



# User Manual

Code: UT-593

MULTIFUNCTION METER FOR ELECTRICAL INSTALLATIONS **UT-593** UNI-T

## Warning!

Please read the user manual included in this work as it contains important information related with safety of installation and use of the device.

Only persons who read the user manual may use the device.

The user manual must be kept because it may be required in the future. The device is to be used exclusively for purposes specified in this user manual.

The device must be unpacked prior to starting-up. After removing the packaging make sure the device is in working order.

If the product has defects, it should not be used until it is repaired.

The product is intended for use at home and commercial use and may not be used for other than intended use.

The manufacturer is not liable for damages resulting from not adhering to the rules contained in the user manual, therefore, we recommend to follow the aforementioned safety rules for operation and maintenance of the device. In this way you will ensure yourself safety and avoid causing damage to the device.

The manufacturer and the supplier are not liable for losses or damages arising out of the product, including financial or intangible losses, loss of profits, income, data, pleasure from use of the product or other products related with it - indirect, incidental or consequential loss or damage. The above provisions apply whether the loss or damage concerns:

1. Deterioration of quality or the lack of operation of the products or products related with it due to damage as well as the lack of access to the product when it is undergoing repair, which results in stoppage the loss of user's time or a break in business activity;
2. Improper results of operation of the product or products related with it;
3. It applies to losses and damages according to any legal category, including negligence and other losses, termination of a contract, expressed or implied guarantee and strict liability (even if the manufacturer or the supplier was notified about the possibility of occurrence of such damages).

### Safety measures:

Particular attention at designing was directed to quality standards of the device where ensuring safety of operation is the most important factor.

The device must be secured against contact with caustic, staining and viscous fluids.

The device was designed in such a way that it restarts operation when power supply is restored after a break.

**Attention! We recommend using protections to further protect the device from possible overvoltages in installations. Surge protectors are effective protection against accidental pass to the device voltages higher than the rated. Damages caused by pass the voltages higher than specified in manual, are not under warranty.**

Turn off the device before transporting it.

Prior to connecting the device to a power source check whether the supplied voltage is consistent with rated voltage specified in the user manual.

### Proper product disposal:

A marking of a crossed out waste bin indicates that the product may not be disposed together with other household waste in the entire EU. To avoid possible damage to the natural environment of health due to uncontrolled waste disposal, therefore, it should be handed over for recycling, propagating in this way sustainable use of natural resources.

To return a worn-out product, use a collection and disposal system of this type of equipment or contact a seller from whom it was purchased. He will then be recycled in an environmentally-friendly way.

The UT-593 is a multifunction meter for measurements in electrical installations, dedicated to electricians. The device is also a comprehensive tester for the safety of electrical installations. The UT-593 allows you to measure insulation resistance, short circuit loop impedance with/without RCD tripping, line impedance, continuity of protective and equalizing conductors, test of trip current and RCD tripping time, AC voltage value, and the phase sequence display.

**Attention!** High voltage is required to correctly measure the insulation resistance value. During the measurement one should be particularly careful and strictly follow the recommendations included in the device manual.



Resistance measurement:	<ul style="list-style-type: none"> <li>• Test voltage 250 V : 0.05 MΩ ... 250 MΩ</li> <li>• Test voltage 500 V : 0.05 MΩ ... 500 MΩ</li> <li>• Test voltage 1000 V : 0.05 MΩ ... 1000 MΩ</li> </ul>
Measuring accuracy:	0.05 MΩ ... 1000 MΩ ± (5% + 5)
Open circuit voltage:	Test voltage ± 10 %
Test current:	0.9 mA ... 1.1 mA
Short-circuit current:	< 1.8 mA
AC voltage measurement:	0 V ... 440 V ± (2% + 3) @ 1 V
DC voltage measurement:	0 V ... ± 440 V ± (2% + 3) @ 1 V
Measurement of small resistances:	0.01 Ω ... 200 Ω ± (2% + 5)
Frequency measurement:	20 Hz ... 100 Hz - for reference only
Test of RCDs:	<ul style="list-style-type: none"> <li>• Working voltage: 220V ± 10 %</li> <li>• Test current: 10mA / 30mA / 100mA / 300mA / 500mA</li> <li>• Switch-off time ranges : <ul style="list-style-type: none"> <li>- 0 ... 2000 ms ± (5% + 5) @ 1/2 x nominal value of the residual current</li> <li>- 0 ... 500 ms ± (5% + 5) @ 1 x nominal value of the residual current, Selective RCD</li> <li>- 0 ... 300 ms ± (5% + 5) @ 1 x nominal value of the residual current</li> <li>- 0 ... 40 ms ± (5% + 5) @ 5 x nominal value of the residual current</li> </ul> </li> </ul>
RCD tripping current measurement:	Increasing current test: 10 mA / 30 mA / 100 mA / 300 mA / 500 mA ± 10 %



# User Manual

Code: UT-593

MULTIFUNCTION METER FOR ELECTRICAL INSTALLATIONS **UT-593** UNI-T

RCD automatic test:	✓
Phase sequence test:	100 V ... 440 V / 45 Hz ... 65 Hz
Continuity measurement of protective and equalizing conductors:	0 Ω ... 199 Ω ± (2% + 5) Measuring current > 20 mA @ 0 ... 2 Ω
Line impedance measurement (L-N):	<ul style="list-style-type: none"><li>• 0.05 Ω ... 1.99 Ω ± (5% + 5)</li><li>• 2 Ω ... 19.99 Ω ± (5% + 5)</li><li>• 20 Ω ... 2000 Ω ± (5% + 5)</li></ul> Measuring current : 20 A / 20 ms Measuring range of prospective short-circuit current : 0 ... 26 kA
Short circuit loop impedance measurement (L-PE):	<ul style="list-style-type: none"><li>• 0.05 Ω ... 1.99 Ω ± (5% + 5)</li><li>• 2 Ω ... 19.99 Ω ± (5% + 5)</li><li>• 20 Ω ... 2000 Ω ± (5% + 5)</li></ul> Measuring current : 20 A / 20 ms Measuring range of prospective short-circuit current : 0 ... 26 kA
Automatic change of measuring ranges:	✓
RS-232:	—
USB:	—
Main features:	<ul style="list-style-type: none"><li>• Warning of using high voltage during the measurement,</li><li>• Phase switch 0° / 180° during RCD test,</li><li>• Automatic identification of AC/DC voltage,</li><li>• Reset function for measuring low resistances,</li><li>• Large, readable LCD display with backlight,</li><li>• Buzzer,</li><li>• Automatic power-off,</li><li>• Low battery indicator,</li><li>• Aesthetic and solid construction</li></ul>
Operation temp:	0 °C ... 40 °C
Permissible relative humidity:	≤ 85 % (non-condensing)
Power supply:	8 x 1.5V, type AA/LR6/FR6 battery - included
Weight:	1.1 kg
Dimensions:	210 x 175 x 90 mm
Manufacturer / Brand:	UNI-T
Guarantee:	2 years

Front panel:

4/6



Place for batteries 8 x 1.5V AA:



In the kit:





All kit elements placed inside the aesthetic case:



## PACKAGE

Dimensions (L x W x H): 0x0x0 mm	Gross Weight: 0 kg
----------------------------------	--------------------