## MIT400/2 CAT IV Insulation testers



- Designed for Electrical and Industrial testing
- Insulation testing up to 1000 V and 200 GΩ range
- Stabilised insulation test voltage (New)
- Single range, faster continuity testing from 0.01 Ω to 1 MΩ (New)
- Adjustable insulation test voltage from 10 V to 1000 V (New)
- 600 V Trms AC and DC voltage measurement
- Test result storage and Bluetooth® downloading
- Live circuit detection and protection
- Rechargeable options for mains and car charging (New)
- CAT IV 600 V and IP54

### DESCRIPTION

The MIT400 mk2 series insulation and continuity testers are designed not just for Electrical and Industrial, but with an exceptionally wide range of applications from electrical installations, cable testing, motor testing, automotive, ESD, panel building, avionics, maintenance etc.

Insulation testing has been enhanced with feedback controlled test voltages to limit over-voltage to 2%, rather than the industry standard 10-20%.

A variable range has been added to allow any intermediate voltage from 10 V to 1000 V in 1 V steps, where application specific test voltages are required that do not appear in the standard ranges.

Continuity testing is now significantly faster, and a single autoranging 0.01  $\Omega$  to 1.0 M $\Omega$  function replaces the "ohms" and "kOhms" ranges. Retained are the 200 mA and 20 mA test options.

Replacing the original MIT400 instruments the new units feature a redesigned case, back-stand, and 6 cell battery compartment with separate fuse access.

All instruments are over-moulded for increased protection and achieve an IP54 weatherproof rating.

#### THE MIT400 RANGE:

The range consists of four instruments:

MIT400/2	250 V, 500 V and 1000 V
MIT410/2	50 V, 100 V, 250 V, 500 V and 1000 V + PI, DAR
MIT420/2	50 V, 100 V, 250 V, 500 V and 1000 V + PI, DAR + VAR (New) and result storage
MIT430/2	50 V, 100 V, 250 V, 500 V and 1000 V + Pl + DAR + VAR (New) + Bluetooth <sup>®</sup> download

#### **INSULATION RESISTANCE TESTING:**

The stabilised insulation test voltage is now accurate to +2% -0%. This compares to the industry standard +20%, providing a more accurate test voltage without the risk of over-voltage damage to circuits or components. The output voltage is maintained between 0 and 2% throughout the test range.

Where a non-standard test voltage is required, a variable range allows the exact test voltage to be selected from 10 V up to 1000 V. and is subject to the same stabilised output control.

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#### **FEATURES INCLUDE:**

#### Test voltages (New) \*

- 50 V, 100 V, 250 V, 500 V and 1000 V.
- Variable test voltage (New) \*
  - Adjustable test voltage from 10 V to 1000 V.

#### 2% test voltage accuracy

- The output test voltage is maintained within the tolerance or -0% +2%

#### PASS/FAIL indication (New) \*

- PASS or FAIL displayed depending on threshold voltage

#### Stabilised test voltage

- The voltage is feedback controlled to ensure it remains within specification throughout the full test range

Test voltage display (New)

- The actual test voltage is displayed on the smaller digital readout, with the measurement on the larger digital display.

### Measurement range displayed (New) \*

- The test range is displayed during selection

#### Measurement voltage display

- The measurement voltage is displayed during the test

#### Analogue arc

- The display also features an analogue arc to replicate the response of a moving coil display.

#### PI and DAR \*

- Polarisation Index (PI) and Dielectric Absorption Ratio (DAR) functions

- Polarisation Index (PI): 10 min / 1 minute ratio
- Dielectric Absorption Ratio (DAR ): 60 sec / 30 sec ratio
- Timed testing \*
  - Automatically test to a time limit

#### High test range

- Insulation testing up to 200 G $\Omega$  at 1000 V.

#### Silicon leads

- High quality flexible silicon test leads are comfortable to use and prevent measurement errors on  $G\Omega$  ranges above 5  $G\Omega$ .

#### Test inhibit

prevents testing if voltages in excess of 25 V, 30 V, 50 V,
 75 V 100 V (set by the user) are detected when making insulation tests. (Default is 50 V.)

#### Insulation buzzer

- The buzzer can be set to buzz if the insulation resistance is above a user adjustable limit, set in the Setup menu.

#### Test Lock

- Holds insulation test on continuously.

\* Dependent on model

Test ranges extend from 2 G $\Omega$  to 200 G $\Omega$  depending on test voltage as below:

50 Volts.	10 GC

- 100 Volts. 20 GΩ
- 250 Volts. 50 GΩ
- 500 Volts. 100 GΩ
- 1000 Volts 200 GΩ
- Variable 10 V to 1000 V dependent on test voltage

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#### **CONTINUITY (RESISTANCE) TESTING:**

- Single resistance range (New)
  - One range fully automatic from 0.01  $\Omega$  to 1.0 M $\Omega$ .
- Bi-directional testing (New) \*

   Option for automatic bi-directional testing without reconnecting leads.
- 200 mA or 20 mA \*

- Either 200 mA or 20 mA continuity test currents are available. 20 mA test current will considerably increase battery life.

Lead null

- Lead resistance compensation (NULL) operates up to 10  $\boldsymbol{\Omega}$  of resistance.

- Buzzer
  - ON/OFF selected by simple push button.

#### Buzzer limit

- Continuity buzzer limit alarm provides adjustment of the maximum resistance the continuity buzzer sounds. This is adjustable from 1  $\Omega$  to 200  $\Omega$  in 12 steps.

#### **VOLTAGE MEASUREMENT:**

True RMS voltage measurement to 600 V ac or dc with resolution from 0.1 mV.

- Digital voltage measurement up to 600 V ac/dc
- Analogue arc measurement to 600 V ac/dc
- Automatic display of frequency during voltage measurement.

#### **DISPLAY:**

The display offers a combination of Analogue arc and a dual digital readout:

Analogue arc:

- Full display width analogue arc.
- Analogue arc display shows essential charge and discharge characteristics not visible on a digital display.
- Single pointer "needle" response is similar to a moving coil meter.
- Setup functions allow control of Buzzer limit alarms, Continuity test currents, KΩ/MΩ/GΩ or 10<sup>4</sup> /10<sup>5</sup> /10<sup>6</sup> (New)

#### **DUAL DIGITAL DISPLAY**

- Large main digital readout for good visibility of all main measurement results
- Second digital display for additional data such as:
- Insulation test voltage.
- Insulation leakage current.
- Supply frequency (when measuring volts).
- Test mode eg. PI, DAR or t (t = Timer mode).



#### **OTHER FUNCTIONS AND FEATURES**

**Weatherproof** - Every tester is sealed to IP54, providing a weatherproof case to reduce the chances of water ingress, including the battery and fuse compartment.

**Tough housing** - Rubber over moulding combines the tough shock absorbing outer protection with excellent grip, on a strong modified ABS housing, providing an almost indestructible case.

**Batteries** - Battery requirements are 6 AA batteries of either standard Alkaline or Nickel Metal Hydride (NiMH) rechargeable type, providing a minimum of 3000 insulation tests at 1000 V.

#### **VARIABLE INSULATION VOLTAGE TESTER \***

The variable mode provides a unique solution for awkward insulation voltage measurement applications. The range option allows an insulation test voltage from 10 V to 1000 V in 1 V steps.

\* Dependent on model

#### **TYPICAL APPLICATIONS INCLUDE:**

- Commercial Avionics
- Military Land, Marine and Air communications
- Manufacturing/production line goods
- Electrostatic measurement
- Component testing
- Battery powered traction and lifting equipment

#### **STORAGE AND DOWNLOADING RESULTS**

Revised Bluetooth<sup>®</sup> and pairing procedures have made the MIT430/2 far easier to pair and download data. The test results are downloaded to a CSV file which can then be opened as an Excel<sup>®</sup> spreadsheet.

#### SAFETY

Designed to be exceptionally safe to use, fast detecting circuitry prevents damage to the instruments if accidentally connected to live circuits or across phases. Specifically, all instruments:

Meet the international requirements of IEC61010 and EN61557.

Live circuit detection inhibits insulation testing on circuits above 25 V, 30 V, 50 V, 75 V or 100 V (default 50 V).

Live circuit detection and test inhibit on continuity measurements.

Default display of live circuit voltage on all ranges.

Detection and inhibit functions even if the protection fuse has failed. Suitable for use on CAT IV applications and supply voltages to 600 V.

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#### **FEATURES AND BENEFITS**

- Designed for Electrical and Industrial testing
- Insulation testing up to 1000 V and 200 GΩ range
- Stabilised insulation test voltage (New)
- Single range, faster continuity testing from 0.01 Ω to 1 MΩ (New)
- Adjustable insulation test voltage from 10 V to 1000 V (New)
- 600 V Trms AC and DC voltage measurement
- New case design with optional magnetic hanging strap (New)
- Test result storage and Bluetooth<sup>®</sup> downloading
- Live circuit detection and protection
- Rechargeable options for mains and car charging (New)
- CAT IV 600 V and IP54

#### **SPECIFICATION SUMMARY TABLE**

INSULATION	MIT400/2	MIT410/2	MIT420/2	MIT430/2
50 V / 100 V			-	
250 V / 500 V / 1000 V	•	-	-	-
Variable			•	
PI- / DAR / Timed				
Lock button on $M\Omega$	•			
CONTINUITY		I	I	I
Continuity 0.01 Ω - 1 MΩ	100 Ω			
Auto reverse polarity (setup ON-OFF)				
Lead null (< 10 Ω)	•	-	•	-
VOLTAGE				
AC / DC Volts 600 V	•			
mV AC / DC range	•	•	•	-
Frequency measurement 15 - 400 Hz		-	-	-
Input impedance	0.25 MΩ	0.25 MΩ	0.25 MΩ	0.25 MΩ
CAPACITANCE				
Capacitance 0.1 nF - 10 µF				
OTHER FEATURES			I	
PASS/FAIL on limit alarms				
Auto power down (setup)	•			
On board memory			-	
Bluetooth <sup>®</sup> download + software				-
AA Alkaline or NiMH	Both	Both	Both	Both
Recharger ready				-
CAT IV 600 V / CAT III 1000 V	•		•	
ACCESSORIES	I	1	1	1
Silicone leads (red/black)		•	•	
Switched probe supplied				
OPTIONAL Battery charger available				

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All exoted accurates are at +20 °C.Voltage:Voltage:Insulation: $250 \vee 500 \vee 1000 \vee minute:250 \vee 500 \vee 1000 \vee minute:250 \vee 500 \vee 1000 \vee minute:250 \vee 500 \vee 1000 \vee minute:Mindoo2250 \vee 500 \vee 100 \vee 250 \vee 500 \vee 1000 \vee minute:250 \vee 500 \vee 100 \vee 250 \vee 500 \vee 1000 \vee minute:250 \vee 500 \vee 100 \vee 250 \vee 500 \vee 100 \vee minute:250 \vee 500 \vee 100 \vee 250 \vee 500 \vee 100 \vee minute:So Varis:100 \vee 250 \vee 500 \vee 100 \vee 250 \vee 500 \vee 100 \vee$	SPECIFICATION		Lead resistance	Null up to 9.00 $\Omega$	
Test voltage         Discriminit MIT4002         Discriminit Service From BS EN (1557-1 (2007) + 2.79, 8-2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 2% + 2 digits + 0.0% per GO 100 Volts 20 GO 1 ± 0.0% L = 11.3%         Unpercified range Unpercified range Unperc			Voltage:		
list voltage         DC: 0 to 600 V           Nominal: MIT4002, 4202,4302         250 V, 500 V, 1000 V         AC: 22% 41 digit Similar Encorecy         AC: 22% 41 digit Similar Encorecy           S0 Volts, 10 Gn ± 27% ± 2 digits ± 0.5% per Gn 100 Volts, 20 Gn ± 27% ± 2 digits ± 0.5% per Gn 100 Volts, 20 Gn ± 27% ± 2 digits ± 0.5% per Gn 100 Volts, 20 Gn ± 27% ± 2 digits ± 0.5% per Gn 100 Volts, 20 Gn ± 27% ± 2 digits ± 0.5% per Gn 100 Volts, 20 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 100 Gn ± 27% ± 2 digits ± 0.5% per Gn 500 Volts, 20 Ho 100 ON La ± 11.5%         Waveform         Unspecified range: 0 - 10 mV (15 doo 1/k) 20 Volts ± 20, 100 Kn - 900 Kn ± 11.5%           Display range         Aralogue: 100 V ± 20% ± 24, 100 Kn - 900 Kn ± 11.5%         Frequency: Frequency measurement insulation         15 Hz - 400 Hz 7 mage           Display range         Aralogue: 100 Volts 200 Co voltage         10.1 KD 7 mas.         Frequency: Frequency measurement insulation to a maximum of 2 mA max.         15 Hz - 400 Hz 7 mage           Display range         0.5% ± 2/W 7 Mit40/27, MIT430/2         10.1 KD 7 Mit40/27, MIT430/2         20.5% ± 1 digit (100 Hz to 200 Vistage           Display range         0.5% ± 2/W 7 Mit40/27, MIT430/2         10.1 KD 7 Mit40/27, MIT430/2         10.1 KD 7	Insulation:		Voltage range	AC: 10 mV to 600 V TRMS	
MIT all Q2, 2302         250 V, 100 V         250 V, 100 V, 250 V, 500 V, 100 V         DC: 247, 82 afgl( Service From (55 K) ef (557-1 (2007) + 2.0%, 2.4 d)           50 Volts, 10 G0, 1 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts, 20 G0, 2.2%, 2 d) gitts = 0.4% per G0, 250 Volts, 50 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 G0, 2.2%, 2 d) gitts = 0.4% per G0, 1000 Volts 200 K0, 2 to 10.3%, 2 d) gitts 10 mV to 100 mV to 250V, 2 d, 20%, 2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 d) gitts 10 mV to 100 mV to 250V, 2 d, 20% e 2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dov k2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d, 100 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 10.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00 K0 > 900 K0, 2 to 2.3%, 2 dow k2 d) f00					
Solution         0.0 × 2.0%         2.3%         2.4 digits 1.4.0% per G0           100 Velts 20 G1         2.2% ± 2.4 digits 1.4.0% per G0         Unspecified range:         0.10 mV (15 to 4.00 Hz)           250 Velts 100 G0         2.2% ± 2.4 digits 1.0.3% per G0         Unspecified range:         0.10 mV (15 to 4.00 Hz)           250 Velts 100 G0         2.2% ± 2.4 digits 1.0.3% per G0         Unspecified range:         0.10 mV (15 to 4.00 Hz)           250 Velts 100 G0         2.2% ± 2.4 digits 1.0.3% per G0         2.3% ± 2.4 digits 1.0 mV to 100 mV         2.3% ± 2.4 digits 1.0 mV to 100 mV           250 Velts 2.0% to 2.0% to 2.4% to 2.4 digits 0.0% per G0         2.3% ± 2.4 digits 10 mV to 100 mV         2.3% ± 2.4 digits 10 mV to 100 mV           250 Velts 2.0% to 2.0% to 2.10 k0.0         2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%           250 Velts 2.0% to 2.0% to 2.10 k0.0         2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%           250 Velts 2.0% to 2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%         2.00 k0 hz 1.0.3%           250 Velts 2.0% to 2.00 k0 hz 1.0.3%         2.00 k1 hz 10 k2 k0 hz         2.00 k2 hz 10 k0 hz         1.00 k1 hz           1000 velts 2.00 k2 hz 10 k0 hz         1.00 k1 hz         2.00 k2 hz 10 k0 hz         2.00 k2 hz 10 k0 hz           20 dipta digits 0.0 % to 10 k0 hz         1.00 k1 hz	MIT400/2 250 V, 500 V, 1000 V		Volt range accuracy	DC: ±2% ±2 digit Service Error: BS EN 61557-1	
100 Volts 20 G()         ± 2% ± 2 digits 2 0.4% per G0         Unspecified range:         0 - 10 mV (15 to 400 H2)           500 Volts 100 G()         ± 2% ± 2 digits 2 0.4% per G0         Brono-sinusoidal waveforms         additional specifications apply           507 Volts 100 G()         ± 2% ± 2 digits 2 0.4% per G0         Brono-sinusoidal waveforms         additional specifications apply           507 ± 2.0% ± 2.0(100 K) = 500 K0 ± 10.3%         Brono-sinusoidal waveforms         ± 3% ± 2 digits 10 mV to 100 mV           2500 V ± 2.0% ± 2.0(100 K) = 500 K0 ± 10.3%         Brono-sinusoidal waveforms         ± 3% ± 2 digits 10 mV to 100 mV           2500 V ± 2.0% ± 2.0(100 K) = 500 K0 ± 10.3%         Brono-sinusoidal waveforms         ± 3% ± 2 digits 10 mV to 100 mV           2500 V ± 2.0% ± 2.0(100 K) = 500 K0 ± 10.3%         Brono-sinusoidal waveforms         ± 3% ± 2 digits 10 mV to 100 mV           2500 V ± 2.0% ± 2.0(100 K) = 500 K0 ± 11.5%         Frequency:         * Erequency:         * Brono-sinusoidal waveforms           1000 V ± 2.0% ± 2.0(100 K) = 500 K0 ± 11.5%         Frequency:         * Brono-sinusoidal waveforms         * Brono-sinusoidal waveforms           Short circuit/charge current:         2 mA +0% -50% to EN 61552-2         * Erequency:         * Erequency:         * Erequency:           Frequency:         * MA 4 min: pass value of insulation to a maximum of 2 mA         * Erequency:         * Erequency:         * Erequency:	Insulation accuracy				
50%         ± 2.0% ± 2.0         100 k.0 - 900 k.0 ± 10.3%         ± 3.0% ± 2.0         ± 5.0% ± 2.0         ± 5.0% ±	100 Volts. 20 G $\Omega$ $\pm 2\% \pm 2$ digits $\pm 2.0\%$ per G $\Omega$ 250 Volts. 50 G $\Omega$ $\pm 2\% \pm 2$ digits $\pm 0.8\%$ per G $\Omega$ 500 Volts. 100 G $\Omega$ $\pm 2\% \pm 2$ digits $\pm 0.4\%$ per G $\Omega$ 1000 Volts 200 G $\Omega$ $\pm 2\% \pm 2$ digits $\pm 0.2\%$ per G $\Omega$		Waveform	0 – 10 mV (15 to 400 Hz) For non-sinusoidal waveforms	
Lead1 GQ full scaleFrequency:Resolution0.1 kQFrequency measurement15 Hz - 400 HzShort circuit/charge current2 mA +0% -50% to EN 61557-2 (2007)Frequency measurement accuracy±0.5% ± 1 digit (100 Hz to 400 Hz unspecified)Open circuit voltage insulation-0% + 2% ± 2VCapacitance measurement insulation to a maximum of 2 ma max.Inf to 10 µF Capacitance measurement accuracy1 nf to 10 µF Capacitance measurement ± 5.0% ± 2 digits (0.1 n F - 1 nF unspecified)Leakage10% ±3 digitsStorage: Notage>1000 test results Bluetooth* Class IITimer control60 second countdown timerStorage capacity Data download>1000 test results Bluetooth* Class IINoteAbove specifications only apply when high quality silicone leads are being used.Range Power supply Mean high quality silicone leads are being used.up to 10 m 6 x 1.5 V cells MTR42h02, MIT42h02, MIT42h02, MIT42h02, MIT42h02, MIT42h02, Storage capacity Data download3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 V into 1 MQ Charger (Optional): 12-15 V dc (accessor) interface)Continuity accuracy± 3% ± 2 digits (0 to 00 0, Service Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Q - 2 Q ± 6.8%Battery life3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 V into 1 MQ Charger (Optional): 12-15 V dc (accessor) interface)Open circuit voltage5 V ± 1 V Service Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Q - 2 Q ± 6.8%BimensionsInstrument 228 mR x 2.25 in x 2.32 in)Open circuit voltage5	50V, $\pm 2.0\% \pm 2d$ , 100 kΩ - 900 kΩ $\pm 10.5\%$ 100V, $\pm 2.0\% \pm 2d$ , 100 kΩ - 900 kΩ $\pm 10.3\%$ 250V, $\pm 2.0\% \pm 2d$ , 100 kΩ - 900 kΩ $\pm 10.3\%$ 500V, $\pm 2.0\% \pm 2d$ , 100 kΩ - 900 kΩ $\pm 10.3\%$			Non-sinusoidal waveforms: $\pm 3\% \pm 2$ digits >100 mV to 600 V TRMS $\pm 8\% \pm 2$ digits 10 mV to 100 mV	
InstructionTo the form of th	Display range		Frequency:		
Short circuit/charge current $2 \text{ mA} + 0\% - 50\%$ to EN 5152/2Frequency measurement accuracy $\pm 0.5\% \pm 1 \text{ digit (100 Hz to400 \text{ Hz unspecified)}Open circuit voltageinsulation-9\% + 2\% \pm 2VCapacitance measurementinsulation to a maximum of 2 mAmax.In F to 10 µFCapacitance measurementto 10 µF ± 5.0% ± 2 digits(0.1 nF - 1 nF unspecified)Leakage10% ± 3 digitsvoltage3\% \pm 3 digits ± 0.5% of ratedvoltageStorage:Result storage (MIT420/2 and MIT430/2):Timer control60 second countdown timerStorage capacityData download>1000 test resultsBluetooth® Class IINoteAbove specifications only applywhen high quality silicone leadsare being used.RangePower supplyup to 10 m6 x 1.5 V cellstype IEC LI6 (AA, MN1500, HP7,4M3 R6HP) Alkaline6 x 1.2 V NiMH rechargeable cellsmay be usedContinuityService From: BS EN 61557-4(2007) + \pm 2.0\%, 0.1 \Omega - 2 \Omega\pm 6.8\%Battery life3000 insulation tests with dutycycle of 5 sec ON 75 sec OFF @1000 V int 1MQCharger (Optional): 12-15 V dc(accessor) interface)Open circuit voltage5 V \pm 1 VWeight600 g (MIT400/2), (1.32 lb)PolaritySingle polarity (Default) / DualWeight600 g (MIT400/2), (1.32 lb)$				15 Hz - 400 Hz	
Open circuit voltageOPEN OFEN OFENMIT420/2, MIT430/2Test current1 mA at min. pass value of insulation to a maximum of 2 mA max.MIT420/2, MIT430/2Leakage10% ±3 digitsCapacitance measurement ± 5.0% ± 2 digits (0.1 nF - 1 nF unspecified)Voltage3% ±3 digits ±0.5% of rated voltageStorage:Voltage3% ±3 digits ±0.5% of rated voltageStorage capacity > 1000 test resultsTimer control60 second countdown timerStorage capacity Data downloadNoteAbove specifications only apply when high quality silicone leads are being used.Rangeup to 10 mContinuity:0.01 Ω to 999 kΩ (0 to 1000 kΩ on analogue scale)6 x 1.5 V cells type IEC LR6 (AA, MN1500, HP7, AM3 R6HP) Alkaline G x 1.2 V NiMH rechargeable cells may be usedContinuity accuracy± 3% ± 2 digits (100 100 Ω) ± 5% ± 2 digits (100 to 500kΩ) (500kΩ to 11MΩ unspecified)Battery lifeService Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Ω - 2 Ω ± 6.8%DimensionsInstrument 228 mm x 108 mm x 63 mm (9.00 in x 4.25 in x 2.32 in)Open circuit voltage5V ± 1 VWeightGo0 g (MIT400/2), (1.32 lb)PolaritySingle polarity (Default) / DualWeightGo0 g (MIT400/2), (1.32 lb)	Short circuit/charge curren		Frequency measurement		
Test current       1 mA at min. pass value of insulation to a maximum of 2 mA max.       Capacitance measurement ± 5.0% ± 2 digits (0.1 nF - 1 nF unspecified)         Leakage       10% ± 3 digits ±0.5% of rated voltage       Storage (MIT420/2 and MIT430/2):         Yoltage       3% ± 3 digits ±0.5% of rated voltage       Storage capacity       >1000 test results         Timer control       60 second countdown timer       Storage capacity       >1000 test results         Note       Above specifications only apply when high quality silicone leads are being used.       Range       up to 10 m         Continuity:       0.01 Ω to 999 kΩ (0 to 1000 kΩ on analogue scale)       6 x 1.5 V cells type IEC LR6 (AA, MN1500, HP7, AM3 R6HP) Alkaline 6 x 1.2 V NiMH rechargeable cells may be used       3000 insulation tests with duty cycle of 5 sec OFF @ 1000 V into 1 MΩ (2007) + ± 0.0%, 0.1 Ω - 2 Ω ± 6.8%         Open circuit voltage       5 V ± 1 V       Battery life       3000 insulation tests with duty cycle of 5 sec OFF @ 1000 V into 1 MΩ (2007) - ± 2.0%, 0.1 Ω - 2 Ω ± 6.8%         Open circuit voltage       5 V ± 1 V       Weight       600 g (MIT400/2), (1.32 lb)         Polarity       Single polarity (Default) / Dual       600 g (MIT400/2), (1.32 lb)		-0% +2% ± 2V	Capacitance measurement:		
Leakageinsulation to a maximum of 2 mA max.Capacitance measurement accuracy± 0.0% ± 2 digits (0.1 nF - 1 nF unspecified)Voltage3% ± 3 digits ±0.5% of rated voltageStorage:Result storage (MIT420/2 and Data downloadMIT430/2):Timer control60 second countdown timerStorage capacity Data download>1000 test results Bluetooth® vireless Bluetooth® vireless Bluetooth® Class IINoteAbove specifications only apply when high quality silicone leads are being used.Rangeup to 10 mContinuity:0.01 Ω to 999 kΩ (0 to 1000 kΩ on analogue scale)Battery life3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 virto 1 MΩContinuity accuracy± 3% ± 2 digits (100 to 500Ω) (500kΩ to 1MΩ unspecified) Service Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Ω - 2 Ω ± 6.8%Battery life3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 virto 1 MΩ Charger (Optional): 12-15 V dc (accessory interface)Open circuit voltage5 V ± 1 V 200 mA (-0 mA +20 mA) (0.01 Ω to 4.0)Weight600 g (MIT400/2), (1.32 lb)PolaritySingle polarity (Default) / DualWeight600 g (MIT400/2), (1.32 lb)			MIT420/2, MIT430/2		
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Voltage $3\% \pm 3$ digits $\pm 0.5\%$ of rated voltageResult storage (MIT420/2 and MIT430/2):Timer control60 second countdown timerStorage capacity Data download>1000 test results Bluetooth® wireless Bluetooth® Class IINoteAbove specifications only apply when high quality silicone leads are being used.Rangeup to 10 mContinuity:0.01 $\Omega$ to 999 k $\Omega$ (0 to 1000 k $\Omega$ on analogue scale)6 x 1.5 V cells type IEC LR6 (AA, MN1500, HP7, AM3 R6HP) Alkaline 6 x 1.2 V NiMH rechargeable cells may be usedContinuity accuracy $\pm 3\% \pm 2$ digits (0 to 100 $\Omega$ ) $\pm 5\% \pm 2$ digits (100 to 500k $\Omega$ ) (500k $\Omega$ to 1M $\Omega$ unspecified) Service Error: BS EN 61557-4 (2007) - $\pm 2.0\%$ , 0.1 $\Omega - 2 \Omega$ $\pm 6.8\%$ Battery life3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 V into 1 M $\Omega$ Charger (Optional): 12-15 V dc (accessory interface)Open circuit voltage $5 V \pm 1 V$ DimensionsInstrument 228 mm x 108 mm x 63 mm (9.00 in x 4.25 in x 2.32 in)PolaritySingle polarity (Default) / DualWeight600 g (MIT400/2), (1.32 lb)		max.			
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Timer control60 second countdown timerStorage capacity Data download>1000 test resultsNoteAbove specifications only apply when high quality silicone leads are being used.Rangeup to 10 mContinuity:0.01 Ω to 999 kΩ (0 to 1000 kΩ on analogue scale)6 x 1.5 V cells type IEC LR6 (AA, MN1500, HP7, AM3 R6HP) Alkaline 6 x 1.2 V NiMH rechargeable cells may be usedContinuity accuracy± 3% ± 2 digits (10 to 1000 Ω) ± 5% ± 2 digits (100 to 500kΩ) (500kΩ to 1MΩ unspecified) Service Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Ω - 2 Ω ± 6.8%Battery life3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 V into 1 MΩ Charger (Optional): 12-15 V dc (accessory interface)Open circuit voltage5 V ± 1 VImmensionsInstrument 228 mm x 108 mm x 2.32 in)Open circuit voltage5 V ± 1 VWeight600 g (MIT400/2), (1.32 lb)PolaritySingle polarity (Default) / DualWeight600 g (MIT400/2), (1.32 lb)	Voltage		Result storage (MIT420/2 and	MIT430/2):	
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±5% ±2 digits (100 to 500kΩ) (500kΩ to 1MΩ unspecified) Service Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Ω - 2 Ω ± 6.8%       Battery life       3000 insulation tests with duty cycle of 5 sec ON /55 sec OFF @ 1000 V into 1 MΩ Charger (Optional): 12-15 V dc (accessory interface)         Open circuit voltage       5 V ± 1 V       Dimensions       Instrument 228 mm x 108 mm x 63 mm (9.00 in x 4.25 in x 2.32 in)         Open circuit voltage       5 V ± 1 V       Weight       600 g (MIT400/2), (1.32 lb)         Polarity       Single polarity (Default) / Dual       Weight       600 g (MIT400/2), (1.32 lb)	-			6 x 1.2 V NiMH rechargeable cells	
Open circuit voltage         5 V ± 1 V         63 mm (9.00 in x 4.25 in x 2.32 in)           Test current         200 mA (-0 mA +20 mA) (0.01 Ω to 4 Ω)         Weight         600 g (MIT400/2), (1.32 lb)           Polarity         Single polarity (Default) / Dual         Single polarity (Default) / Dual	±5% ±2 digits (100 to 500k (500kΩ to 1MΩ unspecified Service Error: BS EN 61557-4 (2007) - ± 2.0%, 0.1 Ω - 2 Ω		Battery life	cycle of 5 sec ON /55 sec OFF $@$ 1000 V into 1 M $\Omega$ Charger (Optional): 12-15 V dc	
Open Circuit voltage $5 \sqrt{\pm 1} $ Weight $600 \text{ g} (\text{MIT400/2}), (1.32 \text{ lb})$ Test current $200 \text{ mA} (-0 \text{ mA} + 20 \text{ mA}) \\ (0.01 \Omega \text{ to } 4 \Omega)$ Weight $600 \text{ g} (\text{MIT400/2}), (1.32 \text{ lb})$ PolaritySingle polarity (Default) / DualVeight $600 \text{ g} (\text{MIT400/2}), (1.32 \text{ lb})$		5.4.4.4.4	Dimensions	63 mm (9.00 in x 4.25 in x	
Polarity     Single polarity (Default) / Dual			Weight	,	
	lest current				

## 1.800.561.8187



Weight (instrument and case)	1.75 kg (3.86 lb)
Fuse	Use only 1 x 500 mA (FF) 1000 V 32 x 6 mm ceramic fuse of high breaking capacity HBC 30 kA minimum. Glass fuses MUST NOT be fitted.
Safety protection	The instruments meet EN 61010-1 (1995) to 600 V phase to earth, Category IV. Refer to safety warnings supplied.
ЕМС	In accordance with IEC 61326 including amendment No.1
Temperature co-efficient	<0,1% per °C up to 1 G $\Omega$ <0,1% per °C per G $\Omega$ above 1 G $\Omega$
Environmental:	
Operating temperature range and humidity	-10 to +55 °C 90% RH at 40 °C max.
Storage temperature range	-25 to +70 °C
Calibration temperature	+20 °C
Maximum altitude	2000 m
IP rating	IP 54





# 1.800.561.8187 www.itn.com information@itm.com