

## Features

- High Efficiency (Up to 93.0%)
- Constant Voltage Output
- Input Surge Protection: 4kV line-line, 6kV line-earth
- All-Around Protection: OVP, OCP, SCP, OTP
- Waterproof (IP67) and UL Dry / Damp / Wet Location
- SELV Output
- TYPE HL, for use in a Class I, Division 2 hazardous (Classified) location



## Description

The EUV-300SxxxST series is a 300W, constant-voltage outdoor LED driver that operates from 90-305 Vac input with excellent power factor. It is created for high bay, high mast, arena and roadway lights. 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, over current, short circuit, and over temperature.

## Models

| Output Voltage | Input Voltage Range(1) | Output Current Range | Max. Output Power | Typical Efficiency (2) | Power Factor |        | Model Number (3)     |
|----------------|------------------------|----------------------|-------------------|------------------------|--------------|--------|----------------------|
|                |                        |                      |                   |                        | 110Vac       | 220Vac |                      |
| 12 Vdc         | 90 ~ 305 Vac           | 0~22.9 A             | 275 W             | 91.5%                  | 0.99         | 0.93   | EUV-300S012ST        |
| 24 Vdc         | 90 ~ 305 Vac           | 0~12.5 A             | 300 W             | 91.0%                  | 0.99         | 0.96   | EUV-300S024ST        |
| 28 Vdc         | 90 ~ 305 Vac           | 0~10.71 A            | 300 W             | 91.5%                  | 0.99         | 0.96   | EUV-300S028ST        |
| 36 Vdc         | 90 ~ 305 Vac           | 0~8.33 A             | 300 W             | 92.0%                  | 0.99         | 0.96   | EUV-300S036ST        |
| 42 Vdc         | 90 ~ 305 Vac           | 0~7.14 A             | 300 W             | 92.0%                  | 0.99         | 0.96   | EUV-300S042ST        |
| 48 Vdc         | 90 ~ 305 Vac           | 0~6.25 A             | 300 W             | 92.5%                  | 0.99         | 0.96   | <b>EUV-300S048ST</b> |
| 54 Vdc         | 90 ~ 305 Vac           | 0~5.56 A             | 300 W             | 93.0%                  | 0.99         | 0.96   | EUV-300S054ST        |

**Notes:** (1) UL certified input voltage range: 100-277Vac; other certified input voltage range except UL: 100-240Vac.

(2) Measured at full load and 220 Vac input.

(3) SELV output

## Input Specifications

| Parameter           | Min.   | Typ. | Max.    | Notes  |
|---------------------|--------|------|---------|--|
| Input Voltage Range | 90 Vac | -    | 305 Vac |  |
| Input Frequency     | 47 Hz  | -    | 63 Hz   |  |
| Leakage Current     | -      | -    | 0.75 mA | At 277Vac 60Hz input , grounding effectively |
| Input AC Current    | -      | -    | 3.6 A   | Measured at full load and 100 Vac input.     |
|                     | -      | -    | 1.6 A   | Measured at full load and 220 Vac input.     |

## Input Specifications (Continued)

| Parameter                        | Min. | Typ. | Max.                  | Notes   |
|----------------------------------|------|------|-----------------------|---|
| Inrush Current(I <sup>2</sup> t) | -    | -    | 2.33 A <sup>2</sup> s | At 220Vac input, 25°C cold start, duration=3 ms, 10%Ipk-10%Ipk. |
| Power Factor                     | 0.90 | -    | -                     | At 100-277Vac, 75%-100%load                                     |
| THD                              | -    | -    | 20%                   |   |

## Output Specifications

| Parameter                    | Min.             | Typ.  | Max.             | Notes  |
|------------------------------|------------------|-------|------------------|--|
| Output Voltage Tolerance     | -5%              | -     | 5%               | At full load condition.  |
| Ripple and Noise (pk-pk)     | -                | -     | 2%V <sub>O</sub> | Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor. |
| Output Overshoot/ Undershoot | -                | -     | 10%              | When power on or off.  |
| Line Regulation              | -                | -     | ±1%              | At full load condition.  |
| Load Regulation              | -                | -     | ±3%              |  |
| Turn-on Delay Time           | -                | 0.4 s | 1.0 s            | Measured at 110Vac input.  |
|                              | -                | 0.4 s | 1.0 s            | Measured at 220Vac input.  |
| Load Dynamic Response        | Output Deviation | -     | -                | 5% V <sub>O</sub>  |
|                              | Settling Time    | -     | -                | 10 mS  |
| Temperature Coefficient      | -                | -     | 0.02%/°C         | Case temperature = 0°C ~Tc max   |

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

## General Specifications

| Parameter   | Min.  | Typ.  | Max.                            | Notes   |
|---|---|---|---------------------------------|---|
| Efficiency at 110 Vac input:<br>V <sub>O</sub> = 12 V<br>V <sub>O</sub> = 24 V<br>V <sub>O</sub> = 28 V<br>V <sub>O</sub> = 36 V<br>V <sub>O</sub> = 42 V<br>V <sub>O</sub> = 48 V<br>V <sub>O</sub> = 54 V | 89.0%<br>88.5%<br>89.0%<br>89.5%<br>90.5%<br>90.5%<br>91.0% | 89.5%<br>89.0%<br>89.5%<br>90.0%<br>91.0%<br>91.0%<br>91.5% | -<br>-<br>-<br>-<br>-<br>-<br>- | Measured at full load and steady-state temperature in 25°C ambient;<br>(Efficiency will be about 1.5% lower if measured immediately after startup.) |
| Efficiency at 220 Vac input:<br>V <sub>O</sub> = 12 V<br>V <sub>O</sub> = 24 V<br>V <sub>O</sub> = 28 V<br>V <sub>O</sub> = 36 V<br>V <sub>O</sub> = 42 V<br>V <sub>O</sub> = 48 V<br>V <sub>O</sub> = 54 V | 91.0%<br>90.5%<br>91.0%<br>91.5%<br>91.5%<br>92.0%<br>92.5% | 91.5%<br>91.0%<br>91.5%<br>92.0%<br>92.0%<br>92.5%<br>93.0% | -<br>-<br>-<br>-<br>-<br>-<br>- | Measured at full load and steady-state temperature in 25°C ambient;<br>(Efficiency will be about 1.5% lower if measured immediately after startup.) |
| No Load Power Dissipation   | -   | -   | 5 W                             |   |

## General Specifications (Continued)

| Parameter   | Min.                                  | Typ.          | Max.   | Notes   |
|---|---------------------------------------|---------------|--------|---|
| MTBF  | -                                     | 278,000 hours | -      | Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)                                  |
| Lifetime  | -                                     | 58,000 hours  | -      | Measured at 220Vac input, 80%Load ,Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details |
| Operating Case Temperature for Safety Tc_s                  | -40 °C                                | -             | +90 °C |   |
| Operating Case Temperature for Warranty Tc_w                | -40 °C                                | -             | +60 °C |   |
| Storage Temperature   | -40 °C                                | -             | +85 °C | Humidity: 5% RH to 100% RH  |
| Dimensions<br>Inches (L x W x H)<br>Millimeters (L x W x H) | 8.82 x 3.86 x 1.75<br>224 x 98 x 44.5 |               |        |   |
| Net Weight  | -                                     | 1540 g        | -      |   |

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

## Safety & EMC Compliance

| Safety Category | Standard  |
|-----------------|---|
| UL/CUL          | UL 8750, CAN/CSA-C22.2 No. 250.13-12  |
| CE              | EN 61347-1, EN61347-2-13  |
| EMI Standards   | Notes   |
| EN 55015        | 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                |
| EN 61000-4-4    | Electrical Fast Transient / Burst-EFT                                       |
| EN 61000-4-5    | Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 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: To perform electric strength (hi-pot) testing, the “GDT ground disconnect” (nut and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line-to-earth surge protection and secure the end cap.