

Features

- High Efficiency (Up to 88%)
- Active Power Factor Correction (Typical 0.87)
- Constant Output Current
- Waterproof (IP67)
- All-Round Protection: OVP, SCP
- Comply With UL8750 & EN61347 Safety Regulations



Description

The EWC-050SxxxSS Series operate from a 90 ~ 264 Vac input range. These units will provide up to a 3000 mA of output current and a maximum output voltage of 142 V for 50 W maximum output power. They are designed to be highly efficient and highly reliable. Features include over voltage protection and short circuit protection.

Models

Output Current	Input Voltage	Max. Output Voltage	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					110Vac	220Vac	
3000 mA	90 ~ 264 Vac	12 Vdc	36 W	84%	0.86	0.84	EWC-050S300SS (3)
2770 mA	90 ~ 264 Vac	18 Vdc	50 W	85%	0.87	0.85	EWC-050S277SS (3)
2100 mA	90 ~ 264 Vac	24 Vdc	50 W	86%	0.87	0.85	EWC-050S210SS (3)★
1400 mA	90 ~ 264 Vac	36 Vdc	50 W	87%	0.87	0.85	EWC-050S140SS (4)★
1100 mA	90 ~ 264 Vac	45.5 Vdc	50 W	87%	0.87	0.85	EWC-050S119SS (5)
1050 mA	90 ~ 264 Vac	48 Vdc	50 W	88%	0.87	0.85	EWC-050S105SS (4)★
700 mA	90 ~ 264 Vac	72 Vdc	50 W	88%	0.87	0.85	EWC-050S070SS (4)
450 mA	90 ~ 264 Vac	111 Vdc	50 W	88%	0.87	0.85	EWC-050S045SS (4)★
350 mA	90 ~ 264 Vac	142 Vdc	50 W	88%	0.87	0.85	EWC-050S035SS (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) Non-Class 2 output (USR & CNR).
 (5) Class 2 output (USR), Non-Class 2 output (CNR).
 (6) ★: Popular model.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	264 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.5 mA	At 240Vac 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	-	-	65 A	At 230Vac input 25°C Cold Start

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range				
$I_o = 3000\text{ mA}$	2850 mA	-	3150 mA	
$I_o = 2770\text{ mA}$	2635 mA	-	2905 mA	
$I_o = 2100\text{ mA}$	1995 mA	-	2205 mA	
$I_o = 1400\text{ mA}$	1330 mA	-	1470 mA	
$I_o = 1100\text{ mA}$	1045 mA	-	1155 mA	
$I_o = 1050\text{ mA}$	997 mA	-	1102 mA	
$I_o = 700\text{ mA}$	665 mA	-	735 mA	
$I_o = 450\text{ mA}$	428 mA	-	472 mA	
$I_o = 350\text{ mA}$	333 mA	-	367 mA	
Output Voltage Range				
$I_o = 3000\text{ mA}$	7 V	-	12 V	
$I_o = 2770\text{ mA}$	9 V	-	18 V	
$I_o = 2100\text{ mA}$	13 V	-	24 V	
$I_o = 1400\text{ mA}$	18 V	-	36 V	
$I_o = 1100\text{ mA}$	23 V	-	45.5 V	
$I_o = 1050\text{ mA}$	24 V	-	48 V	
$I_o = 700\text{ mA}$	36 V	-	72 V	
$I_o = 450\text{ mA}$	56 V	-	111 V	
$I_o = 350\text{ mA}$	71 V	-	142 V	
Ripple and Noise (pk-pk)	-	-	2% V_o	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 μF ceramic capacitor and a 10 μF electrolytic capacitor.
Line Regulation	-	-	1%	
Load Regulation	-	-	3%	
Turn-on Delay Time	-	0.7 S	0.8 S	Measured at 110Vac input.
	-	0.27 S	0.3 S	Measured at 220Vac input.
Output Overshoot / Undershoot	-	-	10%	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				Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
Io = 3000 mA	14 V	16 V	18 V	
Io = 2770 mA	22 V	24 V	27 V	
Io = 2100 mA	29 V	32 V	36 V	
Io = 1400 mA	43 V	48 V	54 V	
Io = 1100 mA	54 V	61 V	68 V	
Io = 1050 mA	58 V	65 V	72 V	
Io = 700 mA	86 V	97 V	108 V	
Io = 450 mA	133 V	150 V	167 V	
Io = 350 mA	170 V	192 V	213 V	
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.			

Specifications are subject to changes without notice.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				
I _o = 3000 mA	82.5%	83.5%	-	Measured at full load, 110Vac input, 25°C ambient temperature, after the unit is thermally stabilized.
I _o = 2770 mA	83.5%	84.5%	-	
I _o = 2100 mA	84.5%	85.5%	-	
I _o = 1400 mA	85.5%	86.5%	-	
I _o = 1100 mA	85.5%	86.5%	-	It will be lower about 1%, if measured immediately after startup.
I _o = 1050 mA	86.5%	87.5%	-	
I _o = 700 mA	86.5%	87.5%	-	
I _o = 450 mA	86.5%	87.5%	-	
I _o = 350 mA	86.5%	87.5%	-	
Efficiency				
I _o = 3000 mA	83.0%	84.0%	-	Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized.
I _o = 2770 mA	84.0%	85.0%	-	
I _o = 2100 mA	85.0%	86.0%	-	
I _o = 1400 mA	86.0%	87.0%	-	
I _o = 1100 mA	86.0%	87.0%	-	It will be lower about 1%, if measured immediately after startup.
I _o = 1050 mA	87.0%	88.0%	-	
I _o = 700 mA	87.0%	88.0%	-	
I _o = 450 mA	87.0%	88.0%	-	
I _o = 350 mA	87.0%	88.0%	-	
No Load Power Dissipation	≤ 1.5 W			Measured at 220 Vac input.
MTBF	837,000 hours			For 2100 mA output model, measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F).
Life Time	107,000 hours			For 2100 mA output model, measured at 110Vac input, 80%Load and 45°C ambient temperature
Dimensions				
Inches (L × W × H)	6.38 × 1.67 × 1.36			
Millimeters (L × W × H)	162 × 42.5 × 34.5			
Net Weight	-	460 g	-	

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

Environmental Specifications

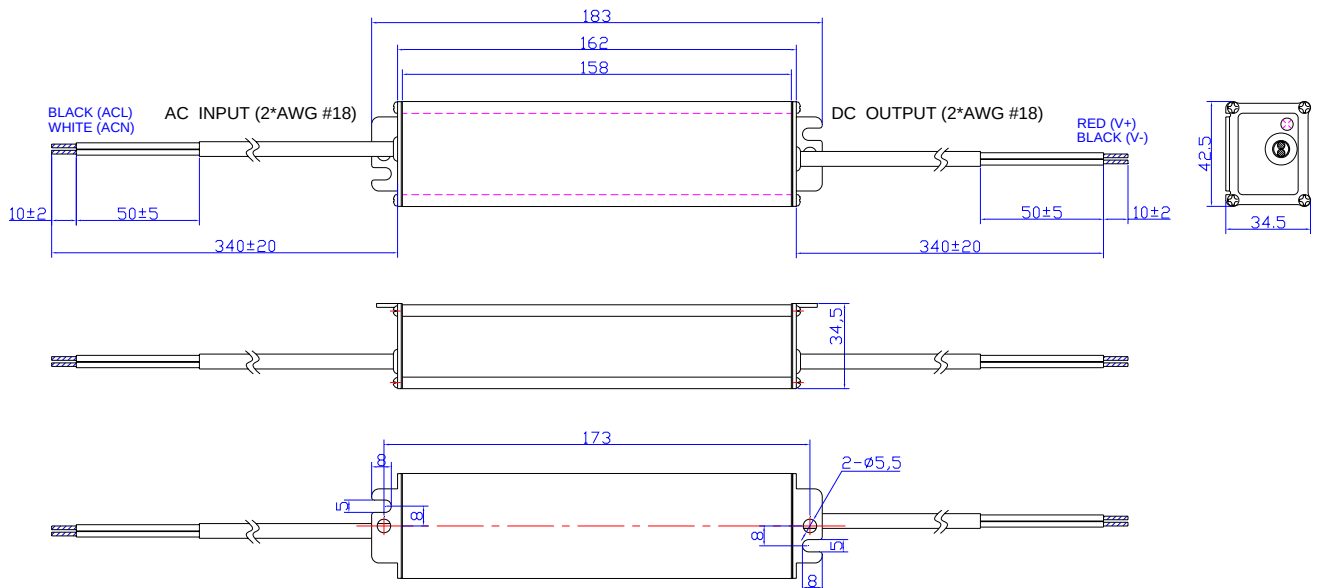
Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °C	-	+60 °C	Humidity: 10% RH to 100% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

Safety Category	Country	Standard
CUL	USA & Canada	UL8750 Compliance to UL1310 Class 2, UL1012 UL935, CAN/CSA-C22.2 No. 0, CSA-C22.2 No. 107.1, CSA-C22.2 No. 250.0
CE	Europe	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 61000-4-6		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

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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
2009-07-24	A	Change Features/Safety and Efficiency.		
2009-09-02	B	Change MTBF and Life Time Delete OTP content.		
2009-09-11	C	Change Turn-on Delay Time		
2009-10-15	D	Add notes of UL1310 Class 2 for all models. Change the electrical parameters of the 1.19A model.		
2009-11-10	E	Change notes of efficiency.		
2010-05-31	F	Add star rank for recommended models	/	☆: Popular model.
		Change No Load Power Dissipation	≤ 1.0 W Measured at 230 Vac input.	≤ 1.5 W Measured at 220 Vac input.
		Add Leakage Current in Input Specifications	/	Max. 0.5 mA At 240Vac 50Hz input
		Standardize the tolerance in Mechanical Outline	/	/