

Features

- Ultra High Efficiency (Up to 92%)
- High Power Factor (0.99 Typical)
- Constant Voltage Output
- Lightning Protection
- All-Round Protection: OVP, OCP, SCP, OTP
- IP67
- 5 Years Warranty



Description

The EUV-100SxxxSV series is a 100W, constant-voltage LED driver that operates from 90-305 Vac input with excellent power factor. It is created for many lighting applications including architectural, decorative and signage, etc. The high efficiency of the driver 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, over current, 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 (2)
					110Vac	220Vac	
12 Vdc	90 ~ 305 Vac	0~8.33 A	100 W	91%	0.99	0.96	EUV-100S012SV
24 Vdc	90 ~ 305 Vac	0~4.05 A	100 W	92%	0.99	0.96	EUV-100S024SV
36 Vdc	90 ~ 305 Vac	0~2.75 A	100 W	92%	0.99	0.96	EUV-100S036SV
48 Vdc	90 ~ 305 Vac	0~1.95 A	100 W	92%	0.99	0.96	EUV-100S048SV

Note: (1) Measured at 100% load and 220 Vac input.

(2) A suffix -xxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	At 277Vac 60Hz input
Input AC Current	-	-	1.20 A	Measured at 100% load and 100 Vac input.
	-	-	0.60 A	Measured at 100% load and 220 Vac input.
Inrush Current	-	-	65 A	At 220Vac input 25°C Cold Start, duration=1.2 ms, 10%Ipk-10%Ipk.
Inrush Current(I ² t)	-	-	1 A ² s	
Power Factor	0.85	-	-	At 100-277Vac, 50-60Hz, 75%-100%load (75-100W)
THD	-	-	20%	At 220Vac, 50-60Hz, 100% load

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Voltage Tolerance		-5%	-	5%	
Ripple and Noise (pk-pk)		-	-	2.0% 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		-	0.6 s	1.2 s	Measured at 110Vac input.
		-	0.3 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% 100% load.
	Settling Time	-	-	10 mS	
Temperature coefficient		-	0.05%/°C	-	Case temperature = 0°C ~Tc max

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Voltage Protection V _O = 12 V V _O = 24 V V _O = 36 V V _O = 48 V	14 V 27 V 40 V 54 V	15 V 30 V 47 V 59 V	16 V 34 V 50 V 63 V	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
Over Current Protection	110% I _O	135% I _O	195% I _O	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Over Temperature Protection		110 °C	-	Maximum temperature of components inside the case.
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 V _O = 12 V V _O = 24 V V _O = 36 V V _O = 48 V	87%	89%	-	Measured at 100% load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
	88%	90%	-	
	88%	90%	-	
	88%	90%	-	
Efficiency V _O = 12 V V _O = 24 V V _O = 36 V V _O = 48 V	89%	91%	-	Measured at 100% load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
	90%	92%	-	
	90%	92%	-	
	90%	92%	-	

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
No Load Power Dissipation	-	-	3.5 W	
MTBF	-	338,000 hours	-	Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	-	113,000 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	-35 °C	-	+90 °C	
Operating Case Temperature for Warranty Tc _w	-35 °C		+70 °C	Case temperature for 5 years warranty;
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	7.24 × 2.66 × 1.44 184 × 67.5 × 36.5			With mounting ear 8.31 × 2.66 × 1.44 211 × 67.5 × 36.5
Net Weight	-	950 g	-	

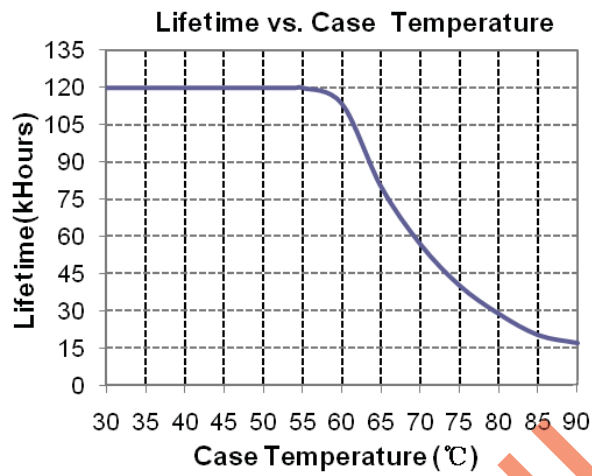
Note: All specifications are typical at 25 °C unless otherwise stated.

Safety & EMC Compliance

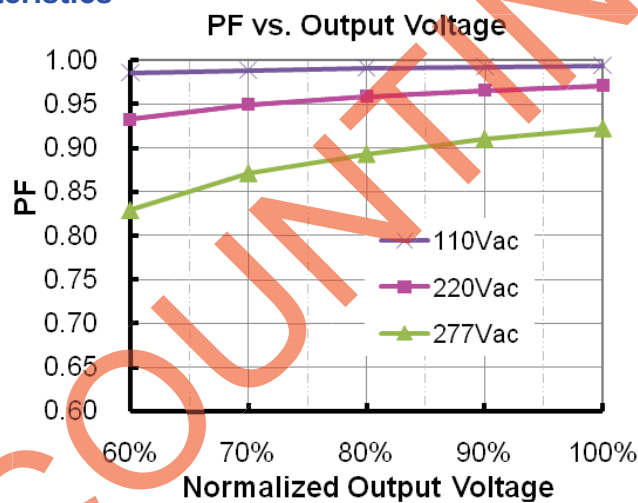
Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
KS	KS C 7655
EMI Standards	Notes
EN 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV 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: Differential Mode 2 kV, Common Mode 4 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.

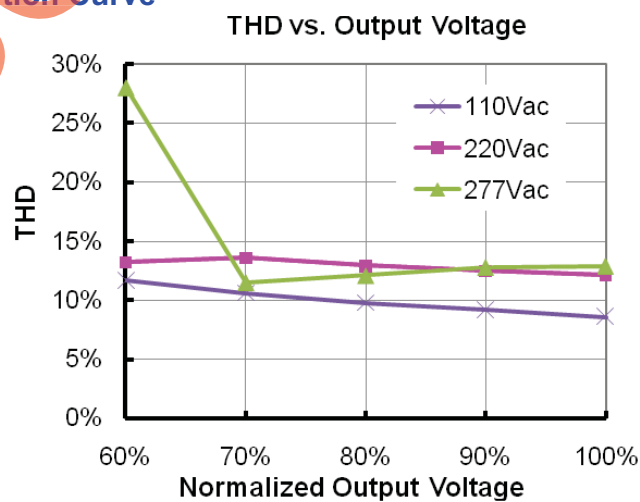
Lifetime vs. Case Temperature Curve



Power Factor Characteristics

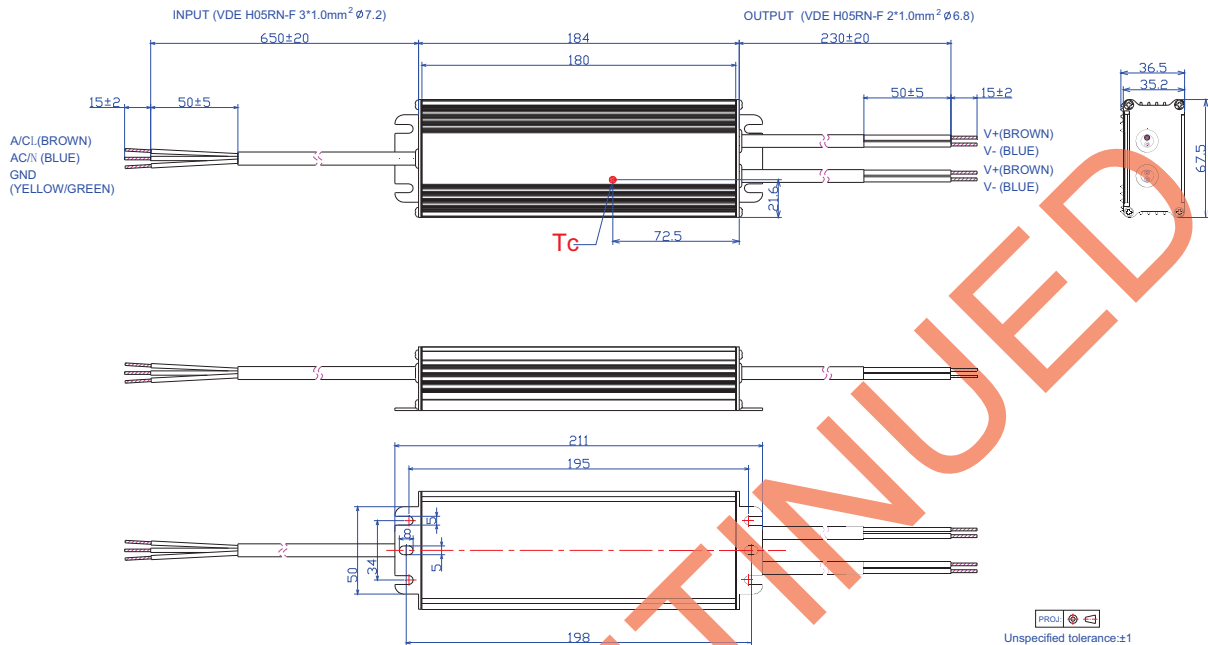


Total Harmonic Distortion Curve



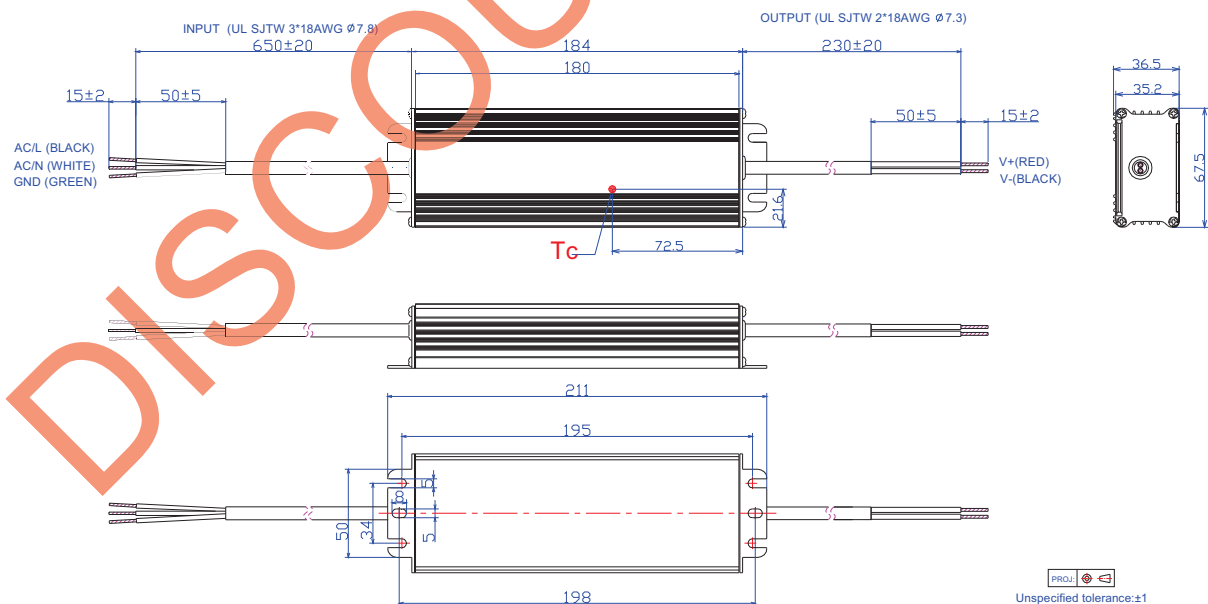
Mechanical Outline

EUV-100S012SV



Note: The 2 DC output cables are connected in parallel internally because one 1.0 mm² wire can only carry 10A. Please connect the 2 brown wires together and 2 blue wires together in application, or ensure each cable carries same current.

Others



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	
2009-08-14	A	Change Max. Output Current and Efficiency.				
2009-09-02	B	Change MTBF and Life Time.				
2009-09-11	C	Change Turn-on Delay Time				
2009-11-10	E	Change the min. value and notes of efficiency.				
2009-11-13	F	Add the Mechanical Outline of 12V.				
2009-12-16	G	Add note for mechanical outline.				
2010-01-14	H	Change the max. value of over current protection.				
2010-05-31	I	Add star rank for recommended models	/		☆: Popular model.	
		Add Leakage Current in Input Specifications	/		Max. 0.75 mA At 277Vac 50Hz input	
		Standardize the tolerance in Mechanical Outline	/		/	
2012-6-12	J	Mechanical Outline	/		Updated	
		Life Time Curve	/		Added	
		Vo=81 V & Vo=105 V Models	/		Deleted	
2012-7-17	K	Max Case Temperature	/		Updated	
2012-8-14	L	Efficiency @ 110 Vac	MIN	TYP	MIN	TYP
		Vo = 12 V	86%	89%	87%	89%
		Vo = 24 V	88%	91%	88%	90%
		Vo = 36 V	88%	90%	88%	90%
		Vo = 48 V	88%	90%	88%	90%
		Vo = 54 V	88%	91%	89%	91%
		Efficiency @ 220Vac	MIN	TYP	MIN	TYP
		Vo = 12 V	89%	91%	89%	91%
		Vo = 24 V	91%	93%	90%	92%
		Vo = 36 V	91%	93%	90%	92%
Vo = 48 V	91%	92%	90%	92%		
Vo = 54 V	91%	92%	91%	92%		
12V Model	/		Deleted			
Inrush Current(I ² t)	/		Added			
No Load Power Dissipation	1.5 W		3.5 W			
MTBF	439,000 Hours		200,000 Hours			
2012-12-24	M	MTBF	Min 200,000 hours		Typ 338,000 hours	
		Life time	Min 50,000 Hrs @ 65°C		Typ 113,000 Hrs @ 60°C	
		Ripple and Noise (pk-pk)	1.5% Vo		2.0% Vo	
		Turn-on delay time @110 Vac	1.0 s		1.2 s	

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2012-12-24	M	54V Model	/	Deleted
		Min PF and max THD	/	Added
		Temperature coefficient	/	Added
		PF curve and THD curve	/	Added
2019-09-19	N	KS Logo	/	Added
		Features	Waterproof (IP67)	IP67
		Features	5 Years Warranty	Added
		Models	Note (3) ☆: Popular model	Deleted
		General Specifications	Operating Case Temperature for Safety Tc_s	Updated
		General Specifications	Operating Case Temperature for Warranty Tc_w	Added
		General Specifications	Storage Temperature	Added
		General Specifications	With mounting ear	Added
		Environmental Specifications	/	Deleted
		Safety &EMC Compliance	KS	Added
		Safety &EMC Compliance	EN 61000-4-5	Updated
		Safety &EMC Compliance	Note	Added
		Derating Curve	/	Deleted
		Mechanical Outline	/	Updated
RoHS Compliance	/	Updated		