



USER MANUAL

PHASE SEQUENCE TESTER TKF-12 • TKF-12L



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We appreciate your having purchased our phase sequence tester. The tester is a modern high-quality, simple and safe device. However it is recommended to get acquainted with the present manual in order to avoid measuring errors and prevent possible problems related to operation of the meter.



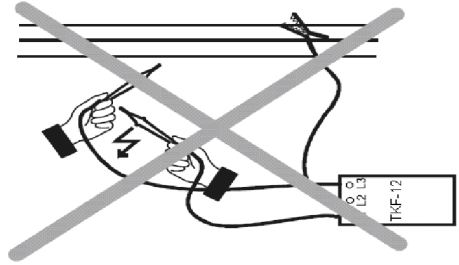
The manufacturer reserves the right to modify the appearance, equipment and technical data of the device.

1 Safety

1.1 General rules

The tester complies with the safety requirements specified in the norm EN 61010-1. In order to protect yourself and the device do observe the rules described in the present manual.

- Do not perform tests in a humid environment, which contains explosive or inflammable gases (materials), water vapour or dust.
- Having carried the device from a cold environment to a warm one, wait 0.5 hour before you proceed to perform measurements for the purpose of acclimatisation; if necessary wipe out the condensed water vapour.
- During measurements do not touch the metal parts of the socket, lead terminals, fastening elements, etc.
- Make sure you are properly insulated from the tested object.
- Do not perform measurements using an out-of-order device, whose casing or leads are damaged (broken, cracked, deformed, contaminated, etc.).
- The tester may be operated exclusively by qualified personnel who are properly authorised to perform work on electric installations. Should the device be operated by unauthorised personnel, the device may be damaged and there may be a serious danger for the operator.
- The tester may be connected to the mains solely by means of dedicated leads provided by the manufacturer. Solely such leads guarantee compliance with safety regulations.
- If phase-to-phase voltage exceeding 760 V AC will be connected to the device, the tester may be damaged and there may be a risk for the operator.
- If the device will be used for any other purpose than those specified in the present operating manual, the tester may be damaged and there may be a serious risk for the operator.



1.2 Safety symbols



Earthing.



Attention, danger - see the user manual.



The device is protected by reinforced insulation.



This symbol indicates that the device must not be disposed of into any household waste containers, but must be provided to a designated collection point for electronic waste.

CAT III

Measurement category of the instrument. It applies to circuits installed inside the building, which have their entire length within building walls (including elements of the switch-gear and branched circuits).



The device meets the legal requirements of the European Union.

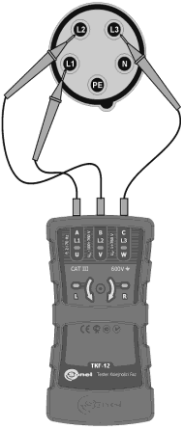


This mark confirms that the product passed all the conformity assessment procedures and meets the requirements of all technical regulations of the Eurasian Customs Union.



This mark confirms that the product meets the statutory requirements for quality and safety, and is entered in the register of products certified in Ukraine (UkrSEPRO System Registry).

2 Phase rotation direction test



- Connect the measurement probes of the tester to the points where there is the expected three-phase voltage (see the illustration below).
- If the phases at the given measurement points are compliant with the L1, L2, L3 description, the green R diode of the tester will go on; otherwise the red L diode will go on.
- The light of the given indicator (L1, L2, L3) signalises a phase-to-phase voltage exceeding **TKF-12** 136 V / **TKF-12L** 29 V between the corresponding probe and one of the remaining probes.



Incorrect indications of the tester may be caused by one of the following:

- connection of two probes to one phase,
- connection of one of the probes to the neutral lead,
- lack of connection of one of the probes to the mains.

3 Cleaning and maintenance



NOTE!

Use solely the maintenance techniques specified by the manufacturer in this user manual.

The tester may be cleaned with a soft, damp cloth using all-purpose detergents.

Do not use any solvents or cleaning agents which might scratch the casing (powders, pastes, etc.).

The electronic system of the meter does not require maintenance.

4 Storage

In the case of storage of the device, the following recommendations must be observed:

- Make sure the tester is dry.

5 Dismantling and utilization

Worn-out electric and electronic equipment should be gathered selectively, i.e. it must not be placed with waste of another kind.

Worn-out electronic equipment should be sent to a collection point in accordance with the law of worn-out electric and electronic equipment.

Before the equipment is sent to a collection point, do not dismantle any elements.

Observe the local regulations concerning disposal of packages, worn-out batteries and rechargeable batteries.

6 Technical data

- a) Type of insulation in accordance with EN 61010-1.....double
- b) Measurement category in accordance with EN 61010-1 III 600 V
- c) Ingress protection in accordance with EN 60529 IP42
- d) Frequency range10...70 Hz
- e) Nominal phase-to-phase voltage range:
 - **TKF-12** 160...690 V AC
 - **TKF-12L** 35...690 V AC
- f) Maximum phase-to-phase working voltage 760 V AC
- g) Measurement current (per each phase) <3.5 mA
- h) Working temperature -10...45°C
- i) Storage temperature.....-20...+60°C
- j) Acceptable working humidity20...80%
- k) Tester power supply from the tested electrical installation
- l) Dimensions..... 130 x 72 x 31 mm
- m) Mass of the tester (with leads) ca 340 g



The device does not have the character of a standard and therefore is not subject to calibration. The proper form of control for this type of instrument is checking.

7 Manufacturer

The manufacturer of the device and provider of guarantee and post-guarantee service:

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NOTE!

Service repairs must be performed only by the manufacturer.