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IDEAL 61-327

IDEAL Electrical 61-327 600V Manual Range Multimeter User Manual

Model: 61-327 | Brand: IDEAL

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of the IDEAL Electrical 61-327 600V Manual Range Multimeter. This device is designed for measuring AC/DC voltage, resistance, continuity, diodes, and testing batteries. It is a CAT III 600V rated instrument suitable for various electrical testing applications.





Figure 1.1: Front view of the IDEAL Electrical 61-327 Multimeter. This image displays the multimeter's main display, rotary dial, function buttons, and input jacks for test leads.

2. SAFETY INFORMATION

WARNING: To avoid electric shock or personal injury, read, understand, and follow all safety information and instructions before using this multimeter. Keep this manual for future reference.

- Always ensure the multimeter is in good working condition before use. Inspect test leads for damage.
- Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and ground.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect the circuit power and discharge all high-voltage capacitors before testing resistance, continuity, or diodes.
- Do not operate the meter with the case open or the battery cover removed.
- Replace batteries immediately when the low battery indicator appears to ensure accurate readings.

- This multimeter is rated for CAT III 600V. Do not use it in environments exceeding this rating.

3. PRODUCT FEATURES

The IDEAL Electrical 61-327 Multimeter offers a range of features designed for electrical professionals:

- **UL Certified CAT III 600V:** Ensures safety and reliability for AC/DC manual range measurements.
- **Measurement Capabilities:** Measures AC/DC voltage, resistance, continuity, diodes, and tests batteries.
- **Non-Contact Voltage (NCV) Sensing:** Detects AC voltage without direct contact, enhancing safety.
- **Backlit Display:** Improves visibility in poorly lit environments.
- **Built-in Probe Tip Holders:** Allows for convenient and safer measurement by securing one lead.
- **Hanging Strap Clip:** Compatible with IDEAL hanging straps (sold separately, e.g., UMHS-757) for hands-free operation.
- **Rugged Overmolding:** Enhances grip and provides drop protection.
- **Hold Function:** Freezes the displayed reading for easier recording.
- **Selectable Auto Power Off:** Conserves battery life.

4. COMPONENTS AND CONTROLS

Familiarize yourself with the main components and controls of your multimeter:





Figure 4.1: Front view of the multimeter, highlighting the display, rotary switch, and function buttons. The display shows measurement values and indicators. The rotary switch selects measurement functions. Buttons include HOLD and Backlight.



Figure 4.2: Included test leads and AAA batteries. The red and black test leads are essential for making electrical measurements. The batteries power the device.



Figure 4.3: Rear view of the multimeter, showing the battery compartment cover and safety warnings. This view also illustrates the integrated test lead storage points.

5. SETUP

5.1 Battery Installation

The multimeter requires three (3) 1.5V AAA batteries for operation. To install or replace batteries:

1. Ensure the multimeter is turned OFF.
2. Locate the battery compartment on the back of the meter (refer to Figure 4.3).
3. Use a screwdriver to loosen the screw securing the battery cover.
4. Remove the battery cover.
5. Insert three new 1.5V AAA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
6. Replace the battery cover and tighten the screw securely.

5.2 Connecting Test Leads

Always connect the black test lead to the "COM" (Common) input jack. Connect the red test lead to the "VΩ" input jack for voltage, resistance, continuity, and diode measurements. Ensure connections are firm.



Figure 5.1: The multimeter shown with its test leads and batteries, ready for initial setup. The black lead connects to COM, and the red lead connects to VΩ.

6. OPERATING INSTRUCTIONS

This section details how to perform various measurements using the 61-327 Multimeter.

6.1 Measuring AC/DC Voltage

1. Turn the rotary switch to the desired AC Voltage (V~) or DC Voltage (V=) range. Select a range higher than the expected voltage.

2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩ" jack.
3. Connect the test probes in parallel to the circuit or component you wish to measure.
4. Read the voltage value on the display.

6.2 Measuring Resistance (Ω)

1. **WARNING:** Ensure the circuit is de-energized and all capacitors are discharged before measuring resistance.
2. Turn the rotary switch to the desired Resistance (Ω) range.
3. Connect the black test lead to the "COM" jack and the red test lead to the "VΩ" jack.
4. Connect the test probes across the component where resistance is to be measured.
5. Read the resistance value on the display.

6.3 Continuity Test

1. **WARNING:** Ensure the circuit is de-energized before performing a continuity test.
2. Turn the rotary switch to the Continuity (•))) position.
3. Connect the black test lead to the "COM" jack and the red test lead to the "VΩ" jack.
4. Touch the test probes to the two points you want to check for continuity.
5. An audible tone indicates continuity (low resistance). The display will show the resistance value.

6.4 Diode Test

1. **WARNING:** Ensure the circuit is de-energized before performing a diode test.
2. Turn the rotary switch to the Diode (→|) position.
3. Connect the black test lead to the "COM" jack and the red test lead to the "VΩ" jack.
4. Connect the red test probe to the anode and the black test probe to the cathode of the diode.
5. The display will show the forward voltage drop. Reverse the probes; the display should show "OL" (Open Loop) for a good diode.

6.5 Battery Test (1.5V / 9V)

1. Turn the rotary switch to the 1.5V or 9V battery test position.
2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩ" jack.
3. Connect the red test probe to the positive terminal of the battery and the black test probe to the negative terminal.
4. Read the battery voltage on the display.

6.6 Non-Contact Voltage (NCV) Sensing

The NCV function allows for detection of AC voltage without direct contact with conductors.

1. Turn the rotary switch to the NCV position.
2. Move the top tip of the multimeter near the conductor or outlet to be tested.
3. The meter will emit an audible tone and an illuminated red LED will flash when AC voltage is detected. The display may show "EF" or similar indication.



Figure 6.1: The multimeter being used to perform a Non-Contact Voltage (NCV) test near an electrical outlet. The display shows "EF" indicating voltage detection.

6.7 Using the 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.

6.8 Using the Backlight

Press the backlight button (light bulb icon) to illuminate the display for better visibility in dark conditions. Press it again to turn off the backlight.

7. MAINTENANCE

7.1 Cleaning

Wipe the meter with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is completely dry before use.

7.2 Battery Replacement

Refer to Section 5.1 for instructions on battery installation and replacement. Always replace all three AAA batteries at the same time.

7.3 Test Lead Inspection

Regularly inspect test leads for any signs of damage, such as cuts, cracks, or frayed insulation. Replace damaged leads immediately to prevent electric shock.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries (refer to Section 5.1).
"OL" (Overload) displayed.	Measurement exceeds selected range or open circuit.	Select a higher range or check for an open circuit in the component/wiring.
Inaccurate readings.	Low battery, incorrect range selection, or damaged test leads.	Replace batteries, select appropriate range, inspect and replace test leads if damaged.
No continuity tone.	Open circuit or high resistance.	Verify the circuit is closed; check for breaks in wiring or components.


9. SPECIFICATIONS

Key technical specifications for the IDEAL Electrical 61-327 Multimeter:

- **Model Number:** 61-327
- **Measurement Type:** Manual Range Digital Multimeter
- **Safety Rating:** UL certified CAT III 600V AC/DC
- **AC Voltage:** Up to 600V
- **DC Voltage:** Up to 600V
- **Resistance:** Up to 4MΩ (4000kΩ)
- **Continuity:** Audible tone and resistance display
- **Diode Test:** Yes
- **Battery Test:** 1.5V, 9V
- **Non-Contact Voltage (NCV):** Yes
- **Display:** Backlit, 4000 Count
- **Power Source:** 3 x 1.5V AAA Batteries
- **Auto Power Off:** Selectable
- **Hold Function:** Yes
- **Dimensions:** Approximately 9.09 x 6.18 x 3.35 inches
- **Weight:** Approximately 1.1 Pounds
- **Color:** Yellow
- **Manufacturer:** Ideal Industries

DIGITAL MULTIMETERS

MEASURES VOLTAGE, AMPERAGE, RESISTANCE AND CONTINUITY

DIGITAL MULTIMETER SELECTION GUIDE	 NEW	 NEW	 NEW	 NEW
	61-357	61-347	61-337	61-327
FEATURES				
CAT Rating (Safety)	CAT IV 600V CAT III 1000V	CAT IV 600V CAT III 1000V	CAT III 600V	CAT III 600V
Listing	cULus CE, RCM	cULus CE, RCM	cULus CE, RCM	cULus CE, RCM
Drop Protection	6.6 ft. (2m)	6.6 ft. (2m)	3.3 ft. (1m)	3.3 ft. (1m)
Ingress Protection	IP52	IP52	—	—
AC Voltage (Volts)	1000V	1000V	600V	600V
DC Voltage (Volts)	1000V	1000V	600V	600V
AC Current (Amps)	10A	10A	10A	—
DC Current (Amps)	10A	10A	10A	—
Ohms (Resistance)	60M Ω	60M Ω	40M Ω	4M Ω
AC Millivolts	6000	6000	4000	—
DC Millivolts	6000	6000	4000	4000
AC Milliamps	6000	6000	4000	—
DC Milliamps	6000	6000	4000	—
AC Microamps	6000	6000	4000	—
DC Microamps	6000	6000	4000	—
True RMS	✓	✓	—	—
High Voltage Alarm	ACV/DCV >30V	ACV/DCV >30V	ACV/DCV >30V	ACV/DCV >30V
Audible Continuity	✓	✓	✓	✓
Visual Continuity	✓	✓	✓	✓
Backlight	✓	✓	✓	✓
Temperature	-40 - 1832°F -40 - 1000°C	-40 - 1832°F -40 - 1000°C	-40 - 1832°F -40 - 1000°C	—
Low Impedance (LoZ)	✓	—	—	—
NCV	✓	✓	✓	✓
Auto Ranging	✓	✓	✓	—
Range Hold	✓	✓	✓	—
Data Hold	✓	✓	✓	✓
Diode Test	✓	✓	✓	✓
Capacitance Test	6000 μ F	6000 μ F	4000 μ F	—
Frequency / Duty Cycle	10Hz - 9.99 KHz	10Hz - 9.99 KHz	10Hz - 9.99 KHz	10Hz - 9.99 KHz
Max / Min	✓	✓	—	—
Magnetic Strap Mount	✓	✓	✓	✓
Test Probe Holder	✓	✓	✓	✓
Auto-Power Off	✓	✓	✓	✓
APO Disable	✓	✓	✓	✓
Low Battery Indication	✓	✓	✓	✓
Battery Type (Included)	3 x 1.5V AAA	3 x 1.5V AAA	3 x 1.5V AAA	3 x 1.5V AAA
LCD Display Count	6000	6000	4000	4000
Lead Warning	✓	✓	✓	—
Fuse Notification	✓	✓	✓	—
Bar Graph	✓	—	—	—
Battery Test	—	—	—	✓
Warranty	2-Year*	2-Year*	2-Year*	2-Year*
Accessories				
Leads, Case & Temp. Sensor	Included	Included	Included	Leads Only
Thermocouple (Included)	TC-757	TC-757	TC-757	—

Specifications are subject to change without notice.

Figure 9.1: A comparison table of various IDEAL digital multimeters, including the 61-327, detailing their features and specifications. This table provides a quick overview of the 61-327's capabilities relative to other models.

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact IDEAL Industries directly. Refer to the official IDEAL website or the product packaging for the most current contact details.


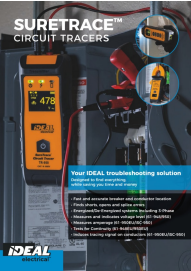


Additional resources, including a downloadable PDF user manual, may be available on the [IDEAL Store on Amazon](#) or the manufacturer's official website.





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This manual is for informational purposes only. Specifications are subject to change without notice.

Related Documents - 61-327

	<p>IDEAL 61-327 Digital Multimeter: Operation and Safety Manual</p> <p>This operation and safety manual provides detailed instructions for the IDEAL 61-327 Digital Multimeter. Learn about its features for measuring voltage, resistance, continuity, and diodes, along with essential safety guidelines for electrical work. Includes contact information for IDEAL INDUSTRIES, INC. and product specifications.</p>
	<p>IDEAL SureTrace Circuit Tracers: User Guide, Features & Model Comparison</p> <p>Discover the capabilities of IDEAL SureTrace Circuit Tracers (models 61-946EU, 61-948EU, 61-950EU, ISC-950). This guide details how to locate breakers, identify shorts, splice errors, and trace wires in walls, floors, and buried lines. Learn about advanced features like CertainCircuit™ technology and compare models.</p>
	<p>IDEAL SureTrace™ Circuit Tracers Instruction Manual: Models 61-946EU, 61-948EU, 61-950EU</p> <p>Comprehensive instruction manual for IDEAL SureTrace™ series circuit tracers (61-946EU, 61-948EU, 61-950EU). Learn to locate opens, shorts, conductor paths, identify breakers, and use the inductive clamp (ISC-950) for electrical diagnostics.</p>
	<p>Handleiding voor IDEAL SureTrace™ Kabelzoekers: Functies, Bediening en Veiligheid</p> <p>Uitgebreide handleiding voor IDEAL SureTrace™ kabelzoekers (61-946EU, 61-948EU, 61-950EU) inclusief bediening, veiligheidsrichtlijnen, toepassingen en specificaties.</p>

 <p>IDEAL SureTrace™ and SureTrace™ PLUS Circuit Tracers Instruction Manual</p> <p>61-946 61-948</p> <p>Indicaciones en español de instrucciones / Instructions en français / Instructions en anglais / Instructions en français</p>	<p>IDEAL SureTrace™ Circuit Tracer Manual: Models 61-946 & 61-948</p> <p>Comprehensive instruction manual for IDEAL SureTrace™ and SureTrace™ PLUS circuit tracers (models 61-946, 61-948). Learn to trace wires, locate breakers/fuses, find shorts, and more with these essential electrical testing tools.</p>
 <p>IDEAL IDEAL® Test and Measurement 61-535 Automatic Circuit Breaker Identifier</p> <p>Indicaciones en español de instrucciones / Instructions en français / Instructions en anglais / Instructions en français</p> <p>Producte: Delmar dte www.delmar-testers.com info@delmar.com</p>	<p>IDEAL 61-535 Automatic Circuit Breaker Identifier User Manual</p> <p>This manual provides instructions and safety information for the IDEAL 61-535 Automatic Circuit Breaker Identifier. Learn how to use the transmitter and receiver for circuit breaker identification, non-contact voltage sensing, and GFCI testing.</p>