

Di-LOG

...measurably better

DL107 - Voltage Detector



Instruction Manual

CAT IV
1000V

24 - 1000V AC Voltage Detector
with High/Low Sensitivity

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Certificate of conformity

As the manufacturer of the instrument listed below, we declare under our sole responsibility that the product:

Di-LOG DL107 - Voltage Detector

to which this declaration relates is in conformity with the relevant clauses of the following standards:

EN 61010-1
EN 61010-2-030
EN 61326-1
EN 61326-2-2
LVD & EMC

The performance of this instrument operates within its specification when used under the conditions in the above safety and EMC standards.

The product identified above conforms to the requirements of council directive 89/336/EEC and 73/23 EEC.

I. Overview

The DL107 is a non-contact voltage detector with a built-in flashlight and audible/optical alarm function. The CAT IV 1000V safety class ensures user safety, making it an essential tool for the electrical industry.

Low voltage mode (24V AC - 1000V AC)

Suitable for testing low-voltage motors (< 90V) , audio systems, arc welding machines, cables with a thick insulation layer, and other weak electromagnetic AC signals.

High voltage mode (90V AC - 1000V AC)

For detecting domestic electric supply and three-phase systems. For example, power distribution units, electrical panels, and electrical appliances.

II. Safety Notices

1. Please carefully read and fully understand the warnings and operating instructions before use. If the instrument is used in a manner not specified by the manufacturer, the protection provided by the instrument may be impaired.
2. Please test the detector on a known live source within the rated AC voltage range before use.
3. If the detector appears damaged or is not working properly, stop using it immediately.
4. Do not detect voltage higher than 1000V.
5. Use caution when working with voltages above AC 30Vr.m.s, 42Vpeak or DC 60V. Such voltages pose a shock hazard. Clean the tester casing with a damp cloth and mild detergent. Do not use abrasives or solvents!

II. Safety Notices (continued)

6. There may still be voltage even when no audible/optical alarm is on.
7. The insulation type, conductor thickness, distance from voltage source, shielded conductors, other cables, socket design, and other factors may adversely affect test result. If there are any uncertainties, please use other methods to verify the voltage.
8. Do not assume neutral or earth wire is safe to touch. Incorrect or poorly connected circuits may cause conductors to be charged.
9. When low battery indication appears, please replace the batteries.
10. When using the detector, please keep fingers behind the finger guard before the clear detector head and do not cover.
11. Comply with local and national safety regulations and requirements.
12. The detector will not detect any voltage if:
 - a. The conductor is shielded.
 - b. The operator is not in contact with the ground or isolated from an effective grounding point.
 - c. The voltage is DC.
13. The detector may not detect any voltage if:
 - a. The operator does not hold the detector.
 - b. The operator is wearing gloves.
 - c. The conductor under test is partially buried or in earthed metal conduit.
 - d. The magnetic field generated by the voltage source is blocked, suppressed or interfered with.
 - e. The frequency of the voltage being detected is not a perfect sine wave and may be distorted by harmonics
 - f. The detector is used outside of the operating specifications (see Technical Specifications for details)

III. Instrument Symbols

Symbols displayed on the instrument and in the instruction manual:



Warning! Warns of potential danger, and to comply with the instruction manual.



Caution! Dangerous voltage, potential risk of electrical shock.



Continuous double or reinforced insulation complies to IEC 536, Class II

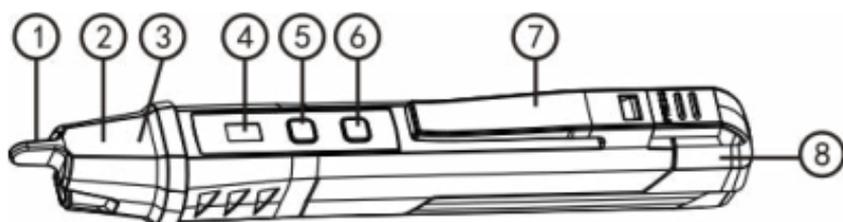


Symbol of conformity, confirms conformity with relevant EU directives. The instrument complies with the EMC Directive (89/336/EEC) specifically standards EN 50081-1 and EN 50082-1, as well as the Low Voltage Directive (73/23/EEC) described in the standard EN 61010-1.

IV. DL10x Series Specification

DL10x Series Voltage Detector Specification		
	DL107	DL108
Detection voltage range	Low: 24V - 1000V AC	
	High: 90V - 1000V AC	
Frequency range	50Hz/60Hz	
Operation mode	Automatic Indication	
Vibration mode	N/A	✓
LED flashlight	✓	
Audible and visual indication	✓	
Auto power off	About 5 minutes	
Low battery indication	≤ 2.4V	
IP rating	N/A	IP67
Drop tested	1M	2M
Safety rating	CAT IV 1000V Double Insulated	
Operating temperature	0°C - 40°C	
Storage temperature	-20°C - 50°C	
Relative humidity	≤80% non-condensing	
Dimensions	150mm x 18mm x 23mm	160.5mm x 21.5 mm x 25mm
Weight (net)	50g	72g
Power supply	2 x 1.5V (RO3) AAA (supplied)	

V. Display and Controls



1. Non-contact voltage sensor
2. LED Flashlight
3. LED for Voltage Indication
4. High/Low mode status indicator light
5. Power button
6. Flashlight On/Off button
7. Pocket clip
8. Battery case cover

1. Operating Instructions

Turning the detector on

With a short press of the power button, the buzzer will beep twice and the red indicator display on the panel will illuminate, indicating that the detector is on and ready for use. The default AC voltage detection range is set to high (90 - 1000V).

Turning the flashlight on/off

A short press of the flashlight button will turn the flashlight on/off. The flashlight will automatically turn off when the detector is not used for 5 minutes.



Note: Please unplug other electrical devices connected to the socket before detection.

AC voltage detection

Place the sensor head near the test object or the power socket with AC voltage. When AC voltage is detected, the red LED located within the sensor head will flash and an audible buzzer will sound. Audible buzzer and sensing LED frequencies increase when detector gets closer to the test object.

Detection range selection

a) When the detector is switched on, the default setting is pre programmed to high voltage mode, with a detection range of 90-1000V. The red indicator light on the display panel will illuminate.

b) With an additional short press of the power button, the red indicator light will switch to green, and the device will switch to low voltage mode, with range of 24-1000V.

In low voltage mode, the detector is more sensitive to electrical interference/noise. Please only use the low voltage mode when detecting weak electromagnetic field.

Auto power off

The detector will auto power off when it is not used for 5 minutes.

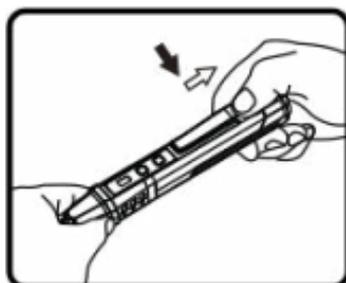
Turning the detector off manually

A long press of the power button for 2 seconds will turn the detector off.

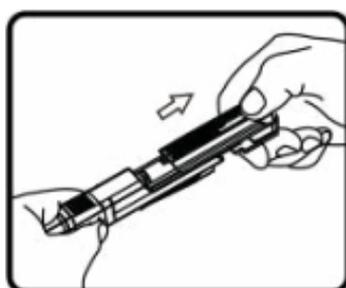
Low battery indication

When the battery voltage is lower than 2.4V, the detector will automatically shut down.

2. Battery Replacement



1. Hold the detector with one hand, use the thumb of your other hand to press down on the battery compartment latch, and pull the end of the detector.



2. Pull out the end of the detector in the direction shown in the above picture and replace the batteries according to the polarity indicated on the instrument.

Re-fit the battery cover once complete making sure the latch clicks back into place.



Do not mix old and new batteries.
Do not mix alkaline, standard (Zinc Carbon), or rechargeable (Ni-Cad, Ni-Mh, etc) batteries.

3. 24 Month Warranty

Di-LOG instruments are subject to stringent quality controls. If in the course of normal daily use a fault occurs we provide a 24 month warranty (only valid with proof of purchase). Faults in manufacture and material defects 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 are not covered by the warranty.

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