REED

Model R5009

3-in-1 Pocket Autoranging Digital Multimeter

Instruction Manual

Table of Contents

Safety


This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.


This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present.


Double insulation

Safety Precautions

1. Improper use of this meter can cause damage, shock, injury or death. Read and understand this users manual before operating the meter.
2. Make sure any covers or battery doors are properly closed and secured.
3. Always disconnect the test leads from any voltage source before replacing the battery or fuses.
4. Do not exceed the maximum rated input limits.

INPUT LIMITS	
Function	***Maximum Input***
V DC or V AC	600V DC/AC
µA, mA AC/DC	200mA/500V fast acting Resettable Fuse
Resistance, Diode & Continuity Test	600V DC/AC

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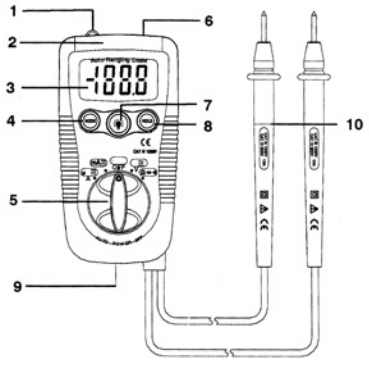
5. Take care when making measurements if the voltages are greater than 25VAC rms or 35VDC. These voltages are considered a shock hazard.
6. Always discharge capacitors and remove power from the device under test before performing Diode, Resistance or Continuity tests.
7. Remove the battery from the meter if the meter is to be stored for long periods.

Features

- Autoranging multimeter and non-contact voltage detector
- Built-in flashlight
- Diode check and continuity functions
- Auto power off and data hold
- Double molded housing and test leads
- CAT III 1000V, CAT IV 600V safety rating
- Includes test leads and batteries

Instrument Description

1. Non-contact AC voltage detector probe tip
2. Non-contact AC voltage indicator light
3. 3 1/2 Digit (2000 count)
4. MODE button
5. Function switch
6. Flashlight
7. Flashlight button
8. Data Hold button
9. Battery Cover
10. Test leads



Specifications

Range:	AC: 2, 20, 200, 600V DC: 200mV, 2, 20, 200, 600V
Accuracy:	AC: 2,20V ±(1.0% rdg + 3 dgt.) 200, 600V ±(2.3% rdg + 10 dgt.) DC: mV±(0.5% rdg + 3 dgt.) V±(1.2% rdg + 3 dgt.)
Resolution:	AC: 1, 10, 100mV, 1V | DC: 0.1, 1, 10, 100mV, 1V
Range:	200, 2000µA, 20, 200mA
Accuracy:	AC: ±(2.5% rdg + 10d) | DC: ±(2.0% rdg + 8d)
Resolution:	0.1, 1, 10, 100µA
Range:	200Ω, 2, 20, 200kΩ, 2, 20MΩ
Accuracy:	200.0Ω ±(0.8% rdg + 5d) 2.000, 20.00, 200.0kΩ ±(1.2% rdg + 5d) 2.000MΩ ±(5.0% rdg + 5d) 20.00MΩ ±(10.0% rdg + 5d)
Resolution:	0.1, 1, 10, 100Ω, 1, 10kΩ
Display:	2,000 count LCD display
Display Hold:	Yes
Relative Mode:	Yes
Diode Test:	Yes
Continuity Check:	Audible signal if resistance ≤150Ω
Voltage Detector:	Yes
Built-in Flashlight:	Yes
Auto Power Off:	Yes (after 15 minutes)
Power Supply:	2 "AAA" Batteries
Low Battery Indicator:	Yes
Overvoltage Category:	CAT III 1000V, CAT IV 600V
Product Certifications:	CE
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	14 to 122°F (-10 to 50°C)
Dimensions:	4.1 x 2.2 x 1.3" (104 x 55 x 32.5 mm)
Weight:	5.2 oz (145 g)

Operating Instructions

AC/DC Voltage Measurements

CAUTION: Do not measure AC/ DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

1. Set the function switch to the green V position.
2. Press the MODE button to indicate “DC” or “AC” on the display.
3. Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
4. Read the voltage in the display.

DC/AC Current Measurements

1. Set the function switch to the µA/mA position.
2. For current measurements up to 2000µA DC/AC, set the function switch to the mA position
3. Press the MODE button to indicate “DC” / “AC” on the display.
4. Remove power from the circuit under test, then open up the circuit at the point where you wish to measure current.
5. Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
6. Apply power to the circuit.
7. Read the current in the display

NOTE: 0.2A/500V fast acting resettable fuse current inputs and overload protection on mA, µA ranges. No replacement required.

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Resistance Measurement

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.

1. Set the function switch to the Ω position.
2. Press the MODE button to indicate Ω on the display.
3. Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
4. Read the resistance in the display

Continuity Check

WARNING: To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

1. Set the function switch to the Ω position.
2. Press the MODE button to indicate on the display
3. Touch the test probe tips to the circuit or wire you wish to check.
4. If the resistance is less than approximately 150Ω, the audible signal will sound. If the circuit is open, the display will indicate “OL”.

Diode Test

1. Set the function switch to the Ω position.
2. Press the MODE button to indicate on the display.
3. Touch the test probes to the diode under test. Forward voltage will typically indicate 0.400 to 0.700V. Reverse voltage will indicate “**OL**”. Shorted devices will indicate near 0V and an open device will indicate “**OL**” in both polarities.

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Non-Contact AC Voltage Measurements

WARNING: Risk of Electrocution. Before use, always test the Voltage Detector on a known live circuit to verify proper operation.

1. Touch the probe tip to the hot conductor or insert into the hot side of the electrical outlet.
2. If AC voltage is present, the detector light will illuminate.

NOTE: The conductors in electrical cord sets are often twisted. For best results, rub the probe tip along a length of the cord to assure placing the tip in close proximity to the live conductor.

NOTE: The detector is designed with high sensitivity. Static electricity or other sources of energy may randomly trip the sensor. This is normal operation.

Hold Button

The data hold function allows the meter to "freeze" a measurement for later reference.

1. Press the "**DATA HOLD**" button to "freeze" the display, the "**HOLD**" indicator will appear.
2. Press the "**DATA HOLD**" button to return to normal operation.

Flashlight

Press and hold the top button to turn the flashlight on. Release the button to turn the flashlight off.

AUTO POWER OFF

The auto off feature will turn the meter off after 15 minutes.

Battery Replacement

1. Make sure the meter is turned off.
2. Remove the bottom cover and screw.
3. Replace old battery with new batteries.
4. Replace the bottom cover and screw.

Fuse Replacement

1. Disconnect the test leads from the meter.
2. Remove the test leads holder and top cover one screw.
3. Pull the pcb.
4. Lift the center circuit board straight up from the connectors to gain access to the fuse holders.
5. Gently remove the old fuse and install the new fuse into the holder.
6. Always use a fuse of the proper size and value (0.2A/250V fast blow for the 200mA range).
7. Align the center board with the connectors and gently press into place.
8. Replace and secure the rear cover and screw.

For service or information on this or any other REED product, contact REED Instruments at info@reedinstruments.com.