



MIT-4500

Series

High Voltage Insulation Resistance Tester



Six Levels, Or Anything In Between.

A high-voltage insulation tester for transformers, motors, generators, cables and switchgear. Three models cover 5, 10 and 15 kV, reading from 0.01 MΩ up to 50 TΩ, with the output power and interference rejection to hold a stable reading in an energised substation.

Each model offers six rated voltage levels, and a step adjustment function on top of them, so a 15 kV instrument will also produce intermediate levels such as 12 kV. That matters where a specification calls for a voltage the fixed steps do not reach.

Beyond insulation resistance the instrument measures DC and AC voltage, DC current from 0.01 nA, and capacitance to 50 μF, and calculates absorption ratio and polarization index automatically. 500 sets of results are held internally and transfer over USB to the supplied monitoring software for reporting.

The case is shock, dust and moisture resistant to IP54, with automatic discharge at the end of a test, an alarm on a settable threshold, and automatic shutdown. It runs from an internal rechargeable pack, so there is nothing to plug in at the test point.

KEY FEATURES

- 5, 10 or 15 kV · 0.01 MΩ to 50 TΩ
- Six rated levels plus step adjustment between them
- Insulation accuracy $\pm 3\%$ rdg ± 5 dgt
- DC current from 0.01 nA · capacitance to 50 μF
- Absorption ratio and polarization index, automatic
- 500 sets stored · USB to the monitoring software
- IP54 · automatic discharge · 2720 g

IDEAL FOR

- Transformers, switchgear and arresters
- Motor and generator winding assessment
- Cable and transmission line testing
- Substations, where induction disturbs a reading
- Maintenance records and trended condition data

MODEL RANGE

Model	Rated test voltages	Insulation range	Part number
MIT-4505	100, 250, 500, 1000, 2500 V, 5 kV	0.01 MΩ to 10 TΩ	464505
MIT-4510	250, 500, 1000, 2500 V, 5 kV, 10 kV	0.01 MΩ to 35 TΩ	474510
MIT-4515	500, 1000, 2500, 5000 V, 10 kV, 15 kV	0.01 MΩ to 50 TΩ	484515

Resolution is 0.01 MΩ and accuracy $\pm 3\%$ rdg ± 5 dgt on all three, and output short-circuit current is 6 mA or better. The step adjustment function produces levels between the six rated voltages, so a 15 kV model will also deliver 12 kV.

MEASUREMENT RANGES AND ACCURACY

Measurement	Range	Resolution	Accuracy
Insulation resistance	0.01 MΩ to 50 TΩ, by model	0.01 MΩ	$\pm(3\% \text{ rdg} + 5 \text{ digits})$
DC voltage	0.1 to 1000 V	0.1 V	$\pm(1.5\% \text{ rdg} + 3 \text{ digits})$
AC voltage	0.1 to 750 V	0.1 V	$\pm(1.5\% \text{ rdg} + 3 \text{ digits})$
DC current	0.01 nA to 6 mA	0.01 nA	$\pm(5.0\% \text{ rdg} + 2 \text{ digits})$
Capacitance	10 nF to 50 μF	10 nF	$\pm(10\% \text{ rdg} + 5 \text{ digits})$
Test voltage	Rated voltage $\times (1 \pm 10\%)$	—	—
Output short-circuit current	6 mA or better	—	—

Accuracies are quoted at $23 \pm 5^\circ\text{C}$ and below 75% relative humidity. Absorption ratio and polarization index are calculated from the timed readings rather than measured separately.



WHAT'S IN THE BOX

- MIT-4500 series insulation resistance tester
- Accessories case
- High voltage rod, red, 3 m
- High voltage test leads, black and green, 1.5 m each
- Battery charger
- USB communication cable
- Monitoring software on CD
- User manual and warranty certificate

SUPPLIED LEADS · The rod and both leads are supplied as standard. Quantities and lead lengths may vary by configuration

GENERAL SPECIFICATIONS

MEASURES

Insulation resistance, DC and AC voltage, DC current and capacitance · absorption ratio and polarization index calculated automatically

DISPLAY

Four-digit large LCD with controllable grey-screen backlight, for use in dim places

ALARM AND DISCHARGE

Alarm raised when a reading passes the set threshold · automatic discharge at the end of a test · automatic shutdown

POWER

11.1 V internal rechargeable battery with charger · no mains connection needed at the test point

STANDARDS

IEC 61010-1 · IEC 61010-2-031 · IEC 61557-1 and 61557-5 · IEC 60529 (IP54) · CAT III 300 V

WARRANTY

1 year, subject to product registration with GPS LTD · service and calibration available

VOLTAGE LEVELS

Six rated levels per model, plus a step adjustment function that produces intermediate voltages, so a 15 kV instrument will also generate 12 kV

STORAGE AND OUTPUT

500 sets of test data held internally with review on the instrument · USB to the supplied monitoring software for upload, saving and printing

INTERFERENCE

Large output power and strong interference rejection, for stable readings in substations and on long cables where distributed capacitance is high

CONSTRUCTION

Shock, dust and moisture resistant structure · IP54 to IEC 60529 · pollution degree 2

DIMENSIONS · WEIGHT

240 × 188 × 85 mm (l × w × h) · 2720 g including battery