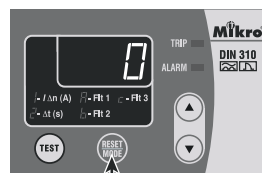


Method to Re-Switch the RCD

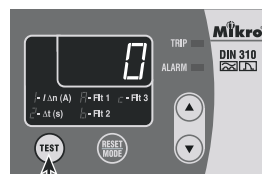
- Pull open the panel front lid.
- Applied a test pen thread through RCD front cover and press [RESET] button once.
- Once reset, the display stop blinking, [TRIP] LED and [ALARM] LED turn off.
- Push up the MCB handles to switch on the MCB.



RESET button

Testing of RCD

- The RCD should be tested regularly, approximately bi-monthly or quarterly.
- To test the RCD, press and hold the [TEST] button for approximately 4 seconds. When pressing the [TEST] button, the [ALARM] LED blinking and display shown [tSt].
- When tripped, the display blink and show [tSt]. The [TRIP] LED and [ALARM] LED light up. The MCB tripped simultaneously and switch off the supply. Then should be switched on again to restore the supply.
- If the RCD fails to disconnect the supply, call a qualified electrician.



TEST button

Note: Do no attempt to break seal to access the RCD front buttons, Warranty void if seal tampered.

TECHNICAL SPECIFICATION

Model: MS-230-50-SPN40 (Single phase, 40A)
 MS-230-50-SPN63 (Single phase, 63A)
 MS-230-50-TPN40 (Three phase, 40A)
 MS-230-50-TPN63 (Three phase, 63A)

Rated Operational Voltage: 184 ~ 276 V AC
 Rated Frequency: 50Hz

RCD

Sensitivity Setting: 0.03 ~ 1.00 A
 Time Delay Setting: 0.00 ~ 3.00 second
 Total Records: 3
 Record Storage: Non-volatile
 Record Data: Tripped fault current
 Operating Temperature: -5°C to 55°C

MCB

Maximum Load: 40 A or 63 A
 Phase: Single or Three Phase

WARRANTY

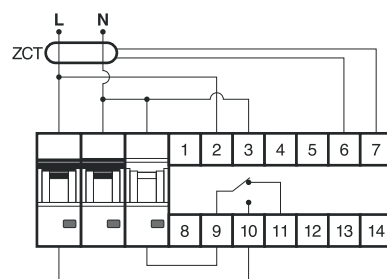
One year warranty from the date of installation against manufacturing defects.

MANUFACTURER

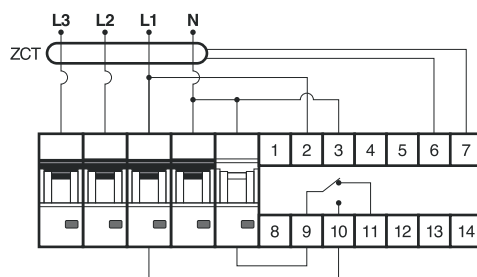
Mikro Sdn. Bhd. (423468-T)
 No. 1 Jalan TP 7/7, Sime UEP Industrial Park,
 40400 Shah Alam, Selangor, Malaysia.
 Tel: +(603) 5192 7155 Fax: +(603) 5192 7166
 Website: www.itmikro.com

Mikro reserve the right to make changes without further notice to improve reliability, function or design. The figure shown are without obligation.

Wiring Diagram For Single Phase Models



Wiring Diagram For Three Phase Models

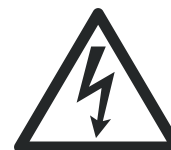


Mikrosafe™

Installation and Operation Manual

Installation Instructions

Read these instructions fully before commencing work and retain them for future reference.



WARNING
 RISK OF
 ELECTRICAL SHOCK

IMPORTANT SAFETY INFORMATION

- This unit has no end-user configurable and/or installable parts.
- The unit should be installed, configured and maintained by a qualified and trained electrician in accordance with these instructions.
- Prior to installation and maintenance, it is essential that the power source is disconnected and isolated.
- It is important to ensure that all electrical connections adhere to these installation and operation manual.
- Ensure all connections fixed and tighten firmly including factory made connections are tighten.
- After installing, testing and setting the unit, it is essential that the operating instructions are drawn to the attention of the person responsible for the unit's operation and left with the unit for future reference.
- The total load of the unit must not exceed the rating shown on the MCB.

UNIT INSTALLATION INSTRUCTIONS

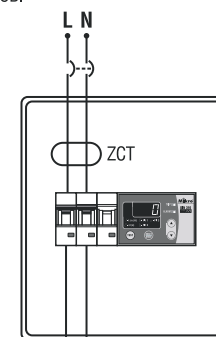
- Determine the optimum wall area for installing the *Mikrosafe™* unit. The unit should install after the MCB and before the distribution board.
- Determine the optimum position for the base unit on a flat, vertical surface and select the most appropriate cable entries in relation to the fixed wiring.
- Pull open the front lid, remove the four screws and remove the front cover.
- Remove the appropriate cut-out from the top and bottom of the base unit and fit suitable conduit fittings or cable glands.
- Fix the base unit to the wall using the four fixing positions provided at the base unit.

UNIT INCOMING WIRING INSTRUCTIONS

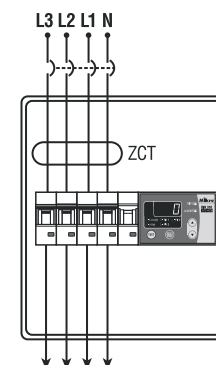
- Prepare main incoming live(s) and neutral conductors and thread through knockout/conduit.
- Prepare the live(s) and neutral conductors and thread through ring shape current transformer.
- For single phase models, connect live supply to the top left hand terminal (L) of the MCB.
- For three phase models, connect phase supply L3 to the top left most terminal of the MCB. Then follow by L2 and L1 in sequence for the second and third terminals of the MCB.
- Connect the neutral supply to the neutral terminal (N) of the MCB.

UNIT OUTGOING WIRING INSTRUCTIONS

- Prepare the outgoing live(s) and neutral conductors and thread through knockout/conduit.
- For single phase models, connect live supply to the bottom left hand terminal (L) of the MCB.
- For three phase models, connect phase supply L3 to the bottom left most terminal of the MCB. Then follow by L2, L1 and neutral conductors in sequence for the second, third and fourth terminals of the MCB.
- The panel outgoing live(s) and neutral conductors connected to the consumer unit.



To installation to be protected



To installation to be protected

CONNECTION TO THE SUPPLY

- Prior to connecting the unit to the main supply, ensure that the power source is disconnected and isolated.
- The unit should be connected to the main supply and/or utility meter via a protection device (MCB or fuses) with rating of not less than 50A or 80A for *Mikrosafe*™ 40A and 63A models respectively.

Please read operating instructions before turning on the *Mikrosafe*™
Ensure all terminal screws are tightened firmly including factory made connection.

RCD DISPLAYED PARAMETERS

Table 1: List of parameters display by the RCD

Function Digit	Description
	Real-time leakage current (Default screen)
1	Configure leakage current trip threshold
2	Configure the tripping time delay
A.	Most recent tripped leakage current
b.	Second last tripped leakage current
c.	Third last tripped leakage current

- To view the parameters, the RCD should be in healthy condition with no tripping.
- To view subsequence parameter, press [RESET] button once.
- Press and hold [RESET] button for one second to jump direct to default screen.

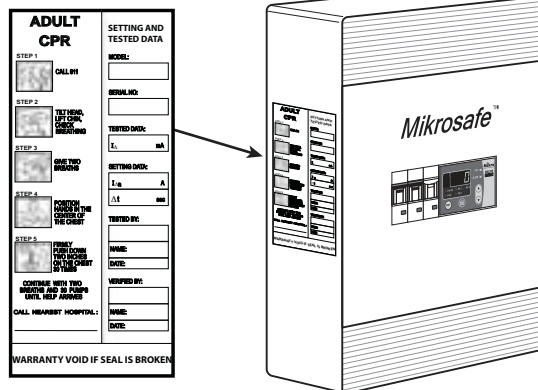
RCD PARAMETERS SETTING INSTRUCTIONS

- Only parameters with function digit shown "1" or "2" are amendable.
- Press [RESET] button to scroll to desired parameter.
- To enter programming mode, press [▲] and [▼] buttons simultaneously and hold till function digit blink.
- Press [▲] or [▼] button to increase or decrease the parameter value.
- To save the selected value and exit programming mode, press [▲] and [▼] buttons simultaneously and hold till function digit stop blinking. It will display the newly saved data value.
- To exit programming mode without saving the data, press [RESET] button once.

INSTALLATION RECORDS

- Fills and complete the installation records and labelled it onto the left side of the panel.
- Labelled the Warranty Seal to cover the RCD front lid and the panel.
- Complete the *Mikrosafe*™ Warranty Form and return back to manufacturer within fourteen (14) days.

Note: Once the Warranty Seal is labelled, any attempt to tear it will cause damage to the seal.



Operating Instructions

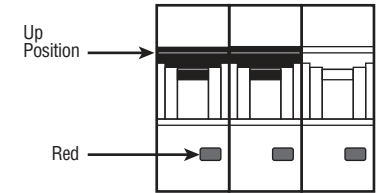
IMPORTANT NOTICE: Please read carefully before operating the unit
Please keep the instructions manual near to the *Mikrosafe*™ unit.

In the event of a MCB or RCD switch off or "tripping" due to fault, the following action should be taken

IF THE MCB TRIPS

- Attempt to re-switch the MCB on. Refer "Method To Re-Switch The MCB" for detail.
- If the MCB trip again, switch off and/or unplug all pieces of equipment connected to the relevant circuit.
- Switch on the MCB then switch on and/or plug in each piece of equipment in turn. The MCB will trip when the faulty piece of equipment is reconnected. Switch off and/or unplug the faulty equipment and then switch on the MCB.
- If the MCB cannot be switched on after switching off and/or unplugging all equipment, then call in a qualified electrician.

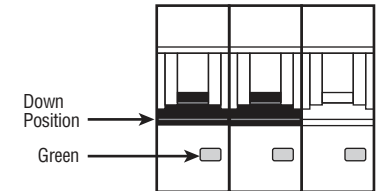
MCB NORMAL



IF THE RCD TRIPS

- When RCD tripped, the [TRIP] LED and [ALARM] LED light up. Data display blink and show the fault current.
- The MCB will tripped simultaneously when RCD is tripped and switch off the supply.
- Attempt to re-switch the RCD back to normal state. Refer to "Method To Re-switch the RCD" for detail.

MCB TRIPPED



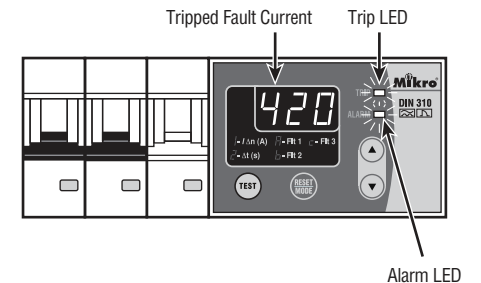
IF THE RCD TRIPS CONTINUED

- Switch off all the MCB that are protected by it or MCB mounted in the consumer unit.
- Re-switch the RCD and then switch on each MCB in turn until the RCD is trip again.
- Once the faulty circuit has been identified switch off the offending MCB and switch on the RCD
- To identify which particular piece of equipment has caused the fault, follow the instructions above for "MCB TRIPS".

IF THE RCD TRIPS AND DISPLAY SHOW "C"

- Call in a qualified electrician.

RCD TRIPPED



Method To Re-Switch The MCB

- Pull open the panel front lid
- Push up the MCB handles.
- After MCB is switched on, the MCB indicators shown red colour.

