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› ESI 655 1000 Amp DC/AC Current Probe / DMM User Manual

ES 655

ESI 655 1000 Amp DC/AC Current Probe / DMM User Manual

Comprehensive instructions for safe and effective operation of your ESI 655 Clamp Meter.

1. INTRODUCTION

The ESI 655 is a 1000 Amp DC/AC Current Probe and Digital Multimeter (DMM) designed for safe and accurate high current measurements. This versatile tool combines the functionality of a clamp meter with a full-featured DMM, making it suitable for a wide range of electrical diagnostic tasks.

It features 37 test ranges, 10 test functions, overload protection, auto power off, auto-ranging, and data hold capabilities. The clamp opening is 1.5 inches, allowing for measurement on various conductor sizes.

1.1 What's in the Box

- ESI 655 1000 Amp Current Probe/DMM Unit
- Test Leads (Red and Black)
- Temperature Probe
- Carrying Case
- Battery (often included, check packaging)



Figure 1: The ESI 655 Clamp Meter shown with its test leads, temperature probe, battery, and other accessories.



Figure 2: The protective black carrying case provided for the ESI 655 Clamp Meter and its accessories.

2. SETUP

2.1 Battery Installation

1. Ensure the meter is powered off.
2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to open the compartment.
4. Insert the battery, observing correct polarity (+/-).
5. Replace the cover and secure it with the screw.

2.2 Connecting Test Leads

- For voltage, resistance, continuity, and temperature measurements, insert the black test lead into the "COM" jack.
- Insert the red test lead into the "VΩHz" jack for voltage, resistance, and frequency measurements.

- For temperature measurements, connect the temperature probe to the appropriate jacks as indicated on the meter.

3. OPERATING INSTRUCTIONS

The ESI 655 offers various measurement functions. Always ensure the correct function is selected and test leads are properly connected before taking measurements.

3.1 Power On/Off

Rotate the function dial to any desired measurement setting to power on the meter. To power off, rotate the dial to the "OFF" position. The meter also features an auto power off function to conserve battery life.

3.2 AC/DC Current Measurement (Clamp Function)

1. Rotate the function dial to the "AAC/DC" position (1000A or 400A range).
2. Press the clamp trigger to open the jaws.
3. Enclose a single conductor within the clamp jaws. Ensure the jaws are fully closed.
4. Read the current value on the display. Use the "MODE" button to switch between AC and DC current if necessary.
5. For DC current, press the "ZERO" button to nullify any residual magnetism before measurement.

3.3 Voltage Measurement (AC/DC)

1. Connect the test leads as described in Section 2.2.
2. Rotate the function dial to the "V" position.
3. Use the "MODE" button to select AC (~) or DC (---) voltage.
4. Connect the test probes in parallel to the circuit or component to be measured.
5. Read the voltage value on the display.

3.4 Resistance and Continuity Measurement

1. Connect the test leads as described in Section 2.2.
2. Rotate the function dial to the " Ω " position.
3. Use the "MODE" button to select resistance (Ω) or continuity (beep symbol).
4. For resistance, connect the probes across the component. For continuity, connect across the circuit path.
5. Read the resistance value or listen for the continuity beep.

3.5 Temperature Measurement

1. Connect the temperature probe to the designated jacks.
2. Rotate the function dial to the "°C/°F" position.
3. Place the tip of the temperature probe on the surface or in the environment to be measured.
4. Read the temperature value on the display. Use the "MODE" button to switch between Celsius and Fahrenheit.

3.6 Data Hold Function

Press the "HOLD" button to freeze the current reading on the display. Press it again to release the hold and resume live readings.

3.7 Auto-Ranging and Manual Ranging

The ESI 655 typically operates in auto-ranging mode, automatically selecting the appropriate measurement range. To

switch to manual ranging, press the "RANGE" button. Subsequent presses will cycle through available ranges. Press and hold "RANGE" to return to auto-ranging.

4. MAINTENANCE

4.1 Cleaning

Wipe the meter's casing with a damp cloth and mild detergent. Do not use abrasive cleaners or solvents. Ensure the meter is dry before storage or use.

4.2 Battery Replacement

When the low battery indicator appears on the display, replace the battery immediately to ensure accurate readings. Follow the steps outlined in Section 2.1 for battery installation.

4.3 Storage

Store the meter and its accessories in the provided carrying case in a cool, dry place, away from direct sunlight and extreme temperatures. Remove the battery if storing for extended periods to prevent leakage.

5. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed battery.	Check battery polarity or replace battery.
No reading or "OL" displayed.	Incorrect function selected, open circuit, or measurement exceeds range.	Verify function, check circuit, or switch to a higher range (if applicable).
Inaccurate readings.	Low battery, dirty test leads, or external interference.	Replace battery, clean leads, or move away from strong electromagnetic fields.
DC current reading is unstable or non-zero without current.	Residual magnetism in clamp jaws.	Press the "ZERO" button before taking DC current measurements.

6. SPECIFICATIONS

- **Model:** ESI 655
- **Measurement Type:** Multimeter, Clamp Meter
- **Current Measurement:** Up to 1000 Amp DC/AC
- **Test Ranges:** 37
- **Test Functions:** 10 (including Voltage, Resistance, Continuity, Temperature)
- **Clamp Opening:** 1.5 inches
- **Features:** Auto-ranging, Data Hold, Auto Power Off, Continuity Beep, Overload Protection
- **Power Source:** Battery Powered
- **Item Weight:** 1.2 Pounds
- **Product Dimensions:** 10 x 5.7 x 2.75 inches

7. WARRANTY AND SUPPORT

Specific warranty information for the ESI 655 is typically provided with the product packaging or can be obtained from the point of purchase. For detailed warranty terms and conditions, please refer to the documentation included with your device.

For technical support, service, or further inquiries, please contact Electronic Specialties directly or visit their official website. You can also visit the [ES Store on Amazon](#) for more information.

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