AC-tiveMaster Digital

Laserliner®
Innovation in Tools

Read the operating instructions and the enclosed brochure „Guarantee and additional notices“ completely. Follow the instructions they contain. Safely keep these documents for future reference.

Function/Application

Voltage and continuity tester for automatic measurement of AC (alternating current) and DC (direct current) voltages. The device can be used to perform a single-phase test and a rotating field test while also indicating the phase direction. The information is indicated by means of an LED display and an acoustic signal.

Safety instructions

- The device must only be used in accordance with its intended purpose and within the scope of the specifications.
- Before every measurement make sure that the area to be checked (e.g. line) and the tester are in perfect operating condition. Test the device by connecting it to known voltage sources (e.g. a 230 V socket in the case of AC testing or a car battery in the case of DC testing). Stop using the device if one or a number of its functions fails.
- If you are working with voltages higher than 25 V AC/60 V DC, exercise extreme caution. Touching the electrical conductors at such voltages poses a risk of life-threatening electric shocks. Take particular care if the 50V warning LED is on.
- Do not use the device in environments in which there are con-ductive particles or where the occurrence of moisture (in the form of condensation, for example) can create transient conductivity.
- If the device comes into contact with moisture or other conductive residue, work must not be carried out under voltage. At and above voltages of 25 V AC/60 V DC, the presence of moisture creates the risk of life-threatening electric shocks. Clean and dry the device before use. When using the device outdoors, make sure that the weather conditions are appropriate and/or that suitable protection measures are taken.
- If you are taking measurements in the hazardous vicinity of electrical installations, do not work alone and seek guidance from an electrically skilled person before starting work.

- Isolate the device from all current sources before opening the battery compartment cover.
- The device must not be connected to voltages for longer than 30 seconds.
- Hold the device by the grip sections only. Do not touch the test prods during measurement.
- If possible, do not work alone.
- Use the device only in the correct overvoltage category (without protective cover CAT II 1000 V; with protective cover CAT III 1000 V + CAT IV 600 V)

Symbols

Hazardous electrical voltage warning: Unprotected live components inside the device housing may pose a risk of electric shock.

Danger area warning

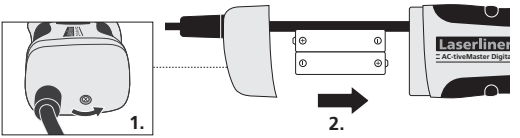
Protection class II: The test device has reinforced or double insulation.

CAT II Overvoltage category II: Single-phase consumers that are connected to standard sockets, e.g. household appliances, portable tools.

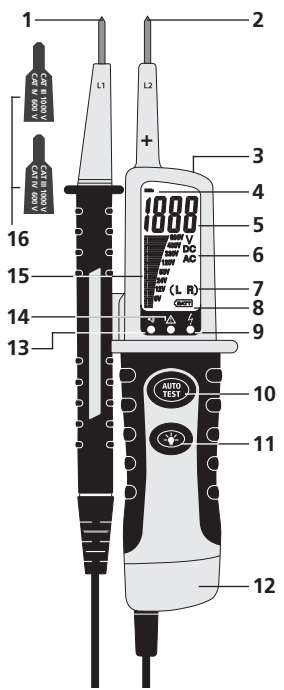
CAT III Overvoltage category III: Equipment in fixed installations and for applications where specific requirements with regard to the reliability and availability of equipment have to be met, e.g. circuit-breakers in fixed installations and devices used in industrial applications which are permanently connected to the fixed installation.

CAT IV Overvoltage category IV: Devices such as electricity meters, overcurrent circuit breakers and ripple-control units, which are intended for use at or near the infeed into the electrical installation of buildings, and specifically from the main distribution to the supply system.

1 Insertion of batteries



! The device is ready for use immediately once the batteries have been inserted. It does not have a separate ON/OFF switch and is therefore always active. As from a measuring voltage of 50 V, the device operates in emergency mode even without batteries.



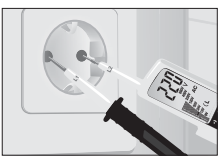
1 Test prod -
2 Test prod +
3 Flashlight
4 Polarity indicator
5 Numerical display
6 Voltage type AC/DC
7 Rotary field direction left/right
8 Low battery charge
9 LED phase indicator, single-pole voltage test
10 Autotest
11 Flashlight ON/OFF
12 Battery compartment
13 LED continuity test
14 Voltage warning > 50 V
15 Bar graph display
16 Protective covers for CAT III - 1000 V / CAT IV - 600 V

2 Functional test/Self-test

- Test the voltage tester by applying it to familiar voltage sources
- Connect test prods (1) and (2). The LED for the continuity test (13) lights up and a signal sounds.
- Press the „AUTOTEST" button. On successful completion of the test, the LEDs for the continuity test (13) as well as all segments of the bar graph light up and a signal sounds.

3 Voltage test

! To achieve the protection class CAT III 1000 V and CAT IV 600 V the protective covers must be placed over the test prods.



Hold the base device (+) in your right hand and the second test prod (-) in your left hand. Now apply the test prods to the contacts to be tested (line, socket, etc.).

- The voltage tester is automatically active as from a voltage of > 4.5 V and shows the measured voltage both numerically and as a bar graph.

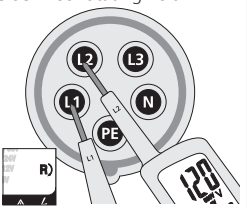
4 Single-pole phase test

- Make contact with the conductor to be tested with test prod L2, L1 remains free during the measurement. The LED (9) will light up if an AC voltage is applied on the conductor.
- The single-pole phase test can only be performed with fully charged batteries inserted.
- The single-pole phase test can be carried out as from an AC voltage of approx. 100 V AC.
- When the single-pole phase test is carried out on the outer conductor, the indicator function may be adversely affected under certain conditions (e.g. when insulating personnel protective equipment is used or at insulated locations).

! The single-pole phase test is not suitable for checking for zero voltage. To do this, you need to carry out a two-pole phase test.

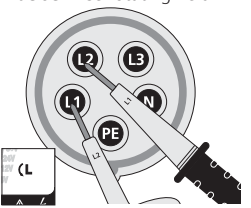
5 Determining the direction of the rotating field

Clockwise rotating field



If the symbol **R** (7) appears in the display, this means that the presumed phase L1 is actually phase L1 and the presumed phase L2 is actually phase L2.

Anticlockwise rotating field



If the symbol **L** (7) appears in the display, this means that the presumed phase L1 is actually phase L2 and the presumed phase L2 is actually phase L1.

! When you crosscheck this by switching round the test prods, the opposite symbol should light up instead.

6 Battery lamp

To switch on the battery lamp, press and hold down button 10. The light switches itself off automatically as soon as the button is released.

7 Calibration

The voltage tester needs to be calibrated and tested on a regular basis to ensure it produces accurate measurement results. We recommend carrying out calibration once a year.

EU directives and disposal

This device complies with all necessary standards for the free movement of goods within the EU.

This product is an electric device and must be collected separately for disposal according to the European Directive on waste electrical and electronic equipment.

Further safety and supplementary notices at:
www.laserliner.com/info

Technical data	
Voltage range	12, 24, 36, 50, 120, 230, 400, 690 V AC/DC
LC display / resolution	3.5 places, 1999 digits / 1 V AC/DC
Tolerance	-30%…0% of reading
Tolerance, num. display	V DC: +1.0% of reading +3 digits V AC: +1.5% of reading +5 digits
Voltage detection	Automatic
Polarity detection	Entire range
Range detection	Automatic
Response time	2-3 seconds
Frequency range	50/60Hz
Peak current (AC/DC)	<=(3 mA/2.5 mA)
ON time	ON time = 30 s/10 min.
Single-pole phase test	
Voltage range	100 to 690 V AC
Frequency range	50/60 Hz
Continuity test	
Resistance range	< 300 kΩ
Testing current	<5µA
Overvoltage protection	690 V AC/DC
Indication of rotating field direction	
Voltage range (LEDs)	100 to 400 V
Frequency range	50/60 Hz
Power supply	2x 1.5 Type AAA, LR03, alkaline
Operating temperature	-10°C ... 55°C
Humidity	Max. 85% relative air humidity
Overvoltage category	CAT II 1000 V with protective cover: CAT III - 1000 V / CAT IV 600 V
Pollution degree	2
Degree of protection	IP64
Weight	230 g
Test standards	EN 61243-3; EN 61326

Subject to technical alterations. 12.11.

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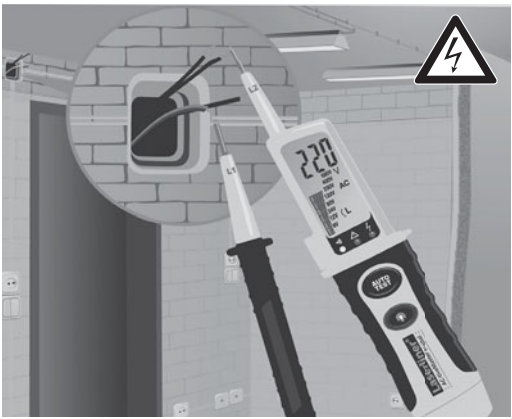

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