EverSale SE-1500-48

EverSale MW Mean Well SE-1500-48 1500W Single Output Power Supply User Manual

Model: SE-1500-48

Introduction

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of your EverSale MW Mean Well SE-1500-48 Single Output Power Supply. Please read this manual thoroughly before using the product and retain it for future reference.

Important Safety Instructions

Failure to follow these safety instructions may result in electric shock, fire, or serious injury. Always observe local and national electrical codes.

- Ensure the power supply is disconnected from the AC mains before any installation, wiring, or maintenance.
- This unit is designed for professional installation. Installation should be performed by qualified personnel only.
- Do not operate the unit in environments with excessive moisture, dust, or extreme temperatures outside its specified operating range.
- Ensure proper grounding of the unit.
- Do not open the casing of the power supply. There are no user-serviceable parts inside.
- Provide adequate ventilation to prevent overheating. The unit uses forced air cooling.

Product Overview

The EverSale MW Mean Well SE-1500-48 is a 1500W single output power supply designed for various industrial and computing applications. Key features include:

- AC input 180~264VAC only for the SE-1500 model.
- Protections against short circuit, overload, over voltage, and over temperature.
- Forced air cooling via a built-in DC fan.
- Built-in remote sense function.

- DC OK signal and remote ON/OFF control.
- 100% full load burn-in test for reliability.
- LED indicator for power on status.

Figure 1: Front view of the EverSale MW Mean Well SE-1500-48 Power Supply, showing the main casing and output terminals.

Setup and Installation

1. Mounting

Mount the power supply in a location that allows for adequate airflow around the unit. Ensure the built-in DC fan has unobstructed access to air for cooling. Refer to the mechanical specifications for mounting dimensions and hole patterns.

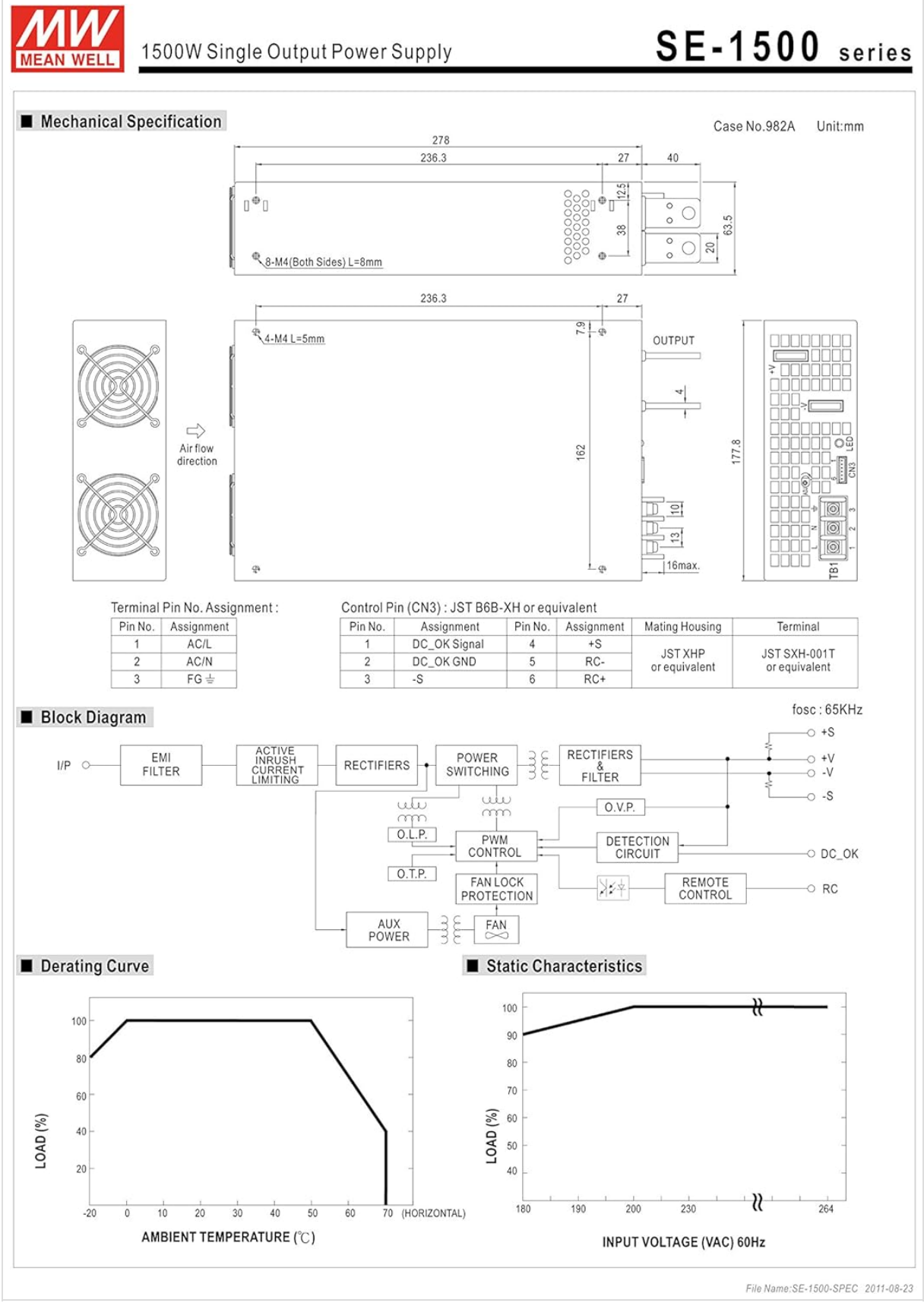


Figure 2: Mechanical specifications, block diagram, derating curve, and static characteristics of the SE-1500 series power supply. This image provides dimensions and internal layout information.

2. AC Input Connection

The SE-1500-48 model accepts an AC input voltage range of 180~264VAC. Connect the AC mains to the designated input terminals (L, N, FG) on the power supply. Ensure all connections are secure and correctly polarized.

3. DC Output Connection

Connect your load to the DC output terminals (+V, -V). Observe correct polarity. Ensure the total current draw of your load does not exceed the power supply's maximum output current (31.3A for 48V output).

4. Remote Sense Function

The built-in remote sense function compensates for voltage drop across the load wires. Connect the +S and -S terminals to the positive and negative terminals of the load, respectively. This helps maintain accurate voltage at the load.

5. DC OK Signal and Remote Control

The power supply includes a DC OK signal and remote ON/OFF control via the CN3 connector. Refer to the function description for CN3 for detailed wiring and operation.

■ Function Description of CN3

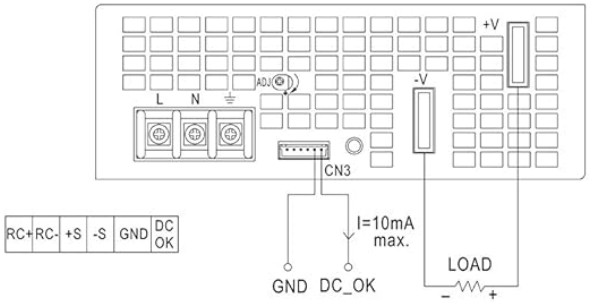
Pin No.	Function	Description
1	DC_OK	DC_OK signal is a TTL level signal, referenced to pin2(DC_OK GND). "High" when PSU turns on.
2	GND	This pin connects to the negative terminal (-V). Return for DC_OK signal output.
3	-S	Negative sensing. The -S signal should be connected to the negative terminal of the load. The -S and +S leads should be twisted in pair to minimize noise pick-up effect.
4	+S	Positive sensing. The +S signal should be connected to the positive terminal of the load. The +S and -S leads should be twisted in pair to minimize noise pick-up effect.
5	RC-	Return for RC+ signal input.
6	RC+	Turns the output on and off by electrical or dry contact between pin 6 (RC+) and pin 5 (RC-). 0~0.8V: Power ON, 4~10V: Power OFF.

■ Function Manual

1.DC_OK Signal

DC_OK Signal is a TTL level signal. "High" when PSU turns on.

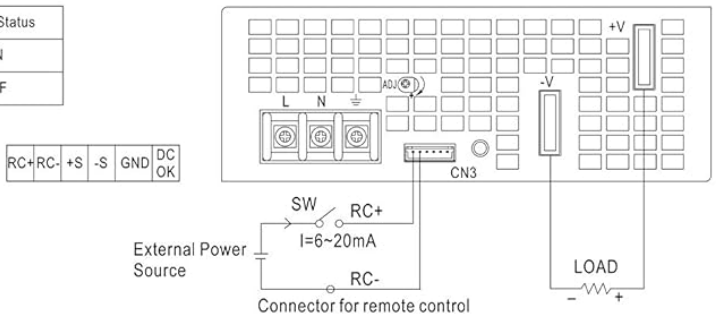
Between DC_OK(pin1) and GND(pin2)	Output Status
3.3 ~ 5.6V	ON
0 ~ 1V	OFF



2. Remote Control

The PSU can be turned ON/OFF by using the "Remote Control" function.

Between RC+(pin6) and RC-(pin5)	Output Status
SW OFF (0 ~ 0.8V)	ON
SW ON (4 ~ 10V)	OFF



3. Remote Sense

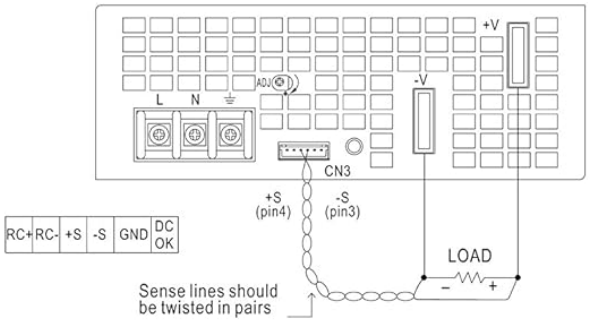


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Figure 3: Detailed diagrams for CN3 function description, DC OK signal, Remote Control, and Remote Sense connections. This image illustrates how to wire these advanced features.

Operating Instructions

1. Power On/Off

Once all connections are securely made, apply AC power to the unit. The LED indicator on the power supply will

illuminate, indicating that the unit is powered on. To turn off, disconnect the AC power or use the remote control function if configured.

2. Output Voltage Adjustment

The output voltage can be finely adjusted within a specified range (e.g., 43.2V to 52.8V for the 48V model) using the internal potentiometer. This adjustment should only be performed by qualified personnel with appropriate measurement equipment.

3. Monitoring DC OK Signal

The DC OK signal provides a TTL level output (High when PSU turns on) to indicate proper operation. This can be integrated into monitoring systems.

4. Remote ON/OFF Control

The power supply can be turned ON/OFF by using the "Remote Control" function via the CN3 connector. Refer to Figure 3 for wiring details.

Maintenance

The EverSale MW Mean Well SE-1500-48 power supply is designed for long-term reliability and requires minimal maintenance. However, periodic checks are recommended:

- **Cleaning:** Ensure the ventilation openings and fan are free from dust and debris to maintain optimal cooling performance. Use a soft brush or compressed air for cleaning. Always disconnect power before cleaning.
- **Connections:** Periodically check all input and output wiring connections for tightness and signs of wear or corrosion.
- **Environment:** Verify that the operating environment remains within the specified temperature and humidity ranges.

Troubleshooting

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

- **No Output Voltage / Power LED Off:**
  - Check AC input voltage and connections.
  - Verify that the AC input switch (if present on other models, but SE-1500 is fixed) is correctly set.
  - Ensure no short circuit or severe overload on the output.
  - Check for tripped circuit breakers or blown fuses in the AC line.
- **Output Voltage Fluctuates or is Incorrect:**
  - Check load connections and ensure they are secure.
  - Verify the remote sense connections are correct and functional.
  - Ensure the load current does not exceed the power supply's rating.
  - Check for proper ventilation; overheating can cause instability.
- **Overload Protection Activated:**
  - Reduce the load connected to the power supply.
  - Check for any short circuits in the load circuit.
  - The unit will automatically recover after the overload condition is removed.
- **Over Temperature Protection Activated:**

- Ensure adequate ventilation and clear any obstructions from the fan and vents.
- Reduce ambient temperature if possible.
- The unit will automatically recover once the temperature returns to a safe level.

If the problem persists after following these steps, contact qualified service personnel.

Specifications

The following table details the technical specifications for the EverSale MW Mean Well SE-1500-48 Single Output Power Supply.

MEAN WELL

1500W Single Output Power Supply

SE-1500 series

■ Features :

- AC input 180 ~ 264VAC
- AC input active surge current limiting
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC ball bearing fan
- High power density 7.8w/inch^3
- With DC OK signal output
- Built-in remote ON-OFF control
- Built-in remote sense function
- UL / CUL approved
- Low cost
- 2 years warranty

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SPECIFICATION

MODEL		SE-1500-5	SE-1500-12	SE-1500-15	SE-1500-24	SE-1500-27	SE-1500-48
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	27V	48V
	RATED CURRENT	300A	125A	100A	62.5A	55.6A	31.3A
	CURRENT RANGE	0 ~ 300A	0 ~ 125A	0 ~ 100A	0 ~ 62.5A	0 ~ 55.6A	0 ~ 31.3A
	RATED POWER	1500W	1500W	1500W	1500W	1501.2W	1502.4W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	3.3 ~ 5.5V	10.8 ~ 13.5V	13.5 ~ 16.5V	21.6 ~ 26.4V	25 ~ 30V	43.2 ~ 56V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	150ms, 12ms / 230VAC at full load					
	HOLD UP TIME (Typ.)	26ms / 230VAC at full load					
INPUT	VOLTAGE RANGE	180 ~ 264VAC 254 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	81%	85%	85%	87%	88%	89%
	AC CURRENT (Typ.)	17.5A / 230VAC					
	INRUSH CURRENT (Typ.)	60A / 230VAC					
	LEAKAGE CURRENT	<3.5mA / 240VAC					
PROTECTION	OVERLOAD	105 ~ 125% rated output power					
		Protection type : Shut down o/p voltage, re-power on to recover					
	OVER VOLTAGE	5.75 ~ 6.75V	14.5 ~ 16.2V	18 ~ 21V	27.6 ~ 32.4V	31 ~ 35V	57.6 ~ 67.2V
		Protection type : Shut down o/p voltage, re-power on to recover					
	OVER TEMPERATURE	95℃±5℃(5V), 85℃±5℃(12V,15V), 80℃±5℃(24V), 75℃±5℃(27V,48V) (TSW1) detect on heatsink of o/p diode					
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down					
FUNCTION	DC_OK SIGNAL	PSU turn on:3.3V ~ 5.6V PUS turn off:0 ~ 1V					
	REMOTE CONTROL	RC+/RC-: 0 ~ 0.8V power on; 4 ~ 10V power off					
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.05%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY	SAFETY STANDARDS	UL60950-1 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℃/ 70% RH					
OTHERS	MTBF	134.5K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	278*177.8*63.5mm (L*W*H)					
	PACKING	3.3Kg; 4pcs/14.2Kg/1.14CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation.						

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Figure 4: Comprehensive specification table for the SE-1500 series, including electrical characteristics, protection features, and environmental conditions. Refer to the SE-1500-48 column for specific model data.

Feature	Specification
Model Number	SE-1500-48
Output Voltage	48V

Feature	Specification
Output Current	31.3A
Output Wattage	1500W
AC Input Voltage	180~264VAC
Cooling Method	Forced Air (Built-in DC fan)
Product Dimensions (L x W x H)	10.94 x 7 x 2.5 inches
Item Weight	7.27 pounds
Protections	Short circuit, Overload, Over voltage, Over temperature
Features	Remote sense, DC OK signal, Remote ON/OFF control

Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact EverSale customer service. Keep your purchase receipt as proof of purchase.