Features

- High Efficiency (Up to 87%)
- Active Power Factor Correction (Typical 0.92)
- Constant Output Voltage
- Waterproof (IP67)
- All-Round Protection: OVP, SCP, OCP
- Comply With UL8750 & EN61347 Safety Regulations
- Comply With FCC Part15 Class B

Description

The EUV-050SxxxST Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 48 V of output voltage and a maximum output current of 4200 mA for 50 W maximum output power. They are designed to be highly efficient and highly reliable. Features include over voltage protection, short circuit protection and over current protection.

Models

Output Voltage	Input Voltage	Max. Output Current	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					110Vac	220Vac	
12 Vdc	90 ~ 305 Vac	4200 mA	50 W	82%	0.98	0.92	EUV-050S012ST(3)
18 Vdc	90 ~ 305 Vac	2780 mA	50 W	84%	0.98	0.92	EUV-050S018ST(3)
24 Vdc	90 ~ 305 Vac	2100 mA	50 W	84%	0.98	0.92	EUV-050S024ST(3)
36 Vdc	90 ~ 305 Vac	1400 mA	50 W	86%	0.98	0.92	EUV-050S036ST(3)
48 Vdc	90 ~ 305 Vac	1050 mA	50 W	87%	0.98	0.92	EUV-050S048ST(4)

Notes: (1) Measured at full load and 220 Vac input.
(2) A suffix –xxxx 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).
(4) Class 2 output (USR), Non-Class 2 output (CNR).

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.5 mA	At 277Vac 50Hz input
Input AC Current	-	-	0.7 A	Measured at full load and 100 Vac input.
	-	-	0.35 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	60 A	At 230Vac input 25℃ Cold Start .

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Range				
Vo = 12 V	10.80 V	12 V	13.20 V	
Vo = 18 V	16.20 V	18 V	19.80 V	
Vo = 24 V	21.60 V	24 V	26.40 V	
Vo = 36 V	32.40 V	36 V	39.60 V	
Vo = 48 V	43.20 V	48 V	52.80 V	
Output Current Range				
Vo = 12 V	0 A	-	4.20 A	
Vo = 18 V	0 A	-	2.78 A	
Vo = 24 V	0 A	-	2.10 A	
Vo = 36 V	0 A	-	1.40 A	
Vo = 48 V	0 A	-	1.05 A	
Ripple and Noise				
Vo = 12 V	-	-	3 V	Load conditions, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Vo = 18 V	-	-	3 V	
Vo = 24 V	-	-	3 V	
Vo = 36 V	-	-	4 V	
Vo = 48 V	-	-	5 V	
Line Regulation	-	-	±3%	
Load Regulation	-	-	±10%	
Turn-on Delay Time	-	2.5 s	3.0 s	Measured at 110Vac input.
	-	1.5 s	2.0 s	Measured at 220Vac input.
Output Overshoot / Undershoot	-	-	40%	When power on or off.

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

Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Voltage Protection				
Vo = 12 V	14 V	16 V	18 V	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Vo = 18 V	20 V	22 V	24 V	
Vo = 24 V	28 V	30 V	32 V	
Vo = 36 V	40 V	42 V	44 V	
Vo = 48 V	53 V	55 V	57 V	
Over Current Protection	1.2 Io	1.50 Io	1.70 Io	Hiccup mode. 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				
Vo = 12 V	79%	80%	-	Measured at full load and 110 Vac input.
Vo = 18 V	80%	81%	-	
Vo = 24 V	81%	82%	-	
Vo = 36 V	84%	85%	-	
Vo = 48 V	85%	86%	-	
Efficiency				
Vo = 12 V	81%	82%	-	Measured at full load and 220 Vac input.
Vo = 18 V	83%	84%	-	
Vo = 24 V	83%	84%	-	
Vo = 36 V	85%	86%	-	
Vo = 48 V	86%	87%	-	
No Load Power Dissipation			4 W	
MTBF	487,000 hours			For 12V output model, measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F).
Life Time	66,000 hours			For 12V output model, measured at 110Vac input, 80%Load and 45°C ambient temperature.
Dimensions				
Inches (L × W × H)	6.77 × 1.36 × 1.67			
Millimeters (L × W × H)	172 × 34.5 × 42.5			
Net Weight	-	480 g	-	

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

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 ℃	-	+55 ℃	Humidity: 10% RH to 100% RH
Storage Temperature	-40 ℃	-	+85 ℃	Humidity: 5% RH to 100% RH

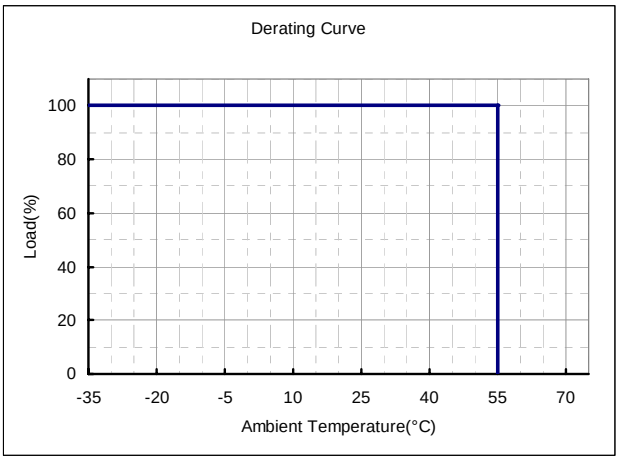
Safety & EMC Compliance

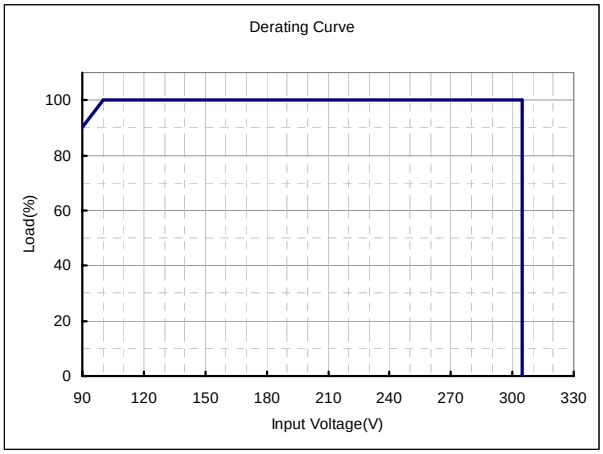
Safety Category	Standard
CUL	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
EMI Standards	**Notes**
EN 55015	Conducted emission Test & Radiated emission Test with 6 dB margin
FCC	FCC Part 15 Class B, ANSI C63.4: 2009.

Safety & EMC Compliance(Continued)

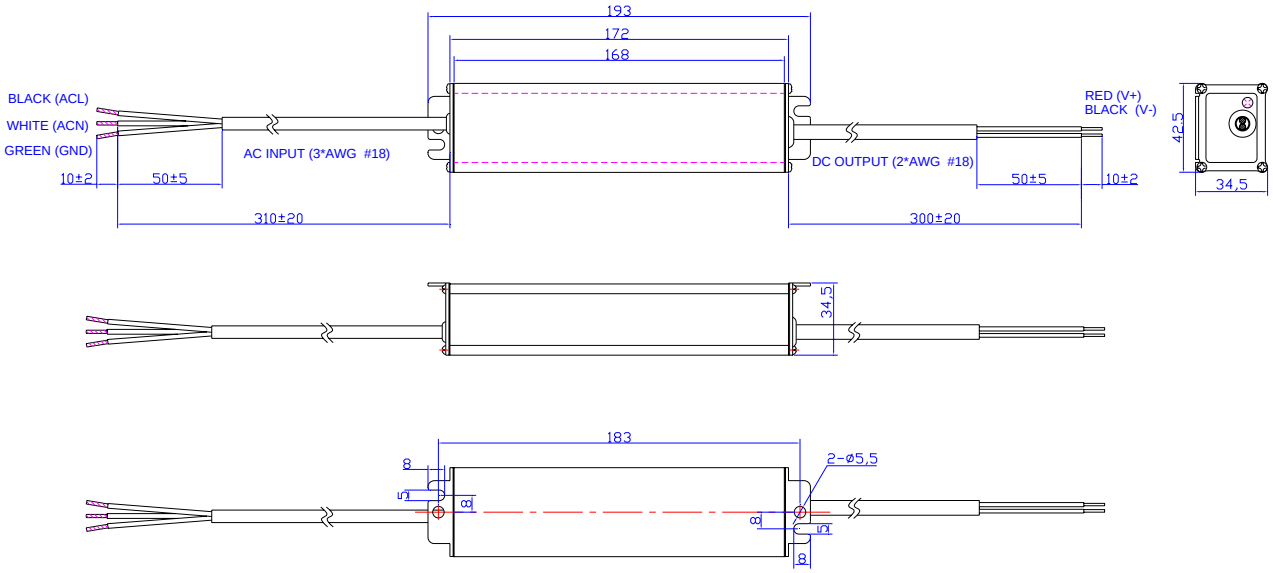
EMS Standards	Notes
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 2kV, 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





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
2009-09-02	V2.1	Change MTBF and Life Time		
2009-09-11	V2.2	Change Turn-on Delay Time		
2009-12-08	A	Modify the output current range		
2010-01-12	B	Modify the derating curve and mechanical outline		
2010-04-12	C	Change the Power Factor 110Vac	0.99	0.98
		Add Leakage Current in Input Specifications	/	Max. 0.5 mA At 277Vac 50Hz input
		Change Inrush Current	20 A	60 A
		Change Ripple and Noise	Max. 25% V_O	The max. value of every model.
		Change Turn-on Delay Time 110Vac 220Vac	Typ. Max. 1.7S 2.0S 0.7S 1.0S	Typ. Max. 2.5S 3.0S 1.5S 2.0S
		Change Output Overshoot / Undershoot	Max. 10%	Max. 40%
		Change Over Current Protection	1.1Io 1.25 Io 1.70 Io	1.2Io 1.50 Io 1.70 Io
		Change No Load Power Dissipation	≤ 3 W	≤ 4 W
		Delete part of the notes in Operating Temperature	Derating: 2% per °C from 55°C to 70°C.	/
		Change the Max. Ambient Temperature in Derating Curve	+70 ℃	+55 ℃
		Standardize the tolerance in Mechanical Outline	/	/
2010-10-14	D	Update the Standard of the CUL	/	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
2011-1-10	E	Change Over Voltage Protection Vo = 12 V Vo = 18 V Vo = 24 V Vo = 36 V Vo = 48 V	Min. Typ. Max. 13V 15V 17V 21V 23V 25V 31V 32V 34V 40V 41V 42V 58V 59V 60V	Min. Typ. Max. 13V 16V 17V 21V 22V 23V 26V 28V 30V 38V 40V 42V 51V 53V 55V
		Add FCC Part15 Class B	/	FCC Part 15 Class B, ANSI C63.4：2009.