Hager ADC810H

Hager ADC810H Residual Current Circuit Breaker with Overcurrent Protection (RCBO) User Manual

Model: **ADC810H** | Brand: **Hager**

1. Introduction

The Hager ADC810H is a compact and reliable Residual Current Circuit Breaker with Overcurrent Protection (RCBO), designed for the protection of electrical installations against both overcurrents (overload and short-circuit) and earth leakage currents. This device is a bipolar 1P+N unit, suitable for single-phase systems, ensuring enhanced safety and operational flexibility. Its design facilitates easy installation in industrial and domestic environments, providing precise monitoring of differential currents.

2. Safety Instructions

WARNING: Electrical work should only be performed by qualified and authorized personnel. Failure to follow these instructions can result in serious injury or death.

- Always disconnect the main power supply before installing, maintaining, or troubleshooting the device.
- Ensure proper grounding of the electrical system.
- Verify that the device ratings (voltage, current, breaking capacity) match the requirements of your electrical installation.
- Do not operate the device if it appears damaged.
- Regularly test the residual current function using the test button.

3. Product Overview

The Hager ADC810H RCBO integrates both overcurrent and residual current protection in a single compact unit. It features a robust housing and clear markings for easy identification and connection.

This image shows the front view of the Hager ADC810H Residual Current Circuit Breaker with Overcurrent Protection (RCBO). Visible are the toggle switch for manual operation, the test button, and the connection terminals for phase and neutral conductors.

Key components include:

- **Toggle Switch:** For manual ON/OFF operation and indication of trip status.
- **Test Button:** Used to periodically test the residual current tripping mechanism.
- **Connection Terminals:** Clearly marked for phase (L) and neutral (N) input and output.
- **DIN Rail Mounting Clip:** For secure installation on a DIN rail.

4. Installation

The Hager ADC810H RCBO is designed for DIN rail mounting. Follow these steps for safe and correct installation:

1. **Power Disconnection:** Ensure the main power supply to the installation is completely disconnected and secured against accidental re-connection.
2. **Mounting:** Clip the RCBO onto the DIN rail in the consumer unit or distribution board. Ensure it is securely seated.
3. **Wiring - Input:** Connect the incoming phase (L) and neutral (N) conductors to the upper terminals of the RCBO. Ensure correct polarity and tight connections.
4. **Wiring - Output:** Connect the outgoing phase (L) and neutral (N) conductors to the lower terminals of the RCBO, leading to the protected circuit. Ensure correct polarity and tight connections.
5. **Torque:** Tighten all terminal screws to the manufacturer's specified torque to prevent loose connections and overheating.
6. **Verification:** Double-check all connections for correctness and security before restoring power.

5. Operation

The RCBO operates automatically to protect against electrical faults. Manual operation is also possible:

- **Switching ON:** Push the toggle switch upwards to the 'ON' position.
- **Switching OFF:** Push the toggle switch downwards to the 'OFF' position.
- **Automatic Tripping:** In the event of an overcurrent (overload or short-circuit) or an earth leakage current exceeding 30mA, the RCBO will automatically trip, moving the toggle switch to the 'OFF' or intermediate position.
- **Test Function:** Press the 'T' (Test) button periodically (e.g., monthly) to verify the residual current

tripping mechanism. The RCBO should trip immediately. If it does not trip, the device may be faulty and requires replacement.

6. Maintenance

The Hager ADC810H RCBO requires minimal maintenance, but regular checks are essential for continued safety and performance:

- **Visual Inspection:** Periodically inspect the device for any signs of physical damage, discoloration, or loose connections.
- **Test Button Operation:** Perform the test button operation monthly as described in the 'Operation' section.
- **Cleaning:** If necessary, clean the exterior of the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Professional Inspection:** It is recommended to have the entire electrical installation, including protective devices, inspected by a qualified electrician at regular intervals as per local regulations.

7. Troubleshooting

If the RCBO trips unexpectedly or fails to operate correctly, consider the following:

- **RCBO Trips Immediately After Reset:**
  - **Possible Cause:** Persistent earth fault or short-circuit in the protected circuit.
  - **Solution:** Disconnect all loads from the circuit. If the RCBO still trips, there is a fault in the fixed wiring. If it holds, reconnect loads one by one to identify the faulty appliance. Consult a qualified electrician.
- **RCBO Trips Intermittently:**
  - **Possible Cause:** Intermittent earth fault, overloaded circuit, or faulty appliance.
  - **Solution:** Reduce the load on the circuit. Check appliances for intermittent faults.
- **RCBO Does Not Trip When Test Button is Pressed:**
  - **Possible Cause:** Faulty RCBO.
  - **Solution:** The device is not providing residual current protection and must be replaced immediately by a qualified electrician.
- **No Power to Circuit, RCBO is ON:**
  - **Possible Cause:** Loose connection, fault upstream (e.g., main breaker tripped), or internal device failure.
  - **Solution:** Check all connections. Verify power supply to the RCBO. If issues persist, consult a qualified electrician.

8. Technical Specifications

Parameter	Value
Brand	Hager

Parameter	Value
Model Number	ADC810H
Type	RCBO (Residual Current Circuit Breaker with Overcurrent Protection)
Poles	1P+N (Bipolar Phase Neutral)
Rated Voltage (Vac)	230 V
Frequency	50/60 Hz
Rated Current	10 A
Rated Residual Operating Current (IΔn)	30 mA (0.03A)
Breaking Capacity	4.5 kA
Overcurrent Trip Curve	C
Magnetic Trip Range	5 to 10 In
Type of Residual Current Unit	AC (for alternating current only)
Degree of Protection	IP20
Installation Type	DIN Rail
Number of Modules	2
Dimensions (approx.)	10 x 7 x 4 cm
Weight (approx.)	500 g

9. Warranty Information

Hager products are manufactured to high-quality standards and are covered by a manufacturer's warranty against defects in materials and workmanship. The specific terms and duration of the warranty may vary by region and product. Please refer to the official Hager website or contact your local supplier for detailed warranty information applicable to your purchase. Keep your proof of purchase for warranty claims.

10. Support and Contact

For technical assistance, product inquiries, or support, please contact Hager customer service or your authorized Hager distributor. You can typically find contact information on the official Hager website or on the product packaging. When contacting support, please have your product model number (ADC810H) and any relevant purchase details ready.

Hager Official Website: www.hager.com