

BM120 Series

Digital Insulation and Continuity Testers



- Tests insulation at rated voltage into a 1 mA load
- 200 mA short circuit continuity current
- Automatic discharge of circuit under test
- Visual warning of energised circuits above 25 V
- Designed to International Safety Standards

DESCRIPTION

The Megger® BM120 Series of Digital Insulation and Continuity Testers offers a cost effective solution to testing where only basic test facilities are required.

Instruments are available with single insulation test voltages of 500 V d.c. or 1000 V d.c. and test results are displayed on a clear 3-digit autoranging liquid crystal display. Full rated test voltage is produced when supplying up to 1 mA load.

Both instruments offer hands free continuity measurement with a short circuit current of greater than 200 mA and an open circuit voltage of 5 V.

If either instrument is connected to a system which is energised to greater than 25 V, a warning symbol on the display will flash. Under this condition an insulation or continuity test cannot be carried out and the instrument will therefore automatically inhibit any further action until the source of voltage has been removed.

Although insulation tests should only be carried out on de-energised systems, the instruments are protected against accidental connection to phase to earth voltages up to 300 V a.c. and phase to phase voltages of 440 V a.c., Installation Category III.

Further indicators illuminate to show a low battery state and if the protective fuse has ruptured.

The instruments will automatically shut down after 5 minutes of non use.

APPLICATIONS

The BM120 Series will find applications in domestic and industrial electrical contracting and in site maintenance departments.

Both instruments may be used on capacitive circuits since, at the end of an insulation test, the circuit under test will be automatically discharged through 360 kΩ internal resistance.

The BM120 Series of Insulation and Continuity Testers are ideal for testing transformers, motors, generators, switchgear, domestic appliances, power tools etc. as well as fixed wiring systems.

Although low cost, both instruments meet the requirements of most International Standards including VDE0413 Part 1, HD384, IEC364 and BS7671 (the 16th Edition of the IEE Wiring Regulations).

This ensures that the rated insulation test voltage can be achieved into a 1 mA load, ie. 500 V into a 500 kΩ load or 1000 V into a 1 MΩ load.

FEATURES AND BENEFITS

- Insulation test ranges produce the rated test voltage into a 1 mA load. Testing can be carried out to International Standards requirements.
- Single test voltage avoids accidentally overstressing the insulation of the item under test.
- Clear three digit liquid crystal display produces unambiguous test results.

- Automatic discharge of capacitive items following an insulation test ensures that circuits are not left dangerously charged.
- Continuity range has 0,01 Ω resolution and a short circuit current in excess of 200 mA to meet the requirements of International Standards.
- No need to press the test button when continuity testing leaves both hands free.
- One button turns instrument on and operates insulation test.
- Automatic switch-off after 5 minutes.

SPECIFICATION

Insulation Ranges

Nominal Test

BM121 BM122

Voltage (d.c.)

500 V 1000 V

Measuring Range

0,01 M Ω to 999 M Ω

Terminal Voltage on Open Circuit (d.c.) (0 to 30°C)

-0% +30% of rated voltage

Short Circuit Current

2 mA

Test Current on load

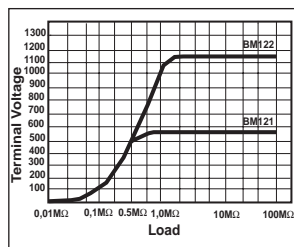
1mA at minimum pass values of insulation as specified in BS7671, HD384, IEC364 and VDE0413 part 1.

Accuracy (at 20°C)

$\pm 3\%$ of reading ± 2 digits up to 10 M Ω

$\pm 5\%$ of reading ± 2 digits up to 100 M Ω

$\pm 30\%$ of reading up to 999 M Ω



Terminal Characteristics

Automatic Discharge

When the test button is released after an insulation test the item under test will be automatically discharged through 360 k Ω internal resistance.

Voltage Warning

Symbol flashes on the display in the presence of more than 25 V a.c. or d.c.

Continuity Range

Measuring Range (Auto-ranging)

0,01 Ω to 9,99 Ω

10,0 Ω to 99,9 Ω

Open Circuit Voltage

5 V \pm 1 V d.c.

Short Circuit Current

0,01 Ω to 9,99 Ω 210 mA

10,0 Ω to 99,9 Ω 21 mA

Accuracy (at 20°C)

0,01 Ω to 9,99 Ω $\pm 3\%$ ± 2 digits

10,0 Ω to 99,9 Ω $\pm 5\%$ ± 2 digits

Battery Condition

If the battery condition becomes low during a test, a symbol will illuminate on the display.

Auto Shut-Off

The instrument will automatically switch off after 5 minutes' inactivity. If the instrument is not to be used for several months, it is recommended that the batteries be removed from the instrument.

Fuse

The instrument is fitted with a 500 mA (F) 440 V ceramic 32 x 6 mm. HBC 10 kA fuse.

Safety

The instrument(s) meet the requirements for double insulation to IEC 1010-1 (1992), EN 61010-1 (1993) to Category III, 300 V phase to earth and 440 V phase to phase.

EMC

In accordance with IEC61326 including Amendment No.1

Installation Category

Category III: Fixed Wiring and installations within a building.

Overload Ratings

The instrument may be continuously connected to a 300 V phase to earth, 440 V phase to phase category III supply without damage.

An overload of 720 V rms. for 10 seconds will not cause damage to the instrument.

Temperature Range

Operation

-20°C to +60°C up to 100 M Ω

-20°C to +40°C over full range

Storage

-25°C to +65°C

Operating Humidity

90% RH at 40°C maximum

Power Supply

6 X 1,5 V cells IEC LR6 type. Nickel Cadmium rechargeable cells may be used.

Battery Life

Typically more than 2000 tests each of 5 second duration.

Weight

530 gm. (1,16 lbs approx.)

Dimensions

195 x 98 x 40 mm. (5 in x 2,4 in x 1 in approx.)

ORDERING INFORMATION

Item (Qty)	Order No.
500 V Insulation & Continuity Tester	BM121
1000 V Insulation & Continuity Tester	BM122
Included Accessories	
Pouch	6420-132
Test Lead Set	6220-437
Optional Accessories	
FPK8 Fused Probe Kit	6111-218
Fuses (500 mA) x 5	6121-289
Standard test lead set	6220-437

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