

Features

- Ultra High Efficiency (Up to 94%)
- Full Power at 70-100% Max Current (Constant Power)
- 0-10V/PWM/Timer Dimmable and Dim-to-Off
- Standby Power $\leq 1.5W$
- All-Around Protection: OVP, SCP, OTP
- Suitable for UL Dry / Damp / Wet Location
- TYPE HL, for use in a Class I, Division 2 hazardous (Classified) location
- 5 Years Warranty



Description

The ESD-240SxxxDT series is a 240W, constant-current, programmable LED driver that operates from 249-528 Vac input with excellent power factor. Created for high bay, high mast, arena and roadway lights, it provides a dim-to-off mode with low standby power. 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 over voltage, short circuit, and over temperature.

Models

| Adjustable Output Current Range | Full-Power Current Range (1) | Default Output Current | Input Voltage Range | Output Voltage Range | Max. Output Power | Typical Efficiency (2) | Power Factor | | Model Number |
|---------------------------------|------------------------------|------------------------|---------------------|----------------------|-------------------|------------------------|--------------|--------|---------------|
| | | | | | | | 277Vac | 480Vac | |
| 70-1000mA | 700-1000mA | 700 mA | 249~528 Vac | 120~343Vdc | 240 W | 94.0% | 0.96 | 0.95 | ESD-240S100DT |
| 105-1500mA | 1050-1500mA | 1400 mA | 249~528 Vac | 80~229Vdc | 240 W | 93.5% | 0.96 | 0.95 | ESD-240S150DT |
| 154-2200mA | 1540-2200mA | 2100 mA | 249~528 Vac | 55~156Vdc | 240 W | 93.0% | 0.96 | 0.95 | ESD-240S220DT |
| 224-3200mA | 2240-3200mA | 2800 mA | 249~528 Vac | 38~107Vdc | 240 W | 93.0% | 0.96 | 0.95 | ESD-240S320DT |
| 322-4600mA | 3220-4600mA | 4200 mA | 249~528 Vac | 27~75Vdc | 240 W | 93.0% | 0.96 | 0.95 | ESD-240S460DT |
| 462-6600mA | 4620-6600mA | 4900 mA | 249~528 Vac | 19~52Vdc | 240 W | 92.5% | 0.96 | 0.95 | ESD-240S660DT |

Notes: (1) Output current range with constant power at 240W

(2) Measured at a 480Vac input with 70% maximum output current and 100% maximum output voltage.

Output Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes |
|---|--------|----------|--------|--|
| No Load Output Voltage | | | | |
| ESD-240S100DT | - | - | 355 V | |
| ESD-240S150DT | - | - | 248 V | |
| ESD-240S220DT | - | - | 170 V | |
| ESD-240S320DT | - | - | 120 V | |
| ESD-240S460DT | - | - | 90 V | |
| ESD-240S660DT | - | - | 60 V | |
| Line Regulation | - | - | ±0.5% | Measured at full load |
| Load Regulation | - | - | ±1.5% | |
| Turn-on Delay Time | - | 0.8 s | 1.5 s | Measured at 277Vac and 480Vac input, 60%-100% Load |
| Temperature Coefficient of I _o set | - | 0.03%/°C | - | Case temperature = 0°C ~T _c max |
| 12V Auxiliary Output Voltage | 10.8 V | 12 V | 13.2 V | |
| 12V Auxiliary Output Source Current | 0 mA | - | 200 mA | Return terminal is "Dim-" |

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

General Specifications

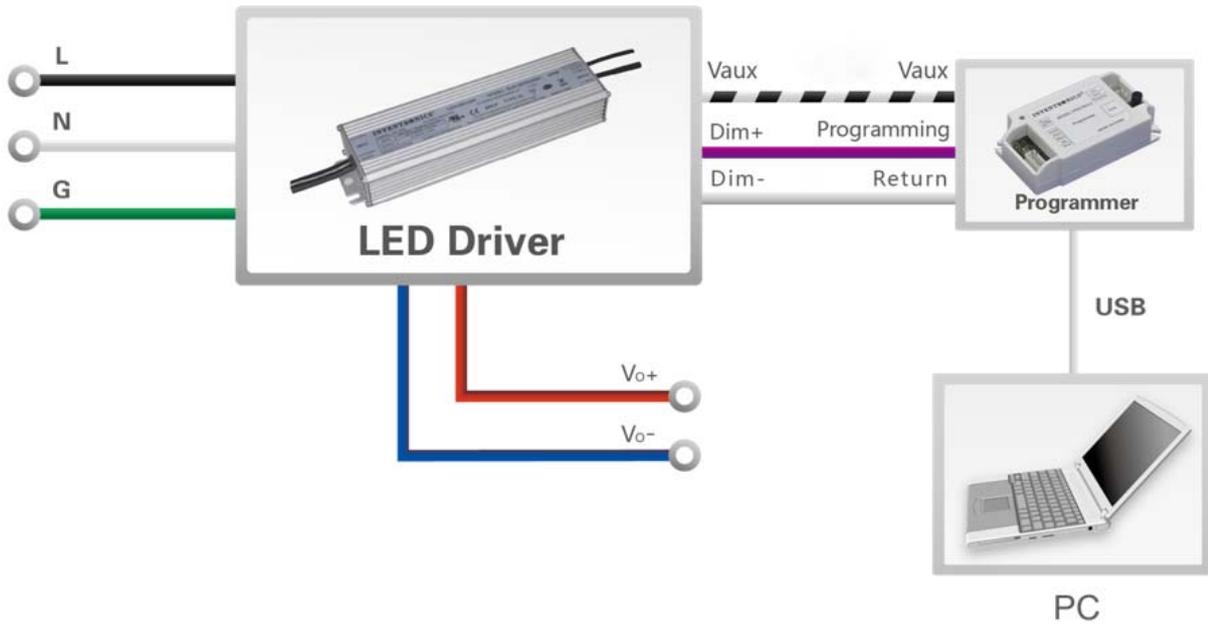
| Parameter | Min. | Typ. | Max. | Notes |
|------------------------------|-------|-------|------|--|
| Efficiency at 277 Vac input: | | | | |
| ESD-240S100DT | | | | |
| I _o =700 mA | 90.0% | 92.0% | - | |
| I _o =1000mA | 89.5% | 91.5% | - | |
| ESD-240S150DT | | | | |
| I _o =1050mA | 90.0% | 92.0% | - | |
| I _o =1500mA | 89.0% | 91.0% | - | |
| ESD-240S220DT | | | | |
| I _o =1540mA | 89.5% | 91.5% | - | Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| I _o =2200mA | 89.5% | 91.5% | - | |
| ESD-240S320DT | | | | |
| I _o =2240mA | 89.5% | 91.5% | - | |
| I _o =3200mA | 88.5% | 90.5% | - | |
| ESD-240S460DT | | | | |
| I _o =3220mA | 89.5% | 91.5% | - | |
| I _o =4600mA | 88.0% | 90.0% | - | |
| ESD-240S660DT | | | | |
| I _o =4620mA | 89.0% | 91.0% | - | |
| I _o =6600mA | 88.0% | 90.0% | - | |

General Specifications (Continued)

| Parameter | Min. | Typ. | Max. | Notes |
|---|--------------------|---------------|-------|--|
| Efficiency at 347 Vac input: ESD-240S100DT | | | | Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| Io=700 mA | 91.0% | 93.0% | - | |
| Io=1000mA | 90.5% | 92.5% | - | |
| ESD-240S150DT | | | | |
| Io=1050mA | 91.0% | 93.0% | - | |
| Io=1500mA | 90.0% | 92.0% | - | |
| ESD-240S220DT | | | | |
| Io=1540mA | 90.0% | 92.0% | - | |
| Io=2200mA | 90.0% | 92.0% | - | |
| ESD-240S320DT | | | | |
| Io=2240mA | 90.0% | 92.0% | - | |
| Io=3200mA | 89.5% | 91.5% | - | |
| ESD-240S460DT | | | | |
| Io=3220mA | 90.0% | 92.0% | - | |
| Io=4600mA | 89.0% | 91.0% | - | |
| ESD-240S660DT | | | | |
| Io=4620mA | 90.0% | 92.0% | - | |
| Io=6600mA | 89.0% | 91.0% | - | |
| Efficiency at 480 Vac input: ESD-240S100DT | | | | Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.) |
| Io=700 mA | 92.0% | 94.0% | - | |
| Io=1000mA | 91.0% | 93.0% | - | |
| ESD-240S150DT | | | | |
| Io=1050mA | 91.5% | 93.5% | - | |
| Io=1500mA | 91.5% | 93.5% | - | |
| ESD-240S220DT | | | | |
| Io=1540mA | 91.0% | 93.0% | - | |
| Io=2200mA | 91.0% | 93.0% | - | |
| ESD-240S320DT | | | | |
| Io=2240mA | 91.0% | 93.0% | - | |
| Io=3200mA | 90.0% | 92.0% | - | |
| ESD-240S460DT | | | | |
| Io=3220mA | 91.0% | 93.0% | - | |
| Io=4600mA | 89.5% | 91.5% | - | |
| ESD-240S660DT | | | | |
| Io=4620mA | 90.5% | 92.5% | - | |
| Io=6600mA | 89.5% | 91.5% | - | |
| Standby power | - | - | 1.5 W | Measured at 480Vac/50Hz; Dimming off |
| MTBF | - | 209,000 Hours | - | Measured at 480Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F) |
| Lifetime | - | 114,000 Hours | - | Measured at 480Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details |
| Operating Case Temperature for Safety Tc_s | -40°C | - | +89°C | |
| Operating Case Temperature for Warranty Tc_w | -40°C | - | +75°C | Case temperature for 5 years warranty |
| Storage Temperature | -40°C | - | +85°C | |
| Dimensions | | | | With mounting ear |
| Inches (L × W × H) | 9.49 × 2.66 × 1.56 | | | 10.32 × 2.66 × 1.56 |
| Millimeters (L × W × H) | 241 × 67.5 × 39.5 | | | 262 × 67.5 × 39.5 |
| Net Weight | - | 1400 g | - | |

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

Programming Connection Diagram



Note: The driver does not need to be powered on during the programming process.

- Please refer to [PRG-MUL2](#) (Programmer) datasheet for details.

Mechanical Outline

ESD-240S100DT

