

## Features

- High Efficiency (Up to 91%)
- Active Power Factor Correction (Up to 0.99)
- Constant Current Output
- Lightning Protection
- All-Round Protection: OVP, SCP, OTP
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations



## Description

The EUC-060SxxxST Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 5 A of output current and a maximum output voltage of 170 V for 60 W maximum output power. They are designed to be highly efficient and highly reliable. Features include over voltage protection, short circuit protection and over temperature protection.

## Models

Output Current	Input Voltage	Output Voltage Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number (3)
					110Vac	220Vac	
350 mA (1)	90 ~ 305 Vac	85~170 Vdc	60 W	91%	0.99	0.95	EUC-060S035ST (4)★
450 mA (1)	90 ~ 305 Vac	67~134 Vdc	60 W	91%	0.99	0.95	EUC-060S045ST (4)
700 mA (1)	90 ~ 305 Vac	43 ~86 Vdc	60 W	91%	0.99	0.95	EUC-060S070ST (4)★
1050 mA (1)	90 ~ 305 Vac	29 ~58 Vdc	60 W	90%	0.99	0.95	EUC-060S105ST (5)★
1400 mA (1)	90 ~ 305 Vac	21 ~43 Vdc	60 W	90%	0.99	0.95	EUC-060S140ST (5)★
1700 mA (1)	90 ~ 305 Vac	18 ~36 Vdc	60 W	90%	0.99	0.95	EUC-060S170ST (6)★
2300 mA (1)	90 ~ 305 Vac	13 ~27 Vdc	60 W	89%	0.99	0.95	EUC-060S230ST (6)★
3300 mA (1)	90 ~ 305 Vac	9 ~18 Vdc	60 W	88%	0.99	0.95	EUC-060S330ST (6)
5000 mA	90 ~ 305 Vac	6 ~12 Vdc	60 W	87%	0.99	0.95	EUC-060S500ST (6)

- Notes:** (1) The output current is adjustable at factory from 50% to 100%.  
 (2) Measured at full load and 220 Vac input.  
 (3) A suffix -xxxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.  
 (4) Non-Class 2 output (USR & CNR).  
 (5) Class 2 output (USR), Non-Class 2 output (CNR).  
 (6) Class 2 output (USR & CNR).  
 (7) ★: Popular model.

## 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 60Hz input

Specifications are subject to changes without notice.

## Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	0.8 A	Measured at full load and 100 Vac input.
	-	-	0.36 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	50 A	At 230Vac input 25°C Cold Start

## Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	
Ripple and Noise (pk-pk)	-	-	5% V <sub>O</sub>	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	-	-	3%	
Turn-on Delay Time	-	0.8 s	1.2 s	Measured at 110Vac input.
	-	0.4 s	0.6 s	Measured at 220Vac input.

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

## Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Voltage Protection <i>I</i> <sub>O</sub> = 350 mA <i>I</i> <sub>O</sub> = 450 mA <i>I</i> <sub>O</sub> = 700 mA <i>I</i> <sub>O</sub> = 1050 mA <i>I</i> <sub>O</sub> = 1400 mA <i>I</i> <sub>O</sub> = 1700 mA <i>I</i> <sub>O</sub> = 2300 mA <i>I</i> <sub>O</sub> = 3300 mA <i>I</i> <sub>O</sub> = 5000 mA	- - - - - - - - -	195 V 145 V 92 V 65 V 50 V 42 V 31 V 22 V 15 V	215 V 160 V 102 V 70 V 55 V 45 V 38 V 25 V 17 V	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
Over Temperature Protection	-	110 °C	-	Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
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.			

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## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				
Io = 350 mA	87%	89%	-	Measured at full load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized.  It will be lower about 2%, if measured immediately after startup.
Io = 450 mA	87%	89%	-	
Io = 700 mA	87%	89%	-	
Io = 1050 mA	86%	88%	-	
Io = 1400 mA	86%	88%	-	
Io = 1700 mA	86%	88%	-	
Io = 2300 mA	85%	87%	-	
Io = 3300 mA	84%	86%	-	
Io = 5000 mA	83%	85%	-	
Efficiency				
Io = 350 mA	89%	91%	-	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized.  It will be lower about 2%, if measured immediately after startup.
Io = 450 mA	89%	91%	-	
Io = 700 mA	89%	91%	-	
Io = 1050 mA	88%	90%	-	
Io = 1400 mA	88%	90%	-	
Io = 1700 mA	88%	90%	-	
Io = 2300 mA	87%	89%	-	
Io = 3300 mA	86%	88%	-	
Io = 5000 mA	85%	87%	-	
MTBF	546,000 hours			Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	80,000 hours			Measured at 110Vac input, 80%Load and 45°C ambient temperature
Dimensions				
Inches (L × W × H)	5.91 × 2.66 × 1.44			
Millimeters (L × W × H)	150 × 67.5 × 36.5			
Net Weight	-	750 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

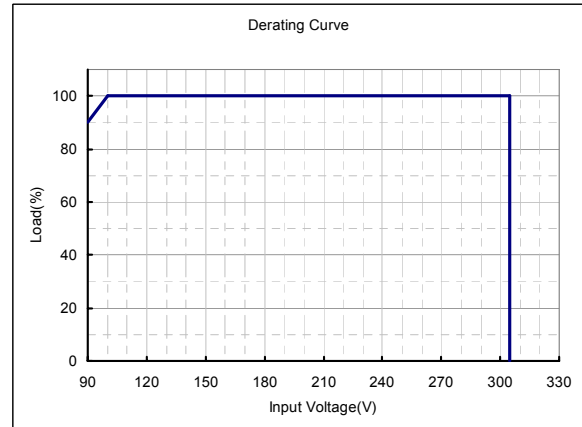
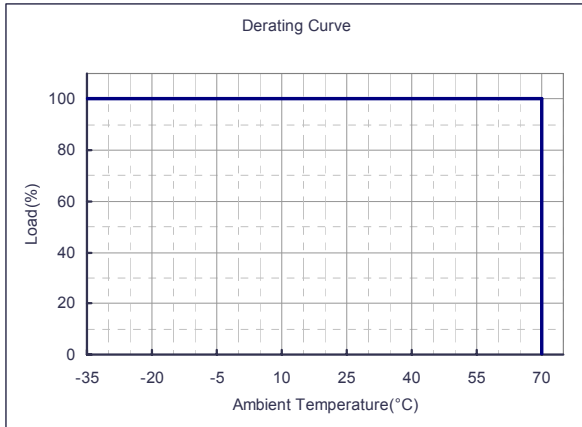
Safety Category	Standard
CUL	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN61347-1, EN61347-2-13

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## Safety & EMC Compliance (Continued)

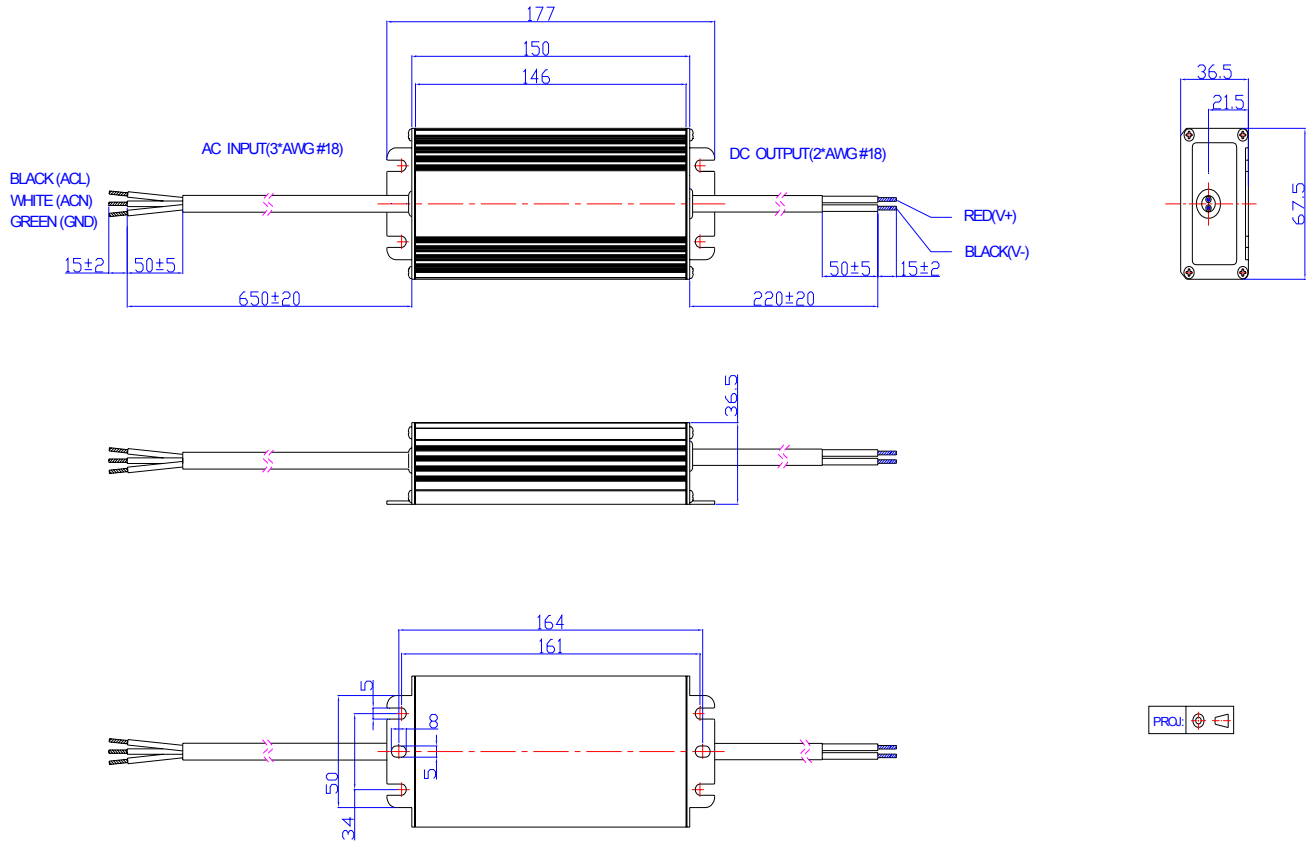
EMI Standards	Notes
EN 55015	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic 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
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies to Lighting Equipment

## Derating 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
2009-09-02	V3.1	Change MTBF and Life Time		
2009-09-11	V3.2	Change Turn-on Delay Time		
2009-10-15	A	1. Add notes of UL1310 Class 2 for all models. 2. Change the OVP Value; 3. Change the main value of efficiency; 4. Change the stripper length of all wires to 50mm.		
2009-11-10	B	Change notes of efficiency.		
2009-12-03	C	Add notes: the output current is adjustable at factory from 50% to 100%		
2010-03-03	D	Change Model Note:		
		EUC-060S230ST	(4)	(5)
		EUC-060S330ST	(4)	(5)
		Add Leakage Current in Input Specifications	/	/
		Add Derating Curve	/	/
		Modify the tin-plated wire length tolerance in Mechanical Outline	±0.5	±2
2010-05-31	E	Add star rank for recommended models	/	☆: Popular model.
		Standardize the tolerance in Mechanical Outline	/	/
2010-08-10	F	Delete Output Overshoot / Undershoot	Max. 10%	/
		Change Turn-on Delay Time 110Vac input	Typ. 0.5S Max. 0.8S	Typ. 0.8S Max. 1.2S
2011-01-14	G	Change popular models		
2011-12-09	H	EUC-060S140ST, EUC-060S170ST	Non Class 2	Class 2

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