

## EverSale SP-240-12

# EverSale Mean Well SP-240-12 Power Supply Instruction Manual

*Model: SP-240-12*

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the EverSale Mean Well SP-240-12 Single Output Power Supply. This device is designed to provide a stable 12V DC output with a 240W capacity, featuring an active Power Factor Correction (PFC) function for enhanced efficiency. Please read this manual thoroughly before using the product to ensure safe and optimal performance.

## 2. KEY FEATURES

- Universal AC input / Full range compatibility.
- Built-in active Power Factor Correction (PFC) function.
- Protections: Short circuit, Overload, Over voltage, Over temperature.
- Forced air cooling by built-in DC fan (for SP-200 / 240 models).
- Built-in fan ON/OFF control for SP-240 model.
- 100% full load burn-in test for reliability.
- 3 years warranty.

## 3. SAFETY INFORMATION

Observe the following safety precautions to prevent injury or damage to the power supply and connected equipment:

- **Electrical Hazard:** This unit operates with high voltage. Do not open the casing or attempt to repair the unit. Refer all servicing to qualified personnel.
- **Proper Grounding:** Ensure the power supply is properly grounded to prevent electrical shock.
- **Ventilation:** Do not block ventilation openings. Ensure adequate airflow around the unit to prevent overheating.
- **Environment:** Install the unit in a dry, well-ventilated area, away from direct sunlight, heat sources, and moisture.

- **Load Capacity:** Do not exceed the specified output wattage (240W) or current (20A) to avoid damage.
- **Input Voltage:** Verify that the input voltage range matches your local power supply before connecting.

## 4. PRODUCT OVERVIEW



**Figure 4.1:** Front and top view of the Mean Well SP-240-12 power supply, showing the ventilation grille and terminal block for connections.



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC Fan
- Built-in fan ON / OFF control
- LED indicator for power on
- Fixed switching frequency at 90KHz
- 3 years warranty



SPECIFICATION

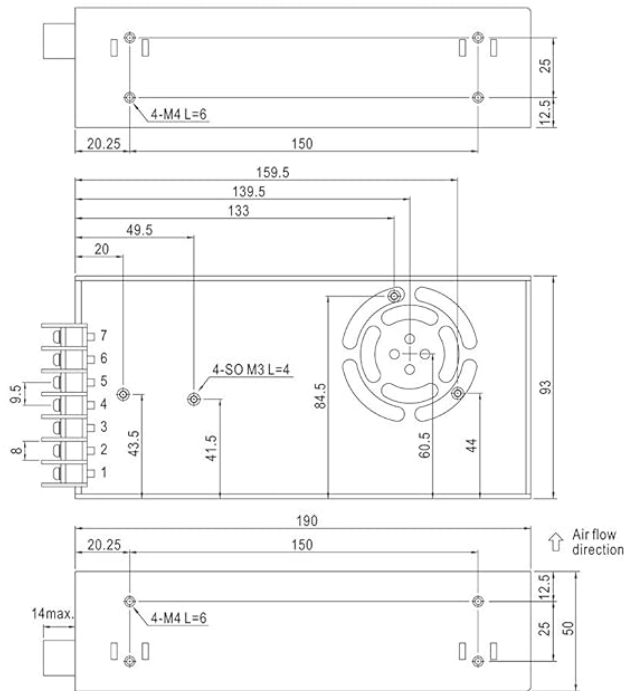
MODEL	SP-240-5	SP-240-7.5	SP-240-12	SP-240-15	SP-240-24	SP-240-30	SP-240-48	
OUTPUT	DC VOLTAGE	5V	7.5V	12V	15V	24V	30V	48V
	RATED CURRENT	45A	32A	20A	16A	10A	8A	5A
	CURRENT RANGE	0 ~ 45A	0 ~ 32A	0 ~ 20A	0 ~ 16A	0 ~ 10A	0 ~ 8A	0 ~ 5A
	RATED POWER	225W	240W	240W	240W	240W	240W	240W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	4 ~ 6V	6 ~ 9V	10 ~ 14V	12 ~ 18V	20 ~ 28V	27 ~ 33V	41 ~ 56V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.3%	±0.3%	±0.2%	±0.2%	±0.2%
	LOAD REGULATION	±1.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	800ms, 50ms/230VAC      1500ms, 50ms/115VAC at full load						
HOLD UP TIME (Typ.)	20ms/230VAC      20ms/115VAC at full load							
INPUT	VOLTAGE RANGE Note.5	88 ~ 264VAC      124 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	PF>0.95/230VAC      PF>0.98/115VAC at full load						
	EFFICIENCY (Typ.)	79%	83%	86%	86%	87%	88%	89%
	AC CURRENT (Typ.)	3.6A/115VAC      1.8A/230VAC						
	INRUSH CURRENT (Typ.)	25A/115VAC      40A/230VAC						
	LEAKAGE CURRENT	<2mA / 240VAC						
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE	6.3 ~ 7.5V	9.4 ~ 10.9V	14.7 ~ 17.5V	19 ~ 22.5V	29.5 ~ 35V	34.7 ~ 41V	57.6 ~ 67.2V
	OVER TEMPERATURE	90°C ±5°C (5V,7.5V), 85°C ±5°C (12V,15V,24V,30V,48V) (TSW1 : detect on heatsink of power transistor) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down						
FUNCTION	FAN CONTROL	RTH2 ≥ 40°C FAN ON, ≤ 35°C FAN OFF (Typ.)						
ENVIRONMENT	WORKING TEMP.	-20 ~ +70°C (Refer to "Derating Curve")						
	WORKING HUMIDITY	20 ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH						
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes						
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved						
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC    I/P-FG:1.5KVAC    O/P-FG:0.5KVAC						
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH						
	EMC EMISSION	Compliance to EN55022 (CISPR22) Class B, EN61000-3-2,-3						
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A						
	MTBF	284K hrs min.    MIL-HDBK-217F (25°C)						
	PACKING	190*93*50mm (L*W*H) 0.8Kg; 18pcs/15.4Kg/1.04CUFT						
NOTE	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> <li>5. Derating may be needed under low input voltages. Please check the derating curve for more details.</li> </ol>							

File Name:SP-240-SPEC 2011-08-23

Figure 4.2: Detailed specification sheet for the Mean Well SP-240 series, including electrical characteristics, protection features, and environmental conditions.

■ Mechanical Specification

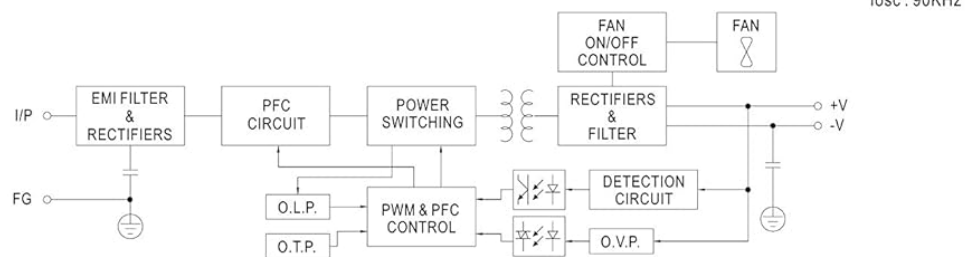
Case No.987A Unit:mm



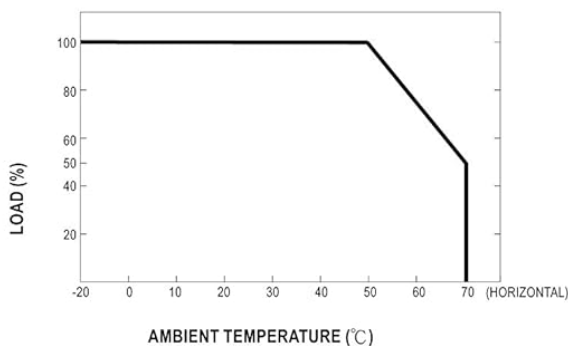
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG $\perp$		

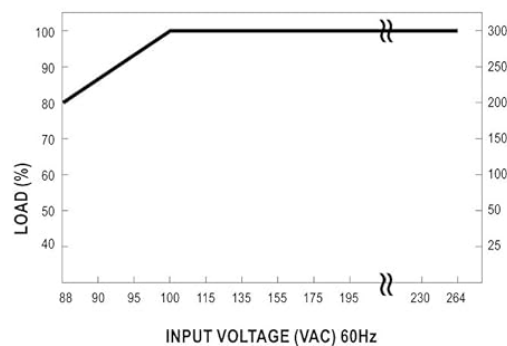
■ Block Diagram



■ Derating Curve



■ Static Characteristics



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Figure 4.3: Mechanical dimensions and internal block diagram of the Mean Well SP-240 series, illustrating component layout and circuit flow.

## 5. SETUP INSTRUCTIONS

Follow these steps for proper installation of your SP-240-12 power supply:

- Mounting:** Securely mount the power supply in a suitable enclosure or location, ensuring adequate space for ventilation around all sides.

2. **Input Wiring:** Connect the AC input wires to the designated 'L' (Live), 'N' (Neutral), and 'FG' (Frame Ground) terminals. Ensure correct polarity and a secure connection.
3. **Output Wiring:** Connect your DC load to the '+V' (Positive) and '-V' (Negative) output terminals. Observe correct polarity to prevent damage to your devices.
4. **Voltage Adjustment (Optional):** If voltage adjustment is required, use a small screwdriver to carefully turn the 'V ADJ' potentiometer. Monitor the output voltage with a multimeter to ensure it is within the acceptable range for your application.
5. **Final Check:** Before applying power, double-check all connections for security and correct polarity.

## 6. OPERATING INSTRUCTIONS

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Once installed and wired correctly, operating the SP-240-12 power supply is straightforward:

1. **Power On:** Apply AC power to the input terminals. The power supply will initiate operation.
2. **Monitoring:** Observe the connected devices to ensure they are receiving stable power. The built-in fan will activate as needed to maintain optimal operating temperature.
3. **Power Off:** Disconnect the AC input power to shut down the unit.

## 7. MAINTENANCE

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Regular maintenance helps ensure the longevity and reliable operation of your power supply:

- **Cleaning:** Periodically clean the exterior of the unit and ventilation openings to prevent dust accumulation, which can impede airflow and lead to overheating. Use a soft, dry cloth. Do not use liquid cleaners.
- **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage.
- **Environment:** Ensure the operating environment remains within the specified temperature and humidity ranges.

## 8. TROUBLESHOOTING

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If you encounter issues with your power supply, refer to the following common problems and solutions:

- **No Output Power:**
  - Check the AC input power connection.
  - Verify that the input voltage is within the specified range.
  - Ensure the output load is not exceeding the power supply's capacity. Disconnect the load and test the output voltage.
  - Check for tripped circuit breakers or blown fuses in the input line.
- **Output Voltage Fluctuates:**
  - Ensure the load is stable and not drawing intermittent current spikes.
  - Check for loose connections at the output terminals.
- **Overheating:**
  - Ensure adequate ventilation around the unit. Clear any obstructions from the fan or vents.
  - Reduce the load if it is consistently near the maximum capacity.

If the problem persists after attempting these solutions, contact customer support.

## 9. TECHNICAL SPECIFICATIONS

Specification	Value
Model Number	SP-240-12
Output Voltage	12 Volts
Output Current	20 Amps
Output Wattage	240 Watts
Input Voltage	Universal AC input / Full range
Cooling Method	Forced Air (Built-in DC fan)
Product Dimensions (L x W x H)	7.83 x 3.9 x 1.97 inches
Item Weight	2 pounds
UPC	888777028539
Compatible Devices	Personal Computer

## 10. WARRANTY AND SUPPORT

This EverSale Mean Well SP-240-12 Power Supply comes with a **3-year warranty** from the date of purchase, covering defects in materials and workmanship under normal use.

For technical support, warranty claims, or any inquiries regarding your product, please contact the seller, **Create Power**, through your purchase platform or their official support channels. Please have your purchase details and model number ready when contacting support.