

## Sriya ETCR3200C

# Sriya ETCR3200C Double Clamp Ground Meter Test Tool User Manual

## 1. INTRODUCTION

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This manual provides comprehensive instructions for the safe and effective operation of the Sriya ETCR3200C Double Clamp Ground Meter Test Tool. This device is designed for precise measurement of grounding resistance, soil resistivity, and AC current, utilizing various test methods including the double clamp method, three-wire, four-wire, and two-wire simple tests. Please read this manual thoroughly before use to ensure proper functionality and safety.

## 2. SAFETY INFORMATION

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Always adhere to the following safety precautions to prevent injury and damage to the instrument:

- Ensure the instrument is in good working condition before each use.
- Do not operate the device in wet environments or near flammable gases.
- Verify that all test leads and connections are secure and undamaged.
- Avoid touching live circuits during measurements.
- The device features battery voltage prompt and overload protection. Pay attention to these indicators.
- Only use accessories and replacement parts specified by the manufacturer.
- Keep the instrument away from strong electromagnetic fields.

## 3. PRODUCT OVERVIEW

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### 3.1 Key Features

- Measures grounding resistance, DC resistance, AC current, and soil resistivity.
- Supports accurate test, simple test, selective test, double clamp method, three-wire, four-wire, and two-wire test methods.
- Constructed from high-quality, durable ABS material.
- Automatic shutdown after 10 minutes of inactivity to conserve power.
- Includes battery voltage prompt and overload protection for enhanced safety.
- USB interface for data upload, monitoring, saving, and printing.

- Data storage capacity for 300 groups of measurements.

## 3.2 Package Contents



Figure 1: The ETCR3200C meter, two current clamps, four grounding stakes, test leads (red, black, green, yellow), USB cable, power adapter, and a carrying bag.

The package typically includes:

- ETCR3200C Double Clamp Ground Meter
- Two Current Clamps
- Four Grounding Stakes
- Set of Test Leads (Red, Black, Green, Yellow)
- USB Communication Cable
- Power Adapter
- Carrying Bag
- User Manual (this document)

### 3.3 Instrument Layout



Figure 2: The ETCR3200C meter housed in its protective yellow case, with the lid open revealing connection diagrams for various test methods.



Figure 3: Close-up of the ETCR3200C control panel, featuring the large digital display, rotary function selector, and various control buttons (HOLD, SET, TEST, AL, CLR, READ).

The ETCR3200C features a robust design with a clear digital display, a rotary switch for function selection, and dedicated buttons for operation. The inside of the protective case lid provides quick reference diagrams for different wiring configurations.

- **Display Screen:** Shows measurement values, units, and status indicators.
- **Function Rotary Switch:** Selects measurement modes (Grounding Resistance, Soil Resistivity, AC Current, etc.).
- **Input Terminals:** Color-coded terminals for connecting test leads (E, ES, P, C, C1, C2).
- **Control Buttons:**
  - **TEST:** Initiates a measurement.
  - **HOLD:** Freezes the current display reading.
  - **SET:** Accesses settings or parameters.
  - **AL (Alarm):** Manages alarm functions.
  - **CLR (Clear):** Clears data or settings.

- **READ:** Recalls stored data.
- **USB Port:** For connecting to a computer for data transfer and monitoring.
- **Power Input:** For charging the internal battery.

## 4. SETUP

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### 4.1 Powering On/Off

- To power on, rotate the function switch from the "OFF" position to any measurement mode.
- To power off, rotate the function switch to the "OFF" position.
- The device will automatically shut down after approximately 10 minutes of inactivity.

### 4.2 Battery Charging

Connect the provided power adapter to the instrument's power input port and plug it into a suitable power outlet. The battery indicator on the display will show charging status. Ensure the device is fully charged before extended use.

### 4.3 Connecting Test Leads and Accessories

Refer to the connection diagrams located on the inside of the instrument's lid (Figure 2) for specific wiring configurations based on the desired measurement method. Ensure all connections are firm and correct before proceeding with any test.



Figure 4: Essential accessories including grounding stakes, test leads, USB cable, and power adapter, used for various measurement setups.

## 5. OPERATING INSTRUCTIONS

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The ETCR3200C supports multiple measurement methods. Always select the appropriate method for your application and ensure correct wiring.

### 5.1 Grounding Resistance Measurement

The instrument offers several methods for grounding resistance measurement:

- **Three-Wire/Four-Wire Method:** This is the standard and most accurate method.
  1. Connect the test leads and grounding stakes according to the 3-wire or 4-wire diagram on the case lid.
  2. Rotate the function switch to the "Grounding Resistance" mode.
  3. Press the **TEST** button to initiate the measurement.
  4. The result will be displayed on the screen.
- **Double Clamp Method:** Used for measuring grounding resistance without disconnecting the ground system.

1. Connect the two current clamps to the designated ports on the meter.
  2. Clamp one clamp around the grounding conductor to be tested and the other around an auxiliary grounding conductor.
  3. Select the "Double Clamp Method" on the rotary switch.
  4. Press **TEST**.
  5. The grounding resistance will be displayed.
- **Two-Wire Simple Test:** For quick checks where high accuracy is not critical.
    1. Connect the test leads as per the 2-wire diagram.
    2. Select the "2-Wire Test" mode.
    3. Press **TEST**.

## 5.2 Soil Resistivity Measurement (Quadrupole Method)

This method uses four grounding stakes (Winner method) to measure soil resistivity.

1. Drive the four grounding stakes into the ground at equal distances in a straight line.
2. Connect the test leads to the stakes and the meter's C1, P1, P2, C2 terminals according to the soil resistivity diagram.
3. Set the electrode spacing range on the meter (1m to 100m).
4. Rotate the function switch to "Soil Resistivity" mode.
5. Press **TEST**.
6. The soil resistivity value (in  $\Omega\text{m}$ ) will be displayed.

## 5.3 AC Current Measurement

The ETCR3200C can also measure AC current up to 600.0A.

1. Rotate the function switch to "AC Current" mode.
2. Open the jaws of the current clamp and clamp it around the conductor carrying the AC current.
3. The AC current value will be displayed automatically.

## 5.4 Data Storage and Communication

- The meter can store up to 300 groups of measurement data.
- Use the **READ** button to recall stored data.
- Connect the meter to a computer via the USB interface using the provided cable.
- Utilize the monitoring software (if provided by the manufacturer) to upload, save, and print data.

## 6. MAINTENANCE

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- **Cleaning:** Wipe the instrument with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the meter and its accessories in the provided carrying bag in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Battery Care:** Recharge the battery regularly, even if the device is not in frequent use, to maintain battery health.
- **Calibration:** For continued accuracy, periodic calibration by qualified personnel is recommended.

## 7. TROUBLESHOOTING

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If you encounter issues with your ETCR3200C, consider the following:

- **No Power:** Check battery charge. Ensure the function switch is not in the "OFF" position.
- **Inaccurate Readings:**
  - Verify test lead connections are secure and correct for the selected method.
  - Ensure grounding stakes are properly inserted into the ground.
  - Check for environmental interference or poor contact.
  - Consider battery level; low battery can affect accuracy.
- **"OL" or Overload Indication:** The measured value exceeds the instrument's range. Check the circuit or select a different range if available.
- **Display Issues:** If the display is blank or erratic, try restarting the device. If the problem persists, contact support.

For persistent issues not resolved by these steps, contact customer support.

## 8. SPECIFICATIONS

Parameter	Specification
Model	ETCR3200C
Measurement Methods	Grounding Resistance: Rated current pole changing method Soil Resistivity: Quadropole method (Winner method) AC Current: Clamp method
Test Frequency	128Hz/111Hz/105Hz/94Hz (AFC)
Short Circuit Test Current	AC 250mA maximum
Electrode Spacing Range	Approx. 1m ~ 100m (3.3ft ~ 328.1ft)
Grounding Resistance Range	0.00Ω ~ 30.00kΩ
Soil Resistivity Range	0.00Ωm ~ 9000kΩm
AC Current Range	AC 0mA ~ 600.0A
Measurement Time	Grounding/Soil Resistivity: Approx. 15 seconds/time
Measurement Cycles	> 5000 times (short-circuit test, 30s interval)
Communication Interface	USB interface for software monitoring and data transfer
Data Storage	300 groups (MEM storage indication, PULL symbol for full storage)
Automatic Shutdown	After 10 minutes of inactivity
Power Supply	Internal rechargeable battery
Dimensions (Package)	13.78 x 11.81 x 11.02 inches
Weight (Package)	14.79 Pounds

## 9. WARRANTY AND SUPPORT

Specific warranty details for the Sriya ETCR3200C are not provided within this document. For warranty information, technical support, or service inquiries, please refer to the product packaging, the manufacturer's official website, or contact your point of purchase.

Manufacturer: Sriya