DIHOOL DHM1B-2P-200A

DIHOOL DHM1B-2P-200A DC Circuit Breaker Instruction Manual

1. Introduction

This manual provides essential information for the safe and effective use of the DIHOOL DHM1B-2P-200A DC Molded Case Circuit Breaker (MCCB). This device is designed for high current battery protection in various DC applications, including electric vehicles, Uninterruptible Power Supplies (UPS), inverters, and photovoltaic combiner boxes. Please read these instructions carefully before installation and operation.

2. Specifications

The DIHOOL DHM1B-2P-200A circuit breaker features the following technical specifications:

Specification	Value
Model	DHM1B-2P-200A
Rated Operating Voltage	DC 12-400V
Poles	2P
Rated Current	200A
Breaking Capacity (Ics)	15 kA
Breaking Capacity (Icu)	25 kA
Use Category	A
Mechanical Life	6,000 Times
Electrical Life	1,000 Times

Specification	Value
Installation Method	Panel screw installation
Standard Compliance	IEC60947-2 / GB14048.2
Operating Temperature	-10℃ to +50℃
Operating Altitude	2000 Meter
Product Dimensions (D x W x H)	6.9D x 6.5W x 15H cm
Item Weight	1.52 Kilograms
Included Components	Terminal

3. Setup and Installation

The DIHOOL DHM1B-2P-200A circuit breaker is designed for panel screw installation. Ensure the installation location is dry, well-ventilated, and within the specified operating temperature range.

3.1 Physical Dimensions

Understanding the physical dimensions is crucial for proper panel integration.

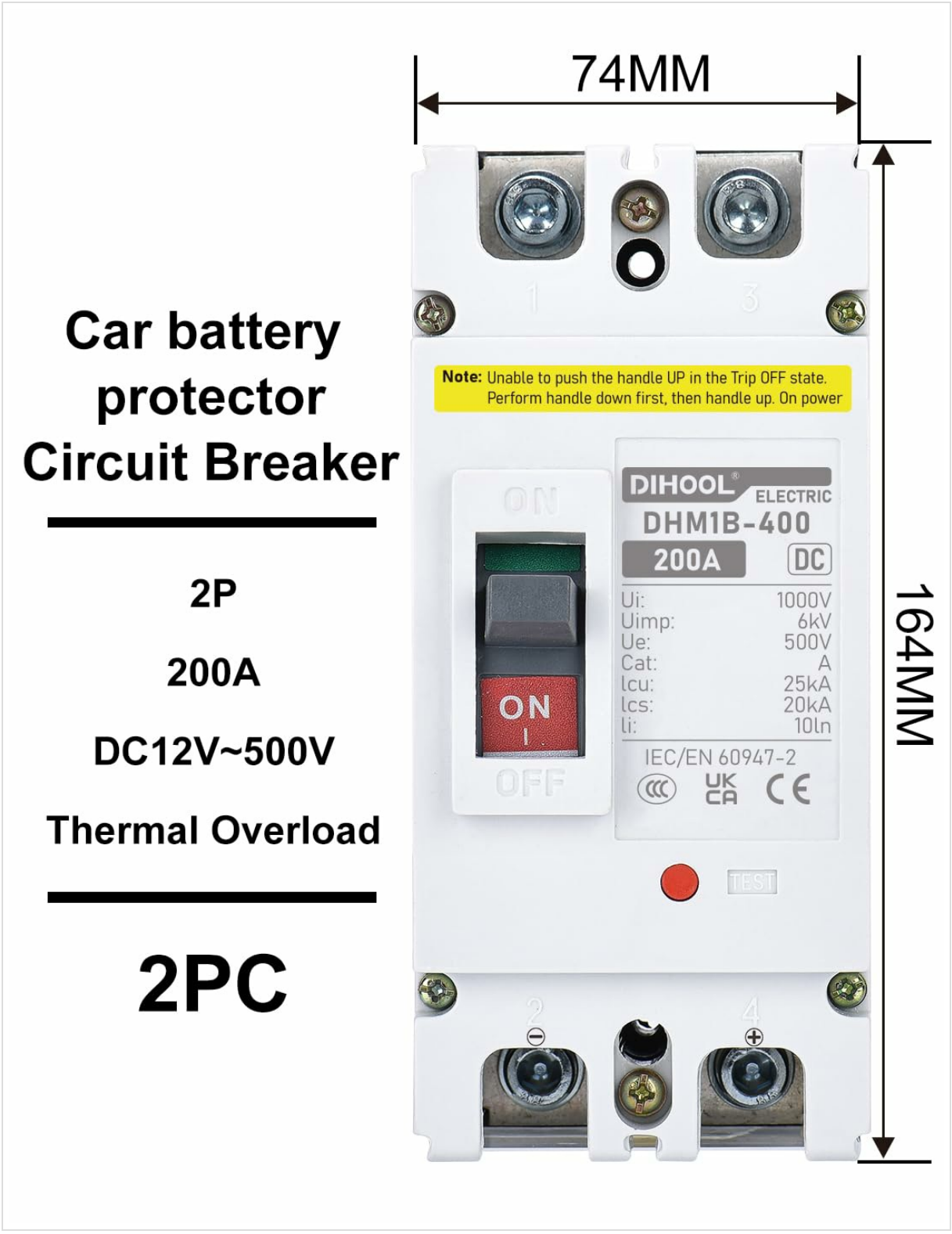

Figure 1: Circuit breaker dimensions. The device measures 74mm in width and 164mm in height.

3.2 Wiring Connections

Proper wiring is essential for safety and performance. The circuit breaker is a 2-pole device designed to protect both positive and negative lines in a DC system.

- **Applicable Wire Diameter:** The terminals are designed to accommodate wires up to 95mm² (000AWG).
- **Terminal Dimensions:** The conductive parts have a thickness of 5mm, and the terminal height is 85mm.
- **Polarity:** For DC 12V, 24V, 36V, 48V, 96V, 120V, and 240V applications, the circuit breaker supports 'No Polarity' connection, simplifying installation.

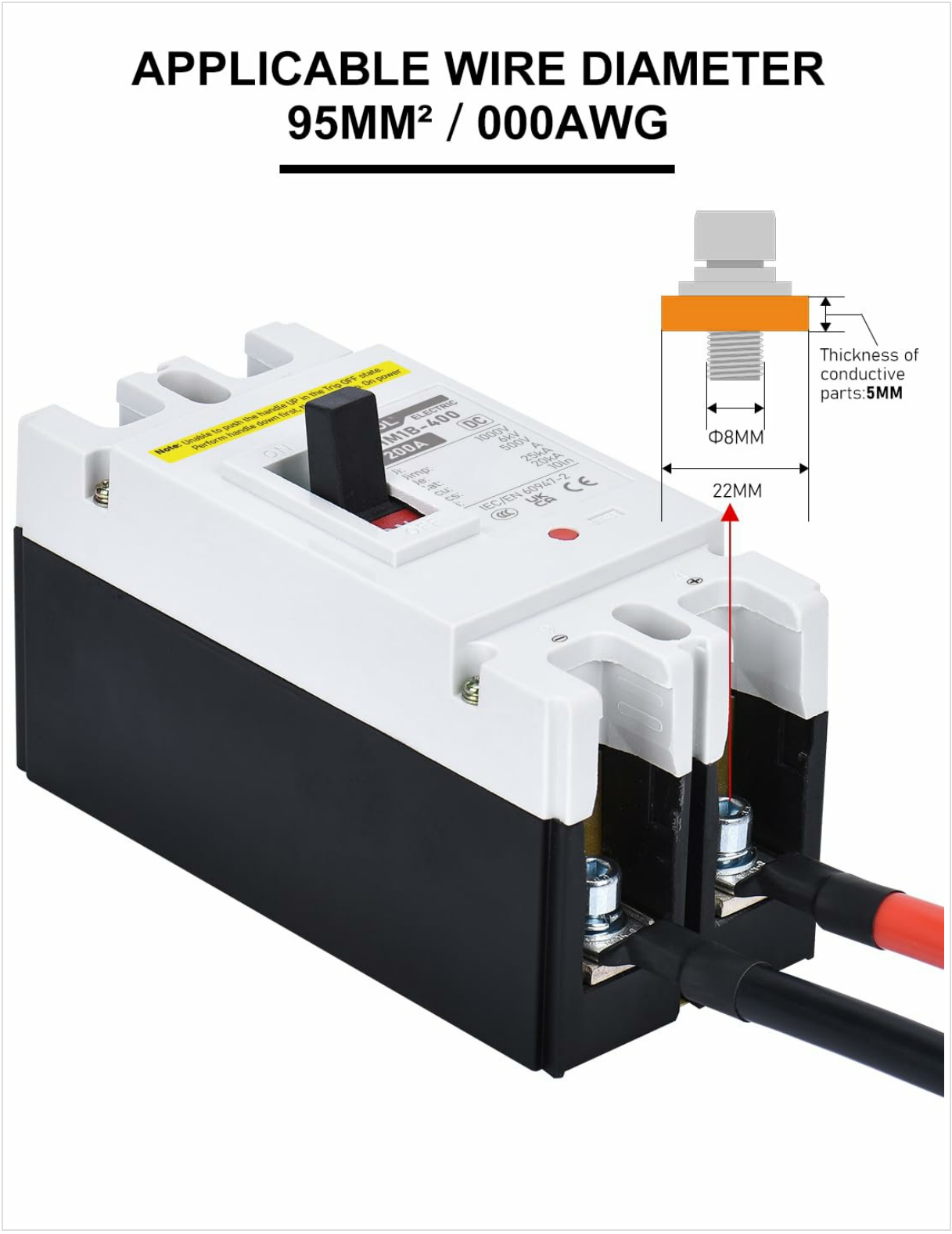

Figure 2: Applicable wire diameter and conductive part thickness. The terminals accept large gauge wires.

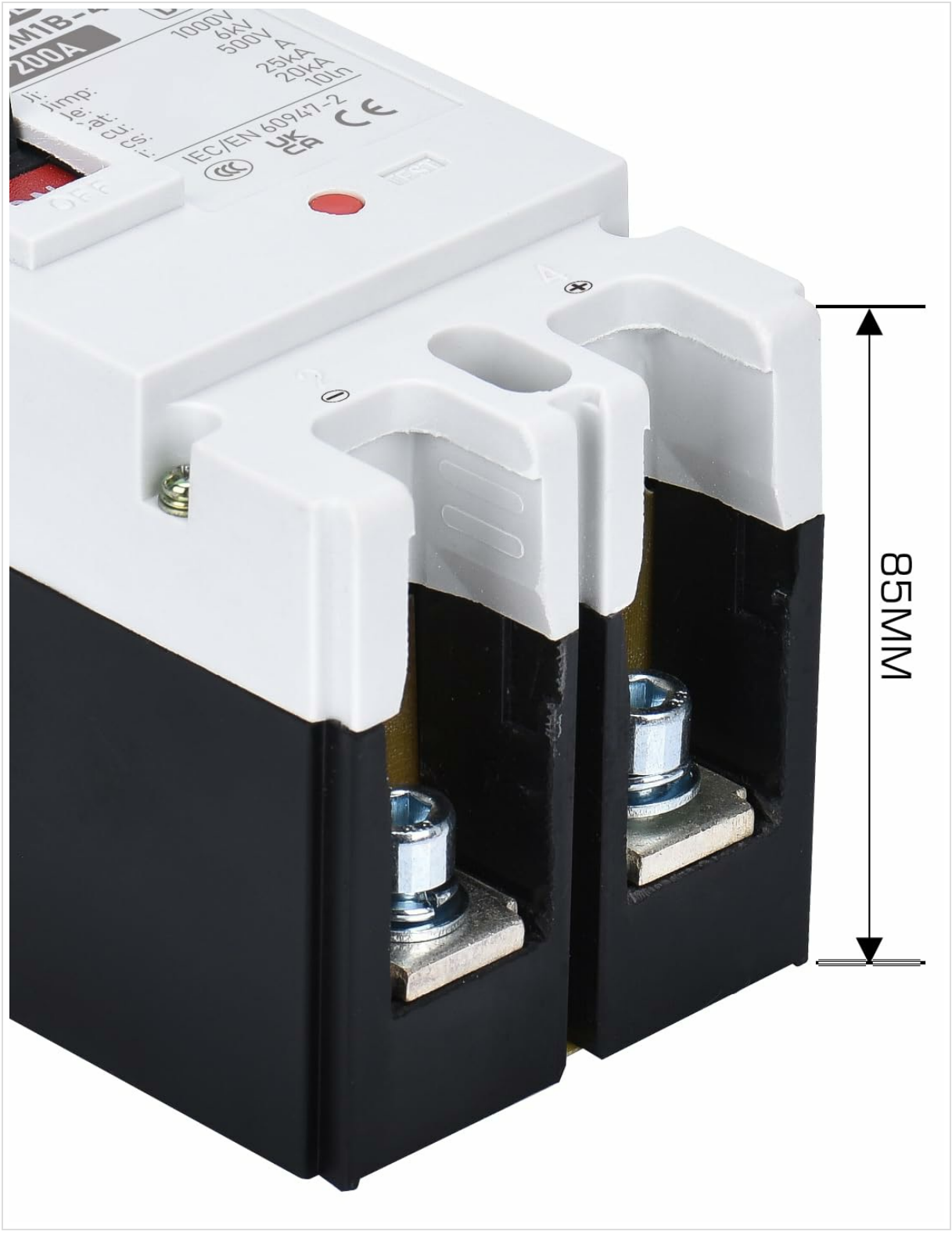

Figure 3: Terminal height measurement, showing 85mm.

Figure 4: No Polarity connection for various DC voltages.

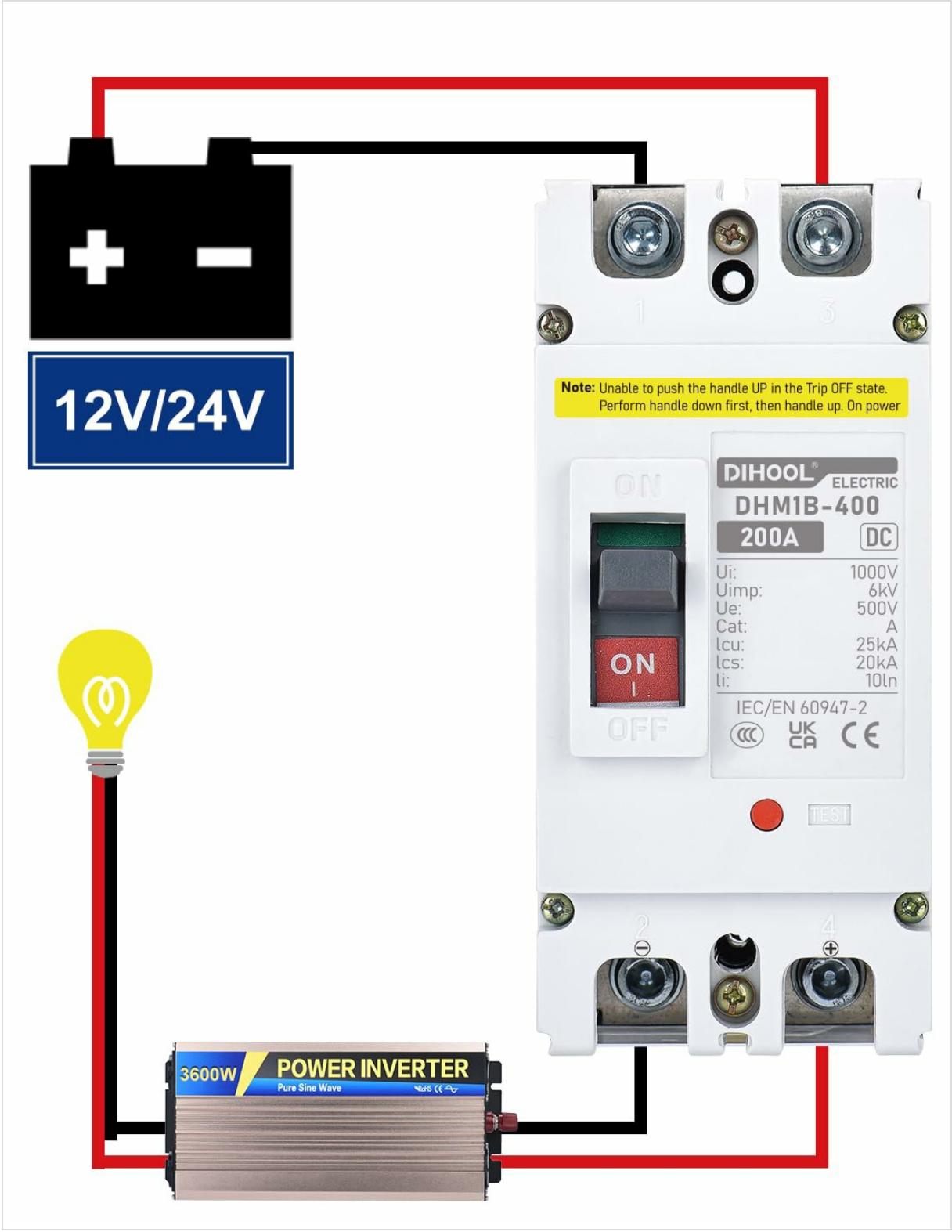

Figure 5: Example wiring diagram for a DC system.

4. Operating Instructions

The circuit breaker provides thermal magnetic trip functionality for circuit overload and short circuit protection.

4.1 Switching On/Off

The circuit breaker has a clear ON/OFF handle for manual operation.

1. **To Switch OFF:** Push the handle **DOWN** to the 'OFF' position.
2. **To Switch ON:** Push the handle **UP** to the 'ON' position.

Note: If the handle is in the 'Trip OFF' state (between ON and OFF), it cannot be directly pushed UP to ON. First, perform a handle DOWN action (to fully OFF), then push the handle UP to ON to reset and engage the circuit.

4.2 Trip Function

The circuit breaker is equipped with a red 'TEST' button to manually trip the breaker for testing purposes or to isolate the circuit.

- **To Trip:** Press the **RED** button. This will move the handle to the 'Trip OFF' state, indicating no electricity flow.

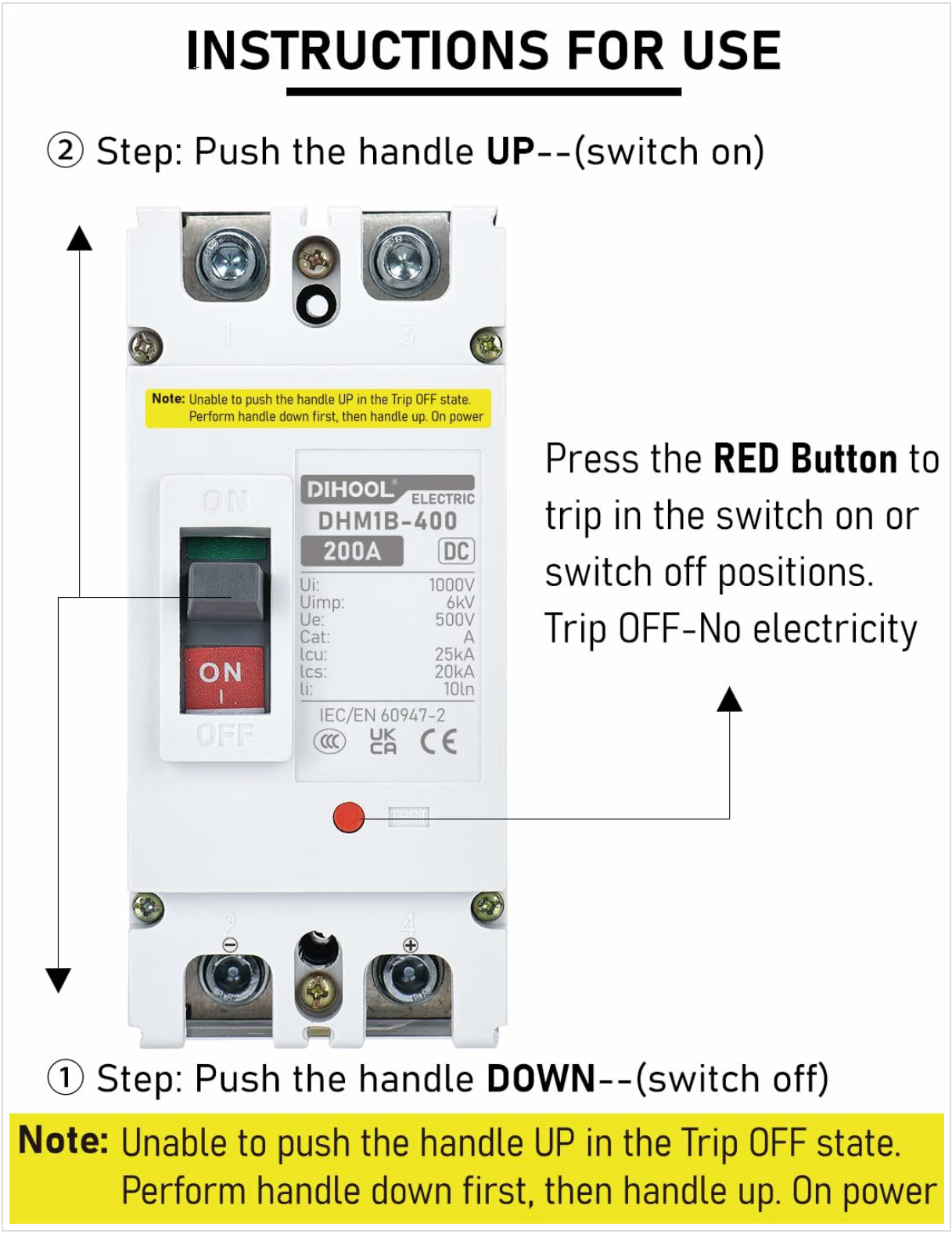

Figure 6: Operating instructions for switching ON/OFF and tripping the circuit breaker.

4.3 Protection Features

- **Thermal Magnetic Trip:** Protects against sustained overcurrents (thermal) and sudden high currents (magnetic).
- **Circuit Overload Protection:** Automatically trips when current exceeds the rated 200A for a prolonged period.
- **Circuit Short Circuit Protection:** Instantly trips upon detection of a short circuit. Note that for voltages between 12V-30V, short circuit protection is not active; it is active for 32V-400V.
- **Isolation Circuit:** Provides a safe means to disconnect power for maintenance or safety.

5. Maintenance

To ensure the longevity and reliable operation of your DIHOOL DHM1B-2P-200A circuit breaker, follow these general maintenance guidelines:

- **Regular Inspection:** Periodically inspect the circuit breaker for any signs of physical damage, discoloration, or loose connections.
- **Cleaning:** Keep the circuit breaker free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners or solvents.
- **Terminal Check:** Ensure all terminal connections are tight and secure. Loose connections can lead to overheating and potential hazards.
- **Test Function:** Periodically use the red 'TEST' button to verify the tripping mechanism is functional.

Always disconnect power to the circuit before performing any inspection or maintenance.

6. Troubleshooting

If you encounter issues with your DIHOOL DHM1B-2P-200A circuit breaker, consider the following troubleshooting steps:

- **Breaker Trips Frequently:**
  - Check for overloads: Ensure the connected load does not exceed the 200A rated current.
  - Check for short circuits: Inspect wiring for any signs of damage or short circuits.
  - Verify voltage: Ensure the operating voltage is within the DC 12-400V range.
- **Breaker Does Not Trip:**
  - Manually test the trip function using the red 'TEST' button. If it does not trip, the unit may be faulty.
  - Ensure the current is sufficient to cause a trip for the detected fault (e.g., short circuit protection is not active below 32V).
- **Breaker Does Not Stay ON:**
  - If the handle is in the 'Trip OFF' state, push it fully DOWN to OFF before attempting to push it UP to ON.
  - If the breaker immediately trips after being switched ON, a persistent overload or short circuit is present.

If problems persist after performing these checks, consult a qualified electrician or contact DIHOOL customer support.

7. Warranty and Support

For information regarding the warranty period and terms for your DIHOOL DHM1B-2P-200A DC Circuit Breaker, please refer to the documentation provided at the time of purchase or contact your retailer. For technical support or further assistance, please reach out to DIHOOL customer service through their official channels.