

## DEWIN 4P 40A 30mA AC 230V

# DEWIN GRD9L-R RCCB Automatic Reclosing Circuit Breaker User Manual

Model: GRD9L-R 4P 40A 30mA AC 230V

## 1. INTRODUCTION

The DEWIN GRD9L-R Automatic Reclosing Residual Current Circuit Breaker (RCCB) is designed to enhance electrical safety and system reliability. It can be used in conjunction with a leakage protection switch or circuit breaker. This device automatically recloses the circuit when an unexpected trip occurs, eliminating the need for manual intervention and reducing maintenance costs. It is suitable for various applications including home electrical grids, smart homes, and new energy power systems.

This manual provides essential information for the safe and effective installation, operation, and maintenance of your DEWIN GRD9L-R circuit breaker.

## 2. SAFETY INFORMATION

**WARNING: Electrical shock hazard. Installation and maintenance should only be performed by qualified personnel. Always disconnect power before working on electrical equipment.**

- Ensure the main power supply is disconnected before installation or any maintenance procedures.
- Verify that the product specifications (voltage, current, leakage current) match your electrical system requirements.
- Follow all local and national electrical codes and regulations.
- Do not operate the device if it appears damaged.

## 3. PRODUCT OVERVIEW

The DEWIN GRD9L-R is a 4-pole automatic reclosing circuit breaker with a rated current of 40A and a leakage current sensitivity of 30mA. It features both automatic and manual operating modes, along with LED indicators for operational status.



Figure 3.1: Front view of the DEWIN GRD9L-R Automatic Reclosing Circuit Breaker, showing terminals, operating handle, and indicators.

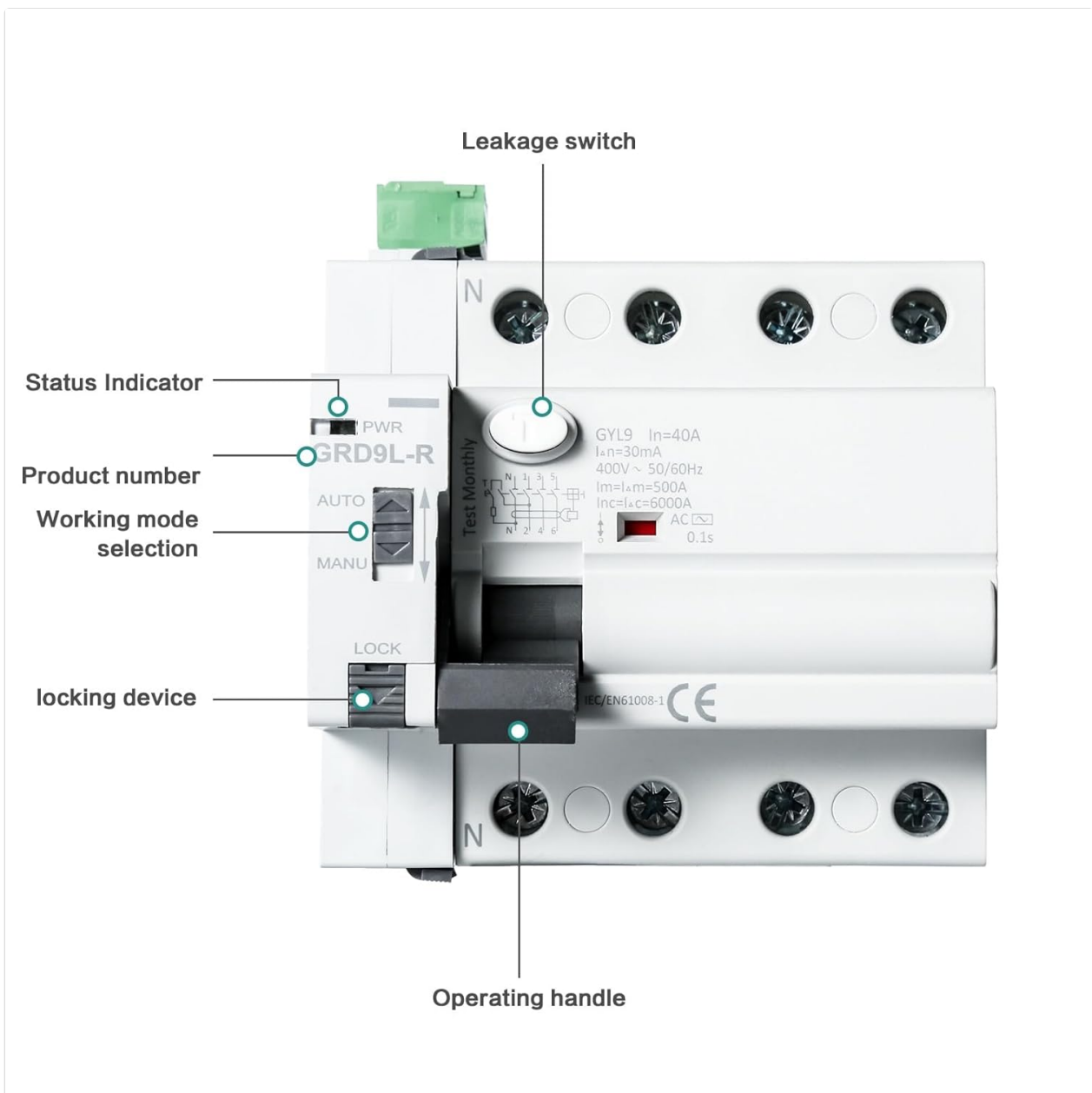
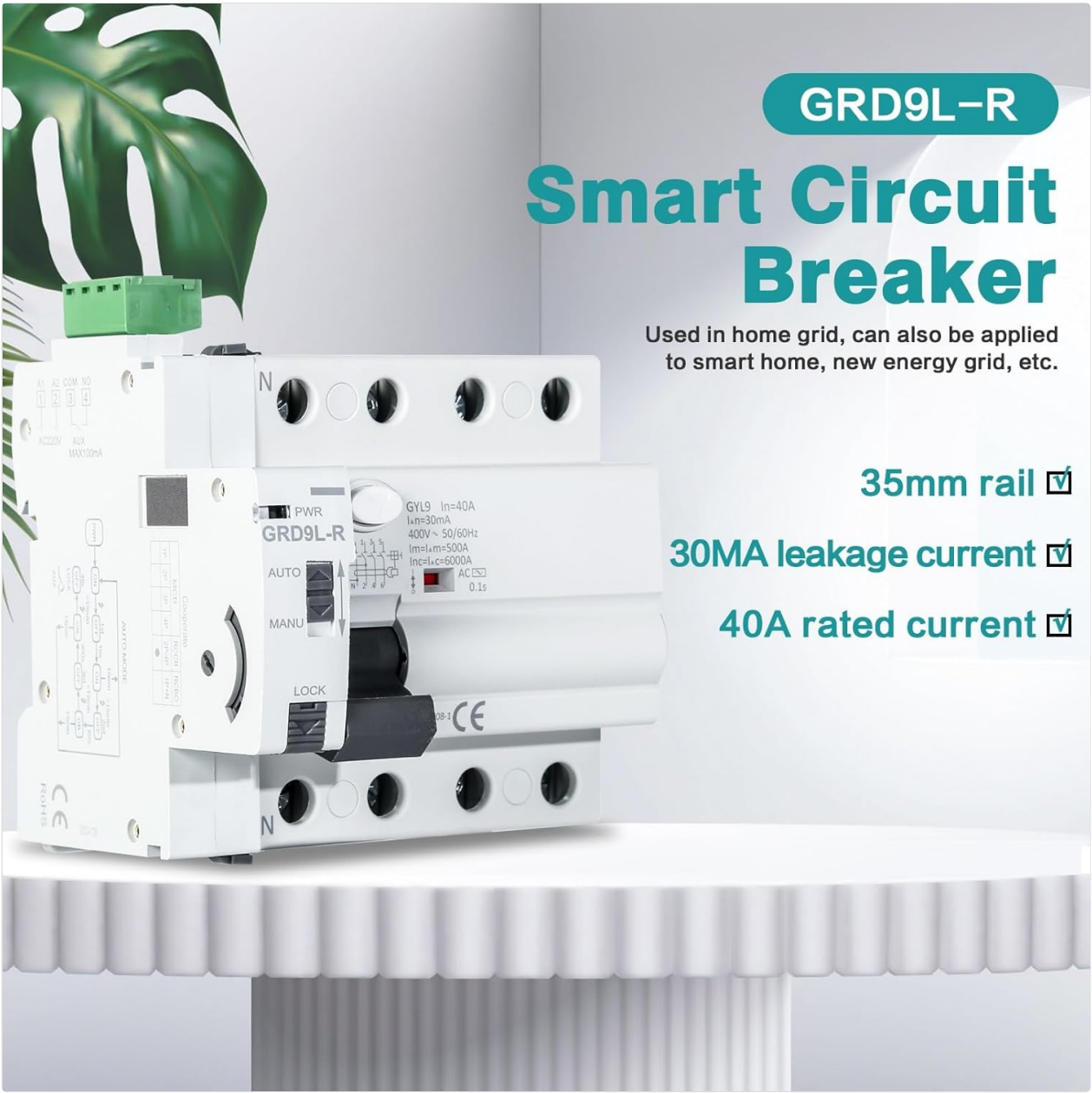


Figure 3.2: Detailed view of the circuit breaker with labeled components including Status Indicator, Product number (GRD9L-R), Working mode selection (AUTO/MANU), Locking device, Operating handle, and Leakage switch.

### Key Features:

- **Automatic Reclosing Function:** Automatically restores power after an unexpected trip, reducing downtime and manual intervention.
- **Multiple Reclosing Attempts:** Features 3 integrated reclosing attempts. If continuous reclosing fails within 15 minutes, an alarm can be sent via the auxiliary contact.
- **Dual Operating Modes:** Equipped with a manual/automatic selector switch.
- **Double Locking Mechanism:** Includes mechanical/electronic double locking for enhanced safety.
- **Status Indication:** Operational status is displayed via LED indicators.
- **RS485 Interface:** Provides an RS485 interface for customer convenience and integration.
- **Wide Application:** Suitable for home grids, smart homes, and new energy grids.



**GRD9L-R**

# Smart Circuit Breaker

Used in home grid, can also be applied to smart home, new energy grid, etc.

**35mm rail** ✓

**30MA leakage current** ✓

**40A rated current** ✓

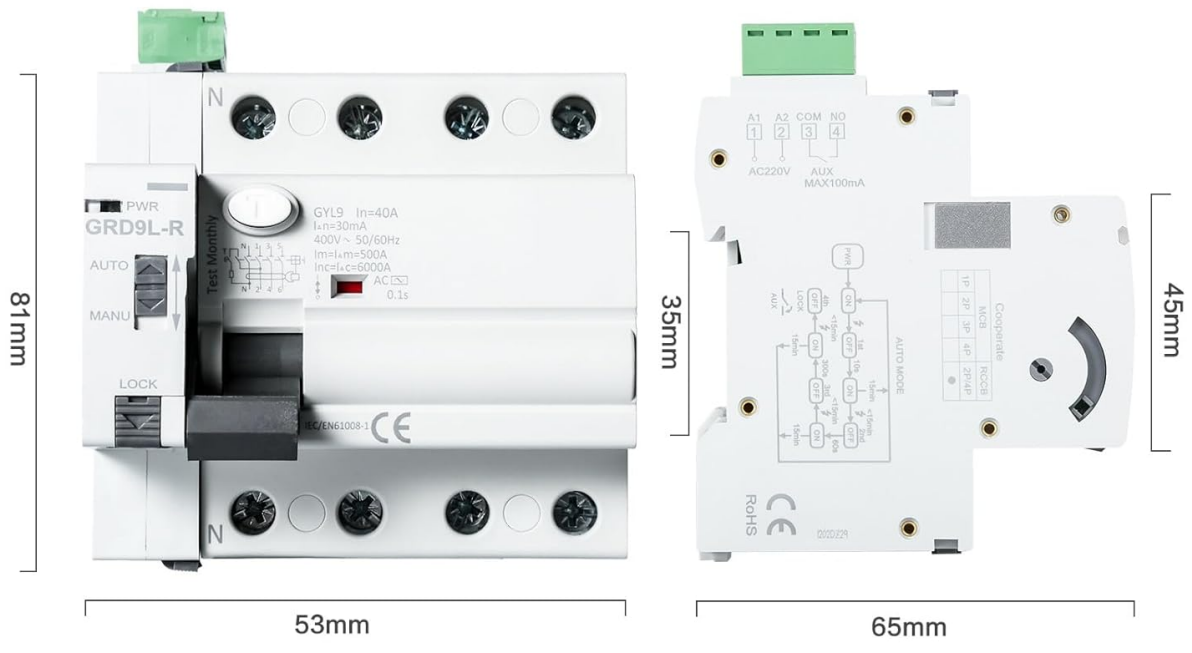
Figure 3.3: Key features of the DEWIN GRD9L-R, including 35mm DIN rail mounting, 30mA leakage current, and 40A rated current.



Figure 3.4: Illustrative applications of the DEWIN GRD9L-R in home grids, family protection systems, and new energy grids.

## 4. SPECIFICATIONS

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<b>Material: PC+copper</b>	<b>Action time: <math>\leq 1s</math></b>
<b>Number of poles: 4P</b>	<b>Electrical life: 4000 times</b>
<b>Supplier terminal; A1/A2</b>	<b>Automatic reclosing times: 3 times</b>
<b>Rated voltage: AC 220V</b>	<b>Installation method: 35mm rail</b>
<b>Power supply voltage tolerance: -10%, +10%</b>	<b>Leakage current: 30MA</b>
<b>Provide indication: Red LED</b>	<b>Rated current: 40A</b>

Figure 4.1: Dimensions and detailed specifications of the DEWIN GRD9L-R.

Parameter	Value
Material	PC + Copper
Number of Poles	4P
Control Circuit Terminal	A1/A2
Rated Voltage	AC 220V
Power Supply	Max 1 VA (standby), Max 20 VA (action)
Power Supply Voltage Tolerance	-10%, +10%
Supply Indication	Red LED
Action Time	≤ 1 s
Automatic Reclosing Attempts	3 times
Automatic Reclosing Interval	10-60-300 s
Closing Times Reset	No trip or manual reset within 15 minutes of successful closing
Mechanical Life	10,000 times
Electrical Life	4,000 times
Working Environment Temperature	-20 °C to +55 °C
Installation Method	35mm DIN Rail
Leakage Current	30 mA
Rated Current	40 A

## 5. SETUP AND INSTALLATION

The DEWIN GRD9L-R circuit breaker is designed for installation on a standard 35mm DIN rail.

### 5.1 Mounting

1. Ensure the main power supply to the installation area is completely disconnected.
2. Attach the circuit breaker securely onto a 35mm DIN rail in your electrical panel.

### 5.2 Wiring

Connect the power line and load line according to the wiring diagram provided. Ensure all connections are tight and secure to prevent loose contacts and overheating.

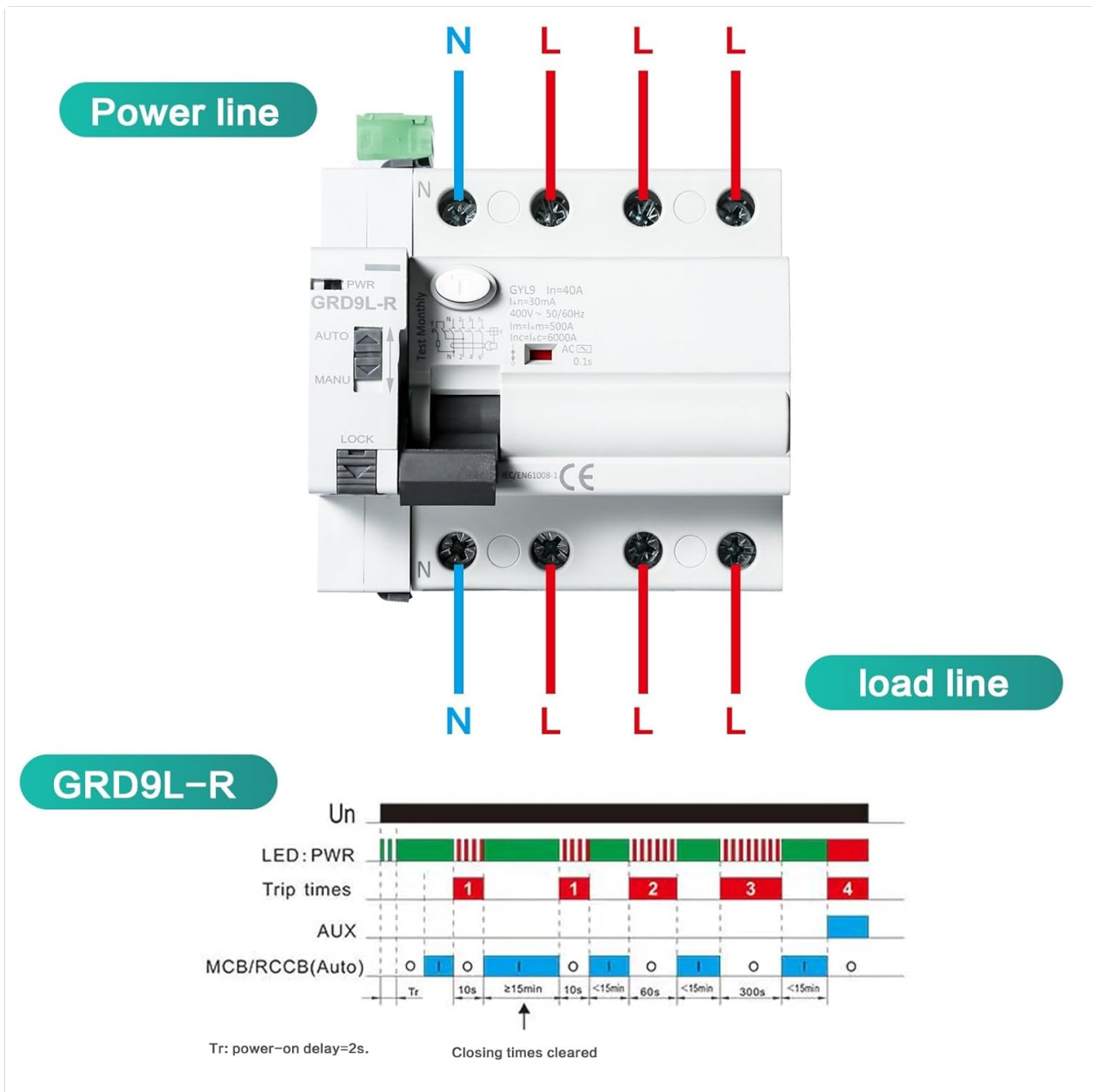


Figure 5.1: Wiring diagram for the DEWIN GRD9L-R, illustrating connections for power and load lines, and the automatic reclosing sequence.

- Connect the incoming power supply to the 'N' (Neutral) and 'L' (Live) terminals at the top of the device (Power line).
- Connect the outgoing load to the corresponding 'N' and 'L' terminals at the bottom of the device (Load line).
- Connect the control circuit terminals A1/A2 for the AC 220V power supply.

## 6. OPERATING INSTRUCTIONS

### 6.1 Power On

After installation and wiring are complete, restore the main power supply. The device's red LED indicator will illuminate, indicating power is supplied.

### 6.2 Operating Modes

The DEWIN GRD9L-R features a selector switch for choosing between automatic and manual operation.

- **AUTO Mode:** In this mode, the circuit breaker will automatically attempt to reclose the circuit after a trip. It

performs up to 3 reclosing attempts with intervals of 10, 60, and 300 seconds. If all attempts fail within 15 minutes, an alarm can be triggered via the auxiliary contact.

- **MANU Mode:** In this mode, the automatic reclosing function is disabled. The circuit breaker must be manually reset after a trip using the operating handle.

## 6.3 Manual Reset

To manually reset the circuit breaker after a trip (or in MANU mode), push the operating handle to the 'ON' position.

## 6.4 Status Indicators

The device is equipped with LED indicators to show its operational status:

- **Red LED:** Indicates power supply to the control circuit.
- Other indicators (if present, refer to specific model markings) may show trip status or reclosing attempt progress.

# 7. MAINTENANCE

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## 7.1 Monthly Test

It is recommended to perform a monthly test of the leakage protection function. This can typically be done by pressing the 'Test Monthly' button on the device. This simulates a leakage fault and should cause the circuit breaker to trip. After the test, manually reset the device or allow it to reclose automatically if in AUTO mode.

## 7.2 Cleaning

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

# 8. TROUBLESHOOTING

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If you encounter issues with your DEWIN GRD9L-R circuit breaker, refer to the following common problems and solutions:

- **Device does not power on:**  
Check the main power supply. Ensure the control circuit terminals (A1/A2) are correctly wired and receiving AC 220V.
- **Device trips frequently:**  
This indicates a persistent fault in the electrical circuit. Investigate the connected load for short circuits, overloads, or ground faults. Do not repeatedly force the device to reclose without addressing the underlying issue.
- **Automatic reclosing fails after 3 attempts:**  
If the device fails to reclose after 3 attempts within 15 minutes, it indicates a continuous fault. The device will remain open, and an alarm may be sent. A qualified electrician should inspect the circuit to identify and resolve the fault.
- **Device does not trip during monthly test:**  
If pressing the 'Test Monthly' button does not cause the device to trip, the leakage protection function may be faulty. The device should be replaced by a qualified professional.

## 9. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries, please contact your DEWIN product supplier or refer to the official DEWIN website. Please have your product model number (GRD9L-R 4P 40A 30mA AC 230V) and purchase details available when contacting support.