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METRAVI 1813

Metravi 1813 ELCB/RCD/RDDS Tester Instruction Manual

Model: 1813 | Brand: METRAVI

1. INTRODUCTION

The Metravi 1813 is a professional instrument designed for testing Earth Leakage Circuit Breakers (ELCBs), Residual Current Devices (RCDs), and Residual Differential Devices (RDDS). This tester provides accurate measurements of trip time and trip current values, ensuring the safety and proper functioning of electrical installations. It features a 3-digit measurement display and operates on both TT neutral and TN systems.

This manual provides essential information for the safe and effective use of your Metravi 1813 tester. Please read it thoroughly before operation.

2. SAFETY INFORMATION

Always adhere to safety precautions when working with electrical equipment. Failure to do so may result in injury or damage to the instrument.

- This device is rated CAT III 600V, indicating its suitability for measurements in distribution boards, circuit breakers, wiring, and cables.
- The instrument features double insulation for enhanced safety.
- Comply with IEC 61010-1, IEC 61557-6 NF, EN 61557-6, and IEC 61236 (EMC) standards.
- Do not use the tester if it appears damaged or if the test leads are compromised.
- Ensure the operating voltage is within the specified range of 230V (Ph/N) – 10/+6% 50/60 Hz.
- The device includes locking and warning signals for 400V network voltage and contact potential exceeding 50V. Pay attention to these warnings.
- Always disconnect power before connecting or disconnecting test leads, unless specifically instructed otherwise for a test procedure.

3. PACKAGE CONTENTS

Verify that all items listed below are present in the package:

- Metravi 1813 ELCB/RCD/RDDS Tester Unit
- Power Cord (for connection to mains)

- 6 x AA Batteries
- Instruction Manual
- Protective Carrying Case



Image: The Metravi 1813 tester, power cord, and instruction manual neatly arranged inside its protective carrying case.



Image: The Metravi 1813 tester, power cord, six AA batteries, and the instruction manual laid out on a white surface.

4. PRODUCT OVERVIEW

Familiarize yourself with the components and controls of the Metravi 1813 tester.

- **LCD Display:** 3-digit display for showing measurement results.
- **Rotary Switch:** Used to select functions such as OFF, Voltage (V), Trip Current Multipliers (x1/2, x1, x2, x5), and Auto mode.
- **TEST Button:** Initiates the RCD/ELCB/RDDS test.
- **RANGE Button:** Selects the measurement range.
- **N/S Button:** Selects between Normal (N) or S (delayed) type RDD test.
- **0°/180° Button:** Selects the phase angle for testing.
- **Mains Input Socket:** Located at the top of the unit for connecting the power cord.
- **Battery Compartment:** Located on the rear of the unit.



Image: A close-up view of the top of the Metravi 1813 tester, highlighting the mains input socket for the power cord.



Image: Various angles of the Metravi 1813 tester, including front, side, and rear views, illustrating its ergonomic design and controls.

5. SETUP

5.1 Battery Installation

The Metravi 1813 requires 6 AA batteries for operation. Ensure the device is switched OFF before installing or replacing batteries.

1. Locate the battery compartment on the rear of the tester.
2. Use a screwdriver to open the battery compartment cover.
3. Insert 6 AA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
4. Replace the battery compartment cover and secure it with the screw.



Image: The rear of the Metravi 1813 tester with the battery compartment cover removed, showing the slots for six AA batteries.

5.2 Connecting to Mains

Connect the provided power cord to the mains input socket on the top of the tester and then to a suitable electrical outlet. Ensure the outlet provides 230V (Ph/N) – 10/+6% 50/60 Hz.

6. OPERATING INSTRUCTIONS

The Metravi 1813 is designed to test the trip values of Residual Differential Devices (RDDS), including ELCBs and RCDs, in terms of trip time (ms) or trip current (mA).

6.1 Basic RCD/ELCB/RDDS Testing Procedure

1. **Power On:** Turn the rotary switch from OFF to the desired test function (e.g., x1, x1/2, Auto).
2. **Connect to Circuit:** Plug the tester's power cord into the circuit you intend to test. Ensure the circuit is live and within the specified voltage range.

3. **Select Test Current Multiplier:** Use the rotary switch to select the desired trip current multiplier (e.g., x1/2, x1, x2, x5). The 'Auto' setting can automatically determine the trip current.
4. **Select RDD Type:** Press the **N/S** button to select between Normal (N) or S (delayed) type RDD test, as appropriate for the device being tested.
5. **Select Phase Angle:** Press the **0°/180°** button to select the desired phase angle for the test.
6. **Initiate Test:** Press the **TEST** button. The tester will inject a fault current and measure the trip time or trip current.
7. **Read Results:** The 3-digit LCD display will show the measured trip time (in ms) or trip current (in mA).
8. **Interpret Results:** Compare the displayed values with the specifications of the RCD/ELCB/RDDS being tested to ensure it operates within acceptable limits.

The Metravi 1813 supports testing of 10mA, 30mA, 100mA, 300mA, 500mA, and 1000mA differential circuit breakers, regardless of whether they are normal or delayed types.

6.2 Voltage Measurement

To measure voltage:

1. Turn the rotary switch to the **V** position.
2. Connect the tester to the circuit.
3. The display will show the measured voltage.

7. SPECIFICATIONS

Feature	Specification
Measurement Display	3-digit
RDD Test Types	N or S (delayed) type, AC or A (continuous component detection)
Operating System Compatibility	TT neutral and TN system
Operating Voltage	230V (Ph/N) – 10/+6% 50/60 Hz
Safety Rating	CAT III 600V, Double insulation
Standards Met	IEC 61010-1, IEC 61557-6 NF, EN 61557-6, IEC 61236 (EMC)
Warning Signals	For 400V network voltage and contact potential >50V
Testable RDD Current Values	10mA, 30mA, 100mA, 300mA, 500mA, 1000mA
Power Source	6 AA batteries (included)
Item Weight	700 g
Product Dimensions (L x W x H)	9.2 x 20 x 5 cm

8. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your Metravi 1813 tester.

- **Cleaning:** Wipe the instrument with a dry, soft cloth. Do not use abrasive cleaners or solvents.

- **Battery Replacement:** Replace batteries promptly when the low battery indicator appears to ensure accurate readings. Remove batteries if the device will not be used for an extended period.
- **Storage:** Store the tester in its protective carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Calibration:** For professional use, periodic calibration by an authorized service center is recommended to maintain measurement accuracy.

9. TROUBLESHOOTING

If you encounter issues with your Metravi 1813 tester, refer to the following common problems and solutions:

- **Device does not power on:**
 - Check if batteries are correctly installed and have sufficient charge. Replace if necessary.
 - Ensure the rotary switch is not in the OFF position.
- **No reading or incorrect reading during test:**
 - Verify that the tester is properly connected to a live circuit.
 - Ensure the circuit voltage is within the operating range (230V).
 - Check if the correct test function (current multiplier, RDD type, phase angle) is selected.
 - The RCD/ELCB/RDDS might be faulty or tripped. Reset the breaker and retest.
- **Warning signals activated:**
 - If a 400V network voltage warning appears, disconnect immediately. The circuit voltage is too high for safe operation.
 - If a contact potential >50V warning appears, exercise extreme caution. There is a significant voltage difference.

If problems persist, contact customer support for assistance.

10. WARRANTY AND SUPPORT

METRAVI Instruments offers a 1-year warranty against manufacturing defects for all its products, including the Metravi 1813 ELCB/RCD/RDDS Tester.

For any usage issues, product issues, replacements, or warranty claims, please contact METRAVI customer support:

- **Email:** online_sales@metravi.com
- **SMS / WhatsApp:** 9073384641

Always refer to the official operating manual for detailed instructions and safety guidelines. You may also check for usage videos on the METRAVI website or YouTube channel.

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Setting Trends. Showing the Way.

CONTACT US
We will help you!

with

- *Usage Issues*
- *Product Issues*
- *Replacements*
- *Warranty*



All Metravi Instruments
carry 1 year Warranty
against manufacturing
defects

Read Operating Manual for instructions carefully.
Check for Usage Video on YouTube or our website.

Email online_sales@metravi.com

SMS / WhatsApp 9073384641



Image: Metravi customer support contact details and a 1-year warranty badge, indicating support for usage issues, product issues, replacements, and warranty claims.