Features

- Ultra High Efficiency (Up to 93%)
- High Power Factor (0.99 Typical)
- 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. These units will provide up to 100 W of output power and a maximum output current of 8.33 A for 12 V output model. 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	Max. Output Current	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					110Vac	220Vac	
12 Vdc	90 ~ 305 Vac	8.33 A	100 W	91%	0.99	0.96	EUV-100S012ST
24 Vdc	90 ~ 305 Vac	4.05 A	100 W	93%	0.99	0.96	EUV-100S024ST☆
36 Vdc	90 ~ 305 Vac	2.75 A	100 W	93%	0.99	0.96	EUV-100S036ST☆
42 Vdc	90 ~ 305 Vac	2.35 A	100 W	93%	0.99	0.96	EUV-100S042ST
48 Vdc	90 ~ 305 Vac	1.95 A	100 W	92%	0.99	0.96	EUV-100S048ST☆
54 Vdc	90 ~ 305 Vac	1.75 A	100 W	92%	0.99	0.96	EUV-100S054ST
81 Vdc	90 ~ 305 Vac	1.23 A	100 W	93%	0.99	0.96	EUV-100S081ST
105 Vdc	90 ~ 305 Vac	0.95 A	100 W	93%	0.99	0.96	EUV-100S105ST

Note: (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) ☆: 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 50Hz 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℃ Cold Start

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Range					
	V_O = 12 V	11.40 V	12 V	12.60 V	Measured at the end of output cable, including line, load and temperature regulations.
	V_O = 24 V	22.80 V	24 V	25.20 V	
	V_O = 36 V	34.20 V	36 V	37.80 V	
	V_O = 42 V	39.90 V	42 V	44.10 V	
	V_O = 48 V	45.60 V	48 V	50.40 V	
	V_O = 54 V	51.30 V	54 V	56.70 V	
	V_O = 81 V	76.95 V	81 V	85.05 V	
	V_O = 105 V	99.75 V	105 V	110.25V	
Load Current					
	V_O = 12 V	0 A	-	8.33 A	
	V_O = 24 V	0 A	-	4.05 A	
	V_O = 36 V	0 A	-	2.75 A	
	V_O = 42 V	0 A	-	2.35 A	
	V_O = 48 V	0 A	-	1.95 A	
	V_O = 54 V	0 A	-	1.75 A	
	V_O = 81 V	0 A	-	1.23 A	
	V_O = 105 V	0 A	-	0.95 A	
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				
V_O = 12 V	14 V	15 V	16 V	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
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	
V_O = 81 V	91 V	95 V	100 V	
V_O = 105 V	120 V	125 V	140 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.

Protection Functions (Continued)

Parameter	Min.	Typ.	Max.	Notes
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	86%	89%	-	Measured at full load, 110Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
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%	-	
V_O = 81 V	88%	91%	-	
V_O = 105 V	88%	91%	-	
Efficiency				
V_O = 12 V	89%	91%	-	Measured at full load, 220Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be lower about 1%, if measured immediately after startup.
V_O = 24 V	91%	93%	-	
V_O = 36 V	91%	93%	-	
V_O = 42 V	91%	93%	-	
V_O = 48 V	91%	92%	-	
V_O = 54 V	91%	92%	-	
V_O = 81 V	91%	93%	-	
V_O = 105 V	91%	93%	-	
No Load Power Dissipation			1.5 W	
MTBF	439,000 hours			For 54V output model, measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F).
Life Time	96,000 hours			For 54V output model, measured at 220Vac input, 80%Load and 45°C ambient temperature
Dimensions				
Inches (L × W × H)	7.24 × 2.66 × 1.46			
Millimeters (L × W × H)	184 × 67.5 × 37			
Net Weight	-	950 g	-	

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

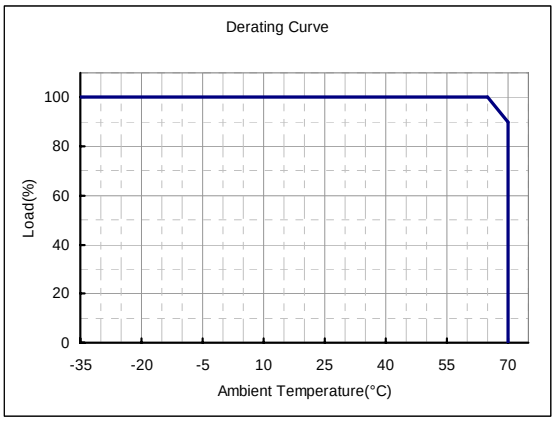
Environmental Specifications

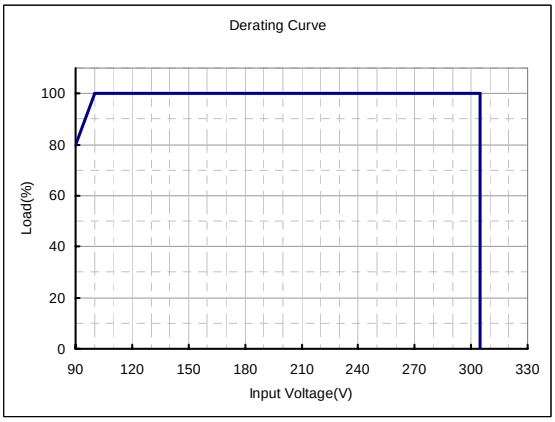
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 ℃	-	+70 ℃	Humidity: 10% RH to 100% RH
Storage Temperature	-40 ℃	-	+85 ℃	Humidity: 5% RH to 100% RH

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 with 6 dB margin
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 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

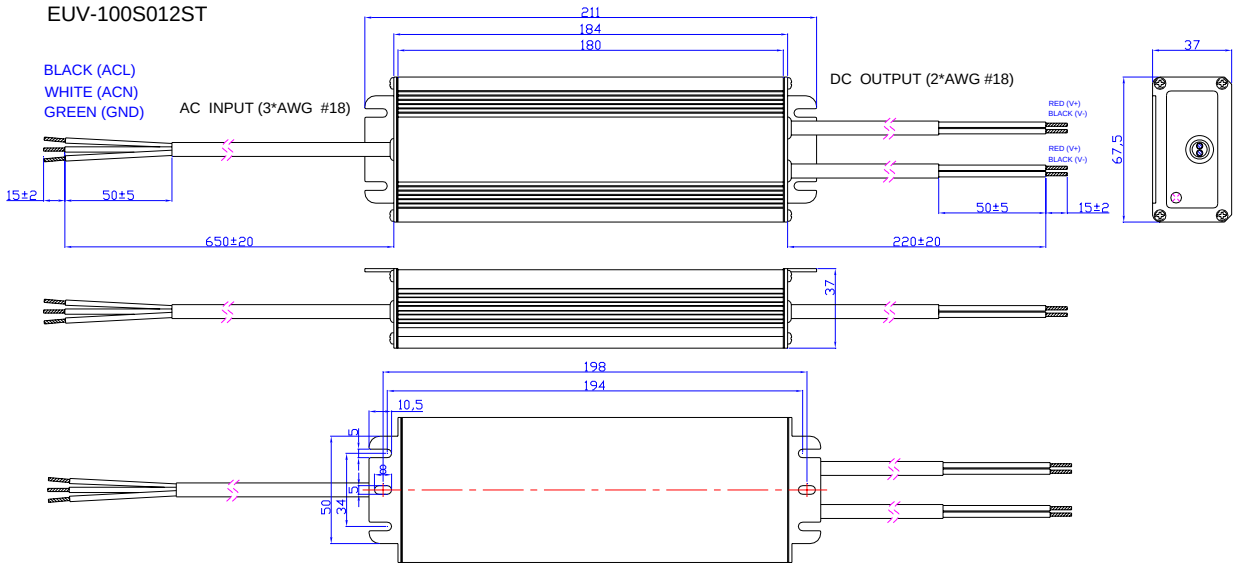
Derating Curve





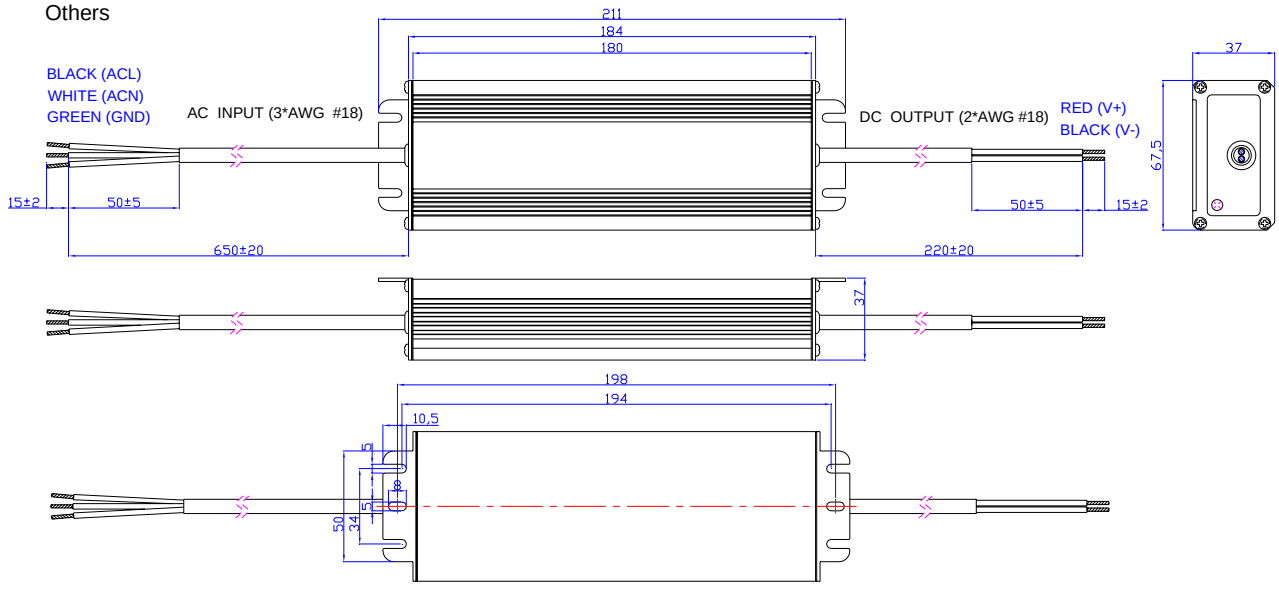
Mechanical Outline

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	/	/