



## Features

- ✓ Selectable Test Voltage from 250V, 500V, 1000V, 2500V, 5000V DC
- ✓ Insulation Resistance Measurement up to 250GΩ
- ✓ Short Circuit Current < 1.4 mA. approx
- ✓ Programmable Timer from 1 sec to 99 minutes
- ✓ Internal Memory Storage of 1000 readings
- ✓ Auto Power Off to save battery
- ✓ Auto Calibration at every start up.
- ✓ Continuity Testing at 100mA approx.
- ✓ GUARD Terminal to eliminate surface leakages.
- ✓ Battery Status Indicator
- ✓ Safety/EMC CE CAT III (1000V)/ CAT IV (600V), IP54
- ✓ Shock proof, heavy duty & shrouded test lead
- ✓ Inbuilt Digital Filter

## IT-250G

5KV Battery Operated Digital Insulation Resistance

CAT III	CAT IV	IP	CE
1000V	600V	54	

The Motwane has been offering comprehensive range of products designed in-house catering multiple segments of power and energy sector. Digital Insulation tester IT-250G is a micro controller based battery operated insulation tester for measuring insulation of all types of electrical equipments. IT250G has a digital and analog bar graph display designed for high voltage insulation resistance testing in the maintenance and servicing of cables, electric motors, transformers, switchgears and industrial installations. DC insulation tests are performed at 250V, 500V, 1000V, 2500V and 5000V. Insulation resistance measuring range is 1K Ohm to 250G Ohm. Auto power off feature enhances the battery life and pleasant amber backlit allows user to work in dusk environment also.

IT-250G is ideally suited for insulation resistance testing during erection, commissioning or installation at electrical substations, preventive operation, maintenance and servicing of cables, transformers at industrial installations. Having robust ABS body, the instrument comes with rugged strap which gives easy handling during transit and also in handling while testing at outdoor sites. The guard terminal features minimize the effects of surface leakages and give error free measurement. Loaded with multiple proposition, IT250G addresses the routine insulation testing need of service providers. It also has continuity range for measuring continuity. Automatic discharge for charged objects is provided and decaying discharge voltage is displayed.

## Applications

The Insulation Resistance Test is an essential test that helps to verify the condition of electrical insulation. Insulation resistance quality of an electrical system degrades with time, environment condition i.e. temperature, humidity, moisture and dust particles. The instrument is designed for routine and diagnostic testing like IR of high voltage electric apparatuses like

- All electrical rotating machineries
- Transformers
- HV & LV Switch gears
- Cables
- Insulators etc.
- Industrial Purpose



## Technical Details

## IT-250G

### Terminal Voltage

**Test Voltage** 250V, 500V, 1000V, 2500V, 5000V

**Test Voltage Accuracy**  $\pm 10\% + 5 \text{ rdg}$

**Short Circuit Current**  $< 1.4 \text{ mA } (\pm 0.5 \text{ mA})$  Approx.

**Overload Protection** 230V DC/AC rms for 30sec

### Insulation Resistance

**Analog Display** 1 K $\Omega$  to 250G $\Omega$

Test Voltage	Max. Insulation Resistance	Accuracy $\pm$ (% reading + Digit)
250V	12.5G $\Omega$	$\pm (5\% + 5)$
500V	25G $\Omega$	
1000V	50G $\Omega$	
2500V	125G $\Omega$	
5000V	250G $\Omega$	

**Notes:** Test Voltage Accuracy  $\pm (10\% + 5)$  is when tested by using 1000M $\Omega$  impedance probe Motwane Make HV 30/HV 40 or equivalent

### Continuity

Range	Accuracy	Overload Protection
0-200 $\Omega$	$\pm (3\% + 10)$	230V DC/AC rms for 30 sec

Buzzer will sound  $< 20\Omega$  approx.

Open circuit voltage on continuity range is 8V approx.

Short Circuit current is 100mA approx. on Continuity range w.r.t

GUARD/COM terminal (Battery should be in a full charged condition).

### General Specification

**Insulation Resistance Measurement** Digital & Analog (Bar Graph) indication

**Display** LCD display with Backlit (90 X 60)mm

**Dimensions** 230 mm(H) X 165 mm(W) X 95 mm(L).

**Weight** 1.5 Kg approx. (without accessories)

**Default Test on time** 30 sec.

**Selectable test time** 1 sec. to 99 minutes.

**HV ON Indication** Visual & Audible.

**Data Storage functions** 1000 readings.

**Data Recall function.**

**Auto discharge facility after every test**

### Environmental Specifications

**Operating Temperature**  $-0^{\circ}\text{C}$  to  $50^{\circ}\text{C}$

**Storage Temp**  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$

**Humidity** 90% RH at  $0^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  max. (Non Condensing).  
70% RH at  $40^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  max. (Non Condensing).

### Power

**Power Supply** 8 X 1.5V AA size Alkaline batteries  
(IEC LR6 )

**Power Consumption** 40mA approx.

**Power Consumption** YES

**Auto Power Off** After 15 min.

Idle sleep mode consumption 400 $\mu\text{A}$  approx. (When not in use, always keep the rotary switch at OFF position & remove the batteries from the battery compartment to save the battery life)

### Safety and Standards (CE Certifications)

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Measurement Category : CAT IV (600V) Reinforced insulation

Safety : EN 61010-1

EMC : EN 61326-1

IP rating: IP 54

### Accessories

#### Standard

- Test Lead set (3 mtr. Long shrouded banana with crocodile clip)
- Red lead for +ve terminal 1 No.
- Black lead for -ve terminal 1 No.
- Green lead for GUARD terminal 1 No.
- Instruction Manual 1 No.
- Calibration Certificate 1 No.
- Carrying Bag 1 No.

#### Optional

- Test Lead set (10 mtr. Long shrouded banana with crocodile clip) 1 No.
- Red Lead for +ve terminal. 1 No.
- Black Lead for -ve terminal 1 No.
- Green Lead for GUARD terminal
- Test Lead set 1 meter long with one end pointed tip & another with 4mm shrouded banana. (For continuity range)

**Notes :** **1.** The Instrument is accompanied with Test & Calibration sheet. **2.** Test Facilities can be provided at the factory with the available test set-ups only. **3.** The company's policy includes continuous improvement of its product. We, therefore, reserve the right of any deviation from illustration or specifications without notice. **4.** Stated accuracies are valid from 10% of the range to 95% of the range. **5.** Accuracy specified for temperature range of  $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$  & 55% RH  $\pm 10\%$ .

**Accuracy**

- Accuracy is specified as  $\pm$  (% of reading + digits) and is valid at  $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 55% RH  $\pm 10\%$
- Accuracy is valid from 10% of the range to 95% of the range
- Temp. Coefficient = (0.2% X Specified accuracy) per degree centigrade referred to  $25^{\circ}\text{C}$
- Accuracy is not valid if battery status indicator symbol blinks on display. In this case immediately replace the batteries
- It is recommended that calibration equipment used to verify the accuracy of the instrument should be 10 times more accurate
- It is recommended to recalibrate the instrument once in year