

DIGITAL VOLTAGE INDICATOR

User Manual





Before using the instrument, please read this manual carefully, and save for future reference.

The instrument manual contains warning and safety rules which have to be observed by the user to ensure safe operation of the instrument and to maintain it in safe condition. Therefore read through these operating instructions before use.

Warning. Is dedicated for conditions and actions that are likely to cause serious or fatal injury. Caution.

Is reserved for conditions and actions that can cause injury or instrument damage. It is essential that the above instructions are followed to. Failure to follow the above instructions may cause injury, instrument damage and / or damages to test equipment.

- Never make measurement on circuit in which the electrical potential exceeds 690V. When the voltage exceeds 690V the voltage display LED will light up.
- After measuring AC/DC voltage source for 3 minutes, the tester must be left to rest for 1 minute.
- Do not attempt to make measurement in the presence of flammable gasses, as the use of the voltage tester may cause sparking, which could lead to an explosion.

- Never attempt to use the instrument if its surface or your hands are wet.
- Keep your hands and fingers behind the barriers during the measurements.
- Never unlock and open the battery case during measurements.
- Verify proper operation on known source before using or taking action as a result of indication after use.
- Never attempt to make measurements if any abnormal conditions, such as a broken case or exposed metal parts are present on the instrument or test probe.
- Do not make any modification to the instrument.
- Extreme caution when live circuit LED flashes or lights on.
- Correct indication of LEDs is only guaranteed within a temperature range of -10°C up to 55°C <85% RH max.

	Always check the proper operation of the device on known working circuits before use, if in doubt contact a qualified electrician before use.
A	Caution! dangerous voltage. Danger of electrical shock
~	Alternating current
	Direct current
N	Both direct and alternating current
\mathbb{A}	Suitable for working on live circuit

Physical Appearance



Auto-power test

Short circuiting the probes as follows powers on the instrument automatically and goes into self diagnostic test.



Instrument may power on when replacing tips or due to the effect of static charge.

Self diagnostic test

Battery voltage is normal when Power LED is lighting up when battery voltage is below 2.4 +/- 0.1V Power LED flashes or goes off, replace batteries.

Handy construction

Diameter of pitch between tips are changeable by the user.

Voltage test (double pole test)

- Connect both probes to the object under test.
- The voltage is indicated by LED and LCD display.



Voltage polarity is indicated in the following manner:



NOTE: when the L2 probe + is the positive (negative) potential, polarity indication LED indicated +DC (-DC).

High voltage indication

Grasp the instrument firmly and connect both probes to the object under test. Live circuit LED lights up when a voltage of approx. 50V AC or more exists in the testing object.



Phase rotation test

L LED and R LED for phase test rotation may operate on various wiring systems, but effective testing result can be obtained only on three phase 4 wire system. Grasp the instrument firmly and connect both probes to the object under test. Phase to phase voltage is indicated by each voltage LED. L LED lights up for left rotary field.



Continuity test

Warning. 🛕

Make sure that the test object isn't live check UUT is not live by carrying out a double pole voltage test.

LED RX/Ω should be lighted and buzzer should sound continuously.

NOTE: In continuity mode the instrument works in the same way as the self diagnostic test.

Penlight function

This voltage tester is equipped with a built in LED light to illuminate the measurement point in dimly conditions. Pressing the penlight switch turns on the light.

Battery replacement

Replace the battery when power LED flashes or goes off at self diagnostic test. Unlock the battery case with a coin shaped object. Pull out the battery case and replace the batteries. Insert the new batteries according to the polarity engraved on the battery case. Insert the battery case into the instrument and firmly lock the case again.



CLOSE

OPEN



Confirm that the battery case is properly locked prior to any measurement.

- When batteries have leaked, the device must not be used any longer. Before you can use it again, it must be checked by our customer service.
- Never try to dismantle a battery cell! The electrolyte in the cell is extremely alkaline and electro conductive. Risk of alkali burns, if electrolyte comes into contact with your skin or clothing, these spots must be rinsed with water immediately. If electrolyte got into your eye(s), rinse with water immediately and seek medical assistance.
- Please consider your environment when you dispose of your one-way batteries or accumulators. They belong in a rubbish dump for hazardous waste. In most cases, the batteries can be returned to their point of sale.
- Please comply with the respective valid regulation regarding the return, recycling or disposal of used batteries and accumulators.



Specification

Capacitance			
LED voltage range	12-690V		
LED resolution	12 / 24 / 50 / 120 / 230 / 400 / 690V		
Tolerance	7 ± 5V (12V) 18 ± 5V (24V) 37.5 ± 5V (50V) 75% ±5% (120 / 230 / 400 / 690V)		
Response time	<0.5s LED		
LCD voltage range	7 - 690V		
Polarity detection	Full range		
Range detection	Automatic		
Response time	<1s at 90% of each voltage		
Frequency range	0 - 70Hz		
Operation time	3 minutes		
Recovery time	1 minute		
Auto power	on		
Double-pole phase voltage range	12-690V AC/DC		
Accuracy (23 ± 5°C)	± (3% +3) or 5V (LCD)		
Test current	«3.5mA		
Continuity range	0~550kΩ		
Over voltage protection	CATIII 690V / CATIV 600V		
Rotary field indication voltage range (LEDs)	12-690V		
Power consumption	Approx. 33mA (battery 3V, measuring 690V AC)		
Temperature storage range	-20~60°C no condensation		
Pollution degree	2		
Protection degree	IP64		
Safety complying with	EN 61010-1 / EN 61243-3 / CATIV 600V		
Weight	184g (not included packaging and batteries)		

Phase rotation test		
System	Three-phase system AC 50 x 60Hz	
Phase range	120 ±5 degree	

Maintenance

When using tester in compliance with the instruction manual, no particular maintenance is required. If functional errors occur during normal operation, stop using it and contact your nearest authorized service centre. If the device is not used for an extended period of time, the batteries must be removed to prevent the risk of leaking batteries and damage to the device.

Cleaning

Prior to cleaning, remove voltage tester from all measurement circuits, if the instrument is dirty after daily usage, it is advisable to clean by using a damp cloth and a mild household detergent. Never use acid detergents or solvents for cleaning. After cleaning, do not use the voltage tester for a period of approx 5 hours.

Measuring circuit category CATIII

In addition to category II, the measuring circuit category III includes electric equipment subject to special demands with reference to safety and availability. Examples: house installations, protective equipment, outlets, switches, etc.

Measuring circuit category CATIV

Electric equipment for which lighting voltage must also be taken into consideration, belongs to category IV. This includes the connection to overhead circuits, underground cables to water pumps.

Ingress protection rating

Ingress protection ratings are used to specify the environmental protection, electrical enclosure of electrical equipment.

IP rating - first number - protection against solid objects, second number - protection against liquids AHVOLT1 is protected against dust and against water spray.

1. EN 61010-1 2. EN 61243-3 3. EN 61010-2-033 4. EN 61000-6-1 5. EN 61000-6-3 6. EN 61326-1 7. ROHS directive

Limited warranty

1 year warranty against any manufacturing defects or faulty workmanship. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination or abnormal conditions of operation or handling.



WEEE Directive 2012/19/EU At the end of the product life, dispose of the instrument & batteries in a corresponding recycling centre. Do not dispose of the unit with the usual domestic refuse.

Do not burn the product.



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