

EverSale SD-25C-12

MEAN WELL SD-25C-12 DC-DC Converter User Manual

Model: SD-25C-12 | Brand: EverSale

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of the MEAN WELL SD-25C-12 DC-DC Converter. Please read these instructions thoroughly before installation and use, and retain this manual for future reference.

The SD-25C-12 is a 25.2W single output DC-DC converter designed for various industrial and scientific applications, converting a DC input voltage to a stable 12V DC output.

2. SAFETY INSTRUCTIONS

- **Electrical Safety:** Ensure all power connections are made by qualified personnel. Disconnect power before installation or maintenance.
- **Ventilation:** Do not obstruct ventilation holes. Adequate airflow is crucial for proper cooling and to prevent overheating.
- **Environment:** Install the converter in a dry, well-ventilated area, free from excessive dust, moisture, and corrosive substances. Avoid direct sunlight and high temperatures.
- **Grounding:** Ensure proper grounding to prevent electrical shock.
- **Overload Protection:** Do not exceed the specified output current (2.1A for 12V output) to prevent damage to the unit and connected devices.
- **Input Voltage:** Verify that the input DC voltage is within the specified range for the SD-25C-12 model (36-72V DC).

3. PRODUCT OVERVIEW

The MEAN WELL SD-25C-12 is a compact and robust DC-DC converter. It features a metal chassis with ventilation holes for heat dissipation and screw terminals for secure input and output connections.



Figure 1: Top-down view of the MEAN WELL SD-25C-12 DC-DC Converter. This image displays the perforated metal casing designed for heat dissipation, the terminal block for input and output connections, and a small potentiometer for voltage adjustment labeled 'V ADJ'.

DC adjustment range	5V: 4.5~5.5V, 12V: 11~16V, 24V: 23~30V
Line and load regulation	±0.5% (max.)
Overload protection	105%~150% hiccup mode, auto-recovery
Over voltage protection	115%~165% rated output voltage
Withstand voltage	I/P-O/P: 2kVAC, I/P-FG: 1.5kVAC, 1 minute
Isolation resistance	100MΩ (min.) @500VDC
Working temperature	-10~+60°C (refer to output derating curve)
Safety standards	Meet LVD
EMC standards	EN55022 class B, EN61000-4-2,3,4,6,8
Packing	0.38kg ; 45pcs / 17.8kg / 0.9CUFT

Figure 2: A list of general technical specifications applicable to the MEAN WELL SD-25 series. This includes details on DC adjustment range, line and load regulation, overload and overvoltage protection, withstand voltage, isolation resistance, working temperature, safety standards (LVD), EMC standards (EN55022 class B, EN61000-4-2,3,4,6,8), and packing information.

Model No.	Input	Output	R&N	Effi.
SD-25A-5	9.2~18V	5V, 0~5.0A	100mV	71%
SD-25A-12	9.2~18V	12V, 0~2.1A	120mV	72%
SD-25A-24	9.2~18V	24V, 0~1.1A	150mV	75%
SD-25B-5	19~36V	5V, 0~5.0A	100mV	72%
SD-25B-12	19~36V	12V, 0~2.1A	120mV	75%
SD-25B-24	19~36V	24V, 0~1.1A	150mV	78%
SD-25C-5	36~72V	5V, 0~5.0A	100mV	74%
SD-25C-12	36~72V	12V, 0~2.1A	120mV	78%
SD-25C-24	36~72V	24V, 0~1.1A	150mV	81%

Figure 3: A table detailing the input voltage range, output voltage and current, ripple and noise (R&N), and efficiency for different models within the MEAN WELL SD-25 series, including SD-25A, SD-25B, and SD-25C variants.

4. SETUP

4.1 Mounting

The SD-25C-12 is designed for chassis mount installation. Secure the unit using appropriate screws through the mounting holes on the chassis. Ensure there is sufficient clearance around the unit for proper ventilation.

4.2 Wiring Connections

Refer to the terminal block markings on the converter for correct wiring. The terminal block typically includes:

- **+V (Input):** Positive DC input.
- **-V (Input):** Negative DC input.
- **FG (Frame Ground):** Connect to earth ground for safety.
- **+V (Output):** Positive DC output (12V).
- **-V (Output):** Negative DC output.

Ensure all connections are tight and secure to prevent loose contacts and potential hazards. The input voltage for the SD-25C-12 model is 36-72V DC.

5. OPERATING INSTRUCTIONS

5.1 Powering On

After ensuring all connections are correctly made and secured, apply the specified DC input voltage (36-72V) to the converter. The unit should begin operating, providing a stable 12V DC output.

5.2 Output Voltage Adjustment

The SD-25C-12 features a "V ADJ" potentiometer, typically located near the output terminals (visible in Figure 1). This allows for fine adjustment of the output voltage within a specified range (11-16V for the 12V model). Use a small screwdriver to carefully turn the potentiometer clockwise to increase the voltage or counter-clockwise to decrease it. Monitor the output voltage with a multimeter during adjustment.

Caution: Do not adjust the output voltage beyond the recommended range to avoid damaging connected equipment or the converter itself.

6. MAINTENANCE

The MEAN WELL SD-25C-12 DC-DC Converter is designed for reliable operation with minimal maintenance. However, periodic checks are recommended:

- **Cleaning:** Keep the unit free from dust and debris. Use a soft, dry cloth or compressed air to clean the casing and ventilation holes. Ensure power is disconnected before cleaning.
- **Connection Check:** Periodically inspect all wiring connections to ensure they remain tight and free from corrosion.
- **Environmental Conditions:** Verify that the operating environment continues to meet the specified conditions (temperature, humidity).

Do not attempt to open or repair the unit yourself. Refer all servicing to qualified personnel.

7. TROUBLESHOOTING

If you encounter issues with your SD-25C-12 converter, consider the following troubleshooting steps:

- **No Output Voltage:**

- Check the input power supply. Ensure it is providing the correct voltage (36-72V DC) and is properly connected.
- Verify all wiring connections are secure and correct.
- Check for any tripped circuit breakers or blown fuses in the input line.
- The unit may be in overload protection mode. Disconnect the load, wait a few minutes for auto-recovery, and then reconnect the load if it is within specifications.

- **Incorrect Output Voltage:**

- Use a multimeter to measure the output voltage.
- Adjust the "V ADJ" potentiometer carefully (refer to Section 5.2).
- Ensure the load is not drawing excessive current, which could cause voltage drop.

- **Overheating:**

- Ensure adequate ventilation around the unit. Clear any obstructions from the ventilation holes.
- Reduce the load if it is consistently operating near its maximum capacity.
- Verify the ambient temperature is within the specified operating range (-10 to +60°C).

If the problem persists after performing these checks, contact customer support or a qualified technician.

8. SPECIFICATIONS

The following specifications apply to the MEAN WELL SD-25C-12 DC-DC Converter:

Feature	Specification
Model Number	SD-25C-12
Input Voltage Range	36-72V DC
Output Voltage	12V DC
Output Current	0-2.1A
Output Power	25.2W
Ripple & Noise (R&N)	120mV (max.)
Efficiency	78%
DC Adjustment Range	11-16V
Line and Load Regulation	±0.5% (max.)
Overload Protection	105%-150% hiccup mode, auto-recovery
Over Voltage Protection	115%-165% rated output voltage
Withstand Voltage	I/P-O/P: 2kVAC, I/P-FG: 1.5kVAC, 1 minute
Isolation Resistance	100MΩ (min.) @500VDC

Feature	Specification
Working Temperature	-10 to +60°C (refer to output derating curve)
Safety Standards	Meet LVD
EMC Standards	EN55022 class B, EN61000-4-2,3,4,6,8
Mounting Type	Chassis Mount
Product Dimensions	3.9 x 1.42 x 3.82 inches (99 x 36 x 97 mm)
Item Weight	0.83 Pounds (0.38 kg)

Note: Specifications are subject to change without notice. For the most current information, please refer to the manufacturer's official documentation.

9. WARRANTY AND SUPPORT

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

Manufacturer: MEAN WELL

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