Features

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

c UL us E328335 CE

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 high bay, tunnel 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, 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 full 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 AC Current	-	-	0.9 A	Measured at full load and 100 Vac input.
	-	-	0.42 A	Measured at full load and 220 Vac input.

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Inrush Current	-	-	60 A	At 220Vac input 25°C Cold Start, duration= 1 mS, 10%Ipk-10%Ipk.
Inrush Current(I^2t)	-	-	0.7 A^2s	
PF	0.9	-	-	At 100-277Vac,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 110Vac input.
			0.4 s	0.6 s	Measured at 220Vac input.
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 Vo = 12 V Vo = 24 V Vo = 36 V Vo = 42 V Vo = 48 V Vo = 54 V	 - - - - - -	 18 V 35 V 50 V 58 V 60 V 65 V	 22 V 40 V 55 V 63 V 65 V 70 V	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
Over Current Protection	1.2 Io		1.5 Io	
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 full load, 110Vac input, 25℃ 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 full load, 220Vac input, 25℃ 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=60℃ @ Tc point. See life time vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-	-	88°C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	5.91 × 2.66 × 1.44 150 × 67.5 × 36.5			With mounting ear 6.97 × 2.66 × 1.44 177 × 67.5 × 36.5
Net Weight	-	750 g	-	

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

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °C	-	+70 °C	Humidity: 10% RH to 100% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

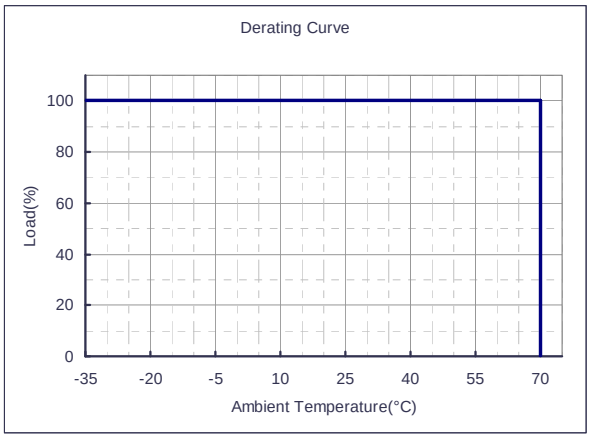
Safety Category	Standard
UL/CUL	UL8750, UL1310, UL1012, CAN/CSA-C22.2 No. 250.13, CAN/CSA-C22.2 No. 223-M91
CE	EN61347-1, EN61347-2-13
KS	KS C 7655
EMI Standards	**Notes**
EN 55015[(1)]	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker

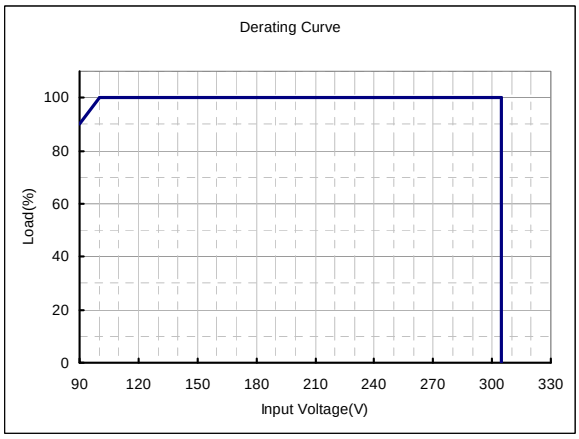
Safety & EMC Compliance (Continued)

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

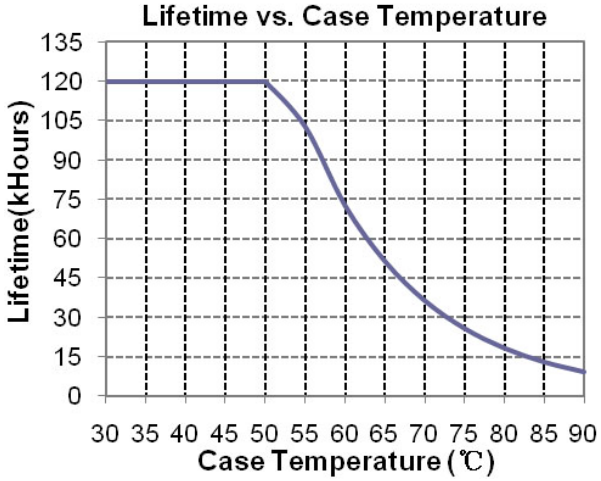
Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Derating Curve





Lifetime vs. Case Temperature Curve



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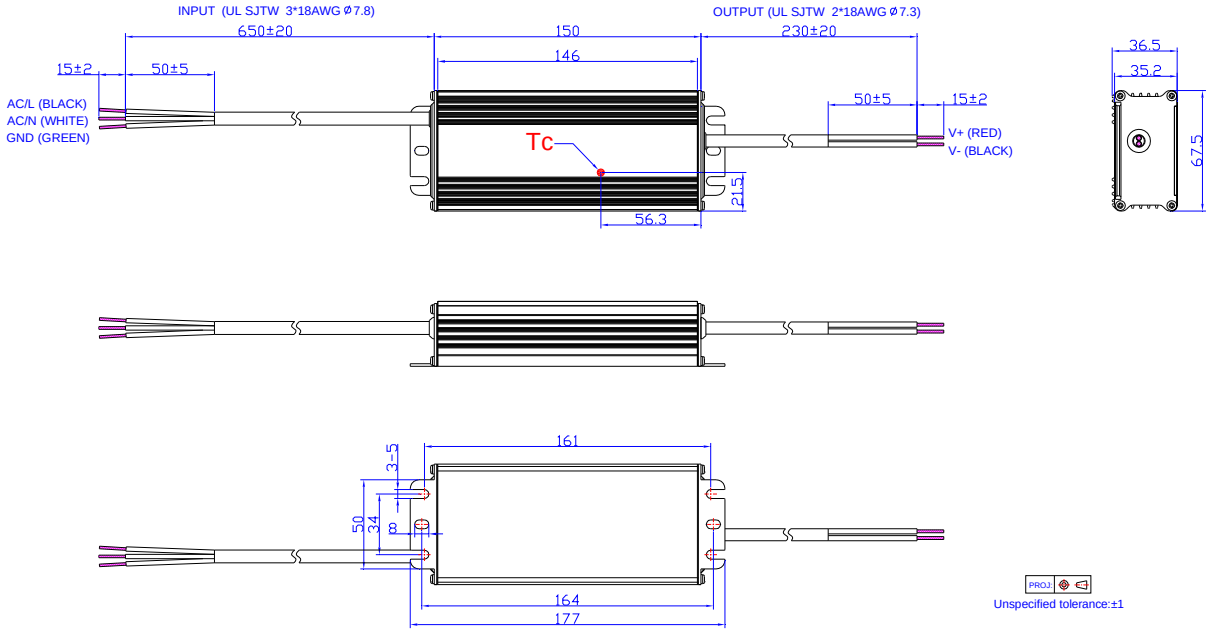
Mechanical Outline



RoHS Compliance

Our products comply with the European Directive 2002/95/EC, 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) Vo = 12 V Vo = 24 V Vo = 36 V Vo = 42 V Vo = 48 V Vo = 54 V	**Min. Typ.** 84.5%, 86% 85.5%, 87% 86.5%, 88% 86.5%, 88% 87.5%, 89% 87.5%, 89%	**Min. Typ.** 83%, 85% 84%, 86% 85%, 87% 85%, 87% 86%, 88% 87%, 89%
		Efficiency (220Vac) Vo = 12 V Vo = 24 V Vo = 36 V Vo = 42 V Vo = 48 V Vo = 54 V	**Min. Typ.** 86.5%, 88% 87.5%, 89% 88.5%, 90% 88.5%, 90% 89.5%, 91% 89.5%, 91%	**Min. Typ.** 85%, 87% 86%, 88% 87%, 89% 87%, 89% 88%, 90% 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^2t)	/	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

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		Life time curve	/	Updated
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
		Mechanical Outline	/	Updated