

Features

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



Description

The EUV-100SxxxST 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)
					110Vac	220Vac	
12 Vdc	90 ~ 305 Vac	0~8.33 A	100 W	91%	0.99	0.96	EUV-100S012ST
24 Vdc	90 ~ 305 Vac	0~4.05 A	100 W	92%	0.99	0.96	EUV-100S024ST☆
36 Vdc	90 ~ 305 Vac	0~2.75 A	100 W	92%	0.99	0.96	EUV-100S036ST☆
48 Vdc	90 ~ 305 Vac	0~1.95 A	100 W	92%	0.99	0.96	EUV-100S048ST☆

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) ☆: Popular model.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	At 277Vac 60Hz input
Input AC Current	-	-	1.20 A	Measured at full load and 100 Vac input.
	-	-	0.60 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	65 A	At 220Vac input, 25°C cold start, duration=1.2 ms , 10%lpk-10%lpk.
Inrush Current(I ² t)	-	-	1 A ² s	
Power Factor	0.85	-	-	At 100Vac-277Vac, 75%load-100%load
THD	-	-	20%	At 220Vac, full 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)		-	-	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% full 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% 88% 88% 88%	89% 90% 90% 90%	- - - -	Measured at full load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
Efficiency V _O = 12 V V _O = 24 V V _O = 36 V V _O = 48 V	89% 90% 90% 90%	91% 92% 92% 92%	- - - -	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
No Load Power Dissipation	-	-	3.5 W	

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General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
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
Case temperature	-	-	88 °C	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	7.24 × 2.66 × 1.44 184 × 67.5 × 36.5			
Net Weight	-	950 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

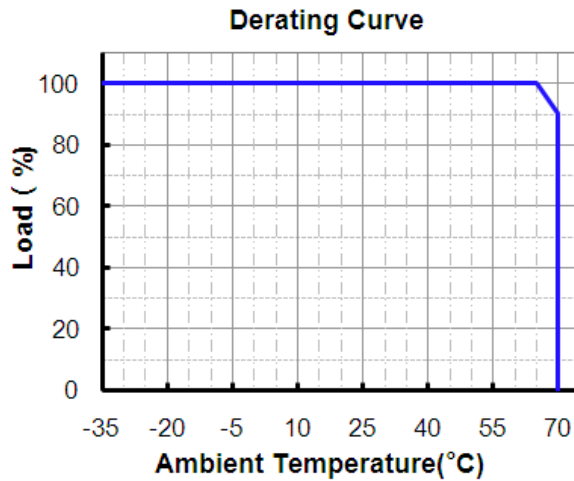
Safety Category	Standard
UL/CUL	UL8750,UL1012, CSA-C22.2 No. 107.1
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic 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 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

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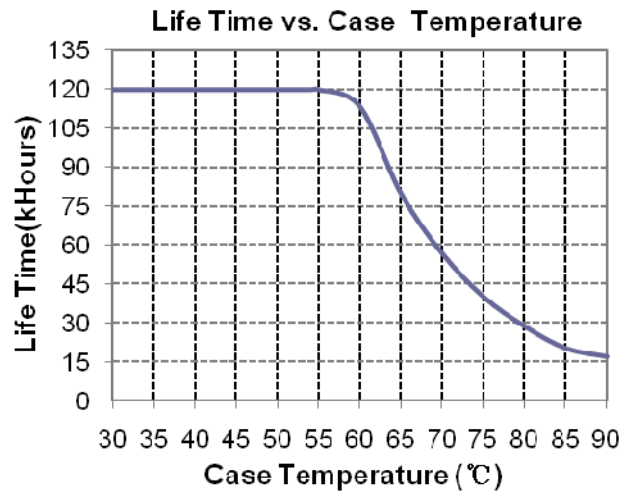
Safety & EMC Compliance (Continued)

EMS Standards	Notes
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

Derating Curve



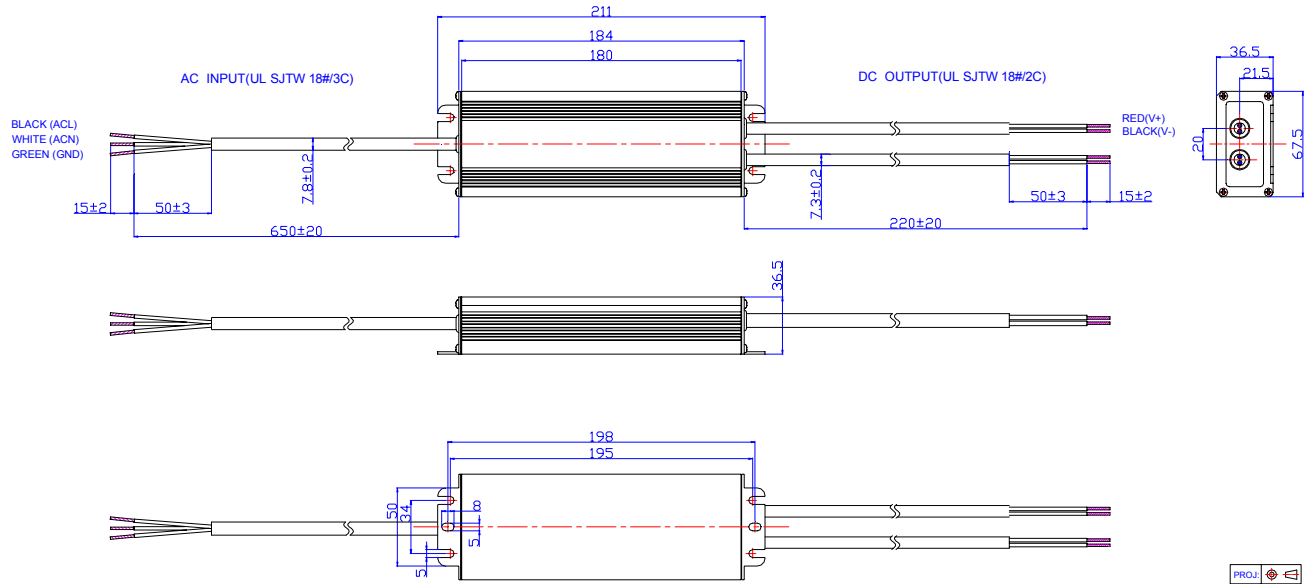
Life time vs. Case Temperature Curve



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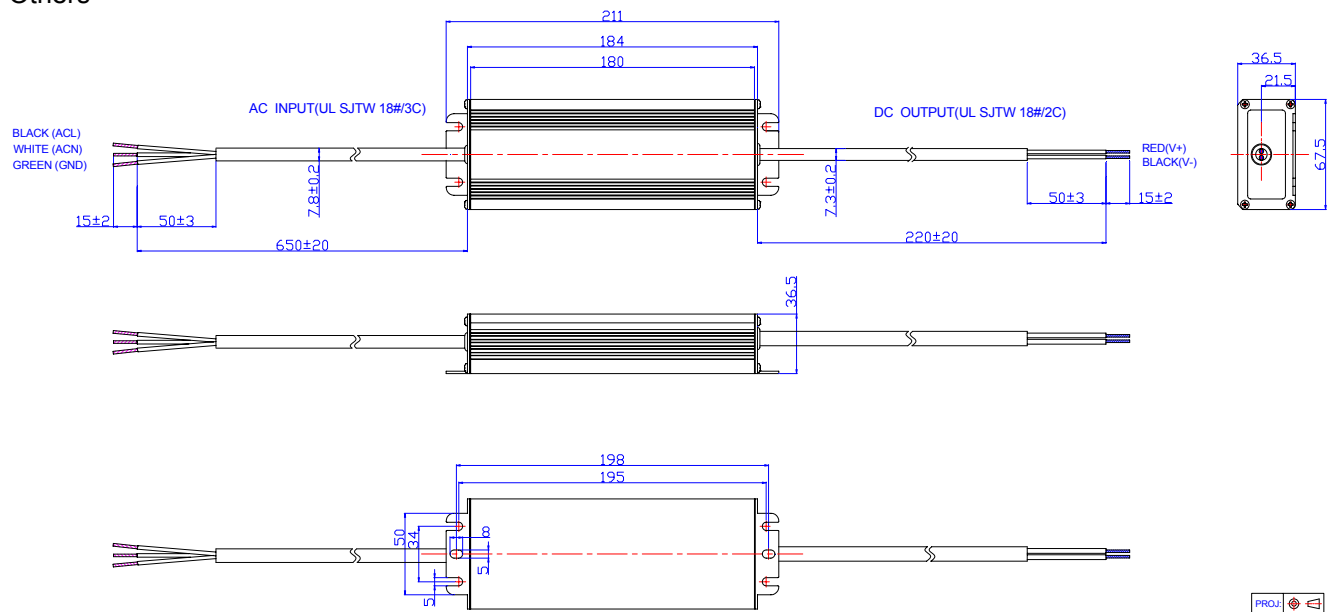
Mechanical Outline

EUV-100S012ST



Note: The 2 DC output cables are connected in parallel internally because one AWG #18 wire can only carry 10A. Please connect the 2 red wires together and 2 black wires together in application, or ensure each cable carries same current.

Others



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			
2009-08-14	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					
2009-10-15	D	Delete "UL1310 Class2" in Safety & EMC Compliance					
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			
2012-12-24	L	MTBF	Min 439,000 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% V _O	2.0% V _O			
		Turn-on delay time @110 Vac	1.0 s	1.2 s			
		Inrush Current(I ² t)	/	Added			
		Min PF and max THD	/	Added			
		Temperature coefficient	/	Added			
		No Load Power Dissipation	1.5 W	3.5 W			
		42V and 54V Model	/	Deleted			
		Efficiency @ 110 Vac		MIN	TYP	MIN	TYP
			V _O = 12 V	86%	89%	87%	89%
			V _O = 24 V	88%	91%	88%	90%
			V _O = 36 V	88%	90%	88%	90%
	V _O = 48 V	88%	90%	88%	90%		
	V _O = 54 V	88%	91%	89%	91%		
Efficiency @ 220Vac		MIN	TYP	MIN	TYP		
	V _O = 12 V	89%	91%	89%	91%		
	V _O = 24 V	91%	93%	90%	92%		
	V _O = 36 V	91%	93%	90%	92%		
	V _O = 48 V	91%	92%	90%	92%		
	V _O = 54 V	91%	92%	91%	92%		

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