



MEGGER® BM15 and MJ15

- Four test voltages to 5 kV
- Dual power supply option
- Shock mounted analog scale
- Voltage range to 600 V indicates auto discharge
- Pass/fail overlays for rapid testing

Analog 5 kV Insulation Tester

DESCRIPTION

The BM15 & MJ15 are compact 5 kV insulation testers. They are very simple to use and provide a quick and accurate reading of insulation resistance. The instruments use an analog display with a maximum reading of 20 GΩ.

A voltage range of four test voltages enables measurement of ac or dc conductor potential. The four test voltages available are 500 V, 1 kV, 2.5 kV and 5 kV. The instruments are supplied with a locking or non-locking test button. The locking button allows hands-free testing, the non-locking button is recommended to prevent accidental mis-use and injury.

A bezel allows a scale plate overlay to be added with PASS/FAIL bands for GO/NOGO testing. This is particularly useful for less experienced users and enables a rapid decision to be made.

The new instruments have a choice of power source, eight x LR6 (AA) alkaline cells or the MJ15 offers an additional hand cranked generator. If the test button is pressed the MJ15 uses battery power. Otherwise the crank handle is turned to save battery power or for use when the batteries are unavailable.

Both units are built into a rugged case designed for outdoor use. The instruments are also supplied with a

soft carrying case, a test lead set, test record cards and batteries.

Safety terminals suitable for locking connectors are used for connection to the test piece. An automatic discharge circuit eliminates the voltage on capacitive loads after a test. The decaying voltage can also be viewed on the scale.

Fused test leads are available as an option for voltage measurement. The instruments meet the IEC1010 safety specification and EMC specifications and are fully CE marked.

APPLICATIONS

Insulation is important for the safety of all electrical systems, providing a barrier to hazardous live conductors. Insulation can deteriorate due to the affects of moisture, sunlight and heat. A reduction in the value of insulation resistance can lead to a potentially dangerous situation caused by the dangers of electric shock, or arcing causing fire. If insulation resistance is regularly monitored unusually low values can be investigated before they cause danger, or inconvenience and cost due to equipment downtime for repairs.

The BM15 & MJ15 are general purpose, 5 kV insulation testers for electrical contractors and engineers who test machinery, transformers, switchgear, cables, etc.

This BM15 and MJ15 are used by:

- Electrical Contractors
- Maintenance Engineers
- Telecommunications Engineers
- Gas and Water Utilities
- Railway Companies
- Cable Manufacturers
- Mining Companies

FEATURES AND BENEFITS

- Large, single scale analog display
- Auto voltage measurement function indicates conductor and auto discharge potential
- Supplied with optional locking test button for maximum safety
- Safety recessed terminals and long connectors
- Four output test voltages
- Simple to use
- CE marked
- Dual power supply option on MJ15
- Unique scale overlay for pass/fail bands
- Shock mounted analog scale for rugged outdoor use

SPECIFICATIONS**Insulation Range:**100 k Ω to 20 G Ω (also 0 Ω and ∞)**Test Voltages (dc)**

500 V, 1000 V, 2500 V & 5000 V

Test Voltage Accuracy $\pm 5\%$ of nominal test voltages on 20 M Ω load**Test Voltage Stability** $< \pm 1\%$ (180 r.p.m. to 240 r.p.m. MJ15)**Insulation Accuracy
(at 0 - 30° C)** $\pm 2.5\%$ of full scale deflection**Short Circuit Current**1.5 mA $\pm$ 0.5 mA**Maximum Capacitance of Load**5 μ F**Interference Rejection**

1 mA rms at 50 to 60 Hz

Discharge Resistor < 500 k Ω **VOLTAGE RANGE****Range**

0 to 600 V ac

Indication of dc

Accuracy $\pm 2.5\%$ f.s.d. ac

(with rotary switch in the V position)

General**Overload Rating**

720 V ac or dc

Scale Length

2.8 in. (72 mm) (96°)

Power Supply**BM15**

8 x AA cells (LR6 or rechargeable)

MJ15

Low voltage brushless Generator and 8 x AA cells (LR6 or rechargeable)

Battery LifeTypically 2000 five second tests at 5 kV on 100 M Ω load**Battery Indicator**

Loaded battery test

Safety

Meets the safety requirements for double insulation to IEC 1010-1 (1995) EN61010 (1995) to installation Category III***, 300 V phase to earth (ground) or 600 V Category I*

***Relates to transient overvoltage likely to be found in fixed installation wiring.

*Relates to transient overvoltage likely to be found in special equipment or parts of equipment, telecommunication, electronic etc.

Non Replaceable Fuse

1 Amp, 250 V, HBC type (F) (20 mm x 5 mm) to IEC 127/1

This fuse protects the instrument against any faults occurring when using rechargeable batteries.

E.M.CMeets EN 50081-1 and EN 50082-1 (1992) with a maximum error of $\pm 5\%$ f.s.d. in areas of high R.F.**Temperature Range****Operating**

32° F to 86° F (0° C to 30° C) at full specification

-4° F to 122° F (-20° C to 50° C) with temperature coefficient $\pm 0.1\%/^{\circ}$ C**Storage**

-13° F to 149° F (-25° C to 65° C)

Humidity Range

90% RH at 104° F (40° C)

Dimensions

8.9 in. x 6.3 in. x 4.5 in.

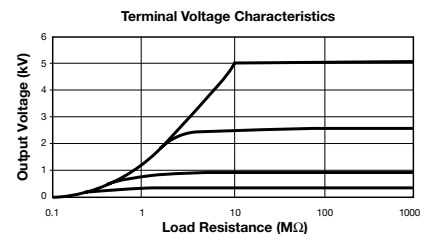
(220 mm x 160 mm x 115 mm)

Weight**BM15**

Approx 2.6 lbs (1.2 kg)

MJ15

Approx 3.5 lbs (1.6 kg), or 4 lbs (1.8 kg) with battery holder and cells.

*Typical Terminal Voltage Characteristics***Item (Qty)****Cat. No.**

Battery powered 5 kV insulation tester BM15

Hand crank/battery 5 kV insulation tester MJ15

Included Accessories

User Guide EV6172-209

Test lead set, 3 m long (pack of 3) EV6121-403

Carrying case with lead storage EV6420-117

Slide in pass band overlay (5 supplied) EV6121-401

Test record card (pack of 5) 23415

8 x AA cells LR6 23415

Item (Qty)**Cat. No.****Optional Accessories**

Fused test probes, 1.5 m long (2 used) EV6320-240

Test Record Card (Pack of 100) 210949

CB101; 5 kV Calibration Box CB101

Publications

"A Stitch In Time" AVTM21-P8B

"Lowdown on HV dc Testing" AVTM22P-1

Mouser Electronics

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