

Features

- Ultra High Efficiency (Up to 90%)
- High Power Factor (0.99 Typical)
- Constant Voltage Output
- Lightning Protection
- All-Round Protection: OVP, OCP, SCP, OTP
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations
- Comply With FCC Part15 Class B



Description

The EUV-096SxxxST series operate from a 90 ~ 305 Vac input range. They are designed to be highly efficient and highly reliable. Features include lightning protection, over voltage protection, over current protection, short circuit protection and over temperature protection. And these units can comply with the requirement of UL1310 class2.

Models

Output Voltage	Input Voltage Range	Output Current Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					110Vac	220Vac	
24 Vdc	90 ~ 305 Vac	0~4.00 A	96 W	87%	0.99	0.96	EUV-096S024ST (3,5)
36 Vdc	90 ~ 305 Vac	0~2.66 A	96 W	88%	0.99	0.96	EUV-096S036ST (3,6)
48 Vdc	90 ~ 305 Vac	0~2.00 A	96 W	88%	0.99	0.96	EUV-096S048ST (4)
54 Vdc	90 ~ 305 Vac	0~1.77 A	96 W	90%	0.99	0.96	EUV-096S054ST (4)

- Note:** (1) Measured at full 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.
 (3) Class 2 output (USR & CNR) for dry and damp location.
 (4) Class 2 output (USR), Non-Class 2 output (CNR) for dry and damp location.
 (5) Class 2 output (USR & CNR) for wet location.
 (6) Class 2 output (CNR only) only for wet location.

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 50Hz input
Input AC Current	-	-	1.2 A	Measured at full load and 100 Vac input.
	-	-	0.6 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	69 A	At 230Vac input. T (@ 50% of I peak)=140 μs.

Specifications are subject to changes without notice.

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Voltage Tolerance		-5%	-	5%	
Ripple and Noise (pk-pk)		-	-	3% 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		-	1 s	3 s	Measured at 110Vac input.
		-	0.8 s	2 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				
V _O = 24 V	-	30 V	35 V	
V _O = 36 V	-	45 V	50 V	
V _O = 48 V	-	55 V	60 V	
V _O = 54 V	-	65 V	75 V	
Over Current Protection	100% I _o		110% 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. The power supply shall be self-recovery when the fault condition is removed.
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 = 24 V	83%	85%	-	Measured at full load, 110 Vac input, 25°C ambient temperature, after the unit is thermally stabilized.
	V _O = 36 V	84%	86%	-	
	V _O = 48 V	84%	86%	-	It will be about 2.5% lower, if measured immediately after startup.
	V _O = 54 V	85%	87%	-	
Efficiency	V _O = 24 V	85%	87%	-	Measured at full load, 220 Vac input, 25°C ambient temperature, after the unit is thermally stabilized.
	V _O = 36 V	86%	88%	-	
	V _O = 48 V	86%	88%	-	It will be about 2.5% lower, if measured immediately after startup.
	V _O = 54 V	88%	90%	-	

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General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
MTBF	400,000 Hours			Measured at 110Vac input, 80% Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	50,000 Hours			Measured at 110Vac input, 80%load; Case temperature=60°C @ Tc point. See the life vs. Tc curve for the details
Dimensions Inches (L x W x H) Millimeters (L x W x H)	6.85 x 2.66 x 1.44 174 x 67.5 x 36.5			
Net Weight	-	850 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 See Derating Curve for more details
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

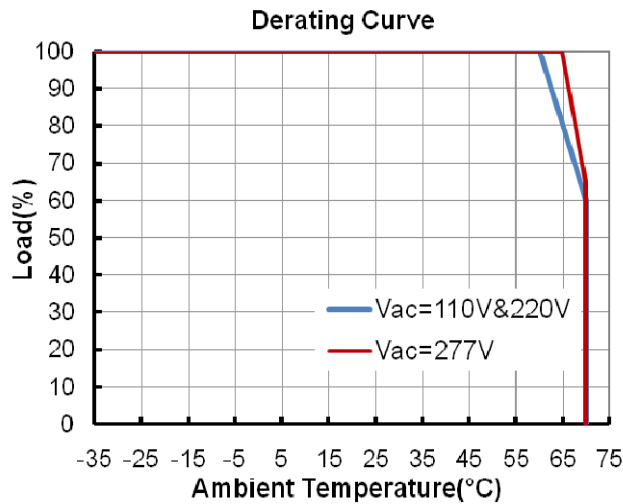
Safety Category	Standard
CUL	UL8750 – Light Emitting Diode (LED) Equipment for Use in Lighting Products
	UL1310 – Class 2 Power Units
	CSA C22.2 NO. 223-M91- Extra-Low-Voltage Class 2 Outputs
	CSA-C22.2 No. 107.1 – General Use Power Supplies
CE	EN 61347-1 – Lamp control gear Part 1: General and safety requirements
	EN61347-2-13 – Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
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
FCC Part 15 Class B,	ANSI C63.4: 2009
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 15 KV air discharge, 8 KV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS

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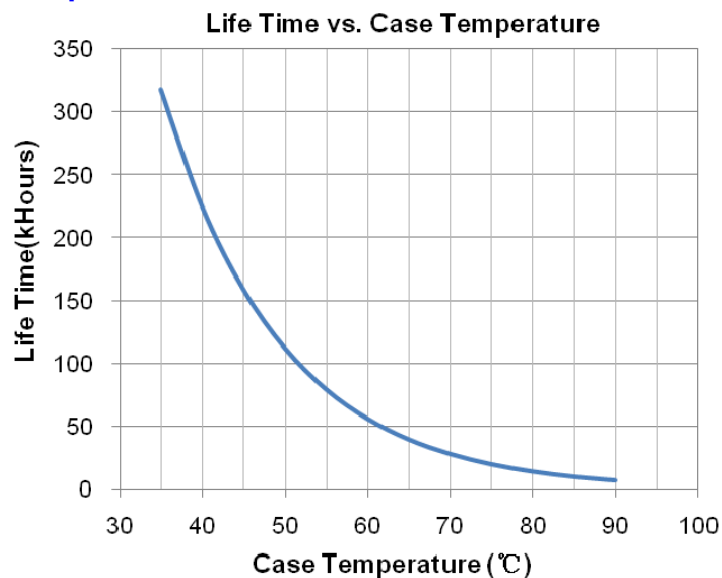
Safety & EMC Compliance (Continued)

EMS Standards	Notes
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 2 KV, line to earth 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

Derating Curve

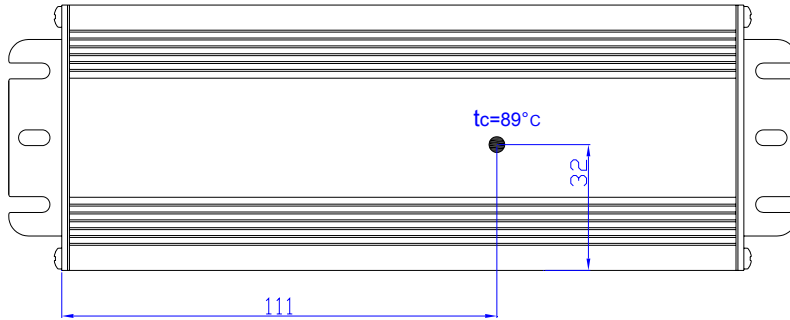


Life Time vs. Case Temperature Curve

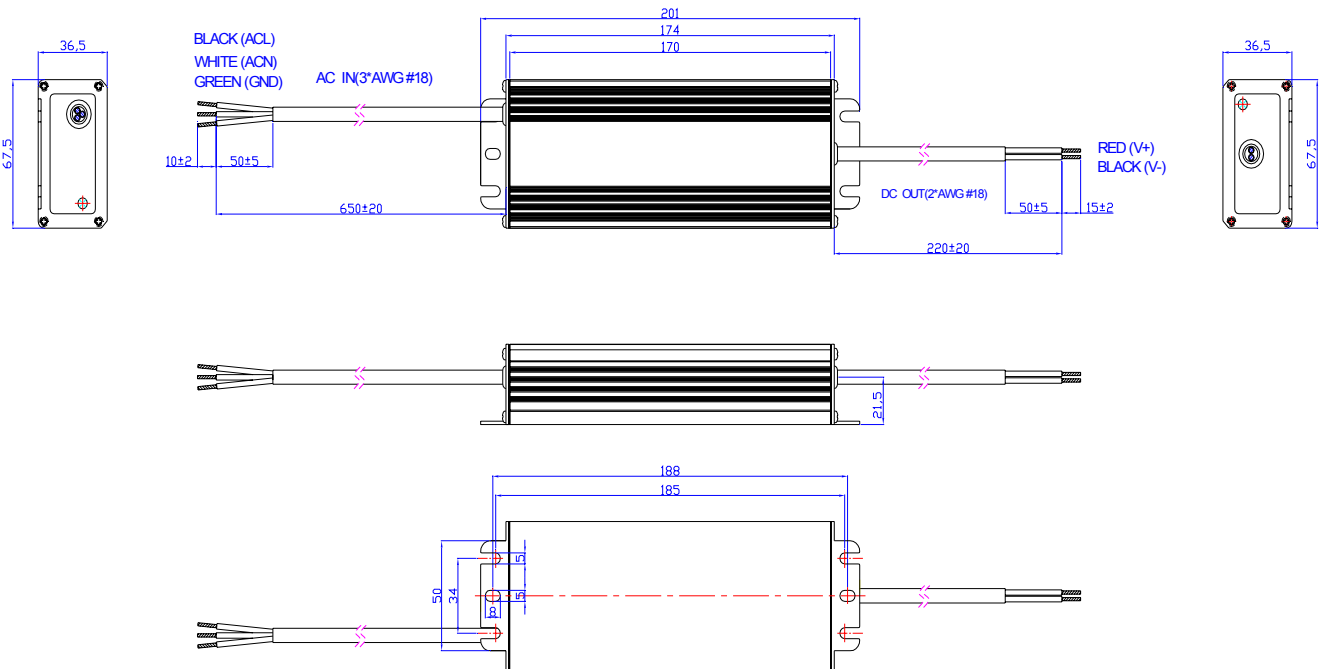


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Max. Case Temperature



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	
2010-6-2	V1.0	First Release				
2010-6-4	V2.0	1. Change the MTBF from 439,000 hours to 400,000 hours; 2. Change the life from 96,000 hours to 50,000 hours; 3. Change the life test condition from 220Vac to 110Vac.				
2010-12-21	A	Change PF at 220Vac	0.95		0.96	
		Change the notes for models	/		/	
		Change Ripple and Noise (pk-pk)	2% Vo		3% Vo	
		Delete Derating Curve	/		/	
		Add Max. Case Temperature	/		tc: 89 °C	
		Update safety standards	/		/	
		Add FCC Part15 Class B	/		FCC Part 15 Class B, ANSI C63.4: 2009.	
		Update mechanical Outline	/		/	
2011-07-08	B	Models-TE	88%,89%,89%,90%		87%,88%,88%,90%	
		Input Specifications-Input AC Current	1.2A		1.3A	
		Inrush Current	50A		69A	
		Output Specifications-Turn-on Delay Time	0.8S	1S	1S	3S
			0.8S	1S	0.8S	2S
		Protection Functions	/			
		General Specifications-Typ.	86%			86%
			87%			87%
			87%			87%
			88%			88%
88%			87%			
89%			88%			
89%			88%			
90%			90%			
General Specifications-Notes	1%		2-3%			
2012-01-18	C	Input AC Current	1.3 A		1.2 A	
2012-05-17	D	All Models-Min Efficiency	/		1% Lower	
2012-06-08	E	Derating Curve	/		Updated	
		Life time vs. Tc Curve	/		Added	

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