

BST-MT297

VOLTAGE / CONTINUITY TESTER

INSTRUCTION MANUAL



Test Equipment Depot - 800.517.8431
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1. Introduction

Note

This voltage tester has been designed and tested according to CE Safety Requirements for Electronic Measuring Apparatus, IEC / EN 61010-1, IEC/EN 61243-3, EN 61326-1 and other safety standards. Follow all warnings to ensure safe operation.

Warning

Read "Safety Notes" (next page) before using the voltage tester.

2. Safety notes

- Read the following safety information carefully before attempting to operate or service the voltage tester.
- Use the voltage tester only as specified in this manual. Otherwise, the protection provided by the voltage tester may be impaired.
- Rated environmental conditions:
 - (1) Indoor Use.
 - (2) Installation Category III.
 - (3) Pollution Degree 2.
 - (4) Altitude up to 2000 meters.
 - (5) Relative humidity 80% max.
 - (6) Ambient temperature 0°C~40°C.
- Observe the International Electrical Symbols listed below:



Meter is protected throughout by double insulation or reinforced insulation.



Warning ! Risk of electric shock.



Caution ! Refer to this manual before using the meter.

3. Features

- Voltage test: 12V to 1000V AC/DC (8 LEDs) with indication by buzzer.
- Voltage range: 12V, 24V, 50V, 120V, 230V, 400V, 750V, 1000V.
- Test leads positioned at 19mm apart.
- Interchangeable probe tip for 2mm and 4mm.
- Polarity test: LED +/-.
- Audible continuity test.
- Self-test button to ensure proper function of the device prior to testing.
- Waterproof design, protection class: IP65.
- Phase / Neutral identification.
- Rubberized double-molded housing.
- Phase rotation test: LED (/)
- ELCB / RCD trip test.
- Flashlight function.

4. Specifications

Voltage test	12V to 1000V AC/DC
Voltage range	12V, 24V, 50V, 120V, 230V, 400V, 750V, 1000V
Working frequency	40 to 65 Hz
Voltage protection	1100V AC / DC
Continuity range	<200k Ω
Phase rotation test range	100V~1000V measure between 2 phases, instrument in hand
Operating temperature	0°C to 40°C
Operating humidity	80%RH
Probe distance	19mm apart
Power source	1.5V (AAA) x 2 Alkaline batteries
Dimensions	248(L)x68(W)x34(D)mm
Weight	Approx. 215g (battery included)
Safety standard	IEC/EN 61010-1 CAT III 1000V IEC/EN 61010-1 CAT IV 600V IEC/EN 61243-3 EN 61326-1
Accessories	Instruction manual Alkaline batteries

5. Instrument layout



(1) Rubberized injection housing

(2) Flashlight & Self-test button

(3) L2+, Red test probe

(4) L1, Black test probe

(5) Red protective cover

(6) Black protective cover

(7) Battery cover

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6. Measurement

Before proceeding with measurement, read the safety note.



WARNING!

Each test 600V voltage above can only last for 1 minute. The interval between each test should be at least 5 minutes.

- **SELF-TEST**

Self-test button to ensure proper function of the device prior to testing.

How to do the self-test:

Press the SELF-TEST button.

All the LED lamps light up and the buzzer comes on.

- **VOLTAGE TEST**

Always do a SELF-TEST before using the tester.

Performing a voltage test:

Connect the red (L2+) test probe and the black (L1) test lead to the circuit or device under test.

Do not press the "Self-test" button when measuring voltage.

Identify ACV or DCV

Both "+" and "-" LED light up: AC voltage

The "+" LED lights up: positive DC voltage

The "-" LED lights up: negative DC voltage

No LED lights up: no voltage

Value of the voltage

8 LEDs: 12V, 24V, 50V, 120V, 230V, 400V, 750V and 1000V

The last LED lit gives the level of voltage present. Lights up to approximately 70% of the nominal voltage.

When the voltage is greater than the level of 50V, the “**⚡**” LED lights up, the sound of the buzzer comes out.

Use of the instrument under bright sunlight may affect visual clarity of the LED display lights.

- **PHASE / NEUTRAL IDENTIFICATION**

Always do a SELF-TEST before using the tester.

Identify Phase or Neutral:

Hold the tester's body, then connect the red (L2+) test lead to the circuit to be tested (such as a wall outlet). In the presence of Phase ($U > 100V$), the “**⚡**” LED glows. In certain cases, the “**⚡**” LED may light up in the presence of static charges.

- **CONTINUITY TEST**

Always do a SELF-TEST before using the tester.

Performing a continuity test:

Connect the test leads to the component or circuit under test.

Value of resistance

-)) LED indication < 200k Ω

Range of continuity: 200k Ω

- **PHASE ROTATION TEST**

Always do a SELF-TEST before using the tester. Hold the tester's body firmly and the testing power supply sure be over 100V AC voltage (phase to phase) provided the neutral is earthed.

To contact with both test electrodes (probe tips) to two phases of the three-phase power supply.

The ')' symbol LED will be on when the probe tips are connected in clockwise rotation.

The ' (' symbol LED will be on when the probe tips are connected in anticlockwise rotation.

Testing the phase rotation always requires a negative phase rotation test.

To ensure a correct test, it is better to test on a known source.

- **VOLTAGE RCD TRIP TEST**

The Voltage testing in the power supply equipped with the RCD circuit breaker.

The RCD switch can be tripped at a nominal residual current of 10mA or 30mA by measuring the voltage between the Phase point and the Earth point.

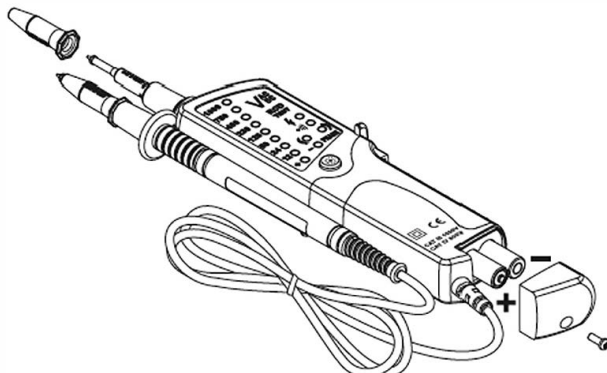
The testing Voltage sure be over 220V.

7. Maintenance

Battery replacement:

When the batteries drain, change new batteries as follows:

- (1) Remove the screw from the battery cover.
- (2) Take away the battery cover and replace with new batteries.
- (3) Reinstall the battery cover and the screw.



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Cleaning and Storage:**WARNING**

To avoid electrical shock or damage to the meter, do not get water inside the case.

Periodically wipe the case with a damp cloth and detergent.

Do not use abrasives or solvents.

If the meter is not used for over 30 days, remove the batteries for storage.