Renogy SUNDCCB160MC2P

Renogy Suntree 160 Amp 2-Pole DC Circuit Breaker Instruction Manual

Model: SUNDCCB160MC2P

1. Product Overview

The Suntree DC Molded Case Circuit Breaker is engineered to safeguard DC electrical installations from overloads and short circuits. It incorporates both thermal and magnetic tripping mechanisms for reliable protection. Upon detecting a fault, the circuit breaker automatically interrupts the electrical circuit, preventing wire damage and reducing fire risk. This device can also be manually opened under its full rated load for electrical maintenance without sustaining damage. Designed for reversible connection, the circuit breaker can be wired in either direction and supports bidirectional current flow. Clear markings on the handle indicate the contact position (ON/OFF) at a glance. Its design facilitates easy installation on both standard DIN rails and vertical surfaces.

Figure 1: Renogy Suntree 160 Amp 2-Pole DC Circuit Breaker

2. Safety Information

- Always disconnect power before installing or servicing the circuit breaker.
- Installation should be performed by qualified personnel in accordance with local electrical codes and standards.
- Ensure proper wire sizing and terminal connections to prevent overheating.
- Do not operate the circuit breaker if it appears damaged.
- Wear appropriate personal protective equipment (PPE) when working with electrical systems.

3. Installation

3.1 Package Contents

- 160A 2P DC Molded Case Circuit Breaker
- Mounting Screws
- Insulation Barrier (2 pieces)

Figure 2: Product Dimensions and Included Components

3.2 Mounting

The circuit breaker supports both DIN rail and vertical surface mounting. Ensure the mounting location is dry, well-ventilated, and protected from direct sunlight and extreme temperatures.

Figure 3: Quick Installation on DIN Rail

3.3 Wiring Connections

Connect the DC positive and negative cables to the corresponding terminals on the circuit breaker. The circuit breaker is designed for reversible connection and functions with bidirectional current. Ensure all connections are secure and tight. Install the provided insulation barriers between terminals for enhanced safety.

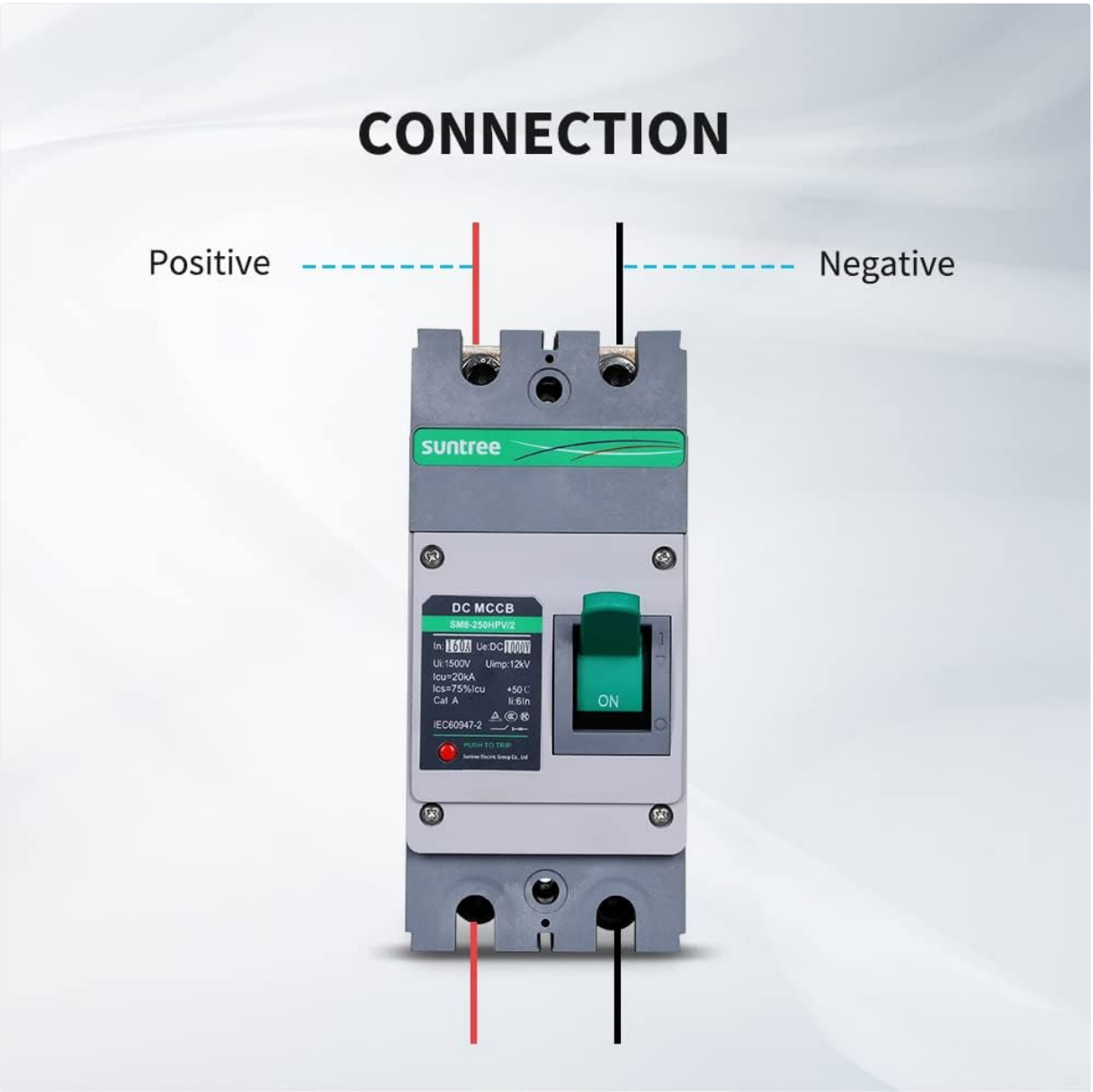


Figure 4: Connection Diagram

3.4 Sizing Tips for Circuit Breaker Selection

Proper sizing is crucial for effective protection.

- **For controller/inverter/DC device:**
    1. Determine the maximum continuous operating current (current = watt/voltage).
    2. Calculate maximum current = 1.25 x maximum continuous operating current.
    3. Select a circuit breaker whose rated current is greater than and closest to the calculated maximum current.
- **For solar panel:**
    1. Determine the short-circuit current.
    2. Calculate maximum current = Short-circuit current x 1.25 x 1.25.
    3. Select a circuit breaker whose rated current is greater than and closest to the calculated maximum current.

Figure 5: Circuit Breaker Sizing Guidelines

4. Operation

4.1 Switching On/Off

To switch the circuit breaker ON, push the handle to the 'ON' position. To switch it OFF, push the handle to the 'OFF' position. The handle's position clearly indicates the contact status.

Figure 6: ON/OFF Markings

4.2 Protection Mechanisms

The circuit breaker provides protection against both overload and short-circuit conditions. In the event of an electrical fault, the breaker will automatically trip to protect the system.

Figure 7: Overload and Short-circuit Protection

5. Maintenance

After the circuit breaker has tripped due to a fault, it can be reset manually. No damage occurs to the breaker itself from tripping. Regular visual inspection for any signs of wear or damage is recommended. Ensure connections remain tight.

Figure 8: Durability and Conductivity

6. Troubleshooting

- **Breaker trips frequently:** This indicates an overload or short circuit in the system. Identify and resolve the underlying electrical issue before resetting the breaker.
- **Breaker does not reset:** Ensure the fault condition has been cleared. If the breaker still does not reset, it may be damaged and require replacement.
- **No power after installation:** Verify all wiring connections are correct and secure. Check for proper input voltage and ensure the breaker is in the 'ON' position.

7. Specifications

Feature	Specification
Brand	Renogy
Current Rating	160 Amps
Circuit Breaker Type	Standard

Feature	Specification
Mounting Type	Surface Mount
Number Of Poles	2
UPC	810009719694
Manufacturer	Renogy
Part Number	SUNDCCB160MC2P
Item Weight	5.15 pounds
Product Dimensions	7.9 x 3.5 x 5.3 inches
Material	Copper
Included Components	160A 2P DC Molded Case Circuit Breaker, Mounting Screws, Insulation Barrier

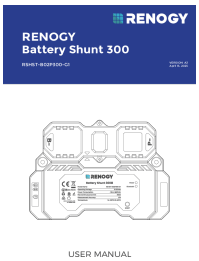
8. Warranty and Support

Renogy offers a 1-year material and workmanship warranty for this product. For technical support or warranty claims, please visit the official Renogy website or contact their customer service.

For more information, visit the Renogy Store.

Related Documents - SUNDCCB160MC2P

	Renogy Off-Grid Solar Kit General Manual: Installation and Operation Guide This manual provides comprehensive instructions for installing, wiring, and maintaining the Renogy Off-Grid Solar Kit. Learn about safety precautions, mounting systems, battery configurations, and system connections for reliable off-grid power.
	Renogy Off-Grid Solar Kit User Manual: Installation, Wiring, and Mounting Guide Comprehensive user manual for Renogy Off-Grid Solar Kits, covering installation, wiring, mounting systems (Z-Bracket, Rail, Pole), battery configurations, safety precautions, and ANL fuse usage for RVs, boats, and off-grid power systems.

	[Renogy Battery Shunt 300 User Manual] Comprehensive user manual for the Renogy Battery Shunt 300, providing installation, operation, configuration, and troubleshooting guidance for intelligent battery monitoring in solar and off-grid systems.
	[Renogy ONE Core Quick Guide | Installation and Operation] A quick guide for the Renogy ONE Core (RSHGWSN-W02W-G3), covering installation, connection, and basic operation. Learn how to set up your Renogy ONE Core for optimal performance.
	[Renogy BT-2 Bluetooth Module User Manual and Technical Specifications] Comprehensive guide to the Renogy BT-2 Bluetooth Module, detailing its features, identification of parts, operation, technical specifications, and app connection for solar charge controllers.
	[Renogy ONE Core User Manual: Comprehensive Guide to Energy Monitoring and Smart Home Integration] This user manual provides detailed instructions for the Renogy ONE Core, covering installation, operation, features like RV leveling and smart home integration, troubleshooting, and technical specifications. Learn how to monitor and manage your energy systems effectively.