



# OPERATION MANUAL

## PHASE SEQUENCE TESTER

# TKF-12





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**TKF-12**



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We appreciate your having purchased our phase sequence tester. The TKF-12 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.

**Note:**

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

### 1. Safety measures

The TKF-12 tester complies with the safety requirements specified in the norm EN 61010-1.

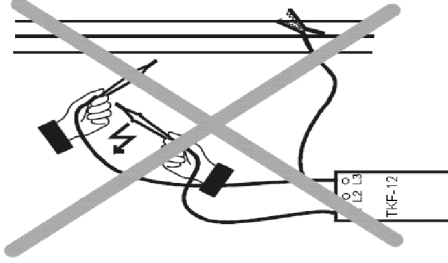
In order to protect yourself and the device do observe the rules described in the present manual.



**Warning:**

- 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.

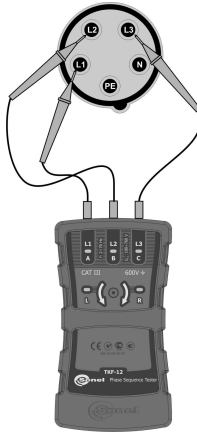
- Make sure you are properly insulated from the tested object.



- Do not perform measurements using an out-of-order device, whose casing or leads are damaged (broken, cracked, deformed, contaminated, etc.).
- The TKF-12 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 760V 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.

## 2. Phase spin direction test

- Connect the measurement probes of the TKF-12 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 neon lamp (L1, L2, L3) signals a phase-to-phase voltage exceeding 100V between the corresponding probe and one of the remaining probes.

**Note:** 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 the present operating 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 accumulators

## 6. Technical data

- a) Kind of insulation: double, in accordance with EN 61010-1
- b) Measurement category: III 600V in accordance with EN 61010-1
- c) Ingress protection in accordance with EN 60529: IP42
- d) Frequency range: 10 ÷ 70Hz
- e) Nominal phase-to-phase voltage range: 120 ÷ 690VAC
- f) Maximum phase-to-phase working voltage: 760VAC
- g) Measurement current (per each phase): <3.5mA
- h) Working temperature: -10 ÷ 45 °C
- i) Storage temperature: -20 ÷ 60 °C
- j) Acceptable working humidity: 20 ÷ 80%
- k) Tester power supply: from the tested electrical installation
- l) Dimensions: 130x72x31mm
- m) Mass of the tester (with leads): ca 340g

## 7. Equipment

### Standard:

- 1,2m test leads integrated with the tester (red, black and yellow) – 3 pcs,
- crocodile clip black K01,
- probe with banana plug (red, black and yellow) – 3 pcs,
- operating manual.

### Additional:

- crocodile clips red and yellow,
- case,
- three-phase adapter AGT-16P,
- three-phase adapter AGT-32P,
- three-phase adapter AGT-63P.

## 8. Manufacturer

The manufacturer of the device, which also provides guarantee and post-guarantee service is the following company:

**SONEL S.A.**  
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## NOTES

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