

Features

- High Efficiency (Up to 91%)
- Active Power Factor Correction (0.99 Typical)
- Constant Voltage Output
- Input Surge Protection: DM 4kV, CM 6kV
- All-Round Protection: OVP, SCP, OTP
- IP67 and UL Dry / Damp / Wet Location
- Class 2 & SELV Output
- TYPE HL, for use in a Class I, Division 2 hazardous (Classified) location
- 5 Years Warranty



Description

The EUV-076SxxxST series is a 76W, constant-voltage LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including high bay, tunnel and roadway, etc. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

Models

| Output Voltage | Input Voltage Range | Output Current Range | Max. Output Power | Typical Efficiency (1) | Power Factor | | Model Number |
|----------------|---------------------|----------------------|-------------------|------------------------|--------------|--------|------------------------------|
| | | | | | 110Vac | 220Vac | |
| 12 V | 90 ~ 305 Vac | 0~5.00 A | 60 W | 87% | 0.99 | 0.96 | EUV-076S012ST ⁽²⁾ |
| 24 V | 90 ~ 305 Vac | 0~3.17 A | 76 W | 88% | 0.99 | 0.96 | EUV-076S024ST ⁽²⁾ |
| 36 V | 90 ~ 305 Vac | 0~2.11 A | 76 W | 89% | 0.99 | 0.96 | EUV-076S036ST ⁽²⁾ |
| 42 V | 90 ~ 305 Vac | 0~1.81 A | 76 W | 89% | 0.99 | 0.96 | EUV-076S042ST ⁽³⁾ |
| 48 V | 90 ~ 305 Vac | 0~1.58 A | 76 W | 90% | 0.99 | 0.96 | EUV-076S048ST ⁽³⁾ |
| 54 V | 90 ~ 305 Vac | 0~1.41 A | 76 W | 91% | 0.99 | 0.96 | EUV-076S054ST ⁽³⁾ |

- Notes:** (1) Measured at 100% load and 220 Vac input.
 (2) Class 2 output (USR & CNR).
 (3) Class 2 output (USR), Non-Class 2 output (CNR).

Input Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|-----------------|-------|------|-------|----------------------|
| Input Voltage | 90 V | - | 305 V | |
| Input Frequency | 47 Hz | - | 63 Hz | |
| Leakage Current | - | - | 1 mA | At 277Vac 60Hz input |

Input Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes |
|----------------------------------|------|------|----------------------|---|
| Input AC Current | - | - | 0.9 A | Measured at 100% load and 100 Vac input. |
| | - | - | 0.42 A | Measured at 100% load and 220 Vac input. |
| Inrush Current | - | - | 60 A | At 220Vac input 25°C Cold Start, duration= 1 mS, 10%lpk-10%lpk. |
| Inrush Current(I ² t) | - | - | 0.7 A ² s | |
| PF | 0.9 | - | - | At 100-277Vac, 50-60Hz, 75%-100%load |
| THD | - | - | 20% | |

Output Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|-------------------------------|------------------|-------|-------------------|--|
| Output Voltage Tolerance | -5% | - | 5% | |
| Ripple and Noise (pk-pk) | - | - | 2% V _O | Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor. |
| Line Regulation | - | - | 1% | |
| Load Regulation | - | - | 2% | |
| Turn-on Delay Time | - | 0.8 s | 1.2 s | Measured at 120Vac input, 75%-100%load |
| | - | 0.4 s | 0.6 s | Measured at 220Vac input, 75%-100%load |
| Output Overshoot / Undershoot | - | - | 10% | When power on or off. |
| Load Dynamic Response | Output Deviation | - | 5% V _O | R/S: 1 A/uS Load: 25% ~ 75% full load. |
| | Settling Time | - | 10 mS | |

Note: All specifications are typical at 25 °C unless otherwise stated.

Protection Functions

| Parameter | Min. | Typ. | Max. | Notes |
|-----------------------------|--|--------|--------------------|--|
| Over Voltage Protection | | | | Latch mode. The power supply shall return to normal operation only after the power is turn-on again. |
| V _O = 12 V | - | 18 V | 22 V | |
| V _O = 24 V | - | 35 V | 40 V | |
| V _O = 36 V | - | 50 V | 55 V | |
| V _O = 42 V | - | 58 V | 63 V | |
| V _O = 48 V | - | 60 V | 65 V | |
| V _O = 54 V | - | 65 V | 70 V | |
| Over Current Protection | 1.2 I _O | - | 1.5 I _O | |
| Over Temperature Protection | - | 110 °C | - | Latch mode. The power supply shall return to normal operation only after the power is turn-on again. |
| Short Circuit Protection | No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed. | | | |

General Specifications

| Parameter | Min. | Typ. | Max. | Notes |
|--|---|--|----------------------------|---|
| Efficiency Vo = 12 V Vo = 24 V Vo = 36 V Vo = 42 V Vo = 48 V Vo = 54 V | 83% 84% 85% 85% 85% 86% | 85% 86% 87% 87% 87% 88% | - - - - - - | Measured at 100% load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 2%, if measured immediately after startup. |
| Efficiency Vo = 12 V Vo = 24 V Vo = 36 V Vo = 42 V Vo = 48 V Vo = 54 V | 85% 86% 87% 87% 87% 88% | 87% 88% 89% 89% 89% 90% | - - - - - - | Measured at 100% load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 2%, if measured immediately after startup. |
| MTBF | - | 395,000 hours | - | Measured at 110Vac input, 80% load and 25°C ambient temperature (MIL-HDBK-217F) |
| Lifetime | - | 51,000 hours | - | Measured at 110Vac input, 80% load ; Case temperature=65°C @ Tc point. See lifetime vs. Tc curve for the details |
| Operating Case Temperature for Safety Tc_s | -40°C | - | 88°C | |
| Operating Case Temperature for Warranty Tc_w | -40°C | - | +65 °C | Case temperature for 5 years warranty |
| Storage Temperature | -40°C | - | +85 °C | Humidity: 5% RH to 100% RH |
| Dimensions Inches (L x W x H) Millimeters (L x W x H) | 5.91 x 2.66 x 1.44 150 x 67.5 x 36.5 | | | With mounting ear 6.97 x 2.66 x 1.44 177 x 67.5 x 36.5 |
| Net Weight | - | 750 g | - | |

Note: All specifications are typical at 25 °C unless otherwise stated.

Safety & EMC Compliance

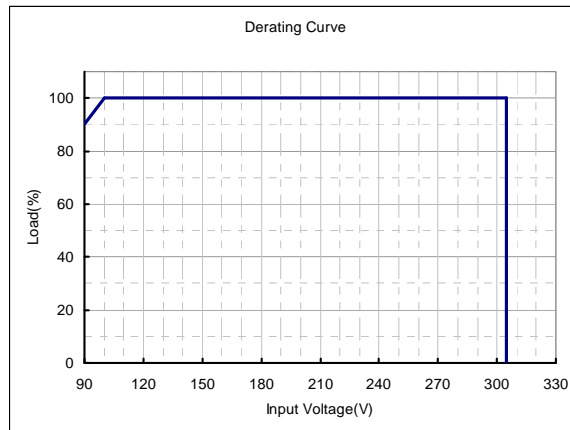
| Safety Category | Standard |
|-------------------------|---|
| UL/CUL | UL8750, UL 1310, CAN/CSA-C22.2 No. 250.13, CAN/CSA-C22.2 No. 223-M91 |
| CE | EN 61347-1, EN 61347-2-13 |
| KS | KS C 7655 |
| EMI Standards | Notes |
| EN 55015 ⁽¹⁾ | Conducted emission Test & Radiated emission Test |
| EN 61000-3-2 | Harmonic current emissions |
| EN 61000-3-3 | Voltage fluctuations & flicker |
| EMS Standards | Notes |
| EN 61000-4-2 | Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge |
| EN 61000-4-3 | Radio-Frequency Electromagnetic Field Susceptibility Test-RS |

Safety & EMC Compliance (Continued)

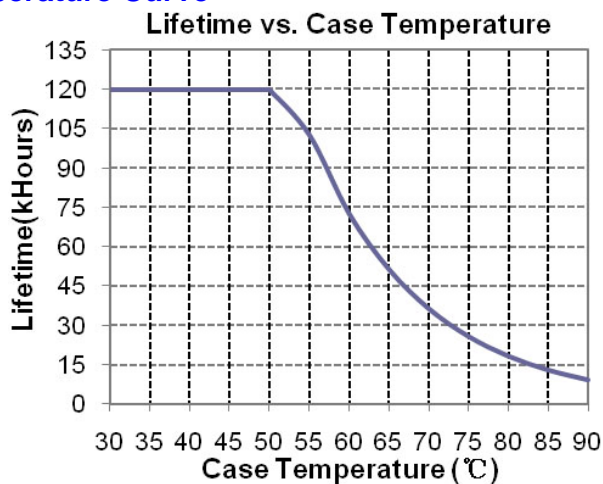
| EMS Standards | Notes |
|---------------|--|
| EN 61000-4-4 | Electrical Fast Transient / Burst-EFT |
| EN 61000-4-5 | Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV |
| EN 61000-4-6 | Conducted Radio Frequency Disturbances Test-CS |
| EN 61000-4-8 | Power Frequency Magnetic Field Test |
| EN 61000-4-11 | Voltage Dips |
| EN 61547 | Electromagnetic Immunity Requirements Applies to Lighting Equipment |

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

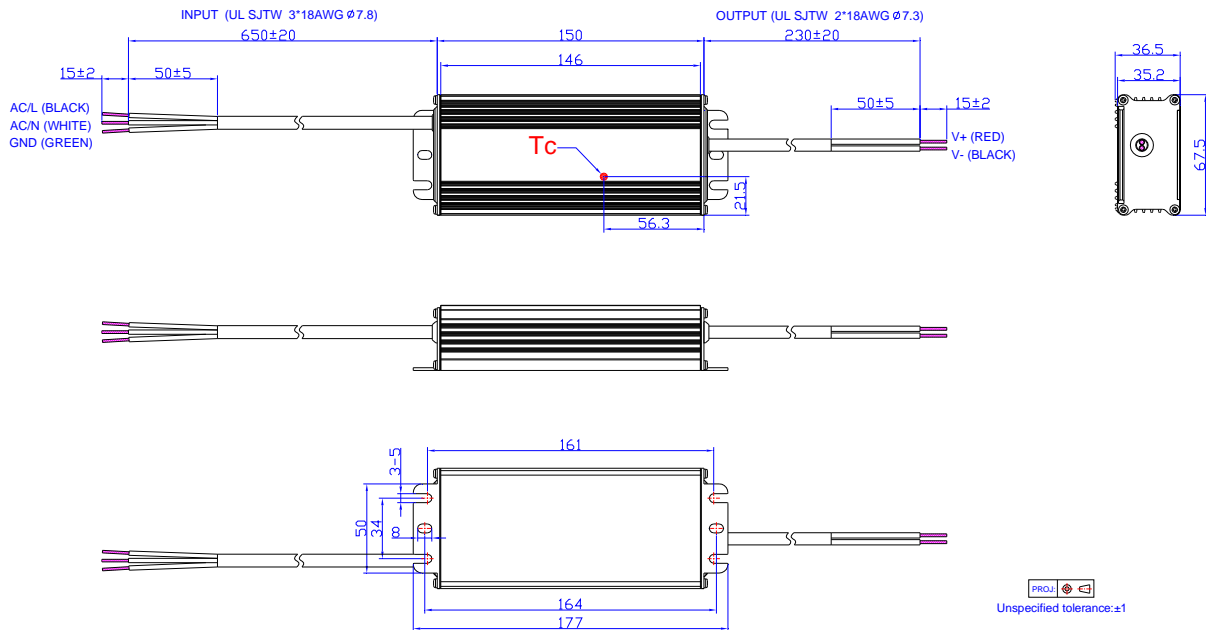
Derating Curve



Lifetime vs. Case Temperature Curve



Mechanical Outline



RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

| Change Date | Rev. | Description of Change | | |
|---|------------|---|---------------------------------------|---------------------------------------|
| | | Item | From | To |
| 2009-09-15 | V2.0 | Change MTBF and Life Time | | |
| 2009-12-03 | V3.0 | Change turn on delay time | | |
| 2010-01-19 | V3.1 | Change the product photo and mechanical outline | | |
| 2010-03-03 | A | Add notes of UL1310 Class 2 for all models. (4) (5) | | |
| | | Efficiency (110Vac) | Min. Typ. | Min. Typ. |
| | | Vo = 12 V | 84.5%, 86% | 83%, 85% |
| | | Vo = 24 V | 85.5%, 87% | 84%, 86% |
| | | Vo = 36 V | 86.5%, 88% | 85%, 87% |
| | | Vo = 42 V | 86.5%, 88% | 85%, 87% |
| | | Vo = 48 V | 87.5%, 89% | 86%, 88% |
| | | Vo = 54 V | 87.5%, 89% | 87%, 89% |
| | | Efficiency (220Vac) | Min. Typ. | Min. Typ. |
| | | Vo = 12 V | 86.5%, 88% | 85%, 87% |
| Vo = 24 V | 87.5%, 89% | 86%, 88% | | |
| Vo = 36 V | 88.5%, 90% | 87%, 89% | | |
| Vo = 42 V | 88.5%, 90% | 87%, 89% | | |
| Vo = 48 V | 89.5%, 91% | 88%, 90% | | |
| Vo = 54 V | 89.5%, 91% | 89%, 91% | | |
| Change PF of 12V (220Vac) | | 0.95 | 0.96 | |
| Change MTBF | | 498,000 hours | 450,000 hours | |
| Add Leakage Current in Input Specifications | | / | / | |
| Add Derating Curve | | / | / | |
| Modify the tin-plated wire length tolerance in Mechanical Outline | | ±0.5 | ±2 | |
| 2012-06-19 | B | Life Time vs. Case Temperature Curve | / | Added |
| | | EN61000-4-5 | line to line 2 kV, line to earth 4 kV | line to line 4 kV, line to earth 6 kV |
| | | Mechanical outline | / | Updated |
| 2012-7-5 | C | Inrush Current | 50 A | 60 A |
| 2012-7-17 | D | Max Case Temperature | / | Updated |
| 2013-03-13 | E | Inrush Current(I ² t) | / | Added |
| | | Turn-on Delay Time @ 110Vac | 0.5s,0.8s | 0.8s,1.2s |
| | | OCP | / | Added |
| | | Efficiency of 48V,54V | / | 1% Lower |
| | | MTBF-typical value | / | Added |
| | | Life time-typical value | / | Added |
| | | Life time curve | / | Updated |

Revision History (Continued)

| Change Date | Rev. | Description of Change | | |
|-------------------------|------|------------------------------|--|--|
| | | Item | From | To |
| 2017-06-19 | F | Format | / | Updated |
| | | KS | / | Added |
| | | Features | / | Updated |
| | | Description | / | Updated |
| | | Models | Notes | Added |
| | | Input Specifications | PF | Added |
| | | Input Specifications | THD | Added |
| | | General Specifications | Case Temperature | Operating Case Temperature for Safety Tc_s |
| | | General Specifications | With mounting ear | Added |
| | | Safety & EMC Compliance | / | Updated |
| 2018-11-21 | G | Mechanical Outline | / | Updated |
| | | Features | / | Updated |
| | | Description | / | Updated |
| | | PF/THD | Notes | Updated |
| | | Lifetime | Notes | Updated |
| | | General Specifications | Operating Case Temperature for Safety Tc_s | Updated |
| | | General Specifications | Operating Case Temperature for Warranty Tc_w | Updated |
| | | General Specifications | Storage Temperature | Updated |
| | | Environmental Specifications | / | Deleted |
| Safety & EMC Compliance | / | Updated | | |
| 2019-12-17 | H | Features | 4kV line-line, 6kV line-earth | DM 4kV, CM 6kV |
| | | Features | Waterproof (IP67) | IP67 |
| | | Safety & EMC Compliance | EN 61000-4-5 | Updated |
| | | Derating Curve | Ambient Temperature(°C) | Deleted |
| | | RoHS Compliance | / | Updated |