

Features

- Ultra High Efficiency (Up to 93%)
- High Power Factor (0.99 Typical)
- Constant Voltage of 100W Continuous Output Power
- Lightning Protection
- All-Round Protection: OVP, OCP, SCP, OTP
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations



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	93%	0.99	0.96	EUV-100S024ST★
36 Vdc	90 ~ 305 Vac	0~2.75 A	100 W	93%	0.99	0.96	EUV-100S036ST★
42 Vdc	90 ~ 305 Vac	0~2.35 A	100 W	93%	0.99	0.96	EUV-100S042ST
48 Vdc	90 ~ 305 Vac	0~1.95 A	100 W	92%	0.99	0.96	EUV-100S048ST★
54 Vdc	90 ~ 305 Vac	0~1.75 A	100 W	92%	0.99	0.96	EUV-100S054ST

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 230Vac input 25°C Cold Start

Specifications are subject to changes without notice.

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Voltage Tolerance		-5%	-	5%	
Ripple and Noise (pk-pk)		-	-	1.5% 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	1.0 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	

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

Protection Functions

Parameter		Min.	Typ.	Max.	Notes
Over Voltage Protection					Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
	V _O = 12 V	14 V	15 V	16 V	
	V _O = 24 V	27 V	30 V	34 V	
	V _O = 36 V	40 V	47 V	50 V	
	V _O = 42 V	47 V	52 V	57 V	
	V _O = 48 V	54 V	59 V	63 V	
	V _O = 54 V	60 V	68 V	75 V	
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					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.
	V _O = 12 V	86%	89%	-	
	V _O = 24 V	88%	91%	-	
	V _O = 36 V	88%	90%	-	
	V _O = 42 V	89%	91%	-	
	V _O = 48 V	88%	90%	-	
	V _O = 54 V	88%	91%	-	

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General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Efficiency $V_O = 12\text{ V}$ $V_O = 24\text{ V}$ $V_O = 36\text{ V}$ $V_O = 42\text{ V}$ $V_O = 48\text{ V}$ $V_O = 54\text{ V}$	89% 91% 91% 91% 91% 91%	91% 93% 93% 93% 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			1.5 W	
MTBF	439,000 hours			Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	50,000 hours			Measured at 220Vac input, 80%Load; Case temperature=65°C @ Tc point. See the life vs. Tc curve for the details
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
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

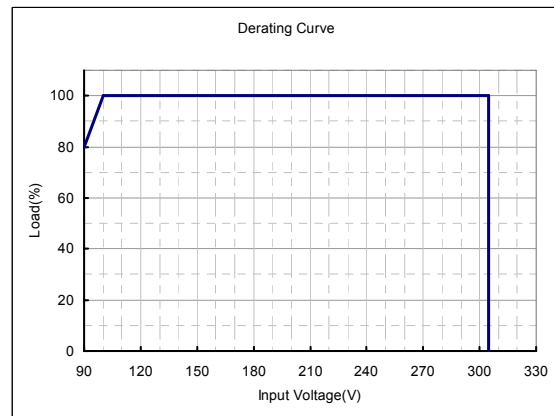
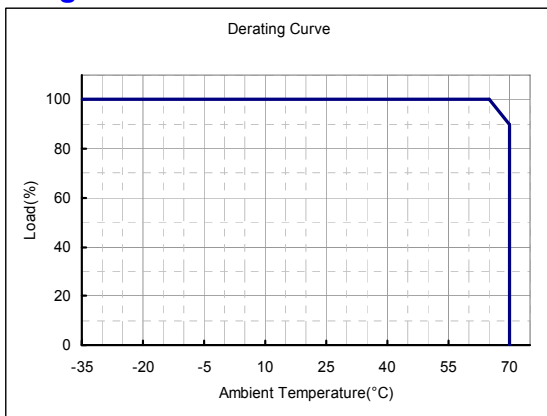
Safety Category	Standard
CUL	UL8750 Compliance to UL1012 UL935, CAN/CSA-C22.2 No. 0, CSA-C22.2 No. 107.1, CSA-C22.2 No. 250.0
CE	EN 61347-1, EN61347-2-13
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & 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

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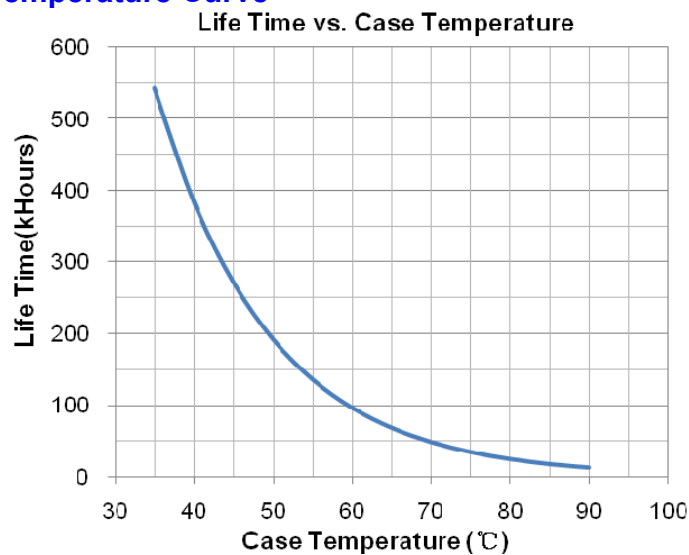
Safety & EMC Compliance (Continued)

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



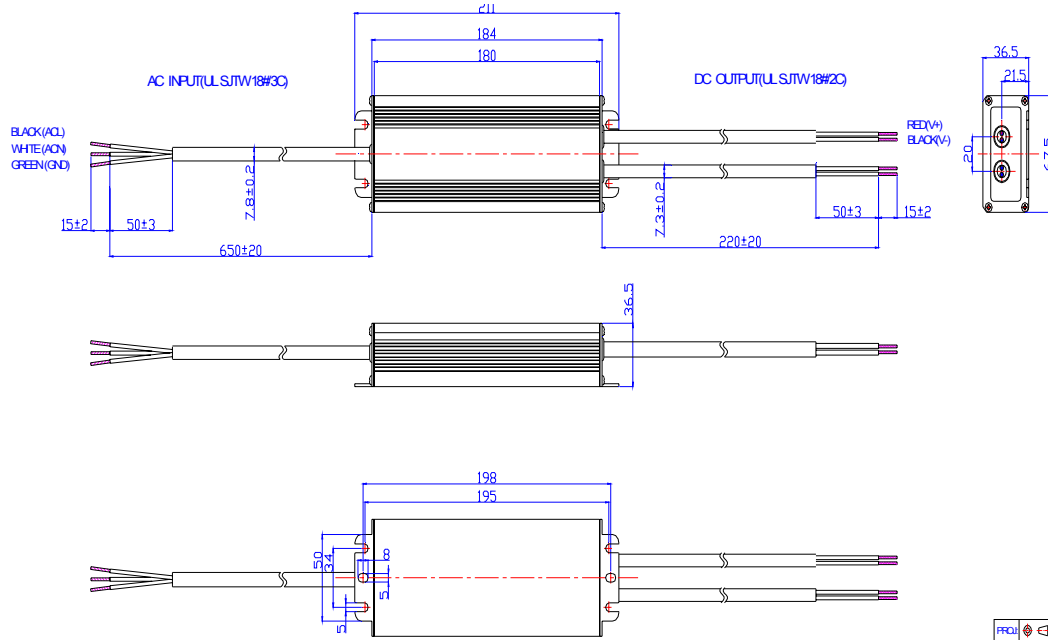
Life time vs. Case Temperature Curve



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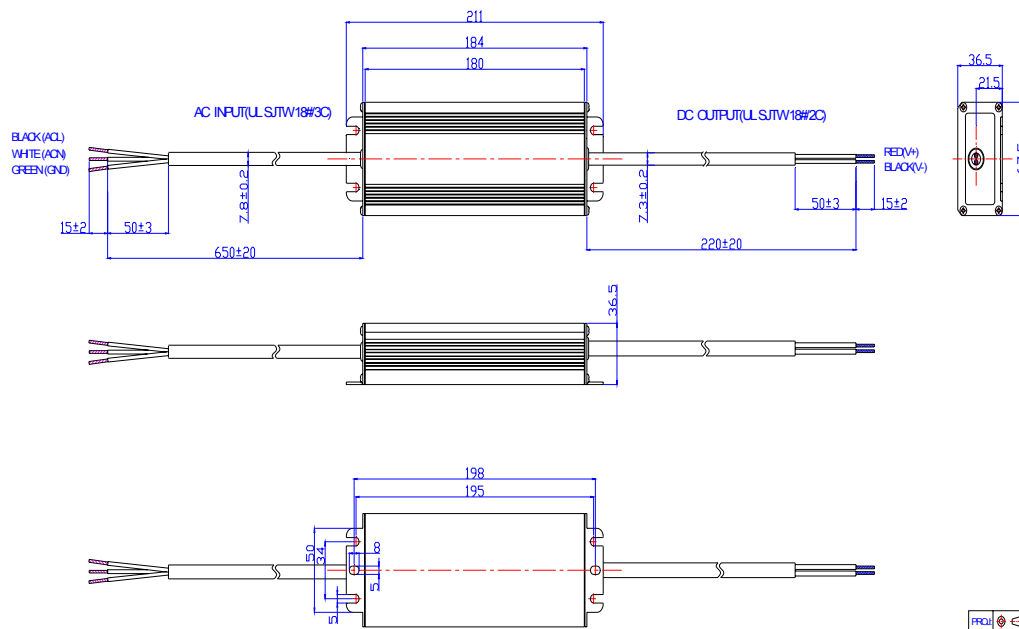
Mechanical Outline

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.

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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