

## MIT200 Series

### Digital/Analogue Insulation and Continuity testers



#### Introduction

The MIT200 is one of the smallest insulation testers available on the market today. With options of a two voltage, or three voltage instrument, the MIT200 instruments offer a range of safety and operation features expected from a Megger instrument.

The display offers a combination of digital readout and analogue display, using Megger's patented DART display technology, which include the benefits of an LCD display, such as robust, clear and accurate measurement, with an analogue pointer response for evaluating circuit charge and discharge characteristics.

The instrument housing is a tough ABS designed to withstand the rigours of hard use, whilst small enough to drop into your pocket when not in use.

Battery requirements are 6 AA batteries of either standard Alkaline or Nickel Metal Hydride (NiMH) rechargeable type. A low battery warning indicator gives advanced warning of exhausted batteries.

#### Continuity testing

Automatic continuity testing is performed at 200mA to ensure compliance with international requirements. No need to press the test button.

All instruments will measure up to 100ohms on continuity, of which 0-10ohms is performed at

- Insulation testing to 1000Mohms
- Continuity testing at 200mA down to 0.01ohms
- Live circuit warning (voltage display) and test inhibit
- Digital/Analogue display
- Alkaline or rechargeable batteries
- -10°C to +55°C operating temperature
- CATIII 600V
- Conforms to EN61557-1

greater than 200mA to meet international electrical testing requirements.

Lead null is possible up with to 9.99ohms of test lead resistance, ensuring the ability to null fused test leads as well as standard leads.

#### Continuity buzzer

A continuity buzzer provides a means of rapid cable testing and circuit identification, with voltage protection should you accidentally touch a live circuit. The buzzer operates at a 5ohm threshold.

#### Insulation testing

The instruments offer one of four configurations as detailed in the table below, providing an ideal solution to most low voltage insulation testing applications.

Insulation testing is possible up to 1000Mohms on all ranges from 250V upwards.

Auto discharge ensures all circuits are safely discharged after testing.

1000V insulation test ranges have a high voltage warning prior to test voltage being applied.

#### Features and benefits summary

- Meets the international EN61557 requirements of the rated test voltage into a 1 mA load.
- Digital display of insulation measurement up to 1000Mohms on either linear or logarithmic analogue arc digital display.
- Continuity range has 0,01ohms resolution and a short circuit current in excess of 200mA.
- Automatic continuity testing leaves both hands free. No need to press the test button.
- Automatic power-off if left unattended reduced wasted battery life.

- Automatic voltage detection avoids accidental contact with dangerously live circuits.
- Test lead zero allows compensation for test lead resistance.
- Buzzer range operates at <2ohms

**Safety**

Every Megger instrument is designed with safety as its primary objective. All instruments meet or exceed the requirements of safety directive IEC 61010.

**Default fault meter**

A built-in voltmeter automatically switches in when the instrument is connected to a circuit with an AC or DC voltage greater than 25V.

**Test inhibit**

Circuits in excess of 25V will generate a voltage warning. Circuits over 50V will inhibit testing on both continuity and insulation test ranges, protecting the operator and the instrument from injury or damage.

**600V CATIII**

The MIT200 series has been designed for use on applications up to 600V CATIII.

All instruments are fully compliant with the safety requirements of IEC61010 and meet all requirements of EN61557 for insulation and continuity testing.

**Applications**

The MIT200 series will find applications in electrical contracting, both on domestic and industrial systems, as well as site maintenance and service departments.

The MIT200 series of insulation and continuity testers are ideal for testing transformers, motors, generators, switchgear, panel building, domestic appliances, power tools etc., as well as fixed electrical wiring systems.

Their small size and light weight make them ideal for those engineers that need to carry them for extended periods.

All instruments meet the requirements of most International Standards including VDE0413 Part 1 and BS7671 (the 16th Edition of the IEE Wiring Regulations).

**MIT200 Options**

	Low Cost MIT series	
	MIT220	MIT230
<b>Insulation testing</b>		
250V	Y	Y
500V	Y	Y
1000V		Y
1000Mohms range	Y	Y
Auto-ranging	Y	Y
Auto discharge	Y	Y
Test Inhibit	Y	Y
Live circuit voltage display	Y	Y
<b>Continuity testing</b>		
Continuity@ >200mA	Y	Y
Continuity to 0.01 Ohms	Y	Y
Test Lead Null (9.99Ohms)	Y	Y
Automatic continuity test	Y	Y
Continuity buzzer with 5ohm threshold	Y	Y
Default volts warning	Y	Y
<b>General</b>		
Digital display + arc	Y	Y
Battery condition	Y	Y
Auto power down	Y	Y
Tough carry case	Y	Y
Test leads	Y	Y
CATIII 600V	Y	Y
<b>Environmental</b>		
Operation temperature	-10C to +55C	
Storage temperature)	-20 C to + 65 C	
IP rating	IP40	IP40
<b>Included accessories</b>		
Standard test leads with prods and clips	Y	Y
Certificate of test	Y	Y
Printed user guide		
Warranty	3	3

## SPECIFICATIONS

### Insulation ranges

**Nominal Test Voltage (d.c.)** 1000V, 500 V, 250 V

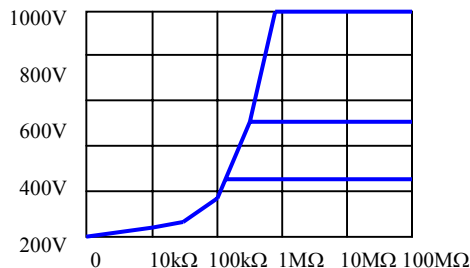
**Measuring Range** 10k $\Omega$  - 1000M $\Omega$  on all ranges

**Terminal Voltage on Open Circuit (d.c.):** -0% +25% of rated voltage

**Short Circuit Current** 2 mA +0% -50%  
**Test Current on Load** >1 mA at minimum pass values of insulation as specified in BS7671, HD384, IEC364 and VDE0413 part 1

**Accuracy (at 20° C)**  
 Mit220,230  $\pm$ 3% of reading  $\pm$ 2 digits up to 10 M $\Omega$   
 $\pm$ 5% of reading  $\pm$ 2 digits up to 100 M $\Omega$   
 $\pm$ 30% of reading up to 1000M $\Omega$

### Terminal characteristics



### Continuity ranges

**Measuring Range:** 0,01 $\Omega$  - 100,0  $\Omega$  (0 -50  $\Omega$  on analogue scale)

**Open Circuit Voltage:** 5 V  $\pm$  1 V

**Short Circuit Current:** 205 mA,  $\pm$  5 mA @ (0-10ohms)  
 >20mA @10 - 100ohms

**Accuracy (at 20° C)**  
 MIT200,210,220,230  $\pm$ 0,01 $\Omega$  to 9,99 $\Omega$   $\pm$ 3%  $\pm$ 2 digits  
 10,0 $\Omega$  to 99,9 $\Omega$   $\pm$ 5%  $\pm$ 2 digits

**Zero Offset Adjust:**  
 MIT200,210,220,230 0 to 9,99 $\Omega$

**Continuity Buzzer**  
 MIT200,210,220,230 Operates at <5  $\Omega$ .

### Default voltmeter

MIT220,230 >25 V ac or dc. is applied display will operate as a voltmeter.

**Test inhibit** If more than 50 volts is detected, testing will be inhibited.

**Range:** 25V to 600V @ 50/60 Hz & dc

**Accuracy:** 25 V to 450 V ac/dc  $\pm$ 1%  $\pm$ 1 digit  
 450 V to 600 V ac  $\pm$ 2%  $\pm$ 1 digit

### Auto power down

Auto power down operates after 10 minutes if left in standby mode.

### Temperature and humidity

**Operating Range** -10°C to +60°C

**Operating Humidity** 93% R.H. at +40°C max.

**Storage Range** -25°C to +65°C

**Environmental Protection** IP40

### Fuses

**Terminals** 500 mA (F) 600 V, 32 x 6 mm Ceramic HBC 10 kA minimum.  
 Display shows if fuse is ruptured.

### Safety

Meets the requirements of EN61010-1 Cat III 600V phase to earth.

### Automatic discharge

After an insulation test the item under test will be discharged automatically. Any voltage present will be indicated on the display so that the discharge can be monitored.

### Power supply

**Battery** 6 x 1,5 V cells IEC LR6 type(AA alkaline). Rechargeable NiCd or NiMH cells may be used.

Battery condition is constantly shown on the display as a four-section bar-graph.

### Battery Life

3500 consecutive tests (5 seconds per test) on any test using 2Ah batteries.

### Weight

All units 530gms  $\pm$ 5%

### Dimensions

All units 195 x 98 x 40mm

### E.m.c

In accordance with IEC61326 including amendment No.1

<b>ORDERING INFORMATION</b>	
<b>Item (Qty) Order Code</b>	
250V/500V Insulation & Continuity tester	MIT220-EN
250V/500V/1000V Insulation & continuity tester	MIT230-EN
<b>Included accessories</b>	
Lead set with prods and clips	
Carry case	
Calibration certificate	
User guide	
<b>Optional accessories</b>	
Fused test lead set	6220-789