.
- 2.12 Ballast shall tolerate sustained open circuit and short circuit output conditions.
- 2.13 Ballast shall have lamp striation-reduction circuitry.
- 2.14 Programmed Start ballast shall provide lamp EOL protection circuitry.
- 2.15 Maximum distance for Energy Saving Lamps in Remote/Tandem wiring applications shall be 6 feet for Instant Start and Programmed Start models.

Section III - Regulatory

- 3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).
- 3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 1 Outdoor; and Canadian Standards Association (CSA) certified where applicable.
- 3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.4 Ballast shall comply with ANSI C82.11 where applicable.
- 3.5 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.
- 3.6 Ballast shall meet NEMA Premium/CEE High Performance T8 Lighting System Specifications.
- 3.7 IOP or GOP ballast shall comply with UL Type CC rating.
- 3.8 Ballast shall comply with NEMA 410 for in-rush current limits.
- 3.9 Ballast shall meet RoHS Compliance Standards

Section IV - Other

- 4.1 Ballast shall be manufactured in an ISO 9001 Qualified factory.
- 4.2 Ballast shall carry a five-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C. Ballasts with a "90C" designation in their catalog number shall also carry a three-year warranty at maximum case temperature of 90C.
- 4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market.
- 4.4 Energy-saving T8 lamps (25W, 28W or 30W) may experience lamp striations if operated on ballasts not rated for their use.





Revised 08/22/12



| Electrical | Specifications |
|------------|-----------------------|
| | |

| IOPA3P32HLSC@277V | | | | | | |
|----------------------------|---------------|--|--|--|--|--|
| Brand Name OPTANIUM | | | | | | |
| Ballast Type | Electronic | | | | | |
| Starting Method | Instant Start | | | | | |
| Lamp Connection | Parallel | | | | | |
| Input Voltage | 120-277 | | | | | |
| Input Frequency 50/60 HZ | | | | | | |
| Status | Active | | | | | |

| Lamp Type | Num. of Lamps | Rated Lamp Watts | Min. Start Temp (F/C) | Input Current (Amps) | Input Power (ANSI Watts) | Ballast Factor | MAX THD % | Power Factor | MAX Lamp Current Crest Factor | B.E.F. |
|----------------|---------------------|---------------------|--------------------------|-------------------------|--------------------------------|-------------------|-----------------|-----------------|-------------------------------------|--------|
| * F17T8 | 2 | 17 | -20/-29 | 0.20 | 46 | 1.37 | 15 | 0.99 | 1.6 | 2.98 |
| F17T8 | 3 | 17 | -20/-29 | 0.22 | 59 | 1.22 | 15 | 0.99 | 1.6 | 2.07 |
| F25T8 | 2 | 25 | -20/-29 | 0.24 | 63 | 1.32 | 10 | 0.99 | 1.6 | 2.10 |
| F25T8 | 3 | 25 | -20/-29 | 0.31 | 84 | 1.20 | 10 | 0.99 | 1.6 | 1.43 |
| F32T8 | 2 | 32 | -20/-29 | 0.29 | 79 | 1.38 | 10 | 0.99 | 1.6 | 1.75 |
| F32T8 | 3 | 32 | -20/-29 | 0.40 | 110 | 1.18 | 10 | 0.99 | 1.6 | 1.07 |
| F32T8/ES (25W) | 2 | 25 | 60/16 | 0.27 | 70 | 1.32 | 10 | 0.99 | 1.6 | 1.89 |
| F32T8/ES (25W) | 3 | 25 | 60/16 | 0.32 | 87 | 1.17 | 10 | 0.98 | 1.6 | 1.34 |
| F32T8/ES (28W) | 2 | 28 | 60/16 | 0.27 | 73 | 1.31 | 10 | 0.99 | 1.6 | 1.79 |
| F32T8/ES (28W) | 3 | 28 | 60/16 | 0.35 | 95 | 1.16 | 10 | 0.99 | 1.6 | 1.22 |
| F32T8/ES (30W) | 2 | 30 | 60/16 | 0.29 | 106 | 1.31 | 10 | 0.99 | 1.6 | 1.24 |
| F32T8/ES (30W) | 3 | 30 | 60/16 | 0.38 | 104 | 1.20 | 10 | 0.99 | 1.6 | 1.15 |
| F40T8 | 2 | 40 | 32/00 | 0.37 | 100 | 1.30 | 10 | 0.99 | 1.6 | 1.30 |

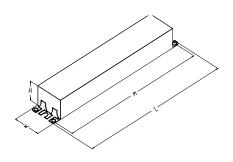
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| | in. | cm. |
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| Black | 25 | 63.5 |
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| Blue | 31 | 78.7 |
| Red | 37 | 94 |
| Yellow | | 0 |
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| Violet | | 0 |

| | in. | cm. |
|--------------|-----|-----|
| Yellow/Blue | | 0 |
| Blue/White | | 0 |
| Brown | | 0 |
| Orange | | 0 |
| Orange/Black | | 0 |
| Black/White | | 0 |
| Red/White | | 0 |

Enclosure



Enclosure Dimensions

| OverAll (L) | Width (W) | Height (H) | Mounting (M) |
|-------------|-----------|------------|--------------|
| 9.50 " | 1.7 " | 1.18 " | 8.90 " |
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|-------------------|-----------------|---------------|
| | Brand Name | OPTANIUM |
| | Ballast Type | Electronic |
| (| Starting Method | Instant Start |
| La | mp Connection | Parallel |
| | Input Voltage | 120-277 |
| lı | nput Frequency | 50/60 HZ |
| | Status | Active |

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