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Find the *Megger / AVO BM-25* at our website: ***Click HERE***

BM25
Automated 5-kV Insulation Tester



- **Insulation resistance measured to >5 TΩ**
- **Automated testing**
- **Polarization Index and Step Voltage tests**
- **Dielectric discharge test for multilayer insulation**
- **RS-232 download capability**
- **Weatherproof**

DESCRIPTION

The Megger BM25 is a compact automated 5 kV insulation tester. It can be used to conduct polarization index, step voltage, dielectric discharge diagnostic and standard insulation tests up to 5 TΩ.

Results and test options are displayed on a large, clear analog/digital readout for both practicality and precision. The BM25 provides an optically isolated RS-232 port for direct download of test results. This enables the user to conduct cost-effective predictive maintenance programs.

The instrument displays leakage current down to <1 nA and the capacitance of the test piece up to 10 µF. A guard terminal allows surface leakage to be removed.

Standard test voltages are preset at 500 V, 1000 V, 2500 V and 5000 V and combined with an output voltage setting that is variable in 25 V steps. The integral timer starts automatically at the beginning of a test and can be used to control test duration.

The BM25 is powered by rechargeable lead-acid batteries. The built-in charger operates from 95 V to 265 V power supplies without switch selection. The instrument is supplied complete with test leads, RS-232 interface lead and file transfer utility software.

APPLICATIONS

The BM25 is designed for testing the insulation of high-voltage electrical equipment. Its wide voltage range also allows applications to low-voltage equipment.

Generators, motors, transformers, cables and switchgear all require effective maintenance. The test techniques on the BM25 provide valuable diagnostic information.

Insulation suffers from gradual, steady decline as well as occasional sudden damage. The effects of dirt, grease, moisture, vibration and chemical attack can be tracked by recording polarization index tests which are not limited by the temperature-dependence of raw insulation resistance measurements.

Polarization index (PI) is a time-resistance dielectric absorption test. PI tests are also helpful when full test records have not been maintained.

To find more localized insulation problems, the BM25 includes both step voltage and dielectric discharge tests. Step voltage identifies local weak spots which respond differently as electrical stress is increased. The dielectric discharge test can show a single bad layer in multilayer insulation.

The key to predictive maintenance is the trending of diagnostic tests. The BM25 can download to a PC to store test results.

Megger

BM25

Automated 5-kV Insulation Tester

FEATURES AND BENEFITS

- Insulation test to >5 TΩ tracks insulation resistance on highly specified high-voltage equipment.
- Automated testing allows diagnostic tests to be applied to routine maintenance, saves time and avoids operator error.
- Polarization index tests track insulation condition on many different types of equipment with no need for temperature correction.
- Step voltage tests detect localized insulation problems.
- Dielectric discharge tests diagnose failed layers in multilayer insulation.
- Optically isolated RS-232 interface allows download of test results for storage on a PC.
- Integral timer eases test operation.
- Specifications are well-suited for accuracies and environmental performance.
- Capacitance measurement at the end of a test ensures confidence in test piece identification.
- Automatic charging control allows easy charging from 95 V to 265 V and prevents overcharging.
- Durable, field-portable, weatherproof, tester gives long service life.

SPECIFICATIONS

Insulation Resistance Ranges

10 kΩ to 5 TΩ digital
100 kΩ to > 1 TΩ analog

Accuracies

32 to 86° F (0 to 30° C)
±5% 1 MΩ to 1 TΩ at 5 kV
From 100 kΩ to 1 MΩ and 1 TΩ to 5 TΩ ±20%
Upper limits reduced pro-rata at lower voltages

-4 to +122° F (-20 to +50° C)
Percentage error doubles for extended temperature range

Test Voltages dc

500 V, 1000 V, 2500 V, 5000 V and
variable in 25 V steps to 5000 V

Test Voltage Accuracy

±5% of nominal for load resistance to 10 MW

Short-Circuit Current

2 mA maximum

Additional Ranges

Leakage Current
0.01 nA to 999 nA ±5% ±0.2 nA

Capacitance
0.01 mF to 10.0 mF ±15% ±0.03 mF

Voltage Measurement
50 V to 1000 V ac or dc (does not distinguish between ac and dc)

Voltage Accuracy
±5% ±1 V

Interference Rejection
1 mA rms per kV test voltage up to 2 mA max

Guard Terminal
Guards out parallel resistance down to 250 kΩ

Capacitance Response
<5 sec/µF to charge to 5 kV
<2sec/µF to discharge to <50V

Power Supply
Two 12 V, 2 Ah, rechargeable, sealed lead-acid batteries; typical battery life 8 h continuous testing.
Built-in charger operates from 95 V to 265 V ac; recharge time 8 h to 90%, 16 h to 100%.
DC emergency charge socket from 12 V dc.
Comprehensive battery state indicator on display.

Display
Large, custom display with analog and digital readouts of resistance, plus test/applied voltage measurement, indicators for selected test voltage and time, test type selected, state of battery; warnings for breakdown, fuse and excess noise. Hazard lightning flashes appear when voltage >50 V exists at terminals.
Timer: 0 to 90 min

Polarization Index (PI)
$$PI = \frac{\text{value at 1 min}}{\text{value at 10 min}}$$

Step Voltage (SV)
SV 500, 1000, 1500, 2000 and 2500 or
SV 1000, 2000, 3000, 4000 and 5000

Dielectric Discharge
$$DD = \frac{\text{value at 1 min}}{\text{value at 10 min}}$$

Environmental

Temperature Range
Operating: -4 to +122° F (-20 to +50° C)
Storage: -13 to +149° F (-25 C to +65° C)

Temperature Coefficient
0.11% per °F (0.2% per °C)
test current >100 nA
0.05% per °F (0.1% per °C) for test voltage

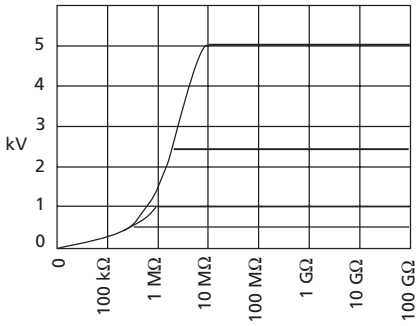
Humidity
90% RH at 104° F (40° C) max

Weatherproof
Meets international specifications with charging cover closed

Altitude
To 6500 ft (2000 m) to retain full accuracy

Dimensions
13.5 H x 9.6 W x 6.2 D in. (343 H x 245 W x 158 D mm)

Weight
12.5 lb (5.6 kg)



Typical Terminal Voltage Characteristics

ORDERING INFORMATION

Item (Qty)	Cat. No.
BM25 5 kV Insulation Resistance Tester	BM25
Included Accessories	
Three test leads, 10 ft (3 m)	210968
Test record cards, universal	210954
Charging cord	
Instruction manual	AVTMBM25
PC connector lead	25955-025
BM25 download software	6139-085

Item (Qty)	Cat. No.
Optional Accessories	
Carrying case	218748
"A Stitch in Time" manual	AVTM21-P8B
High voltage test lead, 25 ft (8m) long	6220-543
High voltage test lead, 50 ft (16m) long	6220-588
Shielded lead set, 50 ft (16m) long	6311-080
CB101, 5kV Calibration box	6311-077
Test record cards [pack of 20]	6111-217
Charging lead, 12 V dc with automotive cigarette lighter plug, 10 ft (3m) long	6231-584

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ISO STATEMENT
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