

ZIPCOM GRD9L-R

ZIPCOM GRD9L-R Automatic Reclosing Device Circuit Breaker User Manual

Model: GRD9L-R

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the ZIPCOM GRD9L-R Automatic Reclosing Device Circuit Breaker. This device is designed to protect electrical distribution facilities from overload and short-circuit damage, and features an automatic reclosing function to restore power after an unexpected trip due to earth leakage current.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating this device. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Installation and maintenance should only be performed by qualified personnel.
- Ensure power is disconnected before any installation, wiring, or maintenance work.
- Do not operate the device if it appears damaged.
- Verify correct wiring and connections before applying power.
- Adhere to all local and national electrical codes.

3. PRODUCT OVERVIEW

The ZIPCOM GRD9L-R is an advanced Residual Current Circuit Breaker (RCCB) with an integrated automatic reclosing mechanism. It is suitable for various applications including power grid terminal lines, meter boxes, new energy circuit management, PV solar control boxes, smart electricity systems, smart homes, and electric vehicle charging piles.

3.1 Key Features

- **Automatic Reclosing:** Automatically recloses after an unexpected trip, reducing manual intervention and improving

efficiency.

- **Multiple Reclosing Attempts:** Built-in logic for up to 3 reclosing attempts.
- **Adjustable Reclose Time:** Configurable reclose times (e.g., 10s, 60s, 300s).
- **Alarm Output:** Can send alarm signals through an auxiliary contact.
- **Manual/Automatic Selector:** Allows switching between automatic and manual operation modes.
- **Double Locking Function:** Mechanical and electronic double locking for enhanced safety.
- **LED Indicators:** Provides clear indication of operational status.
- **Durable Construction:** Flame retardant material shell.

3.2 Product Components

The device consists of the RCCB unit and the integrated reclosing module. Key external features include:

- **PWR Indicator:** Power status indicator.
- **AUTO/MANU Selector:** Switch for operating mode.
- **LOCK Mechanism:** For securing the selector.
- **Test Monthly Button:** For periodic testing of the RCCB function.
- **Terminal Connections:** For power input/output and auxiliary contacts.



Figure 1: Front view of the ZIPCOM GRD9L-R Automatic Reclosing Device Circuit Breaker, showing the PWR indicator, AUTO/MANU selector, LOCK mechanism, and Test Monthly button.



Figure 2: Angled view of the ZIPCOM GRD9L-R, highlighting its compact design and visible controls.

4. INSTALLATION AND SETUP

Proper installation is crucial for the safe and reliable operation of the GRD9L-R device.

4.1 Mounting

The device is designed for 35mm DIN rail mounting.

1. Ensure the DIN rail is securely fastened within the electrical enclosure.
2. Align the device's mounting clips with the DIN rail.
3. Press the device firmly onto the rail until it clicks into place.



Figure 3: Bottom view illustrating the DIN rail mounting clips for secure installation.

4.2 Wiring Connections

The GRD9L-R uses screw clamp terminals for wiring. Ensure all connections are tight and secure.

- **Power Input/Output:** Connect the main power supply to the designated input terminals and the load to the output terminals. Observe polarity for DC versions.
- **Auxiliary Power (for Recloser):** The recloser module requires a specific voltage supply (e.g., DC12V, AC220V, DC24-48V) as indicated on the device. Connect this auxiliary power to the dedicated terminals (A1, A2 for AC220V, or specific DC terminals).
- **Auxiliary Contacts (AUX):** If using the alarm function, connect external signaling devices to the auxiliary contact terminals (COM, NC, 1, 2, 3, 4). Refer to the wiring diagram on the device for specific pin assignments.



Figure 4: Side view displaying the screw clamp terminals for power and auxiliary connections.



Figure 5: Rear view showing the auxiliary connection block with labels for AC220V, AUX, and numbered terminals (1, 2, 3, 4, COM, NC).

5. OPERATION

5.1 Initial Power-Up

1. After completing all wiring, ensure the AUTO/MANU selector is in the desired position.
2. Apply power to the main circuit and the auxiliary power for the recloser.
3. The PWR LED should illuminate, indicating the recloser module is powered.
4. Manually close the circuit breaker if it is open.

5.2 Automatic Reclosing Function

When the AUTO/MANU selector is set to **AUTO**, the device will attempt to reclose automatically after an earth leakage trip.

- If the RCCB trips due to an earth leakage fault, the recloser will initiate a reclosing sequence.

- The device is configured for a specific number of reclosing attempts (typically 3).
- Reclosing times can be customized (e.g., 10 seconds, 60 seconds, 300 seconds between attempts).
- If the fault persists after all reclosing attempts, the device will remain open, and manual intervention will be required.
- The reclosing attempt counter resets to "0" if no trip occurs or if a manual reset is performed within 15 minutes after a successful reclosing.

5.3 Manual Operation

When the AUTO/MANU selector is set to **MANU**, the automatic reclosing function is disabled. The circuit breaker must be manually closed after any trip.

5.4 Status Indicators

- **PWR LED:** Indicates the recloser module is powered.
- **Recloser Status:** Visual indicators or LED patterns may show the current state of the reclosing sequence (e.g., waiting, reclosing, locked out). Refer to the device's specific markings for detailed interpretation.

6. MAINTENANCE

6.1 Regular Testing

It is recommended to test the RCCB function monthly using the "Test Monthly" button.

1. Ensure the circuit is under normal operating conditions.
2. Press the "Test Monthly" button. The RCCB should trip immediately.
3. If in AUTO mode, observe the reclosing sequence. If in MANU mode, manually close the breaker.
4. If the RCCB does not trip, the device may be faulty and should be replaced by a qualified electrician.

6.2 Cleaning

Keep the device clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use abrasive cleaners or solvents.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on (PWR LED off)	No auxiliary power supply; incorrect wiring; faulty device.	Check auxiliary power connections and voltage. Verify wiring. If problem persists, contact support.
RCCB trips frequently	Persistent earth leakage fault; overloaded circuit.	Investigate and rectify the earth leakage fault in the connected circuit. Reduce load if due to overload.
Automatic reclosing fails	Selector in MANU mode; persistent fault; recloser module fault.	Ensure selector is in AUTO. Check for persistent fault. If fault is cleared and reclosing still fails, contact support.
"Test Monthly" button does not trip RCCB	Faulty RCCB mechanism.	The device is faulty and must be replaced by a qualified electrician.

8. SPECIFICATIONS

Feature	Detail
Brand	ZIPCOM
Model Number	GRD9L-R
Circuit Breaker Type	ELCB RCCB (Residual Current Circuit Breaker)
Rated Current (In)	40A, 63A (depending on variant)
Rated Residual Operating Current (IΔn)	30mA, 100mA, 300mA (depending on variant)
Number of Poles	2P, 4P (depending on variant)
Rated Short-Circuit Breaking Capacity (Icn)	6KA
Recloser Control Voltage	DC12V, DC24-48V, AC220V (depending on variant)
Reclosing Attempts	3 built-in attempts
Reclosing Time	Configurable (e.g., 10s, 60s, 300s)
Mounting Type	35mm DIN Rail Mount
Terminal Type	Screw Clamp Wires
Material	Flame retardant material shell
Dimensions (Approx.)	1.18 x 0.79 x 0.39 inches (for a single unit, may vary by pole count)
Weight (Approx.)	4.23 ounces (for a single unit, may vary by pole count)

9. WARRANTY AND SUPPORT

Specific warranty information is not provided in the product details. For warranty claims, technical support, or service inquiries, please contact the seller or manufacturer directly. Keep your purchase receipt as proof of purchase.

