



Manuals.plus /

- › PEAKMETER /
- › PEAKMETER MS5910 RCD Loop Resistance Tester User Manual

PEAKMETER EC-MS5910

PEAKMETER MS5910 RCD Loop Resistance Tester User Manual

Model: EC-MS5910

High Precision Loop Resistance Tester & Leakage Protection Switch Tester

1. INTRODUCTION AND OVERVIEW

The PEAKMETER MS5910 is a high-performance RCD (Residual Current Device) and Loop Tester designed for professional electricians and repairers. This device is essential for verifying the safety and proper functioning of electrical installations by measuring trip-out current, trip-out time, contact voltage, loop resistance, AC voltage, and frequency. It features a USB interface for data transfer and complies with international safety standards.



Figure 1.1: Front view of the PEAKMETER MS5910 RCD Loop Resistance Tester, showing the display, control buttons, and rotary dial.

2. SAFETY INFORMATION

WARNING: To avoid electrical shock, remove test leads before opening case or battery cover. Please read manual for safety.

The MS5910 complies with IEC/EN 61010-1 1000V CAT II and 600V CAT III safety standards. Always adhere to the following safety precautions:

- Do not use the device if it appears damaged or is operating abnormally.
- Ensure proper connection of test leads before performing any measurements.
- Do not exceed the maximum common mode voltage of 600V AC RMS.
- Always disconnect the device from the circuit before replacing batteries or opening the case.
- Use only specified battery types and ensure correct polarity.



Figure 2.1: Rear view of the MS5910, highlighting the battery compartment and safety warning label.

3. PRODUCT FEATURES

- High-performance RCD Loop Tester with USB Interface.
- Measures Trip-out current, Trip-out time, Contact voltage, Loop resistance, AC voltage, and Frequency.
- Maximum common mode voltage: 600V AC RMS.
- LCD Display with a maximum value of 6000 counts.
- Data logging and recall for up to 100 groups of test results.
- Auto Power Off function to conserve battery life.
- Display Back Light for improved visibility in low-light conditions.
- Low Battery Display indicator.
- Complies with IEC/EN 61010-1, 1000V CAT II, 600V CAT III safety standards.

4. PACKAGE CONTENTS

Upon opening the package, please verify that all items listed below are present and in good condition:

- 1 * RCD/LOOP Tester PM5910
- 1 * Test Lead set
- 3 * Alligator Clips
- 1 * USB Wire
- 1 * CD-ROM (for software/drivers)
- 1 * Operational Manual
- 1 * Packaging Box

Note: Batteries are not included and must be purchased separately.



1 * RCD/LOOP Tester PM5910

1 * Test Lead

3 * Alligator Clip

1 * USB Wire

1 * CD-ROM

1 * Operational Manual

1 * Packaging Box

 **Battery not included**

Figure 4.1: Contents included in the MS5910 product package.

5. SETUP

5.1 Battery Installation

1. Ensure the device is powered off and disconnect any test leads.
2. Locate the battery compartment on the back of the device (refer to Figure 2.1).
3. Unscrew the battery cover and remove it.
4. Insert 6 x 1.5V AA batteries, ensuring correct polarity as indicated inside the compartment.
5. Replace the battery cover and secure it with the screw.

5.2 Connecting Test Leads

Connect the provided test leads to the appropriate input terminals on the MS5910. Ensure a secure connection for accurate measurements and safety.



Figure 5.1: Top view of the MS5910, showing the AC input (80V-440V) and USB interface ports.

6. OPERATING INSTRUCTIONS

6.1 Powering On/Off

Rotate the main dial from the 'OFF' position to any measurement function to power on the device. To power

off, rotate the dial back to 'OFF'. The device also features an Auto Power Off function.

6.2 Function Selection

Use the large rotary dial to select the desired measurement function:

- **LOOP:** For Loop Resistance measurements.
- **RCD:** For Residual Current Device testing (Trip-out current, Trip-out time, Contact voltage).
- **x1/2, x1, x5:** Multipliers for RCD test currents.
- **AUTO RAMP:** For automatic RCD ramp testing.

6.3 Keypad Functions

- **MEASURE:** Initiates a measurement.
- **READ:** Recalls stored data.
- **MEMO:** Stores current measurement data.
- **CLEAR:** Clears stored data.
- **SET:** Enters setup mode for parameters.
- **ENTER:** Confirms selection.
- **LIGHT:** Toggles display backlight.
- **DISPLAY:** Cycles through display modes or parameters.
- **SLOW:** Activates slow test mode for RCDs.

6.4 Performing Measurements

Connect the test leads to the circuit under test according to the specific measurement type. Press the 'MEASURE' button to initiate the test. The results will be displayed on the LCD screen.



Figure 6.1: The MS5910 display showing various current measurement levels (10mA, 30mA, 100mA, 300mA, 500mA) and the CE mark indicating compliance with international standards.

6.5 Data Storage and Recall

The MS5910 can store up to 100 groups of test results. After a measurement is complete, press 'MEMO' to save the data. To recall stored data, press 'READ' and use the arrow keys to navigate through the records.



Figure 6.2: Illustration of the MS5910's data storage capability, indicating that 100 groups of test results can be stored.

7. MAINTENANCE

7.1 Cleaning

Wipe the device with a dry, clean cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the device.

7.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries promptly to ensure accurate measurements. Refer to Section 5.1 for battery installation instructions.

7.3 Storage

If the device is not used for an extended period, remove the batteries to prevent leakage and damage. Store the device in a cool, dry place away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

- **Device does not power on:** Check battery installation and ensure batteries are fresh.
- **Inaccurate readings:** Ensure test leads are securely connected and not damaged. Verify the correct function is selected for the measurement.
- **Display is dim:** Activate the backlight using the 'LIGHT' button. If still dim, replace batteries.
- **Cannot store data:** Check if memory is full. Clear old data if necessary.

9. SPECIFICATIONS

MS5910 TechnicalData				
Item	Range	Accuracy	ResolutionPower	
Trip-outtime	x1IΔN300(slow500ms)	±3ms	0.1ms	
	x5IΔN40ms(slow150ms)			
Trip-outcurrent	(0.2~1.1)IΔN	±0.1IΔN	0.05IΔN	
Contactvoltage	0~99.9V	±(10%+0.2V)	0.01,0.1V	
AlternatingVoltage (UI-N,UL-L,UL-E)	0~440V	±(3%+3V)	1V	
Frequency	DC,45~65Hz	±1Hz	1Hz	
LoopResistance (RL)	0~19.9V	±(10%+0.2V)	0.01V	
	10.0~99.9V		0.1V	
RLCurrentTest	0.5IΔN	±(10%+10d)	0.05IΔN	
MultiplyingPower oftestCurrent	x0.5,x1,x5			
CurrentLevel(IΔN)	10mA,30mA,100mA			
	300mA,500mA			
TriggerPhaseAngle	0°or180°			
RCDDTestCurrentSelectionTable				
IΔN(mA)	IΔX1/2(mA)	IΔX1(mA)	IΔX5(mA)	Auto(mA)
10	5	10	50	10
30	15	30	150	30
100	50	100	500	100
300	150	300	1500	300
500	250	500	-----	500

Figure 9.1: Detailed technical specifications for the PEAKMETER MS5910.

General Specifications

Item	Value
Product Dimensions	5.91 x 3.94 x 7.09 inches
Item Weight	1 Kilogram (2.2 Pounds)
Power Source	Battery Powered (6 x 1.5V AA batteries)
Color	Orange
Safety Rating	EN61010-1, CAT. III 600V
USB Interface	USB 2.0
Data Logging	100 Groups
Display	LCD with Backlight, Max 6000 counts

Measurement Specifications

Measurement	Range	Accuracy	Resolution
Trip-out time	x1ΔN300 (slow 500ms), x5ΔN40ms (slow 150ms)	±3ms	0.1ms
Trip-out current	(0.2~1.1)ΔN	±0.1ΔN	0.05ΔN
Contact Voltage	0~99.9V	±(10%+0.2V)	0.01V, 0.1V
Alternating Voltage (UI-N, UL-L, UL-E)	0~440V	±(3%+3V)	1V
Frequency	DC, 45~65Hz	±1Hz	1Hz
Loop Resistance (RL)	0.1Ω~199.9Ω, 200~1999Ω, 2000~9.99kΩ	±(10%+0.2d)	0.01Ω, 0.1Ω, 0.01kΩ
RL Current Test	0.5IΔN	±(10%+10d)	0.05IΔN
Multiplying Power of Test Current	x0.5, x1, x5		
Current Level (IΔN)	10mA, 30mA, 100mA, 300mA, 500mA		
Trigger Phase Angle	0° or 180°		

10. WARRANTY AND SUPPORT

PEAKMETER products are designed for reliability and performance. For specific warranty details, please refer to the warranty card included with your product or visit the official PEAKMETER website. For technical support, troubleshooting assistance, or service inquiries, please contact PEAKMETER customer service through the contact information provided in your product documentation or on the official website.