Crenova 890Z

Crenova 890Z Digital Multimeter Instruction Manual

Model: 890Z | Brand: Crenova

1. Introduction and Overview

The Crenova 890Z Digital Multimeter is a versatile and reliable tool designed for accurate electrical measurements. It features a 6000-count True RMS display, providing precise readings for various parameters. This multimeter is suitable for a wide range of applications, including industrial, household, and automotive electrical testing.

This manual provides detailed instructions on how to safely and effectively use your Crenova 890Z Digital Multimeter. Please read it thoroughly before operation.

Figure 1: Crenova 890Z Digital Multimeter and Included Accessories

This image displays the Crenova 890Z Digital Multimeter along with its comprehensive set of accessories, including test leads, alligator clips, a protective carrying case, and AA batteries, highlighting its readiness for immediate use.

2. Safety Information

Your safety is paramount. The Crenova 890Z Multimeter is designed with safety in mind, meeting IEC61010 and CAT III standards. It incorporates double fuse protection against burnout and overload. The durable silicone cover provides additional protection against damage and electric shock.

General Safety Precautions:

- Always ensure the test leads are correctly connected to the appropriate input jacks for the desired measurement.
- Do not exceed the maximum input values specified for each range.
- Never measure voltage on circuits with power exceeding 600V.
- Exercise extreme caution when working with live electrical circuits.
- If the low battery indicator appears, replace the batteries immediately to ensure accurate readings.

- Do not operate the multimeter if it appears damaged or is not functioning properly.

Figure 2: Safety Features and Internal Components

This image illustrates the internal design of the Crenova 890Z Multimeter, highlighting its double fuse protection (600mA, 250V and 10A, 250V) which safeguards against overload and burnout, ensuring operational safety.

3. Product Features and Components

The Crenova 890Z Multimeter is equipped with several features for enhanced usability and accurate measurements:

- **6000-Count LCD Display:** Provides clear and precise digital readings.
- **Measurement Range Selection Switch:** A central rotary dial for selecting various measurement functions.
- **Function Buttons:** Includes HOLD (data hold), SELECT (mode switching), and backlight/flashlight activation.
- **Test Lead Holders:** Convenient slots on the back for storing test leads.
- **Support Stand:** A foldable stand for hands-free operation.
- **LED Flashlight:** Integrated light for working in dimly lit areas.
- **NCV (Non-Contact Voltage) Detector:** For sensing AC electric fields without direct contact.
- **Auto Power Off (APO):** Conserves battery life by automatically turning off after a period of inactivity.

Figure 3: High-End 6000-Count LCD Display

This image highlights the multimeter's large 6000-count LCD display, capable of showing precise readings, essential for accurate measurements.

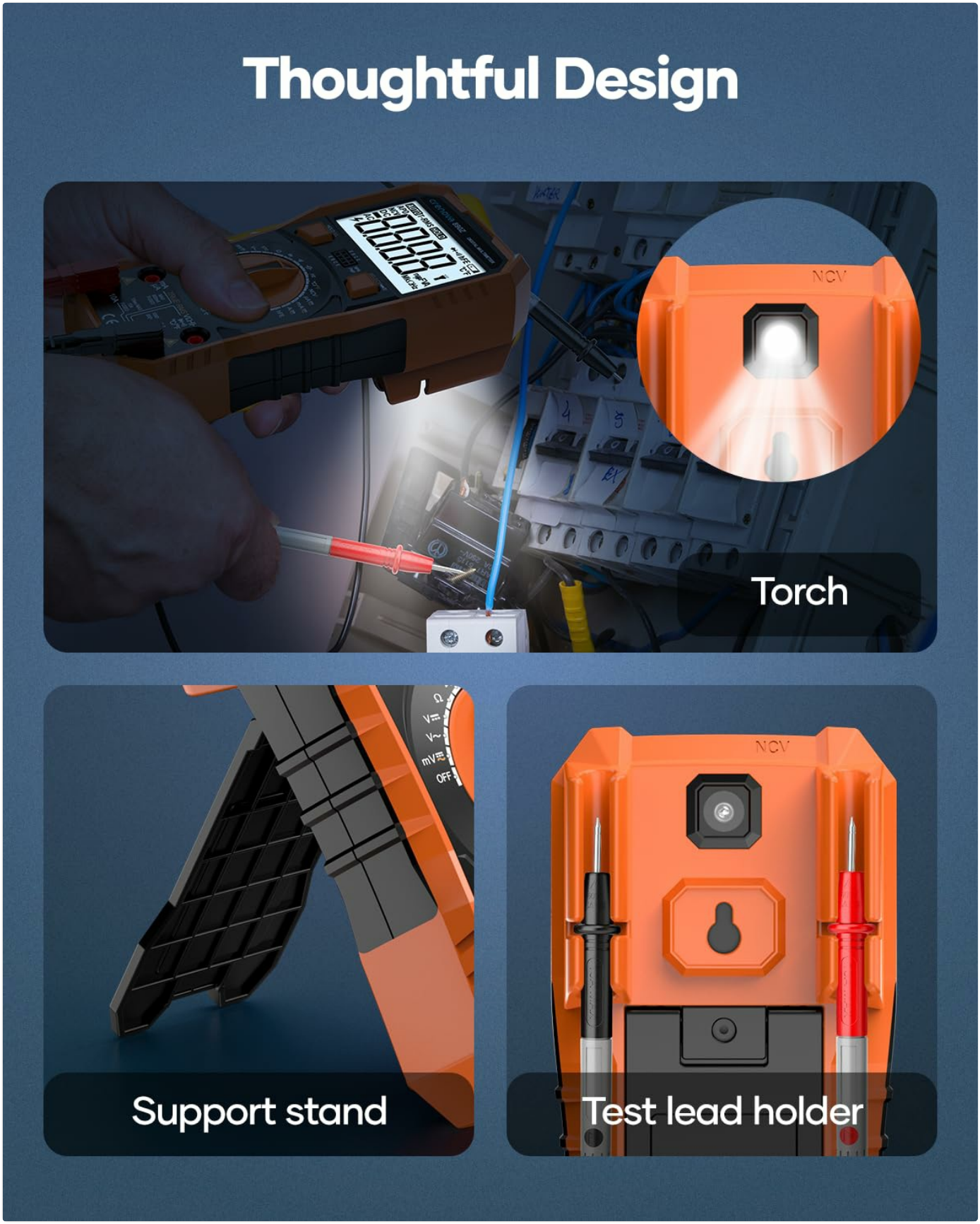


Figure 4: Thoughtful Design Features

This image showcases the practical design elements of the multimeter, including a built-in torch for illuminating dark work areas, a sturdy support stand for hands-free use, and integrated test lead holders for convenient storage.

4. Setup

4.1 Battery Installation

The Crenova 890Z Multimeter requires two 1.5V LR6 AA batteries (included). To install or replace batteries:

1. Ensure the multimeter is turned OFF.
2. Locate the battery compartment on the back of the unit.
3. Unscrew the battery cover and remove it.
4. Insert the two AA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
5. Replace the battery cover and secure it with the screw.

4.2 Connecting Test Leads

Always connect the black test lead to the "COM" (common) input jack. Connect the red test lead to the appropriate input jack based on the measurement you intend to perform:

- For Voltage (V), Resistance (Ω), Capacitance (F), Frequency (Hz), Diode, Continuity, and Temperature measurements, connect the red lead to the "VΩHz" jack.
- For milliampere (mA) or microampere (µA) current measurements, connect the red lead to the "mAµA" jack.
- For 10 Ampere (10A) current measurements, connect the red lead to the "10A" jack.

5. Operating Instructions

The Crenova 890Z Multimeter offers a variety of measurement functions. Select the desired function using the central rotary switch. The multimeter features auto-ranging, simplifying operation by automatically selecting the correct measurement range.

Product Demonstration Video

Your browser does not support the video tag.

Video 1: Crenova 890Z Multimeter Features and Measurement Demonstrations

This video provides a comprehensive overview of the Crenova 890Z Multimeter, demonstrating its key features such as the LCD display, measurement range selection, test lead holder, support stand, backlight, and flashlight. It also illustrates various measurement functions including resistance, capacitance, AC/DC voltage, three-phase AC voltage, non-contact voltage detection, temperature, and continuity testing.

5.1 Voltage Measurement (AC/DC)

To measure voltage:

1. Set the rotary switch to the "V~" (AC Voltage) or "V-" (DC Voltage) position.
2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
3. Connect the test probes in parallel to the circuit or component you wish to measure.
4. Read the voltage value on the LCD.

Refer to Video 1 for demonstrations of AC Voltage Measurement (0:36) and DC Voltage Measurement (0:44).

5.2 Resistance Measurement

To measure resistance:

1. Set the rotary switch to the "Ω" (Resistance) position.
2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
3. Connect the test probes across the component to measure its resistance. Ensure the circuit is de-energized before measuring resistance.
4. Read the resistance value on the LCD.

Refer to Video 1 for a demonstration of Resistance Measurement (0:16).

5.3 Capacitance Measurement

To measure capacitance:

1. Set the rotary switch to the "Capacitance" (symbol: ⏦) position.
2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
3. Connect the test probes across the capacitor. Ensure the capacitor is fully discharged before measurement.
4. Read the capacitance value on the LCD.

Refer to Video 1 for a demonstration of Capacitance Measurement (0:27).

5.4 Continuity Test

To perform a continuity test:

1. Set the rotary switch to the "Continuity" (symbol:)))) position.
2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩHz" jack.
3. Touch the test probes to the two points of the circuit or component you want to test.
4. If there is continuity (low resistance), the multimeter will emit an audible beep. The display will show "OL" (Open Line) if there is no continuity.

Refer to Video 1 for a demonstration of Continuity Test (1:11).

5.5 Temperature Measurement

To measure temperature:

1. Set the rotary switch to the "°C/°F" (Temperature) position.
2. Connect the K-type thermocouple to the "VΩHz" and "COM" jacks, observing polarity.
3. Place the thermocouple probe at the location where you want to measure the temperature.
4. Read the temperature value on the LCD. You can switch between Celsius and Fahrenheit using the SELECT button.

Figure 5: Temperature Measurement Capability

This image illustrates the multimeter's ability to measure temperature using the included K-type thermocouple, along with a table detailing the measurement range, accuracy, and resolution in both Celsius and Fahrenheit.

Refer to Video 1 for a demonstration of Temperature Measurement (1:02).

5.6 Non-Contact Voltage (NCV) Detection

To use the NCV function:

1. Set the rotary switch to the "NCV" position.
2. Move the top end of the multimeter close to the wire or outlet you suspect has AC voltage.
3. If AC voltage is detected, the multimeter will emit an audible beep and the NCV indicator light will flash. The intensity of the beeping and flashing indicates the strength of the detected field.

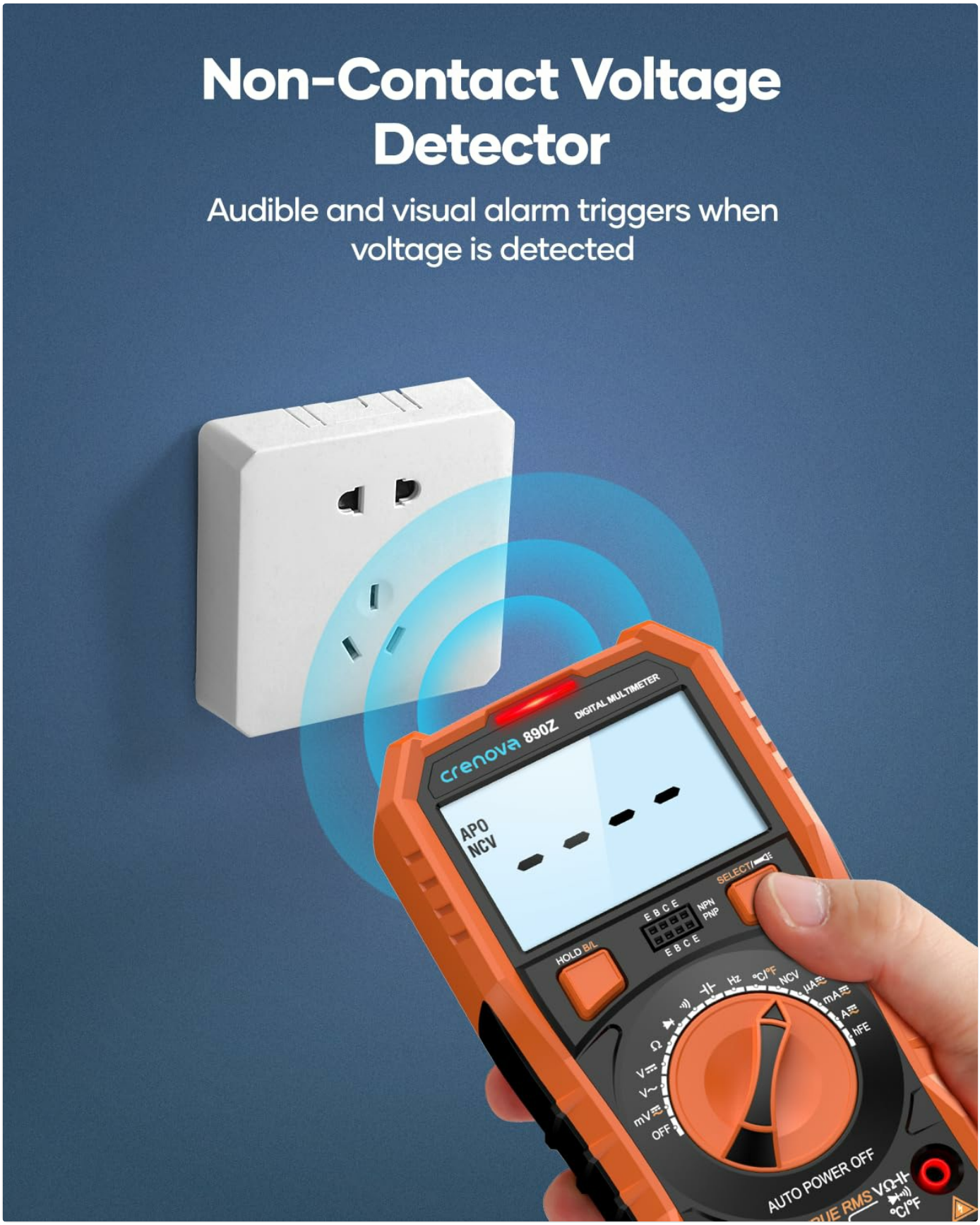


Figure 6: Non-Contact Voltage Detection

This image demonstrates the multimeter's Non-Contact Voltage (NCV) detection feature, showing it sensing an AC electric field near a wall outlet, with an audible and visual alarm triggering upon detection.

Refer to Video 1 for a demonstration of NCV Detection (0:58).

5.7 Current Measurement (AC/DC)

To measure current:

1. Set the rotary switch to the "mAμA" or "10A" position for AC or DC current. Use the SELECT button to toggle between AC and DC.
2. Connect the black test lead to the "COM" jack. Connect the red test lead to the "mAμA" jack for small currents or the "10A" jack for larger currents.
3. Connect the multimeter in series with the circuit you wish to measure. Ensure the circuit is de-energized before breaking it to insert the multimeter.
4. Read the current value on the LCD.

5.8 Diode and Transistor (hFE) Test

To test diodes or transistors:

1. Set the rotary switch to the "Diode/hFE" position. Use the SELECT button to toggle between Diode and hFE modes.
2. For Diode Test: Connect the black test lead to "COM" and red to "VΩHz". Connect probes across the diode. A forward voltage drop will be displayed. "OL" indicates an open circuit.
3. For hFE Test: Insert the transistor leads into the appropriate E, B, C sockets on the multimeter. The hFE value will be displayed.

6. Maintenance

6.1 Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the input terminals free of dirt and moisture.

6.2 Battery and Fuse Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 4.1. If the fuses blow due to overload, they can be replaced by opening the battery cover. Ensure to use fuses with the correct ratings (600mA, 250V and 10A, 250V).

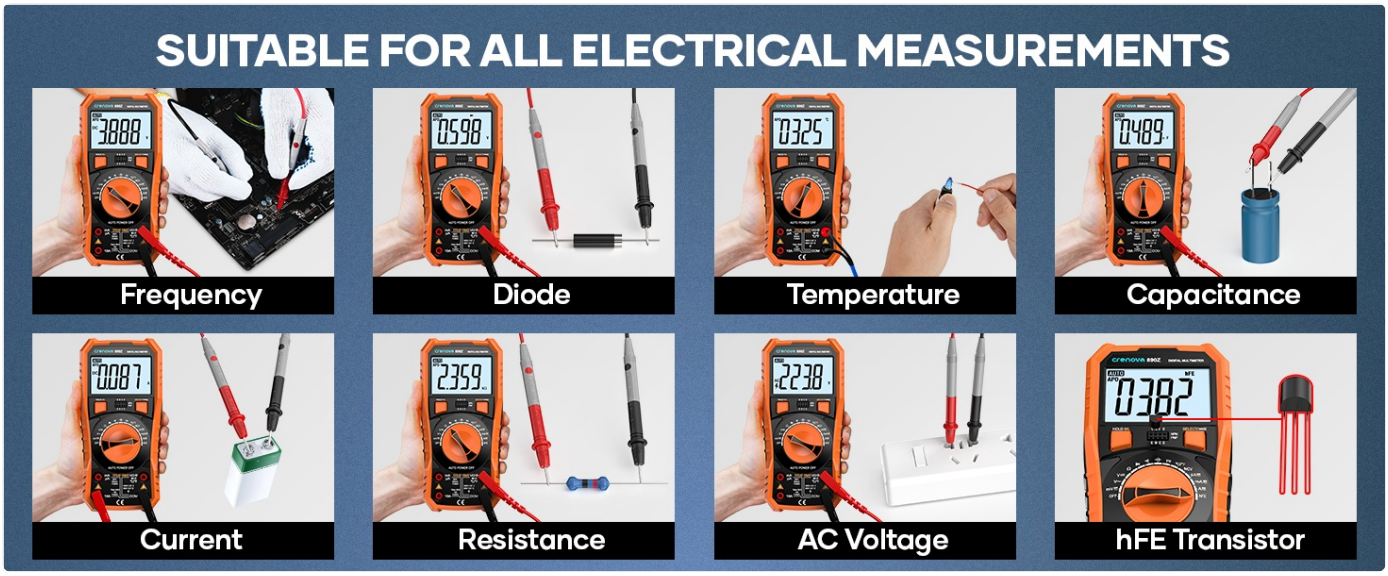


Figure 7: Fuse Replacement

This image demonstrates the process of replacing a fuse in the multimeter, emphasizing the ease of access for maintenance.

6.3 Storage

If the multimeter 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.

7. Troubleshooting

If you encounter issues with your Crenova 890Z Multimeter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display or dim display	Low or dead batteries; incorrect battery installation.	Replace batteries; check battery polarity.
"OL" (Overload) displayed	Measurement range exceeded; open circuit (for continuity/resistance).	Select a higher range; check circuit connections.
Inaccurate readings	Incorrect function selected; poor test lead contact; damaged test leads/fuses.	Verify function setting; ensure good contact; inspect/replace leads or fuses.
No continuity beep	Open circuit; high resistance.	Check circuit for breaks; ensure resistance is below threshold for continuity.

8. Specifications

- **Model:** 890Z
- **Display:** 6000 Counts LCD
- **Safety Rating:** IEC61010-1 CAT III 600V
- **Power Source:** 2 x 1.5V LR6 AA Batteries (included)
- **Dimensions:** 7.09 x 3.35 x 1.97 inches
- **Weight:** 1.74 Pounds
- **Features:** True RMS, Auto-Ranging, Auto Power Off, Data Hold, Backlight, LED Flashlight, NCV, Support Stand, Test Lead Holder.
- **Measurement Functions:** AC/DC Voltage, AC/DC Current, Resistance, Frequency, Capacitance, Continuity, Diode, Transistor (hFE), Temperature.

9. What's in the Box

The Crenova 890Z Digital Multimeter package includes:

- 1 x Crenova 890Z Multimeter
- 1 x K-Type Thermocouple
- 1 x Pair of Probe Test Leads
- 1 x Pair of Alligator Clip Test Leads
- 2 x 1.5V LR6 AA Batteries
- 1 x Carrying Box
- 1 x Instruction Manual

Figure 8: Full Starter Kit Contents

This image displays all the items included in the Crenova 890Z Multimeter package, providing a clear visual of the complete starter kit for users.

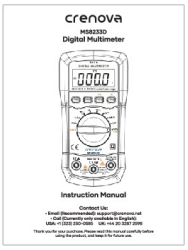
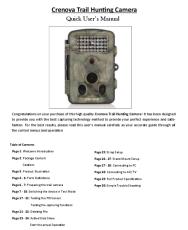
10. Warranty and Support

The Crenova 890Z Digital Multimeter typically comes with a one-year warranty. For warranty claims, technical support, or any inquiries regarding the product, please contact Crenova customer service through the retailer where the product was

purchased or visit the official Crenova website for contact information.

Please retain your purchase receipt as proof of purchase for warranty purposes.

Related Documents - 890Z

	Crenova MS8233D Digital Multimeter Instruction Manual Comprehensive instruction manual for the Crenova MS8233D Digital Multimeter, detailing its features, operating instructions, technical specifications, and troubleshooting.
	Crenova A4 Laminator FNL001 User Manual User manual for the Crenova A4 Laminator, model FNL001. Provides operating instructions, safety precautions, and specifications for both hot and cold lamination.
	Crenova Trail Hunting Camera Quick User's Manual This manual provides a comprehensive guide to operating the Crenova Trail Hunting Camera, covering setup, features, testing, and troubleshooting.
	Crenova XPE496 Multimedia Home Entertainment Video Projector Quick User Guide This guide provides essential information for the Crenova XPE496 multimedia home entertainment video projector, covering safety instructions, box contents, product parts, remote control functions, setup operations, connectivity options, technical specifications, and helpful tips.