

MD5060x

5 kV digital insulation tester

Equipment with excellent accuracy, comparable to the best laboratory instruments.



Illustrative Photo.

Features

- Insulation resistances up to 5 TΩ
- Automated tests: absorption index, polarization index
- Programmable pass-fail
- Real time clock
- Auto-range
- Guard terminal
- Digital & bar-graph reading
- Alphanumerical display
- Programmable timer
- Auto power-off
- Built-in printer
- USB interface
- Internal memory for 4,000 measured values
- Software for data management
- Powered by rechargeable LFP battery
- IP54 protection

Description

The Megabras MD-5060x is a smart, 5 kV insulation tester and analyzer. Besides the conventional measurement of insulation resistances up to 5 TΩ, its advanced features allow to automatically measure both the Polarization Index and Dielectric Absorption Index, thus significantly simplifying testing of transformers.

This insulation tester is a portable, rechargeable battery-powered equipment. Test voltage may be chosen from 500 V to 5 kV in 100 V increments. Due to its measurement principle (actual voltage and current readings) the accuracy of resistance measurement is not affected by any test voltage error. Nevertheless, the High-Voltage generator is electronically stabilized with a better than 2% accuracy in open-circuit condition and for any normal operation battery voltage.

The built-in chronometer automatically counts the elapsed time since the start of measurement. Measured values are transmitted through the USB interface and are printed in the built-in printer as a registration of the performed test. Furthermore, the measured values are stored in a non-volatile internal memory. Up to 4000 measured values may be stored, to be transferred afterward to a computer running the MegaLogg2 program. This advanced software allows a further analysis of the test results, including a graphical representation and automatic report generation. The real time clock and calendar, and the sequential test number, facilitates the identification of each test, and the organization of a predictive maintenance system by trend analysis.

Some other advanced features are useful to run the most sophisticated insulation analysis. Step Voltage Test, configurable Pass-Fail and timed measurements are automatically performed. The measurement parameters are stored in the non-volatile memory for an easy configuration.

In order to guarantee the operator safety, the cabinet is made of a high breakdown strength plastic. High security output terminals are placed in the furthest and most protected area of the equipment. A light indicator shows high-voltage presence and is switched-off when the capacities (both internal and external) are discharged up to reaching a safe value.



Rechargeable battery (LiFePO4)

Expected lifetime: 2000 charge / discharge cycles (average).

Low self-discharge: when the equipment is not in use, battery charge decreases with time at a much lower rate than other battery technologies.

Safety: in contrast to other lithium battery technologies commonly used, LFP batteries are thermally and chemically stable, significantly improving battery safety.

Technical Specifications

MD5060x

TEST VOLTAGE

500, 1000, 2500, 5000 V directly, one button selectable.
500 V to 5 kV in 100 V or 500 V increments.
DC, negative.

MAXIMUM RESISTANCE READING

5 TΩ @ 5 kV.

SHORT CIRCUIT CURRENT

1.5 ± 0.5 mA.

TEST VOLTAGES ACCURACY

± 3% of nominal test voltages on R ≥ 10 GΩ.

MEGOHMMETER BASIC ACCURACY

± 5% of reading from 1 MΩ up to 1 TΩ.
± 20% of reading from 1 TΩ up to 5 TΩ.

ADVANCED FEATURES

- Automated polarization index calculation
- Automated dielectric absorption ratio calculation
- Programmable pass-fail test
- Step voltage test
- Internal memory for 4,000 measured values

BUILT-IN PRINTER

Prints elapsed time, actual voltage and resistance measured each 15 seconds.

DATA OUTPUT

USB.

BUILT-IN CHRONOMETER

Shows elapsed time in mm:ss format. Count starts automatically for each measurement.

MEGALOGG2 SOFTWARE

Friendly, easy to use software. Tests are represented in graphic and tabular views. With automatic report generator, including the operator's commentaries.

ENVIRONMENTAL PROTECTION

IP54 (with closed lid).

SAFETY CLASS

In accordance with IEC 61010-1.

E.M.C.

In accordance with IEC 61326-1.

ELECTROMAGNETIC IRRADIATION IMMUNITY

In accordance with IEC 61000-4-3.

ELECTROSTATIC IMMUNITY

In accordance with IEC 61000-4-2.

POWER SUPPLY

Internal rechargeable (LiFePO4 12 V - 3 Ah).

BATTERY CHARGER

For 100 - 240 V~ mains supply.

OPERATING TEMPERATURE RANGE

-5 °C to 50 °C.

STORAGE TEMPERATURE RANGE

-25 °C to 70 °C.

HUMIDITY RANGE

95% RH (non condensing).

EQUIPMENT WEIGHT

Approx. 3.6 kg.

DIMENSIONS

274 x 250 x 124 mm.

Included accessories

- 2 Measuring test leads
- 1 GUARD test lead
- 1 USB cable
- 1 AC adapter
- 1 Protective bag
- 1 MegaLogg2 software
- 1 User guide



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