

DEWIN QDXCXDQDC-GS99306-02

DEWIN Automatic Reclosing Residual Current Circuit Breaker (RCCB) with LED Display - 40A 30mA 2P AC230V Type A User Manual

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your DEWIN Automatic Reclosing Residual Current Circuit Breaker (RCCB). Please read this manual thoroughly before installation and use to ensure safe and efficient operation. This device is designed to automatically reclose the circuit after an accidental trip, minimizing downtime and enhancing electrical safety.

2. IMPORTANT SAFETY INFORMATION

- **Professional Installation Required:** Installation and maintenance of this device must be performed by qualified electricians in accordance with local electrical codes and regulations.
- **Power Disconnection:** Always disconnect power to the circuit before installing, servicing, or performing any work on the device.
- **Voltage and Current Ratings:** Ensure the device's voltage (AC230V) and current (40A) ratings match your electrical system requirements.
- **LED Display Note:** The LED display on this model does not show voltage parameters.
- **Initial Lock:** After factory testing, the device may be in a locked state. Power on the unit and manually pull the reset lock to release it.
- **Application Restriction:** This product is not suitable for personal photovoltaic (solar) installations in homes.

3. PRODUCT FEATURES

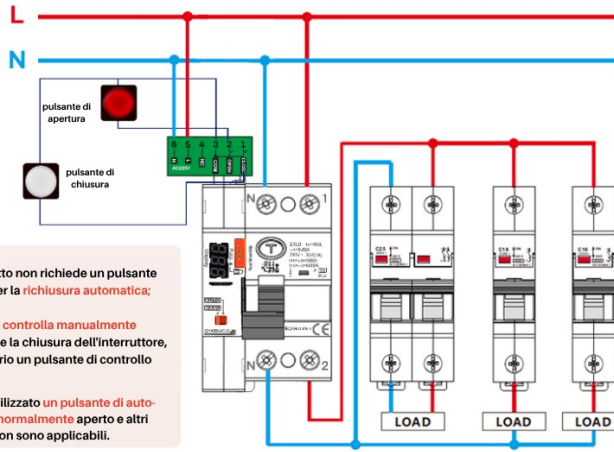
- **Intelligent Automatic Reclosing:** Automatically recloses the circuit when the RCCB trips accidentally, eliminating the need for manual intervention and reducing maintenance costs.
- **Type A Protection:** Provides protection against sinusoidal AC, pulsating DC, and pulsating half-wave + DC residual currents, ensuring stable performance.

- **Automatic/Manual Switching:** Offers both automatic (AUTO) and manual (MANU) operation modes. In AUTO mode, reclosing occurs automatically after a fault. In MANU mode, manual reset is required.
- **Self-Locking Mode:** Features a progressive reclosing delay (9s, 59s, 299s) after successive faults. After the fourth fault, the device enters a self-locking mode, requiring manual inspection and reset for safety.
- **Digital LED Display:** Provides clear visual feedback on the device's status. Red flashing indicates opening, green flashing indicates closing in AUTO mode. A yellow light is always on for manual operation. The display also shows the number of trips and reclosing recovery time.
- **Wide Application:** Suitable for various applications such as unmanned mobile phone base stations, elevators, smart homes, smart factories, and new energy vehicle charging stations.
- **Durable Construction:** Made from PC material with IP20 protection grade.
- **DIN Rail Installation:** Designed for easy installation on a 35mm DIN rail.

4. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	DEWIN
Model Number	QDXCXDQDC-GS99306-02
Rated Current	40 Ampere
Rated Residual Current	30mA
Poles	2P
Rated Voltage	AC230V
Type	Type A
Mounting Type	DIN Rail
Item Weight	350 g
Package Dimensions	12.4 x 11.7 x 8.9 cm
Working Frequency	50/60Hz
Closing Action Time	<1s
Opening Action Time	<0.5s
Effective Control Signal Duration	>400ms

Product Dimensions



Nota:
 1. Il prodotto non richiede un pulsante esterno per la chiusura automatica;
 Quando si controlla manualmente l'apertura e la chiusura dell'interruttore, è necessario un pulsante di controllo esterno.
 2. Viene utilizzato un pulsante di auto-ripristino normalmente aperto e altri pulsanti non sono applicabili.

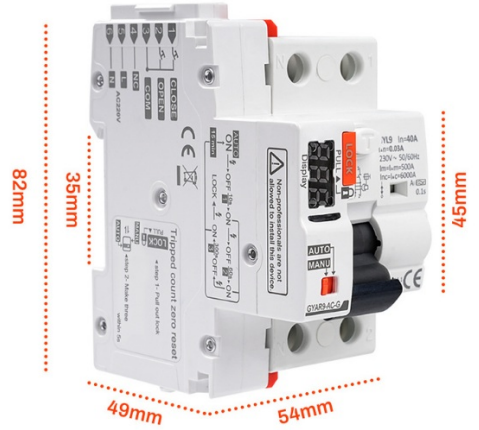


Image Description: This image displays the physical dimensions of the DEWIN Automatic Reclosing RCCB, showing measurements for height (82mm), width (49mm), and depth (54mm). It also includes a basic electrical circuit diagram illustrating the connections for the device.

5. INSTALLATION AND WIRING

Proper installation is crucial for the safe and correct operation of the DEWIN RCCB. Refer to the wiring diagram below and ensure all connections are secure and comply with local electrical standards.

Wiring Diagram

PRODUCT WIRING DIAGRAM

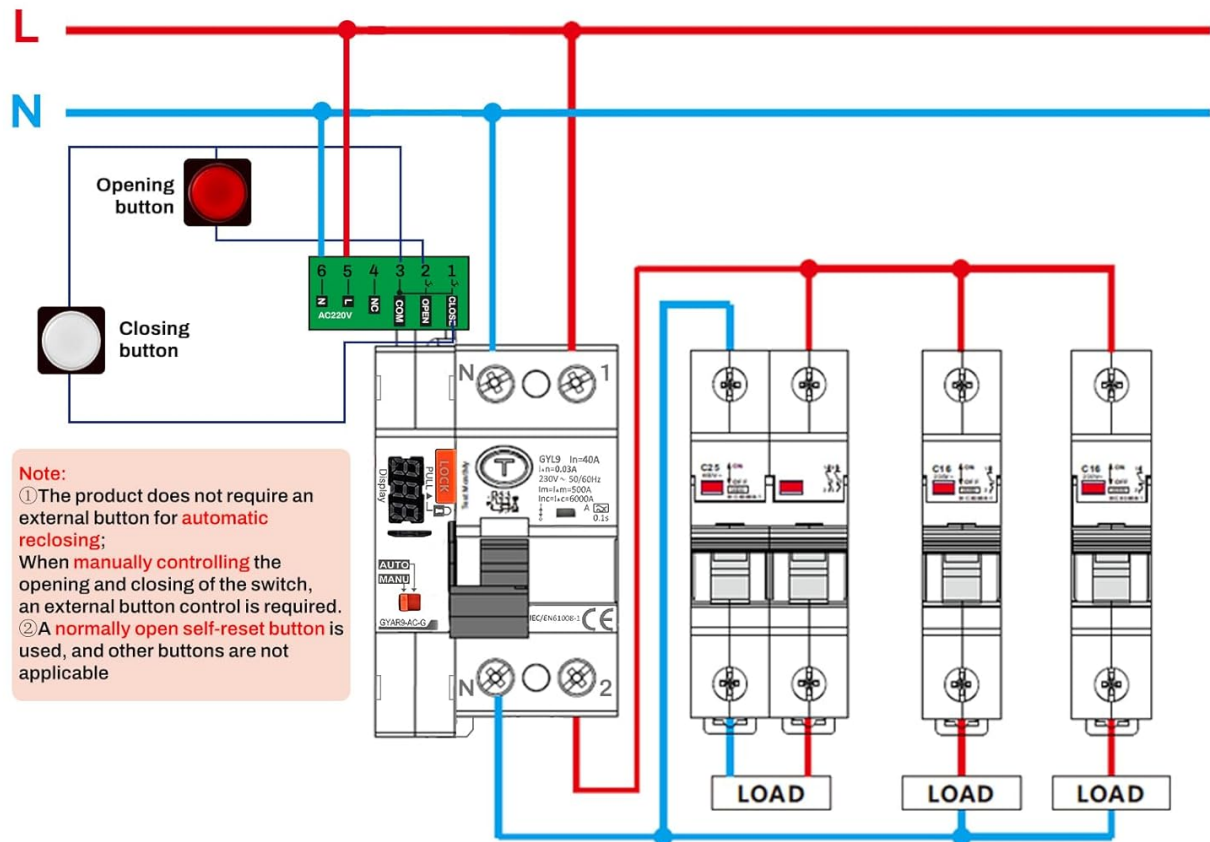


Image Description: This diagram illustrates the electrical connections for the DEWIN Automatic Reclosing RCCB. It shows the incoming Line (L) and Neutral (N) connections, the output to various loads, and the auxiliary control connections for external opening and closing buttons. Note that for automatic reclosing, an external button is not required, but for manual control, a normally open self-reset button is used.

Wiring Steps:

1. Mount the RCCB securely on a 35mm DIN rail within your electrical panel.
2. Connect the incoming Line (L) and Neutral (N) wires to the designated input terminals of the RCCB.
3. Connect the load wires to the output terminals of the RCCB.
4. For auxiliary control, connect external opening and closing buttons to the respective terminals (OPEN, CLOSE, COM). Ensure that for manual control, a normally open self-reset button is used.
5. Verify all connections are tight and correct before restoring power.

Installation Demonstration Video

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Video Description: This video demonstrates the physical installation and basic wiring of the DEWIN Automatic Reclosing Residual Current Circuit Breaker, showing how to connect the main power lines and load. It highlights the secure fastening of wires into the terminals.


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Video Description: This video provides a visual guide to the installation process of the Automatic Reclosing Residual Current Circuit Breaker, including mounting on a DIN rail and connecting electrical wires. It shows the device in a typical electrical box setup.

6. OPERATING INSTRUCTIONS

The DEWIN RCCB offers both automatic and manual operating modes, indicated by the 'AUTO' and 'MANU' selector switch.

Operating Modes and LED Display



The diagram shows the DEWIN RCCB with the following labels: Blocco di sicurezza, Visualizzazione del codice rotto, Display digitale a LED, Selezione della modalità di lavoro, Numero di prodotto, Interruttore di perdita, and Maniglia di comando. The device is a white plastic unit with a red handle and a digital display showing '000'. Technical specifications on the device include: GY19 In=40A, I_n=0.03A, 230V ~ 50/60Hz, I_{res}=0.030A, I_{nc}=I_{cc}=6000A, I_{cs} 0.1s.

	Commutazione automatica/manuale	Display digitale a LED
In modalità AUTO:	l'interruttore automatico può essere ripristinato automaticamente dopo un guasto.	Il rosso lampeggiante indica l'apertura, il verde lampeggiante indica la chiusura.
In modalità MANUALE:	l'interruttore deve essere ripristinato manualmente dopo un guasto.	La luce gialla è sempre accesa per l'apertura e la chiusura manuale (il codice indica il numero di aperture e chiusure e il conto alla rovescia per il ripristino della chiusura).

Nota: dopo l'attivazione del blocco "LOCK", l'interruttore non può essere chiuso per proteggere la sicurezza dell'elettricità ed evitare tocchi accidentali.

Image Description: This diagram details the automatic and manual switching modes of the DEWIN RCCB, along with the corresponding LED digital display indicators. It explains that in AUTO mode, red flashing indicates opening and green flashing indicates closing, while in MANU mode, a yellow light is always on for manual operation. The display also shows trip count and reclosing recovery time.

- **AUTO Mode:** In this mode, the circuit breaker will automatically attempt to restore power after a fault. The LED display will show:
 - Red flashing: Indicates the circuit is open (tripped).
 - Green flashing: Indicates the circuit is closed (reclosed).
- **MANU Mode:** In this mode, if a fault occurs, the circuit breaker must be manually reset. The LED display will show:
 - Yellow light always on: Indicates manual opening and closing operation.
- **Broken Code Display:** The digital display shows the number of times the circuit has tripped and reclosed, along with the countdown time for reclosing recovery.

Self-Locking Mode

SELF-LOCKING MODE



After a circuit fault occurs:

009

The first time, the circuit breaker will automatically close after 9 seconds;

059

The second time, the circuit breaker will automatically close after 59 seconds;

299

The third time, the circuit breaker will automatically close after 299 seconds;

After the fourth fault, the circuit breaker will be in self-locking mode. After checking the circuit safety, you need to manually close the circuit breaker again.











Waveform definition	Waveform	AC type		Action range
				
Sinusoidal AC		√	√	0.5~1 IΔn
Pulsating DC		×	√	0.5~1.4 IΔn
Pulsating half-wave + DC (6mA)		×	√	max1.4 IΔn+6mA
Pulsating half-wave + DC (10mA)		×	×	max1.4 IΔn+10mA
High frequency (150Hz)		×	×	0.5~2.4 IΔn
High frequency (400Hz)		×	×	0.5~6 IΔn
High frequency (1000Hz)		×	×	1~14 IΔn
Two-phase full-wave rectification		×	×	0.5~2 IΔn
Three-phase full-wave rectification		×	×	0.5~2 IΔn
DC		×	×	0.5~2 IΔn

Image Description: This image illustrates the self-locking mechanism of the DEWIN RCCB. It shows the progressive reclosing delays after a circuit fault: 9 seconds for the first reclosure, 59 seconds for the second, and 299 seconds for the third. After the fourth fault, the device enters a self-locking mode, requiring manual intervention. The image also includes a table defining different waveform types (AC, A) and their action ranges.

To prevent continuous reclosing into a persistent fault, the device implements a self-locking mechanism:

- First Fault:** The circuit automatically recloses after 9 seconds.
- Second Fault:** The circuit automatically recloses after 59 seconds.
- Third Fault:** The circuit automatically recloses after 299 seconds.
- Fourth Fault:** The recloser enters a self-locking mode. Manual inspection of the circuit and a manual reset operation are required before the device can be reclosed.

Note: When the 'LOCK' mechanism is engaged (pulled up), the circuit breaker cannot be closed. This feature is designed to protect electrical safety and prevent accidental contact during inspection or maintenance.

7. MAINTENANCE

Regular maintenance ensures the longevity and reliability of your DEWIN RCCB.

- **Monthly Test:** Press the 'Test Monthly' button on the device to verify its tripping function. The device should trip, and then reclose according to its programmed reclosing sequence (if in AUTO mode).
- **Cleaning:** Keep the device clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquids or abrasive cleaners.
- **Inspection:** Periodically inspect the wiring connections for tightness and signs of wear or damage.

8. TROUBLESHOOTING

If you encounter issues with your DEWIN RCCB, refer to the following common problems and solutions:

- **Device is Locked After Installation:** If the device does not operate after initial power-up, it might be in a factory-locked state. Manually pull up the 'LOCK' mechanism to release it.
- **LED Display Not Showing Voltage:** This is normal operation. The LED display on this model is designed to indicate operational status and trip count, not voltage parameters.
- **Device Enters Self-Locking Mode Frequently:** Frequent tripping and entry into self-locking mode (after 4 consecutive faults) indicates a persistent electrical fault in the circuit. Disconnect power, thoroughly inspect the connected load and wiring for shorts, overloads, or ground faults, and rectify the issue before manually resetting the RCCB.
- **Device Does Not Reclose in AUTO Mode:** Ensure the selector switch is correctly set to 'AUTO'. If the device has entered self-locking mode due to multiple faults, it will require manual reset after fault clearance.
- **Device Does Not Respond to Manual Operation:** If in MANU mode, ensure the 'LOCK' mechanism is not pulled up. If it is, push it down to allow manual operation.

If the problem persists after attempting these troubleshooting steps, contact a qualified electrician or DEWIN customer support for assistance.

9. WARRANTY AND SUPPORT

Specific warranty details are not provided in the product information. For warranty claims, technical support, or service inquiries, please refer to the seller's return policy or contact DEWIN customer service directly through their official channels or the retailer where the product was purchased.