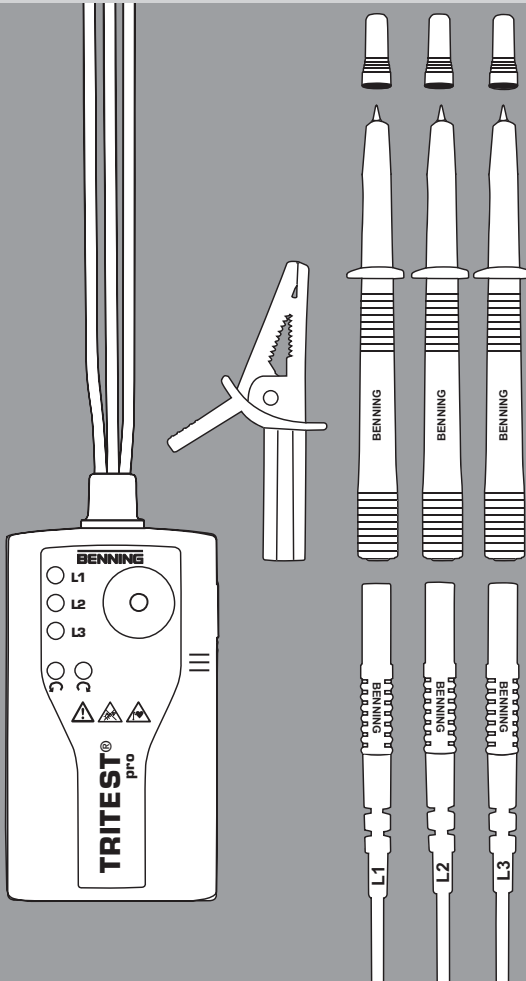
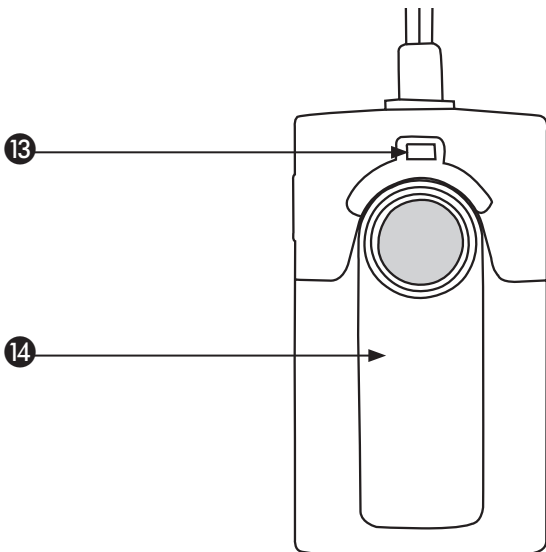
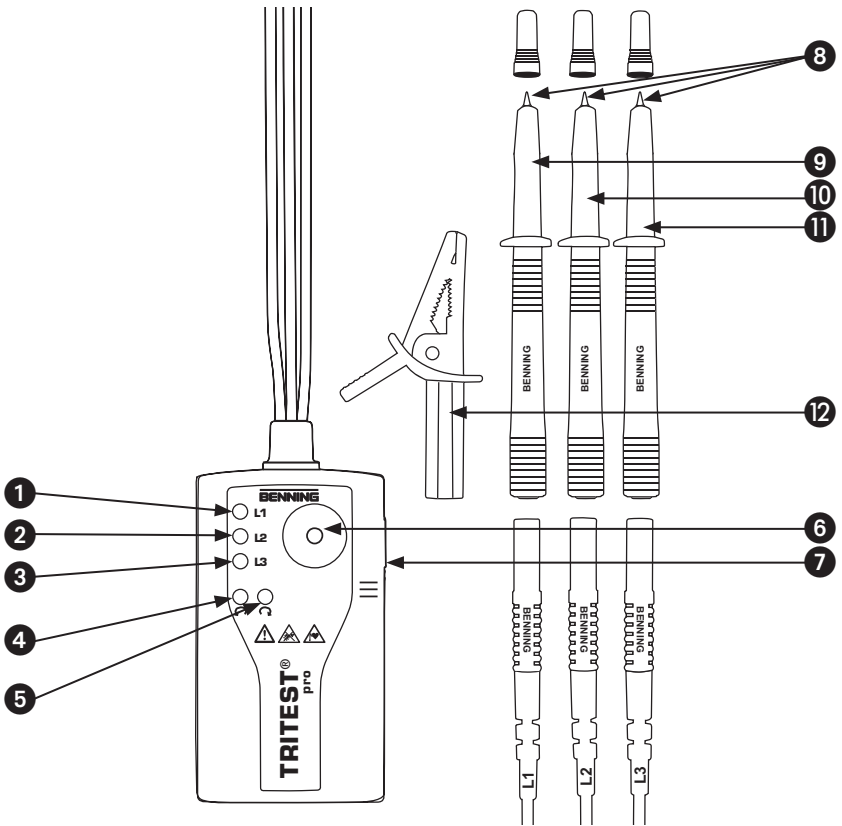


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Operating Manual

TRITEST® pro

Before using the TRITEST® pro phase sequence indicator:

Please read the operating manual and absolutely observe the safety instructions!

Table of contents

1. Safety instructions
2. Device description
3. Functional test
4. Phase sequence test
5. LED torch
6. Battery replacement
7. Technical data
8. General maintenance
9. Environmental protection







1. Safety instructions

- During the tests, touch the device at the insulated test probes ⑨, ⑩ and ⑪ only and do not touch the bare testing electrodes ⑧!
- Check the device for correct functioning immediately before and after using it (see section 3)! Do not use the device, if one or more indications are not working or if it does not seem to be ready for operation!
- If it is assumed that safe operation is no longer possible, the device must be switched off immediately.
- Absolutely prevent the device from getting wet and avoid any water condensation at the device. Moreover, the device must be protected against contamination and damaging!
- The device must be used within the stated nominal voltage range and in electrical installations of up to 500 V AC only!
- The device must be used only in electric circuits of overvoltage category CAT III with max. 300 V for phase-to-earth measurements. For measurements within measuring category III, the protruding conductive part of a testing electrode ⑧ of the test probe must not be longer than 4 mm. Before carrying out measurements within measuring category III, the enclosed attachable protective caps marked with CAT III must be pushed onto the testing electrodes ⑧ for user protection purposes.
- Please observe that work on live parts and electrical components of all kinds is dangerous! Even low voltages of 30 V AC and 60 V DC may be dangerous to human life!
- Do not operate the device with the battery compartment being open.
- The device is designed for being used by qualified electricians and under safe working conditions.
- Do not dismantle the device!

Attention!

The device is provided with a high-power LED torch. Do not look directly or indirectly via reflecting surfaces into the LED beam. An LED beam might cause irreparable damage to your eyes.

Symbols on the device:

| Symbol | Meaning |
|---|--|
|  | Attention! Please observe documentation! This symbol indicates that the information provided in the operating manual must be complied with in order to avoid risks. |
|  | Alternating voltage (AC) |
|  | Earth (voltage to earth) |
|  | This symbol shows the orientation of the batteries for inserting them with correct polarity. |
|  | Warning! Potentially dangerous optical radiation! Do not look directly into the light beam! Danger to your retina! |
|  | Attention! Magnets might affect the correct functioning of cardiac pacemakers and implanted defibrillators. As a user of such medical devices, keep a sufficient distance to the magnet. |

2. Device description

- ① Red LED for external conductor (phase) L1
- ② Red LED for external conductor (phase) L2
- ③ Red LED for external conductor (phase) L3
- ④ Red LED for counter-clockwise phase sequence
- ⑤ Green LED for clockwise phase sequence
- ⑥ High-power LED torch
- ⑦ Push-button
- ⑧ Testing electrodes with attachable protective caps
- ⑨ Test probe L1 (brown), part no.: 10112582
- ⑩ Test probe L2 (black), part no.: 10112581
- ⑪ Test probe L3 (grey), part no.: 10112584
- ⑫ Alligator clip, part no.: 709269
- ⑬ Catch of the battery compartment cover
- ⑭ Battery compartment cover with magnet, belt clip and technical data

3. Functional test

- Check the device for correct functioning immediately before and after using it!
- Test the correct functioning of the LEDs ①, ② and ③ for indicating the external conductors L1, L2 and L3 as well as the LEDs ④ and ⑤ of the phase sequence indication with a familiar voltage source, e.g. a 400 V CEE socket.
- Do not use the device, if not all functions are working properly!
- Please replace the batteries as soon as the luminosity of the LED torch ⑥ decreases.

4. Phase sequence test

- Connect the connecting cables marked with L1, L2 and L3 to the mains to be tested. For this purpose, use the test probes ⑨, ⑩ and ⑪ or the alligator clip ⑫.
- The external conductor voltages are indicated by means of the red LEDs ①, ② and ③.
- Depending on the connection, the red LED (4) for "counter-clockwise phase sequence" or the green LED ⑤ for "clockwise phase sequence" will be activated.
- Interchanging the test probes on two external conductors must result in a change of the phase sequence.
- For each test, make sure that all three external conductor voltages are present. Only then, the indicated results can be analyzed!

Note:

Phase sequence tests can be carried out even with the batteries being removed or exhausted.

5. LED torch**Warning!**

Potentially dangerous optical radiation!
Do not look directly or indirectly via reflecting surfaces into the LED beam!
Danger to your retina!

- The device is provided with a high-power LED torch ⑥ with can be switched on and off by pressing the push-button ⑦.

6. Battery replacement

- Do not apply voltage to the device when the battery compartment is open!
- The battery compartment is located on the back of the device.
- Slightly press down the catch ⑬ by means of a screwdriver and push off the battery compartment cover ⑭ in downward direction at the same time.
- Replace the exhausted batteries by three new ones of type AA (LR06). Make sure that the new batteries are inserted with correct polarity!
- Push the battery compartment cover ⑭ back onto the housing until the catch ⑬ locks into place with an audible click.

Note:

The battery compartment cover ⑭ is provided with an integrated magnet and a belt clip for attachment of the device.

7. Technical data

- Regulations: DIN EN 61010-1 and -031, IEC 61010-1 and -31, DIN EN 61557-1 and -7, IEC 61557-1 and -7, DIN EN 62471
- Nominal voltage range: 400 V to 500 V~
- Measuring category: CAT III 300 V to earth
- Nominal frequency range f: 50 Hz / 60 Hz
- Current consumption: $I_s < 3.5 \text{ mA}$ (500 V)
- Contamination level: 2
- Protection category: IP 40 (DIN VDE 0470-1 IEC / EN 60529)
 4 - first index: protection against access to dangerous parts and protection against solid impurities of a diameter $> 1.0 \text{ mm}$
 0 - second index: no protection against water
- Battery: 3 x 1.5 V batteries of type AA (LR06)
- Weight: approx. 250 g
- Measuring line with test handles: length of approx. 1,000 mm
- Operating temperature range: - 15 °C to + 55 °C
- Storage temperature range: - 15 °C to + 55 °C
- Relative air humidity: 20 % to 80 %

8. General maintenance

Clean the exterior of the device with a clean dry cloth. If there is contamination or deposits in the area of the battery or the battery housing, clean these areas as well by means of a dry cloth.

If the device is stored for a longer period of time, remove the batteries from the device!

9. Environmental protection

At the end of product life, dispose of the unserviceable device as well as used batteries via appropriate collecting facilities provided in your community.

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