



Features

- ✓ Selectable Test Voltage from 250V, 500V, 1000V, 2500V, 5000V DC.
- ✓ Insulation Resistance Measurement up to $1T\Omega$
- ✓ Polarization Index Measurement Facility
- ✓ Short Circuit Current < 1.4 mA. approx.
- ✓ AC/DC Voltage Measurement up to 600V.
- ✓ Two Programmable Timer from 0 sec to 99 minutes
- ✓ Liquid Crystal Display with pleasant white backlit.
- ✓ Internal rechargeable Battery.
- ✓ Safety - IP 54, CAT IV 600V and CE conformity.
- ✓ Robust ABS body with self-carrying handle for easy portability.
- ✓ Automatic discharge for capacitive circuits.
- ✓ Guard Terminal to minimize the surface leakage

IT 51

5KV Digital Insulation Resistance with Polarization Index

CAT IV	IP	CE
600V	54	

The Motwane IT-51 is a microprocessor based Digital Insulation Tester designed for testing all types of electrical apparatuses like transformers, switchgears, motors, generators, cable and substation products. IT-51 has a digital display and an analog arc display. The instrument automatically performs IR Test and Polarization Index Test by selecting the mode. IT-51 has a large LCD white backlit display, it shows leakage current in scrolling form along with IR value and PI value.

Insulation Resistance Test : This is an important test for future comparative purposes, acceptance test and also for determining the suitability of the electrical apparatus of energizing or application of the high-potential (hi-pot) test. The IR test must be successfully completed for factory warranty to be valid. The IR test must be conducted immediately prior to energizing the electrical apparatus or beginning the high potential test

Polarization Index Test : This is an extension of the IR test. In this test, two IR measurements are taken, the first reading at 1 min and the second reading at 10 min. Then the ratio of the 10 min reading to 1 min reading is calculated to give the PI dielectric absorption value. A PI of winding-to-winding and winding-to-ground should be determined. A PI value below 2 indicates insulation deterioration and the cause for further investigation.

IT 51 is designed in light portable instrument for electrical tester and it has a rechargeable battery operated and AC mains provision for battery charging. Ingress protection IP54. Instrument has an automatic capacitive load discharge at the end of the test.

Applications

The Insulation Resistance Test is an essential test that help 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, PI of high voltage electric apparatuses like.

- All electrical rotating machineries
- Transformers
- HV & LV Switchgears
- Cables
- Insulators etc.



Technical Details

IT 51

Terminal Voltage

Test Voltage	250V, 500V, 1000V, 2500V, 5000V
Test Voltage Accuracy	±5 % of rdg
Short Circuit Current	1.4 mA ± 0.5 mA
Programmable Timers	T1 and T2

Insulation Resistance

Analog Display	1 KΩ to 1 TΩ
Digital Display	(3 Digit Display) 1 KΩ to 1 TΩ

Insulation Accuracy

Up to 1GΩ	All Ranges ±(5 % + 2 digits)
Over 1GΩ	5000V ± (5% + 0.04% per GΩ)
	2500V ± (5% + 0.08% per GΩ)
	1000V ± (5% + 0.2% per GΩ)
	500V ± (5% + 0.4% per GΩ)
	250V ± (5% + 0.8% per GΩ)

AC/DC Voltage Measurement

Range	Up to 600V
Accuracy	±5% of reading + 5 digits

Polarization index (PI)

Display Range	0 - 99.9
Accuracy	±5% of reading + 5 digits
Resolution	0.01

Power Supply Specifications

Battery	Internal Rechargeable
Display	Custom Built LCD Display with White Backlit
Mains Power Supply	110/ 230VAC 50/60Hz

General

Dimensions	195 mm(H) X 290 mm(W) X 360 mm(L)
Weight	5.0 Kg (Approx) (without Accessories)

Environmental Specifications

Operating Temperature	-10°C to 55°C
Storage Temp	-20°C to 70°C
Humidity	less than 95% RH, non 0° condensing max at 40°C

Safety and Standards

Safety in accordance with : EN61010-1 : 2001
EMC in accordance with EN 61326-1 : 2006
Type Test in accordance with IS 11994
Ingress Protection IP54
CE & CAT IV 600V
Safety of test lead in accordance with
EN61010-031 : 2002 +A1 : 2008

Accessories

Standard

■ Test leads 3 meter	: 1 Set
■ User Manual	: 1 No
■ Calibration Sheet	: 1 No

Optional

■ Test leads 10 meter	: 1 Set
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