R18

Voltage Detector and
Phase rotation
indicator

User Manual

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1. Safety Instructions

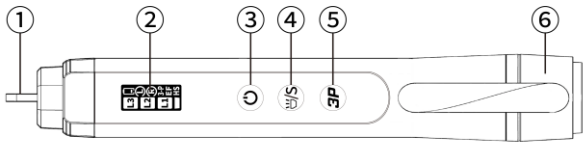
WARNING

To prevent the risk of electric shock or personal injury：

- Please strictly follow the instructions provided in this manual. Failure to do so may compromise the protection function of the detector.
- Do not use it if the display screen light is not illuminated normally.
- Please check the detector on a known live power source to ensure that it is functioning properly before use.
- Please be aware that voltage may still be present even if neither the sound nor the light alerts come on while using the detector. It only displays the effective voltage if there is an AC capable of producing a sufficient electrostatic field, and it may not detect the field if its strength is weak. The detector may be affected by factors including but not limited to shielded wires/cables, thickness and type of insulation, distance from the voltage source, complete insulation, and variations in socket design, among others.

- Do not use the detector if it is damaged or not working properly. Please check the probe carefully before using it to
- ensure that there are no cracks or breaks, and send the detector for repair in time if you have any concerns.
- Do not exceed the rated voltage indicated on the detector.
- Extreme caution must be exercised when testing AC voltage exceeding 36V to prevent the risk of electric shock.
- Please comply with local and national safety regulations.
- Please follow local or national authorities and use the appropriate protective equipment.

2. Panel Description



① Sensing Probe

② LCD Display Area

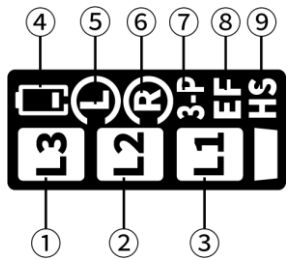
③ Power Switch Key

④ Flashlight/Non-contact Voltage Detection Sensitivity Adjustment Key

⑤ Non-contact Phase Sequence Detection Key

⑥ Battery Cover

Display screen description



⑦ Strong induction signal or Phase 3 Line

⑧ Medium induction signal or Phase 2 Line

⑨ Weak induction signal or Phase 1 Line

⑩ Battery under-voltage symbol

⑪ Reverse phase sequence symbol

⑫ Forward phase sequence symbol

⑬ Phase sequence detection symbol

⑭ Non-contact AC voltage detection symbol

⑮ Non-contact AC voltage detection high sensitivity symbol

3. Operation Instructions

3.1 Power On/Off the Detector

Power On: Press the power switch key for about more than 1 second, a beep sounds, and the screen lights up.

Power Off: In the powered-on state of the detector, press the power switch key, and the screen goes off.

3.2 Flashlight/Non-contact AC Voltage Detection Sensitivity Adjustment Key

Flashlight function: Press the “'''/S” key for about more than 1 second to turn the flashlight on or off.

Non-contact AC voltage detection function: The default AC voltage detection range of the detector when it is turned on: about 48V~1000V, LCD screen displays “**EF**”; press “'''/S” key briefly, “**HS**” is displayed on the LCD, and the detector can detect AC voltage range approximately from 12V~1000V.

3.3 AC Voltage Detection

Insert the probe of the detector into the power socket or near

the live wire. When the detector detects the AC voltage signal, the LCD backlight changes from white to red. The instrument displays the signal strength based on the detected signal strength, the LCD displays the strength of the induced signal, and the buzzer emits different alarm sounds. When weak AC signals are detected, the LCD screen displays signal strength “L1”; when strong AC signals are detected, the LCD screen displays signal strength “L2”; when the strongest AC signals are detected, the LCD screen displays signal strength “L3”.

3.4 Neutral Line/Phase Line Discrimination

Separate the two wires to be discriminated as much as possible, and then use the detector's probe to touch the wires separately. If it is a socket, insert the probe into the socket. The wire detected by the detector with a strong induction signal is the phase wire, and the wire with a weak or no induction signal is the neutral wire.

3.5 Non-contact Phase Sequence Detection

After power on, press the **“3P”** key to switch until the display screen shows the **“3-P”** symbol to enter the phase sequence detection state.

a) Attach the sensing probe tightly to the first phase line, wait for a beep from the buzzer, and at the same time, the screen displays the “L1” symbol, indicating the completion of the first phase detection.

b) Attach the sensing probe tightly to the second phase line, wait for a beep from the buzzer, and at the same time, the screen displays the “L2” symbol, indicating the completion of the second phase detection.

c) Attach the sensing probe tightly to the third phase line, wait for a beep from the buzzer, and at the same time, the screen displays the “L3” symbol, indicating the completion of the third phase detection.

d) After the detection is completed, the measurement result will be displayed on the screen.

Note：

- The "Ⓛ" symbol represents counterclockwise (reverse sequence), and the buzzer beeps 6 times continuously; the "Ⓡ" symbol represents clockwise (forward sequence), and the buzzer beeps once.。
- lease complete the test of the three wires in about 1 minute, otherwise a detection timeout error will occur, and the instrument will light up the red backlight to prompt ("Ⓛ" and "Ⓡ"). When a timeout error occurs, press the "3P" key to retest.
- When testing, please press the sensing head tightly against the wire. When the three phase wires are close to each other, try to separate them for testing for better results.
- During testing, move the instrument probe more than 20cm away from the three phase wires before detecting the next phase wire to avoid interference from adjacent phase wires.

3.6 Auto shutdown

The tester will automatically shut down if it is left idle for approximately 5 minutes and no AC voltage signal is detected.

3.7 Low battery voltage alert

The "  " icon flashes when the battery voltage drops below approximately 2.6V. If it falls below about 2.5V, the power indicator will flash 3 times and the buzzer alarm will sound once to initiate an automatic shutdown. Please replace the batteries promptly.

4. Battery replacement

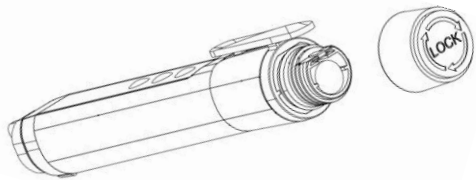
According to the following picture:

1. Rotate the battery cover as indicated.
2. Remove dead batteries.
3. Ensure that new batteries are inserted in the correct polarity.

NOTE: Be sure to check the rubber waterproof ring when you put the battery cover back on, as the waterproof effect may be affected if any misalignment or falling off occurs

⚠ **WARNING：To avoid electric shock, do not use the tester without the battery cover in place.**

Be sure to rotate the battery cover in a correct direction.



5. Technical Specifications

AC voltage detection range	12 ~1000V (sound and light alerts within the detection range).Frequency：50Hz/60Hz
AC voltage detection sensitivity	Press the button to select high sensitivity or low sensitivity (default)
Induction intensity	High, medium, low
Neutral/Live wires	According to the intensity of the induction signal, the live wire is the one that emits the stronger signal
Buzzer alarm	Sound and light alerts
Voltage range for three-phase electrical phase sequence detection	About 90V~400V， Frequency：50Hz/60Hz
Flashlight	White LED lighting
Auto shutdown	√
Low battery voltage alert	√
Operating temperature	0~40℃
Storage temperature	-10~50℃
Altitude	<2000m

CAT rating	CAT IV 600V，CAT III 1000V
IP rating	IP67
Drop test	1 meters
Power supply	2×1.5V AAA batteries
Dimensions	168mm×29mm×25mm
Weight	About 45g (batteries not included)
Applicable standards	IEC 61010-1、IEC 60529-2013

6. 1ASSISTANCE

6.1 WARRANTY CONDITIONS

This instrument is warranted against defects in materials and workmanship, in accordance with the general terms and conditions. During the warranty period, defective parts can be replaced, but the manufacturer reserves the right to repair or replace the product. If the instrument is to be returned to the after - sales service or to a dealer transportation is borne by the customer. The shipment must, however, be agreed. Attached to dispatch an explanatory note about the reasons of the instrument must always be inserted. For shipping only use the original packaging. Any damage caused by the use of non-original packing shall be charged to the customer. The manufacturer accepts no responsibility for damage caused to people or objects.

The warranty does not apply in the following cases:

• Repair and / or replacement of accessories and battery (not covered by warranty).
• Repairs made necessary because of a misuse of the instrument or of

its use with no compatible devices.

• Repairs made necessary due to improper packaging.

• Repairs made necessary due to work carried out by unauthorized personnel.

• Modification of the instrument without the explicit permission of the manufacturer.

• Use not provided for in the specifications of the instrument or in the instruction manual.

Our products are patented and their trademarks. The manufacturer reserves the right to change specifications and prices if this is due to technological improvements.

6.2 ASSISTANCE

If the instrument does not operate properly, before contacting the Customer Service, check the status of the battery and wear of the cables and replace them if necessary. If the instrument continues to manifest malfunctions check if the procedure of use of the same is in accordance with what is indicated in this manual. If the instrument is to be returned to the after - sales service or to a dealer transportation is borne by the customer. The shipment must, however, be agreed. Attached to dispatch an explanatory note about the reasons of the instrument must always be inserted. For shipping only use the original packaging; any damage caused by the use of non-original packing shall be charged to the customer.

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