

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) and Damp & Wet Location
- SELV Output



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.

Models

Output Voltage	Input Voltage Range	Output Current Range	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					120Vac	220Vac	
24 Vdc	90 ~ 305 Vac	0~4.00 A	96 W	87%	0.99	0.96	EUV-096S024ST(3)(5)(7)
36 Vdc	90 ~ 305 Vac	0~2.66 A	96 W	88%	0.99	0.96	EUV-096S036ST(3)(6)(7)
48 Vdc	90 ~ 305 Vac	0~2.00 A	96 W	88%	0.99	0.96	EUV-096S048ST(4)(7)
54 Vdc	90 ~ 305 Vac	0~1.77 A	96 W	90%	0.99	0.96	EUV-096S054ST(4)(7)

- Note:** (1) Measured at 25°C, 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.
 (7) SELV Output

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 220Vac input, 25°C Cold start, Duration= 2 mS, 10%Ipk-10%Ipk
Inrush Current(I ² t)	-	-	2.8 A ² s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	At 100Vac-277Vac, 75%load-100%load

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		-	1.0 s	2.0 s	Measured at 120Vac input.
		-	1.0s	2.0 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	
Temperature coefficient		-	-	0.03%/°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 = 24 V V _O = 36 V V _O = 48 V V _O = 54 V	- - - -	30 V 45 V 55 V 65 V	35 V 50 V 60 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-Tc	-	110 °C	-	Maximum temperature of 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 V _O = 36 V V _O = 48 V V _O = 54 V	83% 84% 84% 85%	85% 86% 86% 87%	- - - -	Measured at full load, 120 Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
Efficiency V _O = 24 V V _O = 36 V V _O = 48 V V _O = 54 V	85% 86% 86% 88%	87% 88% 88% 90%	- - - -	Measured at full load, 220 Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
MTBF	-	202,000 Hours	-	Measured at 120Vac input, 80% Load and 25°C ambient temperature (MIL-HDBK-217F)

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General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Life Time	-	56,600 Hours	-	Measured at 120Vac input, 80%load; Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details
Case Temperature	-	-	89°C	
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

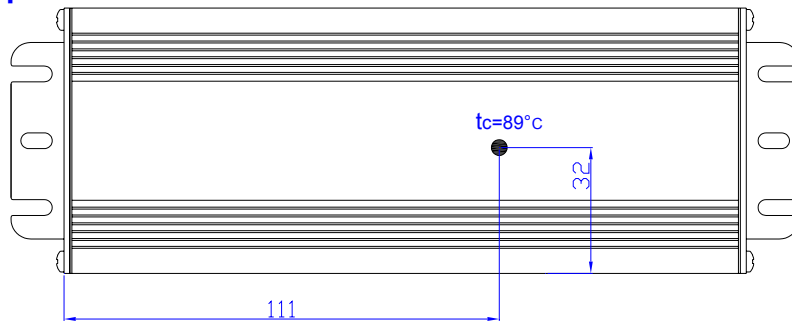
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-40 °C	-	+70 °C	Humidity: 10% RH to 100% RH See Derating Curve for more details
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

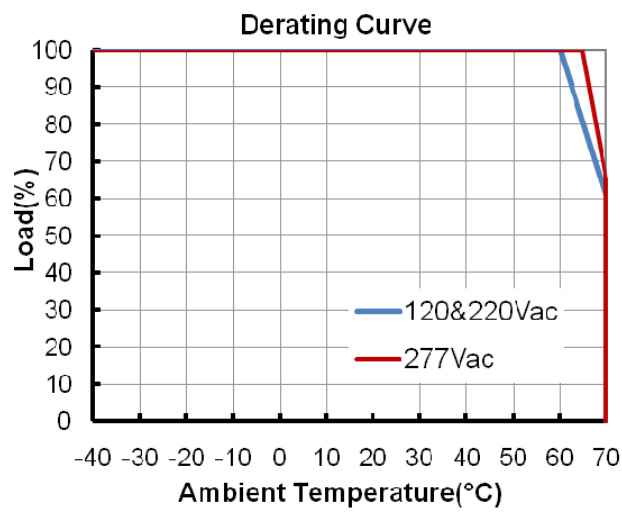
Safety Category	Standard
UL/CUL	UL8750, UL1310, CSA C22.2 NO. 223-M91, CSA C22.2 NO. 223-M91
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15	ANSI C63.4: 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
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

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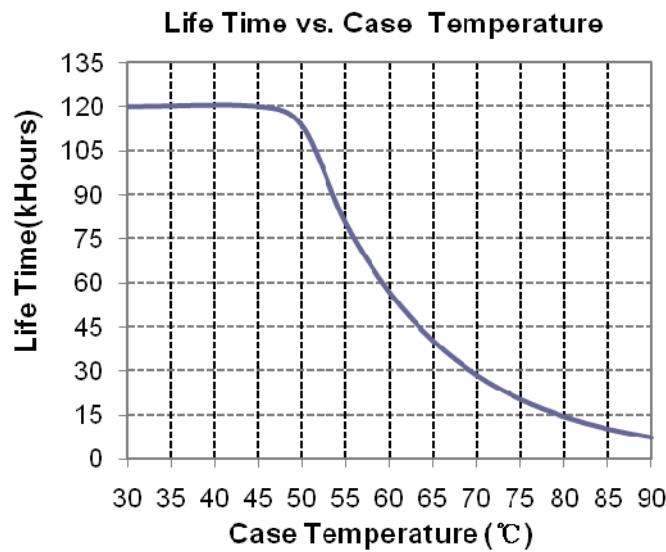
Max. Case Temperature



Derating Curve

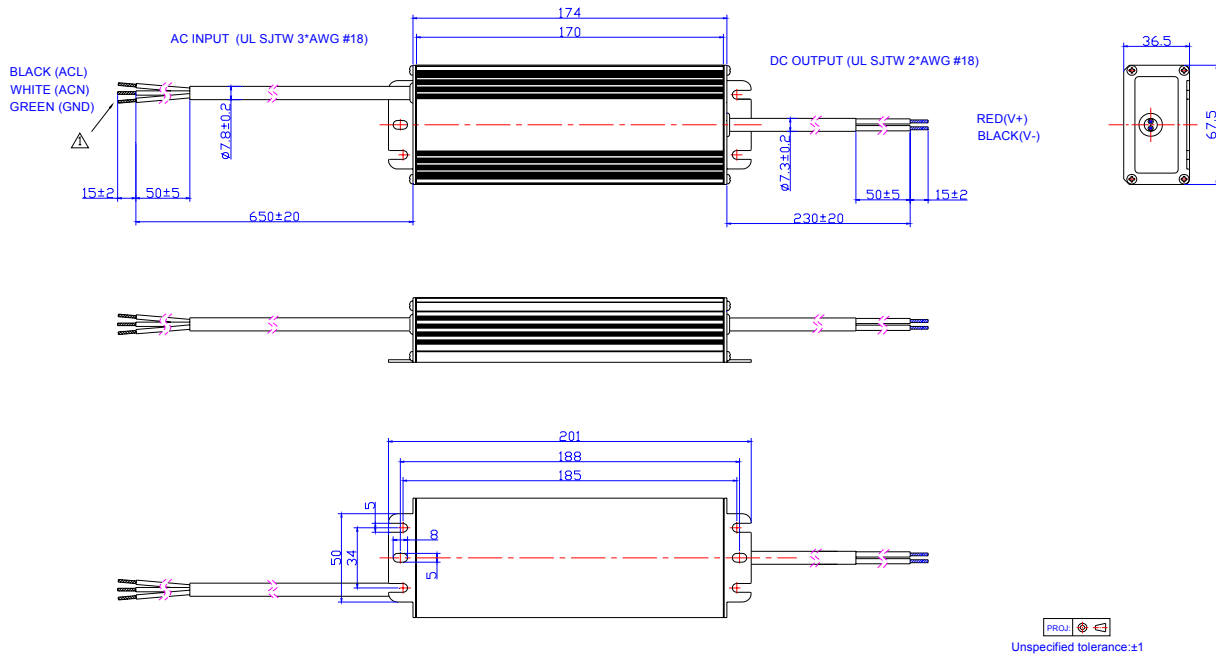


Life Time vs. Case Temperature Curve



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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	
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	
2012-7-17	F	Max Case Temperature	/		Updated	
		EN61000-4-5	line to line 2 kV, line to earth 4 kV		line to line 4 kV, line to earth 6 kV	
2012-8-6	G	SELV Output	/		Added	
		Duration of Inrush Current	140 µs		2 mS	
		Operating Temperature/Derating Curve	/		Updated	
2012-10-16	H	MTBF & Life time Typical	/		Added	
		Life time Curve	/		Updated	
		Min PF, Max THD, Temperature Coefficient	/		Added	
2013-1-10	I	Turn-on delay time	1s	3s	1s	2s
			0.8s	2s	1s	2s

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