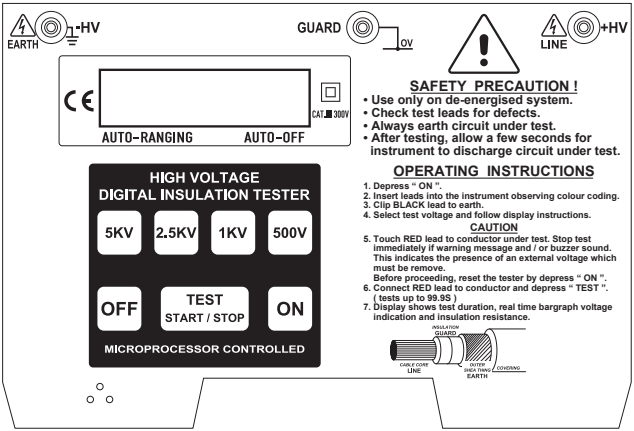
BESANTEK

BST-IT30

HIGH VOLTAGE DIGITAL INSULATION TESTER



INSTRUCTION MANUAL

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1. Safety Precautions

Electricity can be dangerous - handle it with care. Carefully read the following information before using the tester.

1.1 The company will not accept liability for any damage or injury caused by misuse or non-compliance with instructions and safety procedures.
This instrument must be used and operated only by a competent trained person and in strict accordance with the instructions.

1.2 This instrument must not be used on live circuits. Ensure all circuits are de-energised before testing. See paragraph 1.6 fomur details of built-in warning features should you be connected to a live system.

1.3 Never open the tester except for battery replacement. (see battery replacement section).

1.4 Before use, always inspect the tester and test leads for any sign of abnormality or damage. If any abnormal conditions exist (broken test leads, cracked case, display faulty etc...) do not attempt to take any measurement or use the tester. Return the tester to your nearest distributor for service.

1.5 No design can completely protect against incorrect use. **Exercise caution when using electricity.**
However, the tester has been designed with your safety in mind.

1.6 The tester has a live circuit warning beeper. **If it is connected to a live circuit of more than 500V, a rapid pulsating beep will be heard and, in addition, the tester will display a warning message.**
Should this happen, **DO NOT** proceed to test and immediately. Depress "Test" again to confirm. (hold depressed the test button). If live warning presist, disconnect the instrument from the circuit.

1.7 Rated enviroment conditions :
(1). Indoor use.
(2). Installation category II.
(3). Pollution degree 2.
(4). Altitude up to 2000 meter.
(5). Relative humidity 80% max.
(6). Ambient temperature 0~40°C.

1.8 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.

2. Specifications

2.1 Display

2 Lines x 20 characters large L.C.D.
Bar graph shows test voltage-rise and decay.
Test duration is indicated in seconds.
Warning of external voltage presence.
Auto-hold when test stopped and circuit discharged.
Low battery indication.

2.2 Insulation

Both models have four insulation test voltages and are autoranging. They auto-discharge the circuit after test.

1- 500Vdc - 25000MΩ
2- 1000Vdc - 50000MΩ
3- 2500Vdc - 125000MΩ
4- 5000Vdc - 250000MΩ

Test voltage	500Vdc	1kVdc	2.5kVdc	5kVdc
Measuring range	30GΩ	60GΩ	125GΩ	250GΩ
		Autoranging		
Accuracy		±5%±2 digits		

2.3 Supply

Power 8 x 1.5V "C" size alkaline battery

2.4 **Control**

Type	CMOS Microprocessor

2.5 **Analogue to digital conversion**

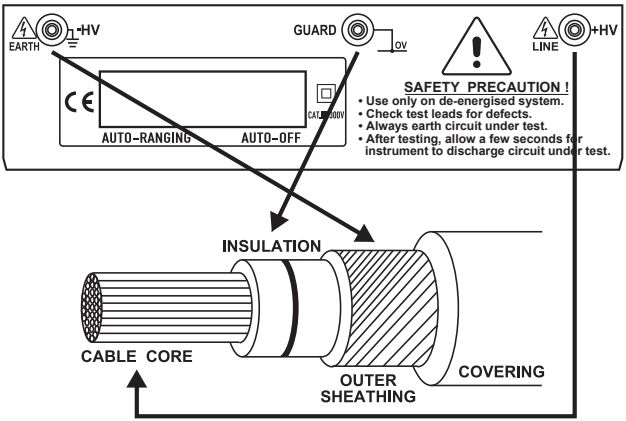
Type	Sucessive approximation Low current (250uA typical)
Resolution	12 bits (no missing codes)

2.6 **Keypad**

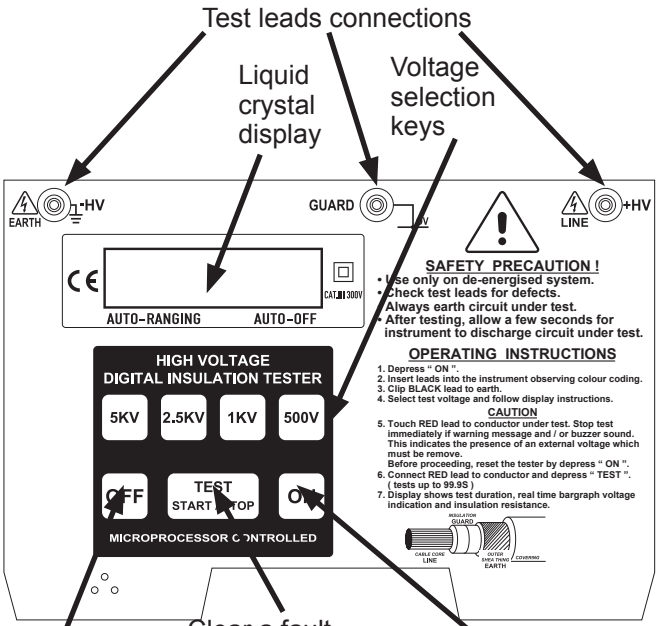
Type	Tactile menbrance switch.

2.7 **Connections**

Type	Color coded sockets



3. Instrument Layout



4. Preparation for Measurement

Check the following for damages and status.

4.1 Display

Do not use the instrument if the display looks abnormal.

4.2 Keypad

Visually check the keypad.
A damaged keypad will cause the instrument to malfunction.

4.3 Test leads

Verify test leads are free of cracks and check continuity.
Faulty test leads will cause inaccurate readings.

4.4 Batteries

The instrument will operates optimally with alkaline batteries.

5. Functions

5.1 Switching "ON"

Switch "ON", by depressing the "ON" key.

Depressing the "ON" key will start the instrument, giving the manufacturer's name, type of instrument and part number.
The instrument will deafault to the selection menu.

BST-IT30
..500v to 5kV..

...Insulation...
.....Tester.....

Select test
5KV, 2.5KV, 1KV, 500V

5.2 Re-starting or resetting the instrument

To re-start or reset the instrument, depress "OFF" key for not more than one second, then release it.

5.3 Switching "OFF"

Depress "OFF" key for more than five seconds to switch "OFF" the Instrument.

5.4 Initialising-starting the test

- **Quick test**

A quick test (less than 15 sec) is done by depressing "TEST" for less than two seconds.

- **Long test**

A long test (up to 99.9 sec) is done by depressing "TEST" for more than three seconds.

5.5 Stopping the test

The test can be stopped at any time by depressing "TEST" key. The instrument will then auto-discharge the circuit and hold the last stable reading.
Voltage decay can be observed on the bargraph.

5.6 Main menu-new test-new selection

After termination of a test, the main menu can be accessed by depressing the "TEST" key. The instrument will then display the voltage selection menu and a new test can be started.

6. Insulation Testing

Switching "ON"

ON Switch "ON", by depressing the "ON" key.

Depressing the "ON" key will start the instrument, giving the manufacturer's name, type of instrument and part number. The instrument will deafault to the selection menu.

BST-IT30
..500v to 5kV..

...Insulation...
.....Tester.....

Select test
5KV, 2.5KV, 1KV, 500V

Depress the desired voltage selection key.

5KV **2.5KV** **1KV** **500V**

Connect the leads then, press TEST to start.

TEST
START / STOP

The following examples show the interactive display of the testers.

Live Warning Message / Beeper

To clear live warning message / beeper, remove leads from circuit under test and push "TEST" button until tester goes to selection menu.

7. Insulation Resistance Testing

Warning : insulation test should be conducted on circuits that are de-energised. Ensure circuits are not live before commencing testing.

Turn instrument "ON" by pressing the "ON" button. The L.C.D. display will come to the following screen.

Select Test
5KV,2.5KV,1KV,500V

Select insulation test voltage. For example, 500V. The following screen will confirm your selection.

500V 30000MΩ

Follow the interactive screen.

Connect Leads Then,
Press TEST to start

If the system to test is not voltage free, the beep will go on, the following warning screen will appears. Remove your leads immediatly.

LIVE WARNING ...
Circuit Live !!!

If the system is not live, the test will start and the following screen will appear, indicating the test duration and other factors.

R=1234.5MΩ 12.2s
0→■■■■■■■■■■■←500V

If either the operator or the instrument stops the test, the latest result is "HOLD" on the L.C.D.. To perform an other test, press "TEST" key.

R=1253.0MΩ 85.2s
0→ HOLD ←500V

8. Maintance and Cleaning Method

8.1 Battery replacement

Your batteries are situated under the tester-to replace; switch "OFF" the instrument.
Unplug the test leads from the tester.
Unscrew the screw situated at the bottom of the battery cover. Slide the battery cover off the bottom of the tester.
Remove the flat batteries from the batteries holder.
Observing battery polarity, replace with new **alkaline** batteries. Replace the battery cover.

8.2 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 to be used for periods of longer than 60 days, remove the batteries and store them separately.

8.3 Servicing

There are no customer-serviceable parts in this instrument. Should the instrument require servicing, please, return-it without batteries but complete with test leads to your nearest distributor.