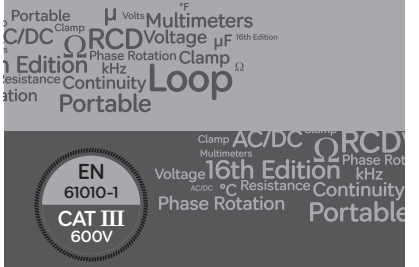
Di-LOG
...measurably better

operating manual

3-in-1 Multitester

DL114



Safety Notices

This manual contains information that must be followed for operating the meter safely and maintaining the meter in a safe operating condition. If this meter is not used in the manner specified, the protection provided may be impaired.

Warning! Warns of potential danger, refer to the instruction manual to avoid personal injury or damage to the meter.

Caution! Dangerous voltage. Danger of electrical shock

Continuous double or reinforced insulation complies with IEC536, class II

Symbol of conformity, confirms conformity with relevant EU directives. The meter complies with EMC directives (89/336/EEC). Specifically standards EN 50081-1 and EN 50082-1 as well as the Low Voltage Directive (73/23/EEC) described in the standard EN 61010-1.

The meter has been designed in accordance with the safety regulations for electronic measuring instruments, EN 61010-1, IEC 61010

Voltages above 75V DC or 50V AC may constitute a serious shock hazard.

Before using the meter check for physical damage to the casing in particular around the connectors. If the case is damaged do not use the meter.

Check the test leads for damaged insulation or exposed metal. Check the leads for continuity. Replace damaged leads with identical model or specification before using the meter.

Where applicable use GS38 approved leads (not supplied) these are available from Di-LOG. When using test leads keep fingers behind the finger guards.

Do not apply more than the rated voltage, as marked on the meter between the terminals or between any terminal and ground.

Before making a measurement ensure that the rotary switch is set to the appropriate range. Do not turn the rotary switch whilst making a measurement.

Use the appropriate terminals, function and range for your measurements. If the value to be measured is not known use the maximum measurement position and reduce the range step by step until a satisfactory reading is obtained.

Do not use or store the meter in an environment of high temperature, humidity, fumes, vapour, gaseous, inflammable and strong magnetic field. The performance and safety of the use may be compromised in such circumstances.

Disconnect circuit power and discharge all high voltage capacitors before testing resistance, continuity, diodes, capacitance or current.

Before measuring current check the meters fuses and turn off power to the circuit before connecting the meter to the circuit.

Replace the battery as soon as the low battery indicator appears. If the battery is low the meter may give false readings.

Turn the meter power off when not in use,. Remove the battery if the meter is in use for a long period. Constantly check the battery as it may have leaked. A leaking battery will damage the meter.

The meter may only be opened by a qualified service technician for calibration and repair.

Features

- 3-1/2 digit (4000 count) LCD display
- Built-in non-contact AC voltage detector plus torch
- Double Molded housing
- CAT III 1000V
- 200mA/500V Resettable Fused current inputs and Overload protection on all ranges
- Autoranging with auto power off

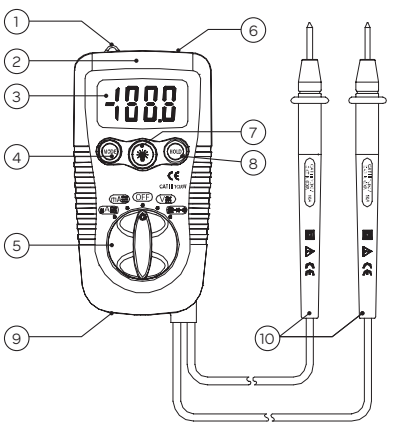
Input Limits

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

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

Meter Description

1. Non-contact AC voltage detector probe tip
2. Non-contact AC voltage indicator light
3. 3 1/2 Digit (4000 count)
4. MODE button
5. Function switch
6. Torch
7. Torch button
8. Data Hold button
9. Battery Cover
10. Test leads



Warranty & Maintenance

24 Month Warranty

Di-Log instruments are subject to stringent quality controls. If in the course of normal daily use a fault occurs we will provide a 24 month warranty (only valid with invoice).

Faults in manufacture and materials defect will be rectified by us free of charge, provided the instrument has not been tampered with and returned to us unopened.

Damage due to dropping abuse or misuse is not covered by the warranty.

Outside the warranty period we offer a full repair and re-calibration service.

Maintenance

WARNING Do not attempt to repair or service your meter unless you are qualified to do so and have the relevant calibration, performance test and service information. To avoid electrical shock or damage to the meter do not get water inside the case.

Periodically wipe the case with a damp cloth and mild detergent. Do not use chemical solvent.

Clean the input terminals with cotton bud, as dirt or moisture in the terminals can affect readings.

Di-Log Test Equipment

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fax: + 44 161 877 1614
email: sales@dilog.co.uk
website: www.dilog.co.uk

Specifications

Electrical Specifications

Function	Range	Accuracy
DC Voltage	200mV	± (0.5% rdg + 3d)
	2.000V, 20.00V, 200.0V, 600V	± (1.2% rdg + 3d)
AC Voltage 40-400Hz	2.000V, 20.00V	± (1.0% rdg + 8d)
	200.0V, 600V	± (2.3% rdg + 10d)
DC Current	200.0µA, 2000µA	± (2.0% rdg + 8d)
	20.00mA, 200.0mA	
AC Current	200.0µA, 2000µA	± (2.5% rdg + 10d)
	20.00mA, 200.0mA	
Resistance	200.0Ω	± (0.8% rdg + 5d)
	2.000kΩ , 20.00kΩ, 200.0kΩ	± (1.2% rdg + 5d)
	2.000MΩ	± (5.0% rdg + 5d)
	20.00MΩ	± (10.0% rdg + 5d)

Max input voltage	600V AC/DC
Diode Test	Test current 1mA max., open circuit voltage of 1.5V typical
Continuity Check	Audible signal if the resistance is <150Ω
Display	2000 count 3 -1/2 digit LCD
Over range indication	LCD displays "OL"
Polarity	Minus (-) sign for negative polarity
Low Battery Indication	"BAT" symbol indicates low battery condition
Input Impedance	>7.5MΩ (VDC & VAC)
AC Response	Average responding
ACV Bandwidth	50Hz to 400Hz
Auto Power Off	15 minutes (approximately)
Fuse	mA, µA ranges; 0.2A/500V fast acting Resettable Fuse
Batteries	Two 1.5V AAA
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	14°F to 122°F (-10°C to 50°C)
Weight	145g
Size	104x55x32.5mm
Standard	IEC1010 CAT III 1000V Pollution degree II, CE Approved

Operation

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 V position.
2. Press the MODE button to indicate "DC" or "AC" on the display.
3. Connect the black test probe tip to the negative side of the circuit.
   Connect 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 200mA DC/AC, set the function switch to the **µA/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. Connect the black test probe tip to the negative side of the circuit.
   Connect 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.

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. Connect 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. Connect 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

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. Connect 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.

TORCH

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

AUTO POWER OFF

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

REPLACING THE BATTERY

1. Remove the bottom cover and secure the screw.
2. Replace old battery with fresh Two 1.5V AAA type battery.
3. Replace the bottom cover and secure the screw.