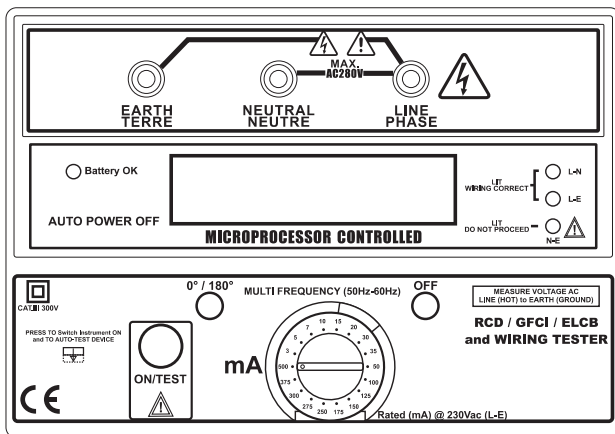


DIGITAL RCD TESTER



INSTRUCTION MANUAL

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1. Safety precautions

Electricity can cause severe injuries even with low voltages or currents. Therefore it is extremely important that you read the following information before using your Digital RCCB / ELCB Tester.

- 1.1 This Instrument must only be used and operated by a competent trained person and in strict accordance with the instructions. We will not accept liability for any damage or injury caused by misuse or non compliance with instructions and safety procedures.
- 1.2 Never open Your Digital RCCB / ELCB Tester except for battery replacement. (see battery replacement section).
- 1.3 Always inspect you Digital RCCB / ELCB tester and test leads before use for any sign of abnormality or damage. If any abnormal conditions exist (broken test leads, cracked case, display faulty etc...) do not attempt to take any measurement or use the tester. Return your Digital RCCB / ELCB tester to your nearest distributor for service.
- 1.4 Never replace the protective fuse with any other than the specified or approved equivalent.
- 1.5 Your Digital RCCB / ELCB tester has been designed with your safety in mind. However, no design can completely protect against incorrect use. Electrical circuits can be dangerous and/or lethal when a lack of caution or poor safety

practice is used. Use caution in the presence of voltage above 24V as these pose a shock hazard.

1.6 Pay attention to cautions and warnings which will inform you of potentially dangerous procedures.

1.7 Rated environmental conditions:

- (1) Indoor use.
- (2) Installation Category III.
- (3) Pollution Degree 2.
- (4) Altitude up to 2000Meters.
- (5) Relative Humidity 80% Maximum.
- (6) Ambient Temperature 0°C-40°C

1.8 Observe the International Electric symbols listed below.



Meter is protected throughout by double insulation or reinforced insulation.



Warning! Risk of electric shock.



Caution! Refer to this manual before using the meter.

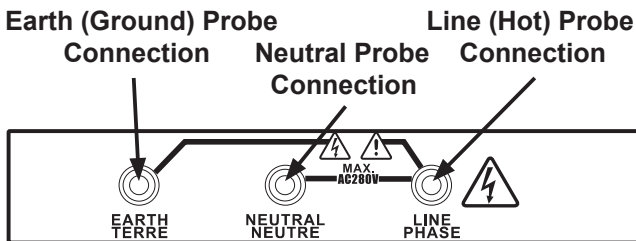
2. Specifications

Current Settings	3mA, 5mA, 7mA, 10mA, 15mA, 20mA, 30mA, 35mA, 50mA, 100mA, 125mA, 150mA, 175mA, 250mA, 300mA, 375mA, 500mA.
Current Selection	Rotary Switch
Phase Start Selection	Referenced to Earth
0° and 180°	Yes
Over-Temperature Protection	Yes
Wiring Correctness Indication	Yes
Trip Indicator	Yes
Phase Polarity Trip Indicator	Yes
Operating Voltage (L-E)	Referenced to Earth
	240Vac - 50Hz or 60 Hz
Timer Resolution	Voltage Model (Vac)
Timer Accuracy	1ms(Max Time=2.999S)
Current Accuracy	±2ms
Operating Temperature	±5% ±1mA
Storage Temperature	-5°C to 45°C
Battery	-10°C to 55°C
	8 x AA batteries
	Bat OK Led=Vbat >7.5V
Measure Battery Voltage at start up.	
Specified at Voltage Model (Vac) / 50Hz or 60 Hz.	

3. FEATURES

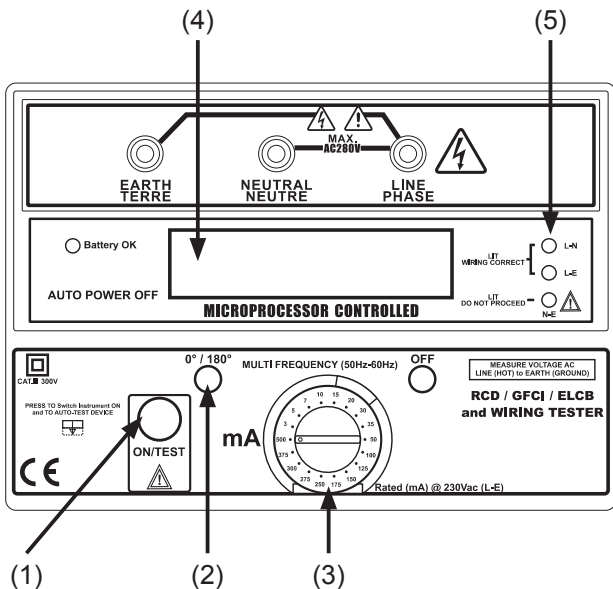
- 2 Lines x 16 Characters
- Very Low Consumption.
- Microprocessor Controlled.
- Menu Driven.
- Accurate Digital readout of Disconnection Time.
- Automatic Data Hold Function.
- Zero Crossing Circuitry permit testing at 0° or 180°.
- Disconnection Phase Polarity Shown on L.C.D. display.
- Auto-Off and Off override.
- Polarity Trip Indicator (Positive or Negative Phase)
- Wiring Polarity Indicator.
- Measure voltage between Line and Earth before testing.

4. Connections



apply only Voltage Model @ 50Hz or 60 Hz.
Voltage Model (Vac) A=110, B=220, C=230, D=240

5. Instrument Layout



- (1) On Switch.-
Test Button Switch.
- (2) Selection Switch.
0° - 180°
- (3) Current Selection Rotary Switch.
- (4) Intelligent L.C.D.
- (5) Wiring Check / Indicator.

6. Lid instructions

INSTRUCTIONS

DIGITAL RCD / RCCB / GFCI / ELCB TESTER

ADVANTAGE™ Series

IMPORTANT

1. The tester check the time taken for a given selected current to trip the breaker under test. The test show the phase at tripping (related to the earth terminal).
2. The ELCB Test operates between Line & Earth. Ensure that you operate on 240Vac.
3. The tester is protected against over-temperature. If over-temperature message appears, allow time for instrument to cool down. During the cool down period, the instrument switch off automatically to save battery life.

TRIPPING TIME TEST

A preselected current is injected L-E. The value of the current may be selected with the rotary switch. Once the instrument is switched "ON", the display shows the battery voltage for two seconds.

- Thereafter, the display is ready to wait for the phase selection and to measure the voltage L-E.
- THE "TEST" BUTTON CAN BE DEPRESSED, once the phase selection has been done and the voltage has been detected L-E.
- Once "TEST" is depressed, the tester will automatically start the test.

The Instrument displays :

1. The Tripping time (ms) of the RCD (time to break or open the breaker under fault level)
2. The Phase when tripping occurred.
3. The Voltage (Vac) L-E at the start of the test.
4. The approximate percentage error of the current injected (calculated from the voltage Line to Earth, compared to the nominal voltage expected by this model).

Should the RCD not trip within the testing time capability of the instrument, the display will show T=19.999S and "Hold >OVER", meaning the RCD did not trip below 19.999S. The tripping point is out of the Range of the Instrument (or RCD faulty).

TEST PROCEDURE

1. Insert the leads into Instrument.
2. Switch Instrument "ON".
3. Select the current using the rotary switch.
4. Select positive (0°) or negative (180°) edge to start.
5. Connect the tester to the circuit under test.
6. The tester measures and display the voltage L-E.
7. Check wiring. Proceed only if wiring is correct.

READ USER'S MANUAL BEFORE OPERATING THIS INSTRUMENT

This instrument uses 8 x 1.5V alkaline batteries. Should the bat. OK indicator not lit, replace batteries immediately. We recommend to use alkaline type as you may expect a much better performance from them.

7. RCD TEST - TIME DELAY

Turn Instrument "ON" by pressing the "TEST-ON" button. The L.C.D. display will come to the following Screen.



For a two to three seconds, the display will show the battery voltage.



The tester wait for voltage to be measured and phase selection can be changed.



Phase selection has been changed so that testing will start on a negative going edge.



The leads have been connected and the voltage between L-E is 234Vac.

234V T= 04.020s
Test in Progress

"Test" button has been depressed.

Test In Progress since 4.020s.

The Voltage between L-E was 234V before testing started.

234V T=06.435s
180°Hold TRP < 2%

TRP= Tripped, Display on **Hold**

at 6.435s Tripped on + edge of signal (180°).

and the Line-Earth voltage is 2% less than nominal
(model D = 240Vac)

8. Preparation for measurement

Before testing Always Check the Following.

At Power "ON", check :

- The BAT OK led lit. If the BAT OK led does not lit, replace batteries.
- There is no visual damage to the Instrument or Test leads.
- Test lead Continuity with a continuity meter.

9. Battery replacement

Your Digital RCCB/ ELCB Tester's batteries are situated under the tester.

The BAT OK led (if battery voltage >7.5V) will indicate when the battery need to be replaced (if BAT OK led does not lit when tester is on).

Disconnect the Test leads from the Instrument, remove the battery cover and the batteries.

Replace with eight 1.5V R6 or L6 batteries, taking care to observe correct polarity.

Replace the Battery cover.

10. Fuse replacement

The Fuse is located in the Battery compartment. To replace the Fuse, proceed as per Battery replacement to open the Battery cover, then remove and replace the fuse located on the side of the batteries . Make sure to place the fuse protection cover. (small rubberised fuse cover)

Only replace with the same specification fuse. (1A Fast Blow)

11. Servicing and calibration

Your Digital RCCB.ELCB tester has been factory Calibrated.

However, it is of good practice to have your instrument "CERTIFIED" by a National Calibration Facility and "CHECKED" every year by an professional workshop.

Cleaning and Storage

Periodically, wipe the case with a damp cloth and detergent. Do not use abrasives or solvents.

If the meter is not to be used for periods longer than 60 days, remove the batteries and store them separately.

WARNING

To avoid electrical shock or damage to the meter, do not get water inside the case.

CAT IV - Is for measurements performed at the source of the low-voltage installation.

CAT III - Is for measurements performed in the building installation.

CAT II - Is for measurements performed on circuits directly connected to the low-voltage installation.

CAT I - Is for measurements performed on circuits not directly connected to mains.

Due to our policy of constant improvement and development, we reserve the right to change specifications without notice.