GEYA GRD9L-R-AC220V+A-SI RCCB 2P-63A-30mA

GEYA GRD9L-R Automatic Reclosing Device User Manual

Model: GRD9L-R-AC220V+A-SI RCCB 2P-63A-30mA

1. Product Overview

The GEYA GRD9L-R Automatic Reclosing Device is an electromagnetic leakage circuit breaker (RCCB) designed to enhance electrical system reliability and reduce manual intervention. It automatically recloses the circuit when a leakage fault causes the RCD to trip unexpectedly, minimizing downtime and maintenance costs.

This device is suitable for various applications, including electrical network terminal lines, meter boxes, new energy circuit management, solar PV control boxes, smart electricity systems, smart homes, and charging stations for new energy vehicles.

Key Features:

- Automatic reclosing function after RCD trip, eliminating the need for manual reset.
- Integrated 3 reclosing attempts. An auxiliary contact can send an alarm if continuous tripping occurs within 15 minutes.
- Manual/Automatic selector switch for operational flexibility.
- Features double mechanical/electronic locking for enhanced safety.
- Compatible with auxiliary contacts, alarm contacts, shunt releases, and undervoltage releases.
- Reclosing attempt counter resets if no trip occurs or after a manual reset within 15 minutes of successful reclosure.

Figure 1: Front view of the GEYA GRD9L-R Automatic Reclosing Device.

2. Safety Information

WARNING: Installation and maintenance of this device must be performed by a qualified electrician in accordance with all local and national electrical codes and regulations. Failure to do so may result in electric shock, fire, or other serious injury.

- Always disconnect power before installing, servicing, or removing the device.
- Ensure proper grounding of the electrical system.
- Do not operate the device if it appears damaged.
- Verify correct wiring connections to prevent malfunction or damage.
- The device is designed for specific voltage and current ratings. Do not exceed these limits.

3. Product Components and Diagrams

3.1 Function Description

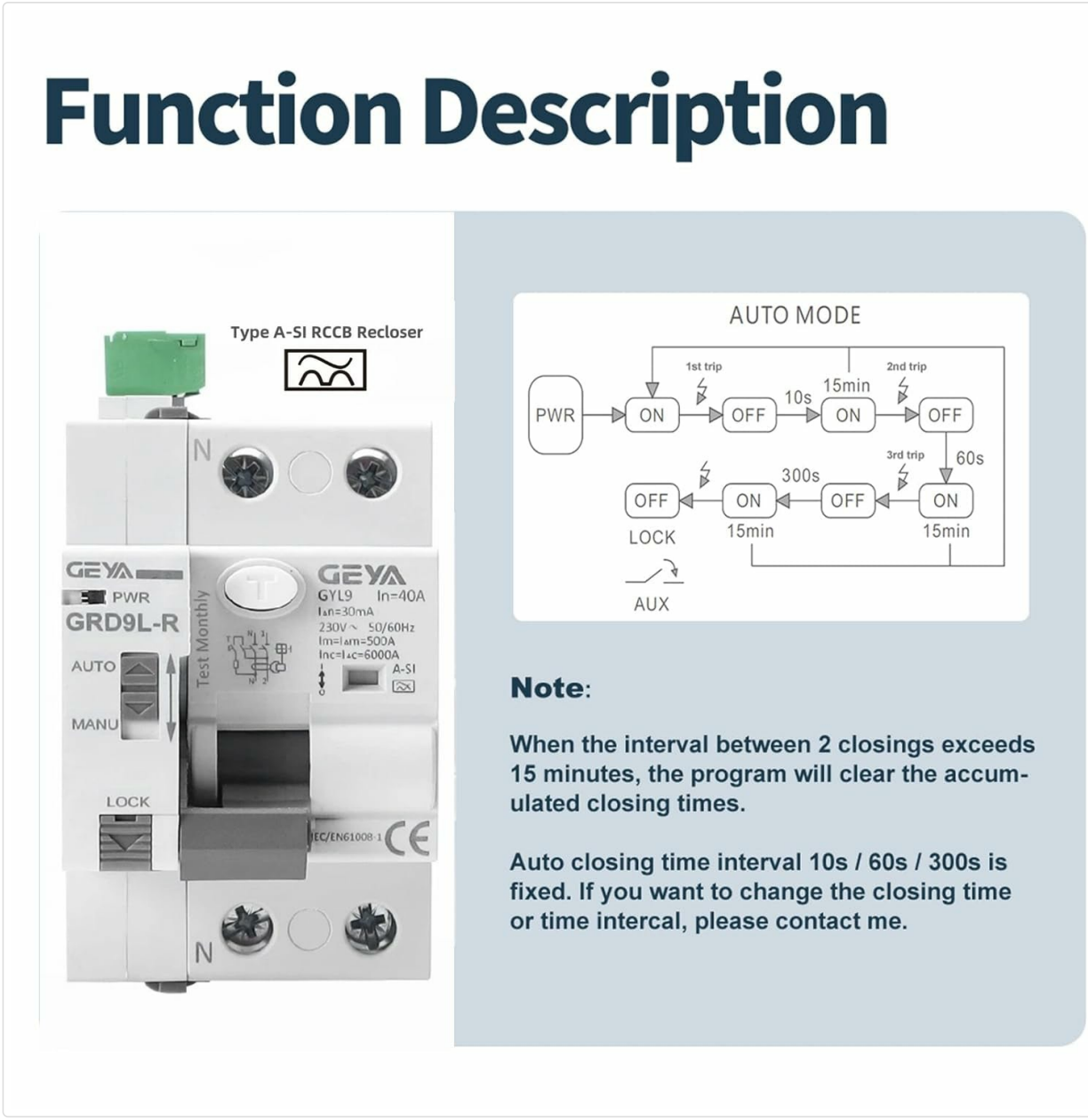


Figure 2: Diagram illustrating the automatic reclosing logic and function description. The device attempts to reclose the circuit up to three times with specific time intervals. If the interval between two successful closings exceeds 15 minutes, the program clears the accumulated closing times.

3.2 Functions Diagram (Auto Mode Logic)

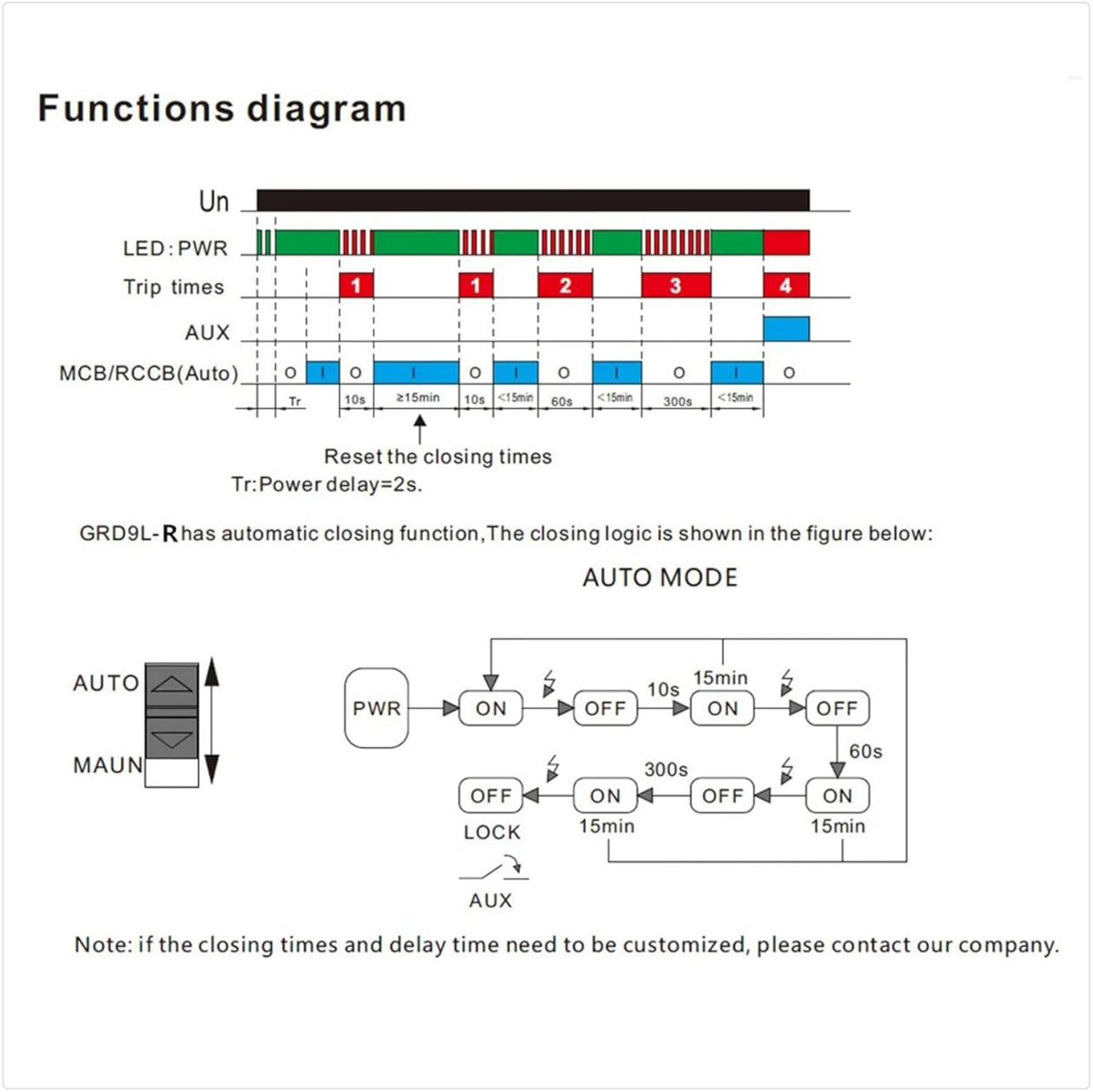


Figure 3: Detailed flow chart of the automatic reclosing sequence. After a trip, the device attempts to reclose. If successful, it waits. If it trips again, it attempts a second reclose after 10 seconds. A third attempt follows after 60 seconds if the second fails. If all three attempts fail within 15 minutes, the device locks out and sends an auxiliary alarm. The power delay (Tr) is 2 seconds. Note: Customization of closing times and delay times requires contacting the manufacturer.

3.3 Locking Function

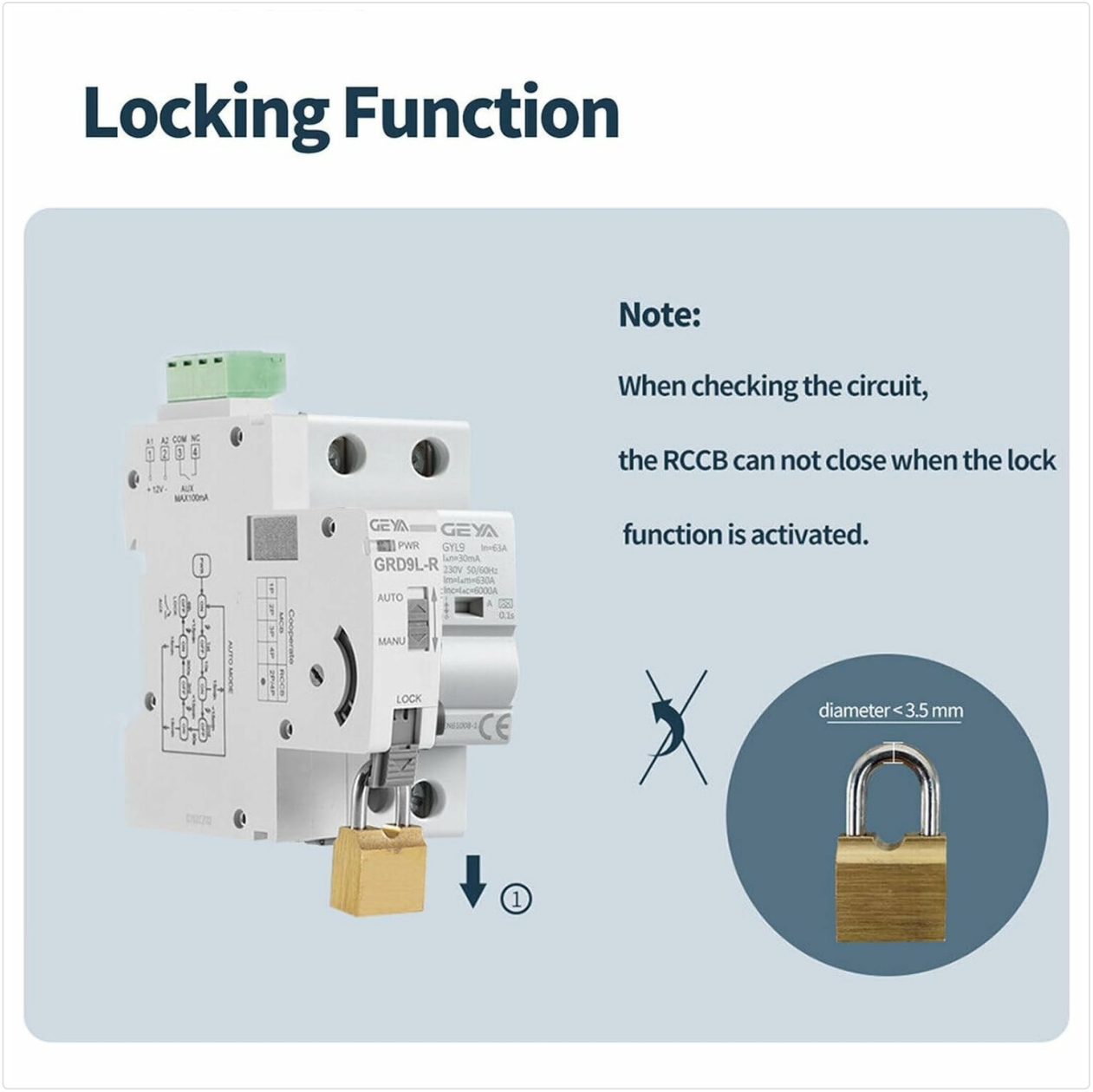


Figure 4: Illustration of the locking mechanism. When the locking function is activated (e.g., by inserting a padlock with a diameter less than 3.5 mm), the RCCB cannot be closed, ensuring safety during circuit checks or maintenance. This prevents accidental reclosure.

4. Setup and Installation

The GEYA GRD9L-R device is designed for DIN rail mounting and can be integrated with other electrical components such as an RCCB and auxiliary modules.

4.1 Component Integration

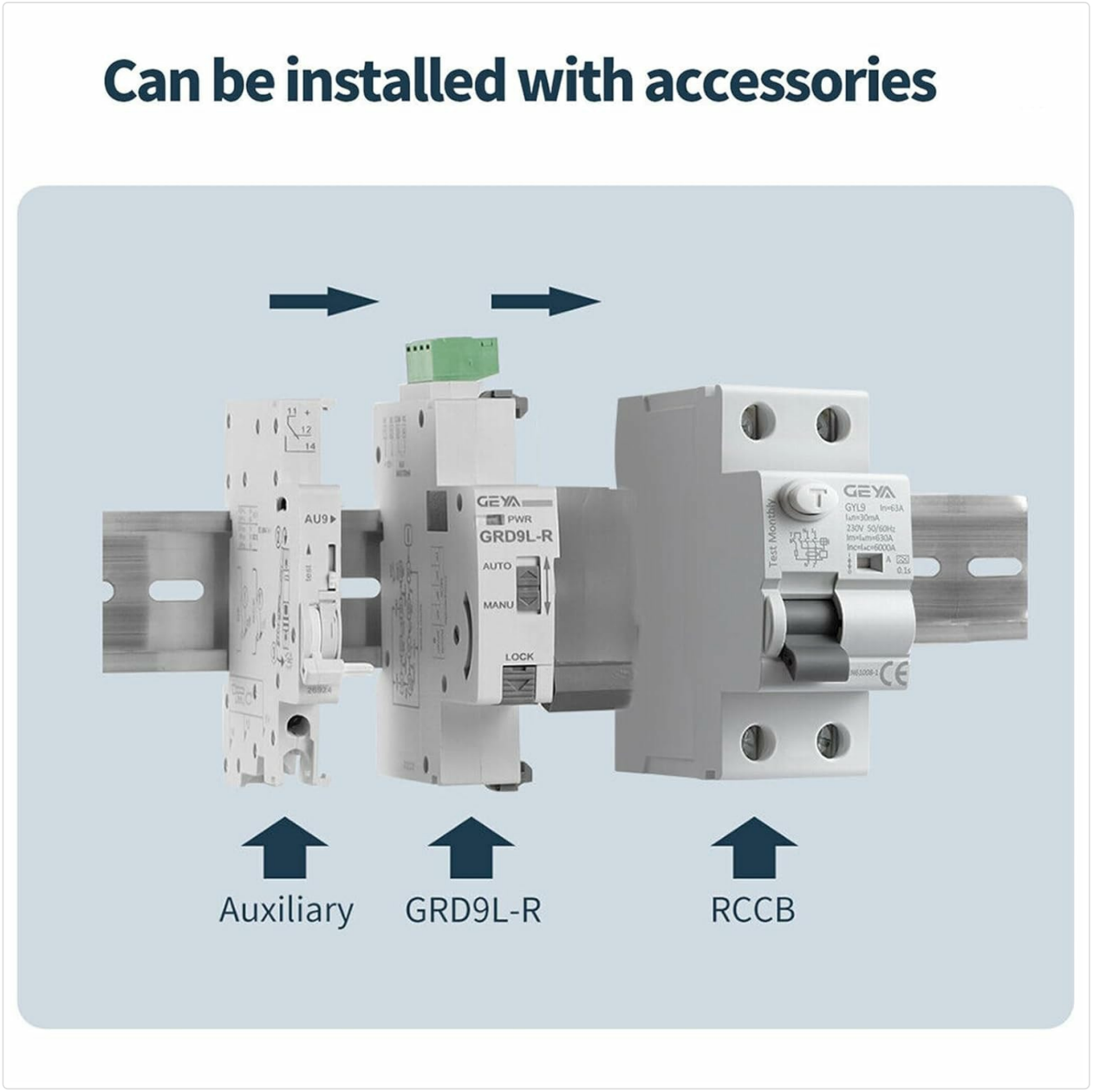


Figure 5: Example of how the GRD9L-R device can be installed alongside an Auxiliary module and an RCCB on a standard DIN rail. Ensure proper alignment and secure fastening of all components.

4.2 Wiring Diagram

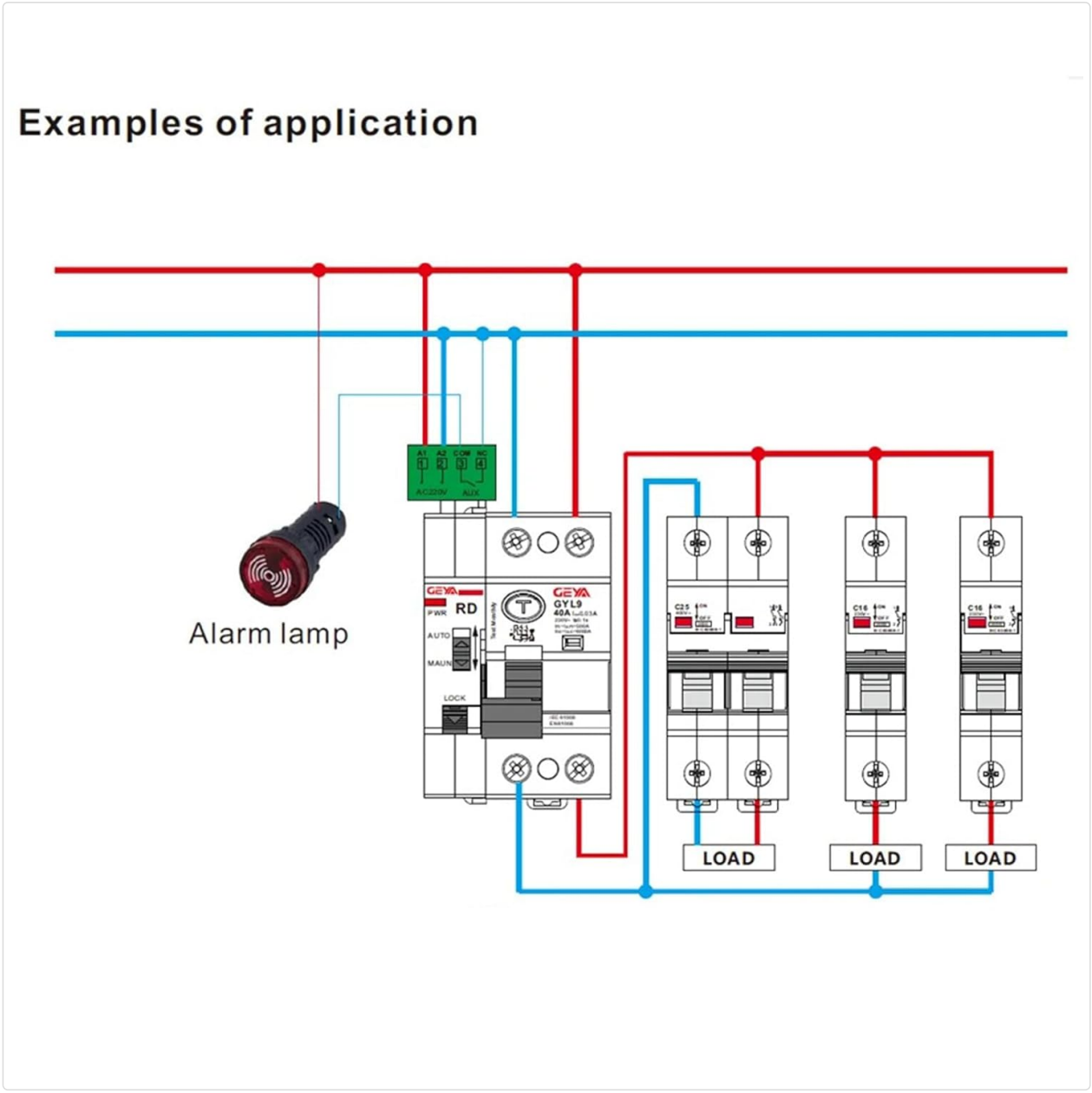


Figure 6: An example application wiring diagram. This diagram shows the connection of the GRD9L-R device with an alarm lamp, an RCCB, and multiple load circuits. Red lines indicate live connections, blue lines indicate neutral connections. The auxiliary contacts (A1, A2, COM, NO) are used for external signaling, such as an alarm lamp. Always consult a qualified electrician for correct wiring specific to your installation.

4.3 Installation Steps (General Guidelines):

1. **Power Disconnection:** Ensure the main power supply to the circuit is completely disconnected before beginning installation.
2. **Mounting:** Mount the GRD9L-R device, the associated RCCB, and any auxiliary modules onto a standard DIN rail within an appropriate electrical enclosure.
3. **Wiring:** Connect the input and output terminals of the GRD9L-R and RCCB according to the wiring diagram (Figure 6) and local electrical codes. Pay close attention to live (L) and neutral (N) connections.
4. **Auxiliary Connections:** If using, connect auxiliary contacts (A1, A2, COM, NO) for remote signaling or control, such as an alarm lamp.
5. **Verification:** Double-check all wiring connections for tightness and correctness.
6. **Power Restoration:** Once installation is complete and verified, restore power to the circuit.

5. Operating Instructions

5.1 Manual/Automatic Selector

The device features a selector switch labeled "AUTO" and "MANU" (Manual). This switch allows you to choose the operating mode:

- **AUTO Mode:** In this mode, the device will automatically attempt to reclose the associated RCCB after a trip, following the reclosing logic described in Figure 3. This is the default and recommended mode for continuous operation.
- **MANU Mode:** In this mode, the automatic reclosing function is disabled. If the RCCB trips, it must be manually reset. This mode is useful for maintenance or specific operational requirements where automatic reclosure is not desired.

5.2 Reclosing Logic (Auto Mode)

When in AUTO mode, the device follows a specific sequence of reclosing attempts:

1. **1st Trip:** If the RCD trips, the device waits for 10 seconds, then attempts to reclose.
2. **2nd Trip:** If the RCD trips again within 15 minutes of the first reclosure, the device waits for 60 seconds, then attempts a second reclosure.
3. **3rd Trip:** If the RCD trips a third time within 15 minutes of the second reclosure, the device waits for 300 seconds (5 minutes), then attempts a third reclosure.
4. **Lockout:** If the RCD trips a fourth time within 15 minutes, or if any of the three reclosing attempts fail, the device enters a lockout state. It will not attempt further reclosures automatically and will activate the auxiliary alarm contact (if connected). Manual intervention is required to reset the device.
5. **Resetting Closing Times:** If no trip occurs for 15 minutes after a successful reclosure, or if the device is manually reset, the reclosing attempt counter is cleared.

5.3 Test Button

The associated RCCB typically has a test button. Pressing this button simulates a leakage fault and should cause the RCCB to trip. This is used to verify the proper functioning of the RCCB and, in AUTO mode, the reclosing device.

6. Maintenance

The GEYA GRD9L-R Automatic Reclosing Device is designed for minimal maintenance. However, regular checks are recommended to ensure optimal performance and safety.

- **Visual Inspection:** Periodically inspect the device for any signs of physical damage, discoloration, or loose connections.
- **Functionality Test:** Regularly test the associated RCCB using its test button. Observe if the GRD9L-R device initiates its reclosing sequence in AUTO mode.
- **Cleaning:** Ensure the device is kept clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Professional Inspection:** It is recommended to have the electrical system, including this device, inspected by a qualified electrician at least once a year.

7. Troubleshooting

If the GEYA GRD9L-R device is not functioning as expected, consider the following:

Problem	Possible Cause	Solution
Device does not reclose automatically.	Device is in MANU mode. Device is in lockout state after multiple failed reclosures. Persistent fault in the circuit. Locking function is activated.	Switch to AUTO mode. Manually reset the device and investigate the cause of repeated trips. Identify and rectify the electrical fault. Ensure no padlock is inserted in the locking mechanism.
Alarm contact is continuously active.	Device is in lockout state. Auxiliary contact wiring issue.	Investigate and clear the fault, then manually reset the device. Check wiring of auxiliary contacts.
RCCB trips immediately after reclosure.	Persistent or severe electrical fault (e.g., short circuit, ground fault).	Immediately disconnect power and have a qualified electrician diagnose and repair the fault. Do not attempt further reclosures until the fault is resolved.

If the problem persists after attempting these solutions, contact a qualified electrician or GEYA customer support.

8. Specifications

Feature	Detail
Model Number	GRD9L-R-AC220V+A-SI RCCB 2P-63A-30mA
Brand	GEYA
Voltage	220 Volts AC
Rated Current	63 A (as per model number)
Number of Poles	2
Circuit Breaker Type	RCD (Residual Current Device)
Mounting Type	Wall Mount, Flush Mount (DIN Rail compatible)
Package Dimensions	12 x 11.6 x 9.1 cm
Item Weight	350 grams
Manufacturer	ZHEJIANG GEYA ELECTRICAL CO.,LTD

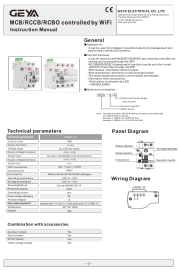
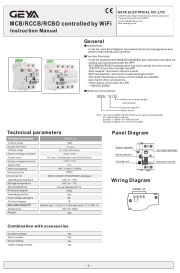
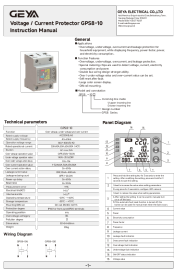
9. Warranty and Support

Specific warranty information for the GEYA GRD9L-R Automatic Reclosing Device is not available in the provided product details. Please refer to the product packaging or contact GEYA customer support for detailed warranty terms and conditions.

For technical support, inquiries, or assistance with installation and troubleshooting, please contact GEYA

directly through their official channels or the retailer from whom the product was purchased.

Related Documents - GRD9L-R-AC220V+A-SI RCCB 2P-63A-30mA

	GEYA Electrical Equipment Catalog - Circuit Breakers, Contactors, and More Comprehensive catalog of GEYA electrical products including miniature circuit breakers, contactors, transfer switches, and other safety equipment, detailing specifications, applications, and compliance standards.
	GEYA GRD9L-W WiFi Controlled MCB/RCCB/RCBO: Instruction Manual & Technical Guide Comprehensive instruction manual and technical guide for the GEYA GRD9L-W WiFi-controlled MCB/RCCB/RCBO. Covers applications, features, technical specifications, installation, networking, troubleshooting, and dimension details for intelligent electrical systems.
	GEYA GRD9L-W WiFi Controlled MCB/RCCB/RCBO: Instruction Manual & Technical Guide Detailed instruction manual for the GEYA GRD9L-W WiFi-controlled MCB/RCCB/RCBO. Covers applications in intelligent household electricity management and photovoltaic systems, function features, technical parameters, panel and wiring diagrams, installation, networking setup with Tuya Smart app, common faults, and dimensions. Essential guide for safe and efficient electrical control.
	GEYA Miniature Circuit Breakers, Contactors, and Transfer Switches Catalog | Technical Specifications Comprehensive catalog from GEYA detailing Miniature Circuit Breakers (MCB), Residual Current Circuit Breakers (RCCB), Residual Current Circuit Breakers with Overcurrent Protection (RCBO), Molded Case Circuit Breakers (MCCB), AC Contactors, Automatic Transfer Switches, and Intelligent Circuit Breakers. Includes technical specifications, scope of application, product features, and compliance information for various models, serving industrial, commercial, and residential applications.
	GEYA WiFi Series Intelligent Miniature Circuit Breaker - Operating Instructions Detailed operating instructions and FAQs for the GEYA WiFi Series Intelligent Miniature Circuit Breaker (ZJSB9 series). Learn about installation, setup, troubleshooting, safety, and application for smart home electrical protection.
	GEYA GPS8-10 Voltage/Current Protector Instruction Manual Instruction manual for the GEYA GPS8-10 Voltage/Current Protector, detailing its applications, features, technical parameters, wiring, panel diagram, parameter settings, factory settings, and functional diagrams.