

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%	-	
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%	-	

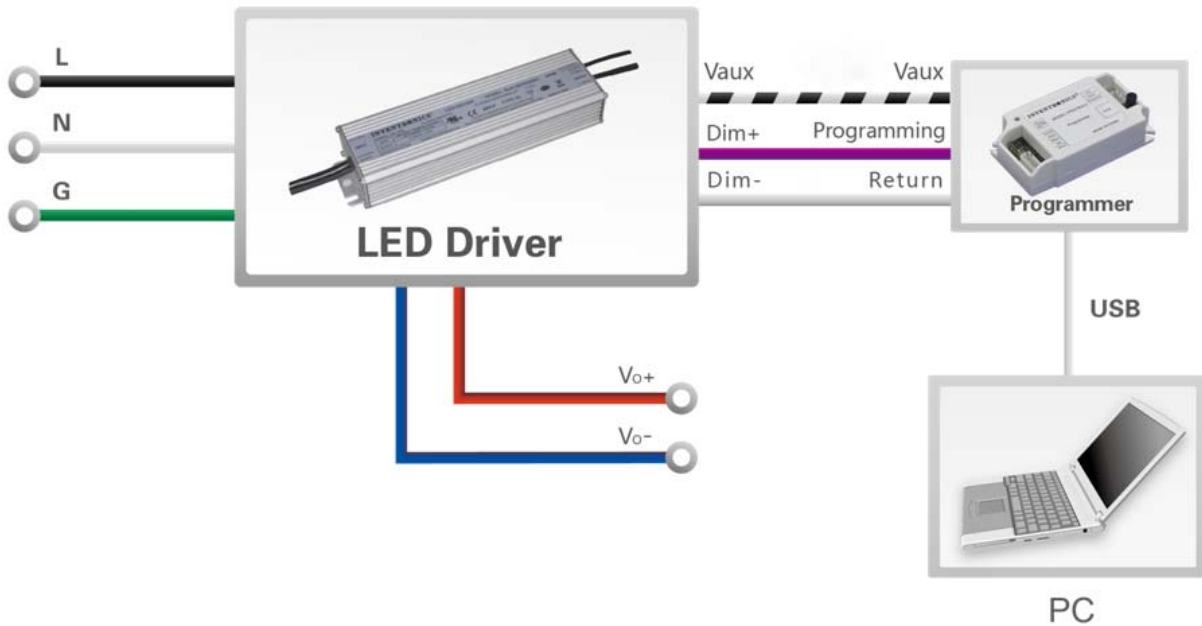
Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)

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

