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Microtail MC-Four Pole-63A- RCCB

Microtail ELCB (Earth Leakage Circuit Breaker) User Manual

Comprehensive guide for installation, operation, and maintenance of your Microtail Three Phase 63 AMP ELCB with Over Voltage Protection.

PRODUCT OVERVIEW

The Microtail ELCB (Earth Leakage Circuit Breaker) is a crucial safety device designed to protect electrical circuits and users from various electrical hazards. This model integrates Earth Leakage, Over Voltage, Low Voltage, Overload, and Short Circuit protection, ensuring comprehensive safety for your electrical installations.

Key features include:

- Automatic tripping with Over Voltage Protection (OVP).
- Automatic switch-off during overload, high/low voltage, and short circuit conditions.
- Electric shock protection: instantly cuts off main supply upon accidental contact with live wire.
- Adjustable Leakage Current from 5mA to 50mA.
- Integrated MCB for overload protection (63 Ampere Capacity).
- Working, Emergency Bypass, and Earth Leakage indications.
- Test button for verifying ELCB functionality.



Figure 1: Front view of the Microtail ELCB, showing the four circuit breakers, the mA sensitivity adjustment knob, test button, and bypass switch.

SETUP AND INSTALLATION

Installation of the Microtail ELCB should be performed by a qualified electrician to ensure safety and proper functionality. This device is designed for DIN Rail mounting.

Mounting

1. Ensure the main power supply is disconnected before beginning installation.
2. Mount the ELCB unit securely onto a standard DIN rail within your electrical distribution board. Use the provided mounting screws.

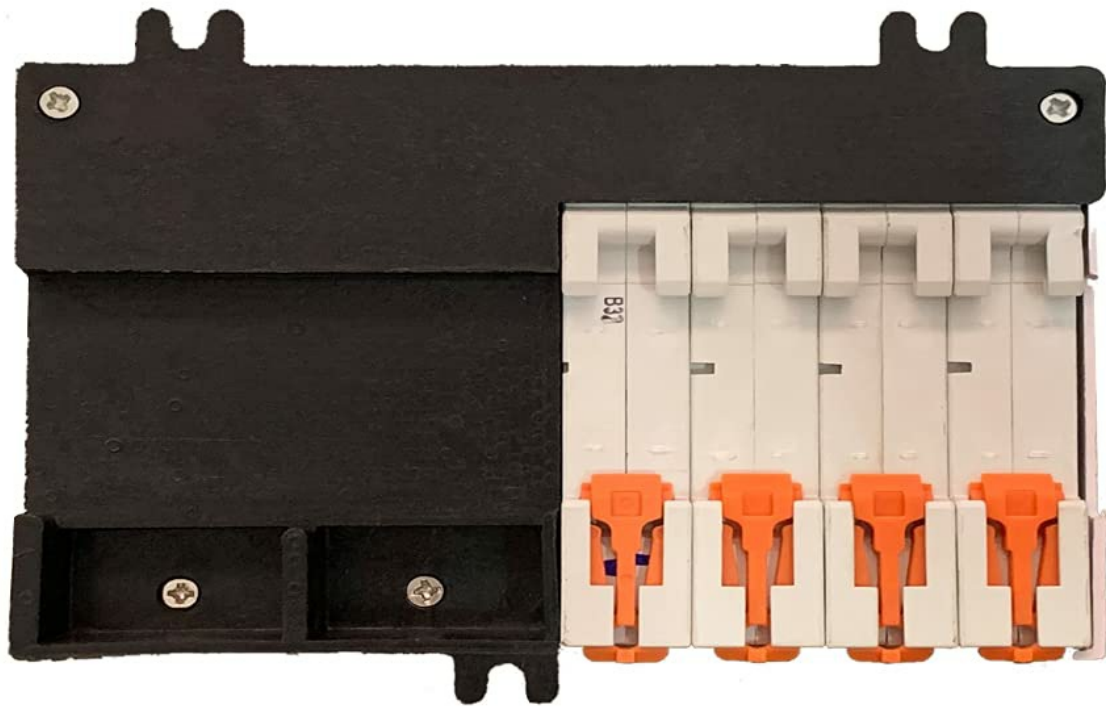


Figure 2: Rear view of the Microtail ELCB, illustrating the mounting mechanism for DIN rail installation.

Wiring Connections

The ELCB is a four-pole device designed for three-phase systems (R, Y, B) plus Neutral (N). Connect the incoming and outgoing wires as indicated on the unit.

- **IN (Input):** Connect the incoming main power supply wires (R, Y, B, N) to the terminals labeled 'IN'.
- **OUT (Output):** Connect the outgoing load wires (R, Y, B, N) to the terminals labeled 'OUT'.
- Ensure all connections are tight and secure to prevent loose contacts and overheating.



Figure 3: Top view of the Microtail ELCB, showing the clearly marked 'IN' and 'OUT' terminals for phase (R, Y, B) and neutral (N) connections.

OPERATING INSTRUCTIONS

Powering On

1. After successful installation and wiring, restore the main power supply.
2. Switch on the individual circuit breakers on the ELCB unit.
3. The "WORKING" indicator light should illuminate, indicating normal operation.

Adjusting Leakage Current (mA SET)

The ELCB features an adjustable leakage current setting from 5mA to 50mA. Rotate the "mA SET" knob to select the desired sensitivity. A lower mA setting provides higher sensitivity to earth leakage faults.

Test Button

A "TEST" button is provided to verify the ELCB's functionality. Pressing this button simulates an earth leakage fault, causing the ELCB to trip immediately. This confirms that the internal tripping mechanism is working correctly.

Bypass Switch

The "BY PASS" switch allows for temporary bypassing of the ELCB's protection features. This should only be used by qualified personnel for specific maintenance or testing procedures and should always be returned to the "WORKING" position for normal operation. The "Emergency bypass indication" will illuminate when in bypass mode.

Protection Features and Indications

- **Over Voltage Protection (OVP):** Automatically trips if voltage exceeds 480 VAC.
- **Low Voltage Protection:** Automatically trips if voltage drops below 250 VAC.
- **Overload Protection:** Trips if current exceeds the 63 Ampere capacity.
- **Short Circuit Protection:** Trips instantly upon detection of a short circuit.
- **Shock Protection:** Trips within <30msec in case of earth leakage (e.g., accidental contact with live wire).
- **Earth Leakage Indication:** An indicator light will illuminate when an earth leakage fault is detected and the ELCB has tripped.

MAINTENANCE

Regular maintenance ensures the continued reliability and safety of your Microtail ELCB.

- **Monthly Test:** Press the "TEST" button at least once a month to confirm the ELCB's tripping mechanism is functional. If the ELCB does not trip, consult a qualified electrician immediately.
- **Visual Inspection:** Periodically inspect the unit for any signs of physical damage, discoloration, or loose connections.
- **Cleaning:** Keep the ELCB unit clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Professional Check:** It is recommended to have a qualified electrician inspect your electrical system, including the ELCB, annually.

TROUBLESHOOTING

This section provides guidance for common issues you might encounter with your ELCB.

Problem	Possible Cause	Solution
ELCB trips frequently without apparent reason.	<ul style="list-style-type: none">• Minor earth leakage in the circuit.• Faulty appliance connected.• Incorrect mA sensitivity setting.	<ul style="list-style-type: none">• Unplug all appliances and reset ELCB. Plug in appliances one by one to identify the faulty one.• Adjust mA sensitivity to a higher value (e.g., 30mA or 50mA) if frequent nuisance tripping occurs, but ensure safety is not compromised.• Consult an electrician to identify and fix the source of leakage.
ELCB does not trip when "TEST" button is pressed.	<ul style="list-style-type: none">• ELCB malfunction.• No power to the unit.	<ul style="list-style-type: none">• Ensure power is supplied to the ELCB.• The ELCB unit may be faulty and requires replacement. Contact support.

Problem	Possible Cause	Solution
ELCB trips immediately upon power restoration.	<ul style="list-style-type: none"> Persistent earth leakage fault. Short circuit or severe overload. 	<ul style="list-style-type: none"> Do not attempt to reset repeatedly. Immediately disconnect all loads and consult a qualified electrician to diagnose and repair the fault.

SPECIFICATIONS

Feature	Detail
Brand	Microtail
Model Number	MC-Four Pole-63A- RCCB
Current Rating	63 Amps
Number of Poles	4
Power Source	AC 440V
High Voltage Cutoff	480 VAC
Low Voltage Cutoff	250 VAC
Adjustable Leakage Current	5mA to 50mA
Tripping Time	<30msec
Mounting Type	DIN Rail Mount
Product Dimensions (LxWxH)	14.5 x 10 x 7 Centimeters
Item Weight	800 g
Included Components	Mounting screw, 1 ELCB unit, 1 Test Report

WARRANTY AND SUPPORT

Warranty Information

This Microtail ELCB unit comes with a **1 Year Manufacturer Warranty**. In case of a valid warranty claim, the service provided will be a replacement of the unit.

Please note that damage caused by improper installation, misuse, unauthorized modification, or natural disasters is not covered under this warranty.

Customer Support

For any technical assistance, warranty claims, or further inquiries regarding your Microtail ELCB, please refer to the contact information provided with your purchase documentation or visit the official Microtail website. Always provide your product model number (MC-Four Pole-63A- RCCB) and purchase details when contacting support.

