Aexit DZ47-63

Aexit DZ47-63 C50 3 Pole 50A Miniature Circuit Breaker Instruction Manual

1. Introduction

This instruction manual provides essential information for the safe and effective installation, operation, and maintenance of the Aexit DZ47-63 C50 3 Pole 50A Miniature Circuit Breaker. This device is designed to protect electrical circuits from damage caused by overcurrent, which can result from an overload or short circuit. It also incorporates earth leakage protection for enhanced safety. Please read this manual thoroughly before installation and retain it for future reference.

2. Important Safety Information

Electrical work can be dangerous. Always follow these safety precautions:

- **Professional Installation:** Installation and maintenance should only be performed by a qualified electrician in accordance with local and national electrical codes.
- **Power Disconnection:** Always ensure the main power supply is completely disconnected and locked out before attempting any installation, wiring, or maintenance.
- **Voltage Verification:** Verify that the voltage and current ratings of the circuit breaker match your application's requirements.
- **Proper Tools:** Use insulated tools appropriate for electrical work.
- **Environmental Conditions:** Do not install in wet or excessively humid environments unless the product is specifically rated for such conditions.
- **No Modifications:** Do not attempt to modify the circuit breaker in any way.

3. Product Overview

The Aexit DZ47-63 C50 is a miniature circuit breaker (MCB) designed for lighting distribution systems or motor distribution systems. It provides protection against overload and short-circuit conditions, and also includes earth leakage protection. Its high breaking capacity ensures quick tripping to prevent damage to the system.

Key Features:

- Model: DZ47-63
- Rated Circuit Breaking Capacity: 4500A
- Rated Voltage: AC 400V
- Rated Current: 50A
- Poles: 3
- Residual Current Breaker Rated Current: 10A
- Leakage Action Current: 30mA
- Leakage Action Time: <=0.1s
- Material: Plastic, Electric Components
- Overall Size (Approx.): 11.5 x 9.2 x 7.5cm (4.5" x 3.6" x 2.95")

Components:

A typical miniature circuit breaker includes a toggle switch (for ON/OFF and trip indication), terminals for connecting wires, and a housing. The DZ47-63 C50 combines both miniature circuit breaker and residual current breaker functionalities.

(Image: Front view of the Aexit DZ47-63 C50 Miniature Circuit Breaker, highlighting the ON/OFF switch and model markings.)

4. Installation

WARNING: Ensure all power is disconnected before proceeding with installation. Only qualified personnel should perform this procedure.

4.1 Preparation

- Confirm the circuit breaker's ratings (voltage, current, poles) match your electrical system's requirements.
- Gather necessary tools: insulated screwdrivers, wire strippers, multimeter, and personal protective equipment (PPE).
- Ensure the installation location (e.g., distribution box) is clean, dry, and free from obstructions.

4.2 Mounting

1. Locate the DIN rail within the distribution box.
2. Position the circuit breaker onto the DIN rail.
3. Press down firmly until it clicks securely into place. Ensure it is stable and does not wobble.

4.3 Wiring

1. Identify the incoming power lines (Line 1, Line 2, Line 3 for 3-pole) and the outgoing load lines.
2. Strip approximately 10-12mm of insulation from the ends of the wires.
3. Insert the incoming power lines into the upper terminals of the circuit breaker. Tighten the terminal screws securely to prevent loose connections.
4. Insert the outgoing load lines into the lower terminals of the circuit breaker. Tighten these screws securely as well.
5. For earth leakage protection, ensure the neutral and earth connections are correctly wired according to local codes.
6. Double-check all connections for tightness and correct polarity.

(Image: Wiring diagram illustrating the connection points for incoming power and outgoing load on the DZ47-63 C50 circuit breaker.)

5. Operation

5.1 Normal Operation

Once installed and wired correctly, restore power to the main distribution panel. To energize the circuit protected by the DZ47-63 C50, push the toggle switch to the "ON" position. The circuit breaker will remain in this position during normal operation, allowing current to flow.

5.2 Tripping and Resetting

If an overload, short circuit, or earth leakage fault occurs, the circuit breaker will automatically trip, moving the toggle switch to the "OFF" or an intermediate tripped position. This action interrupts the current flow to protect the circuit.

1. **Identify the Cause:** Before resetting, always investigate and resolve the cause of the trip (e.g., unplug overloaded appliances, fix short circuits).
2. **Reset:** Once the fault is cleared, push the toggle switch firmly to the "OFF" position first (if it's in an intermediate tripped state), then push it to the "ON" position to restore power.
3. **Repeated Tripping:** If the circuit breaker trips immediately after resetting, do not attempt to reset it again. There is a persistent fault that requires professional attention.

6. Maintenance

The Aexit DZ47-63 C50 is designed for minimal maintenance. However, periodic checks are recommended:

- **Visual Inspection:** Annually inspect the circuit breaker for any signs of physical damage, discoloration, or loose connections.
- **Terminal Tightness:** Periodically check and re-tighten terminal screws, especially after initial installation, to ensure good electrical contact. (Ensure power is off before doing so).
- **Functionality Test:** For earth leakage functionality, some models may have a test button. If present, press it periodically (e.g., monthly) to ensure the RCD trips correctly. Reset after testing.
- **Cleaning:** Keep the circuit breaker and surrounding area clean and free of dust and debris. Use a dry, non-abrasive cloth for cleaning.

7. Troubleshooting

If you encounter issues with your circuit breaker, refer to the table below. For problems not listed or if solutions do not resolve the issue, contact a qualified electrician.

Problem	Possible Cause	Solution
Circuit breaker trips frequently.	Overload in the circuit, short circuit, or earth leakage fault.	Reduce load on the circuit. Check for damaged appliances or wiring. If earth leakage, inspect for insulation faults. Consult an electrician if persistent.

Problem	Possible Cause	Solution
Circuit breaker does not reset.	Persistent fault (overload, short circuit, earth leakage) or internal damage to the breaker.	Ensure all loads are disconnected. If it still doesn't reset, the breaker may be faulty and needs replacement by a qualified electrician.
No power to circuit, but breaker is ON.	Loose wiring connection, fault in the circuit downstream, or main power supply issue.	Check terminal connections for tightness (with power off). Use a multimeter to test for continuity. Check main power supply. Contact an electrician.
Breaker feels hot to the touch.	Overload, loose connection, or internal fault.	Immediately disconnect power. This indicates a serious issue. Do not operate. Contact an electrician.

8. Specifications

Parameter	Value
Product Name	Miniature Circuit Breaker + Residual Current Breaker
Model	DZ47-63
Rated Circuit Breaking Capacity	4500A
Rated Voltage	AC 400V
Rated Current	50A
Poles	3
Residual Current Breaker Rated Current	10A
Leakage Action Current	30mA
Leakage Action Time	<=0.1s
Overall Size (Approx.)	11.5 x 9.2 x 7.5cm (4.5" x 3.6" x 2.95")
Material	Plastic, Electric Components
Weight	495g
Manufacturer	Aexit

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided at the point of purchase or contact Aexit customer service. Keep your purchase receipt as proof of purchase.