

**TEST AND  
MEASUREMENT  
FROM MEGGER**

**Megger**<sup>®</sup>



**TEST AND  
MEASUREMENT**

**EN**  
ENGLISH

# EVT100

ELECTRIC VEHICLE TESTER



## APPLICATIONS



- Hybrid Electric Vehicles - HEV
- Battery Electric Vehicle - BEV
- Plugin Hybrid Electric Vehicles - PHEV
- Light Electric Vehicles - LEV
  - 2 Wheelers
  - 3 Wheelers
  - 4 Wheelers

## TARGET CUSTOMERS



- Manufacturers
- Garages
- Repair Centres
- Maintenance Centres
- Insurance Companies
- Crash Investigation Centres

## FEATURES



- Meets UN Regulation 100r3e for Electric Vehicle Testing
- DC Voltage and polarity test 0 - 1000 V
- Insulation resistance & surface leakage current detection 100  $\Omega$  - 200 G $\Omega$  (50 - 1000 V & Guard Terminal)
- Continuity and bonding testing 1 m $\Omega$  - 10  $\Omega$  (200 mA) includes patented 4 wire Kelvin leads
- 2 wire continuity testing 0.01  $\Omega$  - 1 M $\Omega$  (20 mA - 200 mA)
- Temperature testing and recording Type T Thermocouple 600V
- Data Storage and Management 256 tests results date & time stamped



## ADDITIONAL NOTES

### Low resistance testing with four terminals

Used for detecting critical changes in electric and mechanical bonding metal components, frame structures, equipotential points to earth, and lightning protective conductors. Tests are performed at 200mA dc.

### Insulation testing with three terminals

Used for measuring the electrical separation of conductive parts or conductors from earth, and the condition of insulating materials.

It can test insulation resistance from 100  $\Omega$  up to 200 G $\Omega$ , with test voltages of 50 V, 250 V, 500 V, 1 kV.

### Diagnostic insulation tests

A good insulation resistance values means a relatively high resistance to current flow, as well as the ability to maintain a high resistance.

Spot Reading Test, IR; Polarization Index Test, PI; Dielectric Absorption Ratio, DAR; Timed insulation resistance test T(s)

### Continuity testing with two terminals

Tests at 20 mA and 200 mA two wire continuity bonding, to identify changes in bonded components

### Temperature test

Test, record temperature values in batteries and connectors, and compensate changes in insulation with the temperature.

The supplied thermocouple CAT III 600 V, allows temperature test and insulation resistance compensation.



## ADDITIONAL SPECIFICATIONS

- Rechargeable Li-ION and battery charger kit
- Guided lead set up diagrams
- Tough multipurpose industrial carrycase
- Calibration certificate included



# IMT100

INDUSTRIAL MULTI TESTER  
FOR PHOTOVOLTAIC SYSTEMS

DIGITALES  
MULTIMETER

TEMPERATURE  
MEASUREMENT

INSULATION  
TESTING

LOW  
RESISTANCE

AC MAINS AND MOTOR  
PHASE ROTATION

CAPACITANCE &  
INDUCTANCE

DATA  
MANAGEMENT



- Full colour toughened graphic display
- Battery charger + Li ION & AA battery options
- Tough shock absorbing rubber over moulding IP54 operational housing
- Though multipurpose industrial carrycase
- Over 7 multifunctional test leads Includes PV connectors and Type T Thermocouple 600V
- Guided lead set up diagrams
- True continuity and bonding testing 1 m $\Omega$  10  $\Omega$  (200 mA) includes patented 4 wire Kelvin leads
- Accurate 2 wire continuity testing, 0.01  $\Omega$  1 M  $\Omega$  (20 mA 200 mA)
- Insulation resistance & surface leakage current detection 100  $\Omega$  200 G  $\Omega$  (50 1000 V & Guard Terminal)
- Diode test 0.01 V - 3.00 V
- DC Voltage and polarity test 0 - 1000 V
- AC voltage, phase rotation and frequency 10 mV - 1000 V (15 400 Hz)
- Meets IEC62446 for PV testing and additional tests
- Meets UN Regulation 100r3e for Electric Vehicle testing
- Safety protection IEC61010 & EMC IEC61326, CAT III 600 V up to 3000 m
- Data Storage and Management, 256 tests results date & time stamped
- Calibration certificate included

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**Included accessories:** Hook strap assembly, Multipurpose industrial carrycase, SP5 remote probe, Temperature probe, T type CAT III 600 V

**IR lead set** (comprising of):

3 x Grabber Clips (Red, Black and Blue) CAT III 1000 V, CAT IV 600 V

3 x 4 mm Test leads, 2 m, 1 end Right Angle, 1 end straight (red, black and blue) CAT III 1000 V, CAT IV 600 V

3 x Test probes (red, black and blue), long reach (100 mm), CAT III 1000 V, CAT IV 600 V

**Kelvin clip lead set** CAT III 600 V (comprising of):

2 x Kelvin Clip leads, 2 meters, 4 mm Right Angled Connectors (4), Single (2-core) cable.

**Kelvin probe lead set** CAT III 600 V (comprising of):

2 x Kelvin Probe leads, 2 meters, 4 mm Right Angled Connectors (4), Single (2-core) cable.

Replaceable Kelvin Probe Pins (Pack of 4),

**PV Test Lead Set** adaptors (comprising of):

MC4-type one red and one black connector adaptors

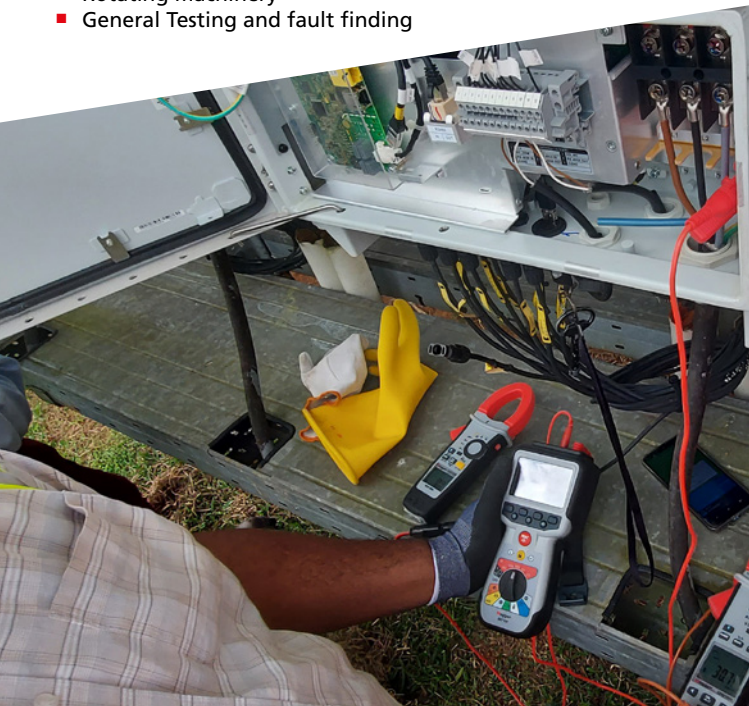
MC3-type black connector adaptors





## APPLICATIONS

- Photovoltaic installations – domestic, industrial, utilities
- Electric vehicles – Battery EV, Plugin hybrid EV, light EV
- Industrial and domestic installations
- Rotating machinery
- General Testing and fault finding





# MTR105

## TESTER FOR ROTATING MACHINES



5  
TESTERS  
IN ONE!

Item no. 1010-361

- Full color graphic display
- 3-phase insulation resistance
- Temperature correction for insulation resistance
- Guard Terminal
- Continuity testing and diode testing
- Direction of motor rotation
- Capacitance and inductance
- CAT III 600 V up to 3000 m
- Protection class IP54
- DLRO Four-wire measurement

**Included accessories:** Hook strap assembly, soft bag, temperature probe type T CAT III 600 V; MTR105 calibration certificate; USB memory stick; IR test lead set: 3 x clips (red, black and blue) CAT III 1000 V CAT IV 600 V, plus, 3 x 4 mm test leads 2 m, 1 end right angle 1 end straight (red, black and blue) CAT III 1000 V CAT IV 600 V, plus, 3 x test probes (red, black and blue), long reach (100 mm) CAT III 1000 V CAT IV 600 V; Kelvin test lead set with clamp CAT III 600 V: 2 x Kelvin terminal leads, 2 m 4 mm right-angle connectors (4), single (2-core) cable

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# AVO215

## CAT III TRMS MULTIMETER



Item no. **1015-233**

- 4000 count display
- AC / DC Voltage to 600 V
- AC / DC Current to 10 A
- True RMS
- Resistance, capacitance, frequency ranges
- Duty cycle
- Auto ranging
- Auto power off
- Data hold
- Max/Min
- Built in flashlight
- Rear tilt stand
- CAT III 600 V Rating

**Included accessories:** Test leads, Protective carry pouch

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The AVO215 true RMS multimeter is a rugged compact instrument for demanding environments. It measures true RMS voltage up to 600 V and current to 10 A with 4000 count resolution. As well as resistance, continuity, frequency, and capacitance for quick verifications, it meets CAT III 600 V AC/DC safety and contains a built-in flashlight, making it ideal for wide range of applications.

The AVO215 comes with a range of useful features, such as the continuity function, which provides audio and visual results through the use of a buzzer, and the diode function, which allows forward reverse bias testing of diode and semiconductor junctions. Additionally, the unit has an auto range or manual range selection, enabling you to do the job with precision and speed, and it's MIN/MAX and hold functions allow you to read the results easily in daily use.

# MFT-X1

## INSTALLATION TESTER

Item no. 1012-225

- True Loop™ test with patented Confidence Meter™
- CertSuite™ compatible Bluetooth® result transfer
- Next generation 2-wire and 3-wire non-trip loop testing
- User upgradeable operating system
- High resolution 0.001Ω loop test
- Automatic volt-drop measurement
- Stabilised insulation test voltage
- Configurable RCD and EV auto-sequence tests
- Fast switch rechargeable plug-in battery pack
- Full colour TFT bonded display
- Re-designed lead set and carry case solution
- IP54 operational housing

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**TRMS**  
→ 600V

**TRUE  
LOOP**



**CAT IV**



The new electrical installation testing platform MFT-X1 is the first of a new generation of firmware upgradeable, full functionality multi-function testers for low voltage electrical installations.

Intended for use on all low voltage electrical installations including EV charge points and domestic photovoltaic systems, the range of test capabilities allow for general commissioning of installations and periodic maintenance as well as detailed fault diagnostics.

## APPLICATIONS

The primary application is the testing of low voltage electrical installations in domestic, commercial, and industrial installations for single and three phase systems.

The wide range of test capabilities extend the use of the MFT-X1 to include:

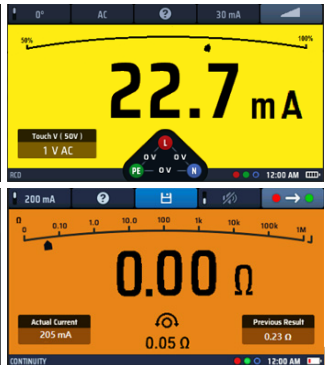
- **EV charge point testing**
- **Domestic PV testing**
- **Motor/Generator testing**
- **Machine testing**
- **Portable appliance safety testing**
- **Panel building and switchgear manufacturing**
- **Cable testing**

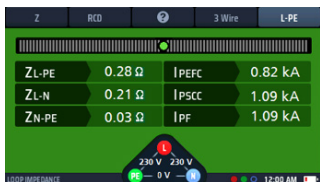
## ACCESSORIES



**Included accessories:** Switched test probe SP5, Red test lead, probes, clips and grabbers, Blue test lead, probe, clips and grabbers, Green test lead, probe, clips and grabbers, Li-Ion battery 4400 mAh, Li-Ion battery charge, Neck strap, Multipurpose hard base carry case, Quick start guide, Calibration certificate

## EXAMPLES DISPLAY MODES





# CertSuite™

## ELECTRICIANS CERTIFICATION SOFTWARE

CertSuite Installation is the latest generation of electrical certification software. The cloud based system can be used on both Android or iOS smartphones and tablets as well as most browsers, allowing use on both laptops and desktops.

CertSuite Installation is a subscription based software package offering either annual or monthly subscriptions.



To find out more and to sign up,  
go to our site  
<https://certsuite.info>

Cloud based certification for PC, Mac,  
Android, iOS, smartphones and tablets.



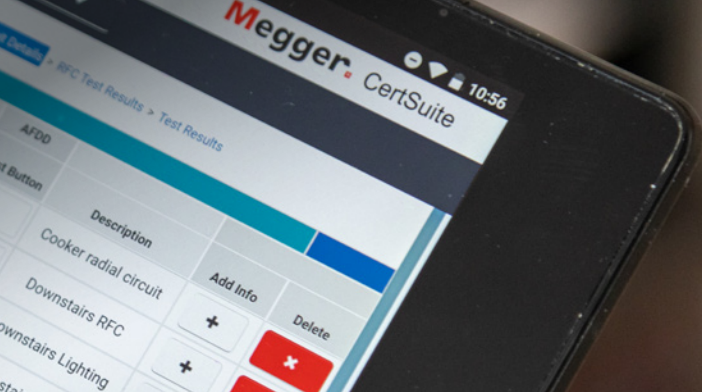
iOS

For help visit: **Certsuite.app**

or contact Megger by email: **software@megger.com**







- Quick, reliable and flexible – works on any device in any location
- Unlimited certificate generation
- Unlimited storage for certification records
- Online and offline operation – complete certificates without internet
- Free technical support and standards alignment
- Secure cloud-based certification on the Microsoft® Azure® platform
- Simultaneous job access for multiple users (licence required per user)
- Certificates:
  - Electrical certificates
  - Fire detection certificates
  - Emergency lighting certificates
  - PV certification
  - EV certification
  - Reports
  - Distribution schedules
- Secure PDF certificate generation
- Unlimited distribution boards and circuits
- Import company/accreditation logos and digital signatures
- Attach photographs and documents to certificates



# MFT1800 Series

## INSTALLATION TESTER



The MFT1800 series complies with all standards for testing low-voltage electrical installations including DIN VDE 0100, ÖVE E 8001, NIN/NIV and offers you all the test features needed for the mandatory testing of electrical systems.

The MFT1800 series provide safety input protection across all terminals and warns the user of any dangerous voltages, on both single and three phase circuits. The MFT1800 series provide a light, compact easy to use tester and the MFT1845+ includes the very latest, patented, True Loop™ technology for unrivaled earth loop measurements - even in high noise environments. This makes the MFT1845+ future-proof and meet all the requirements of DIN VDE 0100-600, NIV/NIN, ÖVE E 8001 or HD 60364.

All models feature 2 & 3 wire loop resistance testing without RCD tripping for fast, repeatable results, comprehensive testing of RCD's including type B, as well as the latest current clamp measuring methods for stakeless earth testing. Further we provide an internal memory with Bluetooth communication (model dependent) for easy creation of test reports.

MFT1815  
Item no.  
**1002-403**

MFT1825  
Item no.  
**1002-408**

MFT1845+  
Item no.  
**1012-597**

- Voltage TRMS up to 600V
- Rotary field measurement
- Frequency 15Hz to 400Hz
- Continuity 15/200mA with limit alarm
- Insulation 100V, 250V, 500V, 1000V
- Loop Impedance with True Loop™
- 3-Wire No-Trip test
- 2HI - 2-Wire High current
- 2-Wire No Trip (No neutral required)
- Type A, AC,S & (B - MFT1825/1845+)
- 10/30/100/300/500mA/ 1A/RCD Test
- RCD Manual/Automatic Test
- RCD Ramp Test
- Programmable RCD test current
- 6mA DC RCD test for EV charging stations (1845+ only)
- CAT IV / IP 54 / ca.1200g / with batteries
- 2 & 3 pole earth testing (MFT1825/1845+)
- No-Stake earth testing using optional clamps (MFT1835/1845+)
- ART Earth testing without disconnection (MFT1845+)
- Optional MCC Earth Leakage clamp (MFT1845+)
- Rechargeable batteries (NiMH) with charger (MFT1835/1845+)
- Measured value memory 1000 results (MFT1835 & 1845+)
- Bluetooth interface (MFT1845+)

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**Included accessories:** Printed quick start guide, complete operating manual on CD, calibration certificate, switch probe SP5, shoulder strap - embroidered with Megger logo, lead set with probes and crocodile clips, European test lead SIA45 (not AU), measuring cable with AU/NZ connector (AU only), AC charger, MFT carrying case



The analogue arc simulates the behaviour of a mechanical measuring needle display



A sturdy hard shell case offers your device space and protection (the MFT1845+ comes in a bag)



Large buttons for left or right handed operation



Robust rotary switches with safe and easy colour coding

Insulation measurement	100 V
	250 V
	500 V
	1000 V
	Test voltage display Acoustic signal adjustable
Continuity & resistance measurement	200 mA Test current
	15 mA Test
	Measurement line compensation
	Acoustic signal adjustable Continuity test with automatic polarity reversal
Loop impedance measurement	True Loop™ measurement feature
	3-wire test without FI/RCD tripping (L-N-PE)
	2-wire test without FI/RCD tripping (L-PE)
	2-wire test with high current (L-L and L-N)
	2-wire test outer conductor-outer conductor (L-L) Display Short circuit current up to 20 kA
FI/RCD audit	1/2 x IΔN FI/RCD
	1 x IΔN FI/RCD
	2 x IΔN FI/RCD
	5 x IΔN FI/RCD
	Auto FI/RCD check
	Increasing current (ramp test)
	Type AC (standard) FI/RCDs
	Type A (DC pulse) FI/RCDs
	Type S (selective) FI/RCDs
	Type B/B+ (sensitive to universal current) FI/RCD
	EV RCD
	Programmable and 3-phase FI/RCD test
	Display of the touch voltage
	Contact voltage limit value sett. 25/50 V
	FI/RCD tests 2-pole without N or PE
	Testing with reversed polarity possible
	10 mA FI/RCD
30 mA FI/RCD	
100 mA FI/RCD	
300 mA FI/RCD	
500 mA FI/RCD	
1000 mA FI/RCD	
Earth measurements	Earth measurements 2-pole or 3-pole
	Earth measurements with 1 current clamp (ART)
	Earthing measurements with 2 current clamp. (ground loop)
	Measuring voltage limit value sett. 25/50 V
Other functions	New operating system update via microSD card
	Voltage measurement (L-N, L-PE, N-PE)
	Frequency measurement
	Current measurement, with ILCAMP pliers
	Rotary field display
	Voltage drop measurement
	Illuminated LC display
	Automatic switch-off (Auto-Power-Off)
	Calibration certificate included in delivery
	Operation with batteries or rechargeable batteries (NiMH)
	Li-Ion rechargeable batteries included
	Internal measured value memory, Bluetooth® download
Optional software (CertSuite™ Software compatible)	
Megger Cloud Software + App	

	MFT1815	MFT1825	MFT1845+	MFT-X1
			■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
		■	■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
			■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■ (Resolution 0,001 Ohm)
	■	■	■	■
	■	■	■	■ (up to 50 kV)
	■	■	■	■
	■	■	■	■
		■	■	■
	■	■	■	■ + Autosequences
	■	■	■	■
	■	■	■	■
	■	■	■	■
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	■	■	■	■
		■	■	■
			■	■
			■	■
		■	■	■
				■
	■	■	■	■ (AC/DC)
	■	■	■	■
		■	■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
	■	■	■	■
			■	■
			■	■
				■

# EVCA210

TEST ADAPTER FOR  
EV CHARGING POINTS

COMPATIBLE  
WITH ALL  
MULTIFUNCTION  
TESTERS WITH EV  
CHARGING TEST  
CAPABILITY



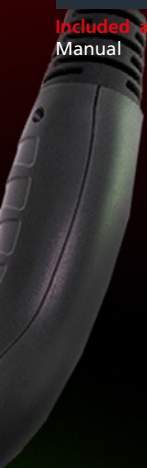
The Megger EVCA210/EVCA210-UK are compact, simple to use adapters designed to perform all the functions required by the electrical contractor to fully test Mode 3 AC Electric Vehicle Charge-points. Specially designed to comply with UK, European and other International wiring regulations and standards, the EVCA210 may be used on all single and three phase electric vehicle charge points, with appropriate connectors.

Item no. **1013-317**

- Push Button for PE Safety pre-test
- Push button for CP Error "E" simulation
- Push button for PE Error (Earth Fault) simulation
- Rotary switch providing PP State simulation
- Rotary Switch providing CP State simulation
- Type 2 Charging Plug for charging points with panel mounted socket outlet or fixed cable with vehicle connector
- Carrying Case
- CAT II 300 V Rating
- Comply with Low Voltage Directive LVD 2014/35

**Included accessories:** Type 2 Charging Plug, Carry Case, Instruction Manual

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# MIT SERIES

## INSULATION RESISTANCE MEASURING INSTRUMENTS



Regular insulation resistance testing is one of the most cost effective, non-destructive methods of identifying ageing in electrical equipment. With over 60% of equipment failures being ascribed to insulation breakdown, it is a key area to monitor. Diagnostic DC testing is probably the easiest and most convenient method of achieving this due to the small size and weight of the equipment, and with Megger's advanced Guard Terminal technology, you can reliably avoid measurement inaccuracies due to leakage currents.

Electrical insulation testing needs have existed as long as electrical assets themselves. Well-chronicled deficiencies of early insulation systems became apparent almost immediately after the first lighting systems were laid over 125 years ago. Although insulation systems have evolved significantly since then, the need to test them never goes away. The consequences of failure are too high.



The first DC portable insulation tester was developed in 1889 by our founders, Sydney Evershed and Ernest Vignoles, and by 1903 was being sold as a Megger® insulation tester.

Experience the exceptional accuracy, repeatability and reliability of these test instruments. With Megger's advanced Guard technology you can reliably and quickly avoid inaccurate readings due to leakage currents.

	MIT400/2	MIT410/2	MIT420/2	MIT430/2	MIT481/2	MIT485/2	MIT2500	MIT515	MIT525	MIT1025	MIT1525
<b>Test voltages</b>											
10 kV / 15 kV										■	■
5 kV								■	■	■	■
2,5 kV							■	■	■	■	■
1000 V	■	■	■	■	■	■	■	■	■	■	■
500 V	■	■	■	■	■	■	■	■	■	■	■
250 V	■	■	■	■	■	■	■	■	■		
50 V / 100 V		■	■	■	■	■	■				
10 V - 100 V											
<b>Insulation - Test methods</b>											
Polarization index		■	■	■	■	■	■	■	■	■	■
Dielectric absorption ratio		■	■	■	■	■	■		■	■	■
Step voltage/ramp									■	■	■
Dielectric discharge									■	■	■
<b>Further tests</b>											
Continuity check	■	■	■	■	■	■	■				
Frequency measurement		■	■	■	■	■	■				
Capacity measurement			■	■	■	■	■	■	■	■	■
Voltage measurement	■	■	■	■	■	■	■	■	■	■	■
<b>Memory and interfaces</b>											
Data memory			■	■	■	■	■		■	■	■
USB interface									■	■	■
Bluetooth interface				■		■	■				
<b>Supply</b>											
Mains Power supply									■	■	■
Rechargeable batteries	▲	▲	▲	▲	▲	▲	▲	▲	■	■	■
<b>Security</b>											
CAT III / 600 V											
CAT IV / 600 V	■	■	■	■	■	■	■	■	■	■	■
Interference resistance											
Calibration certificate included	■	■	■	■	■	■	■	■	■	■	■
Software included				■			■				
Power DB Lite									■	■	■
Power DB									□	□	□
Guard Terminal							■	■	■	■	■

■ Function   □ Option   ▲ Rechargeable batteries possible

# MIT400/2



Item no. 1004-731

- Designed for Electrical and Industrial testing
- Insulation testing up to 1000 V and 200 G $\Omega$  range
- 600 V Trms AC and DC voltage measurement
- Live circuit detection and protection
- Adjustable insulation test voltage from 10 V to 1000 V
- Single range, faster continuity testing from 0.01  $\Omega$  to 1 M $\Omega$
- CAT IV 600 V and IP54

**Included accessories:** Red/Black Silicone test leads with Probes + Clips, Batteries 6 x AA Alkaline, Hard carry case, Calibration certificate



# MIT420/2



Item no. 1004-739

- Insulation testing up to 1000 V and 200 G $\Omega$  range
- Stabilised insulation test voltage
- Single range, faster continuity testing from 0.01  $\Omega$  to 1 M $\Omega$
- 600 V TRMS AC and DC voltage measurement
- Live circuit detection and protection
- User variable insulation test voltage from 100 V to 1000 V
- Test result storage and Bluetooth<sup>®</sup> downloading
- CAT IV 600 V & IP54

**Included accessories:** Red/Black Silicone test leads with Probes + Clips, remote switch probe, Batteries 6 x AA Alkaline, Carry case



# MIT485/2



Item no. 1004-742

- Specialist Telecoms IR tester
- Insulation testing up to 500 V and 100 G $\Omega$  range in a hand held instrument
- 3 wire connection for A, B and E (Tip, Ring and Earth) connection
- Gated access to 500 V to prevent accidental damage
- Single range, fast continuity testing from 0.01  $\Omega$  to 1 M $\Omega$
- Stabilized insulation test voltage
- 600 V Trms AC and DC voltage measurement
- Test result storage and Bluetooth<sup>®</sup> downloading
- CAT IV 600 V and IP 54

**Included accessories:** Red/Black silicone test leads with prods and clips, SP5 Switched probe, Batteries 6 x AA Alkaline, Hard carry case



# MIT2500

Item no. 1004-745

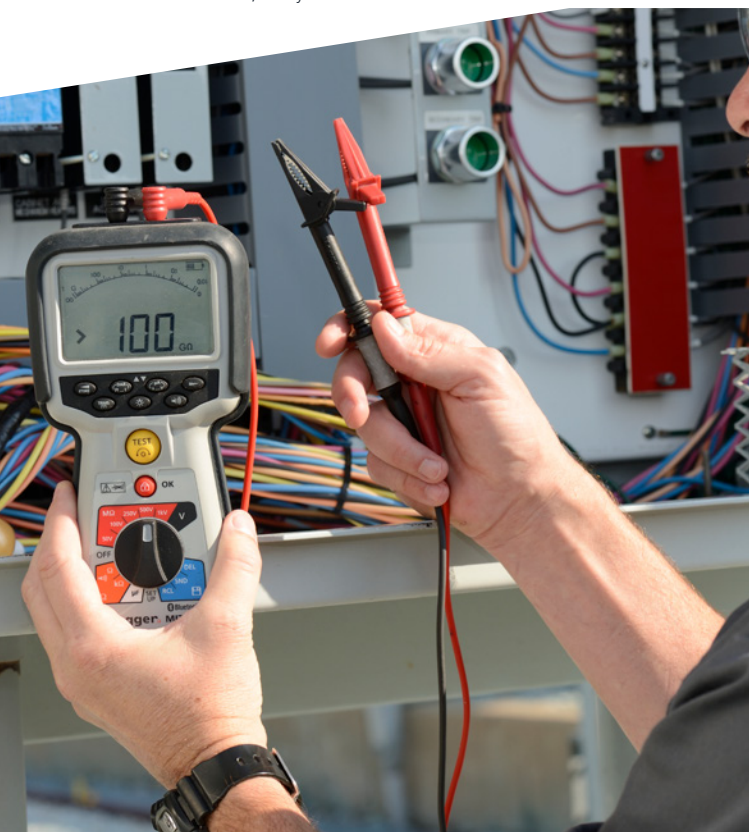


- Insulation testing up to 2.5 kV and 200 GΩ range in a hand held instrument
- Guard terminal for high resistance accuracy
- Adjustable insulation test voltage from 50 V to 2500 V
- Stabilised insulation test voltage
- Rechargeable options for mains and car charging
- Single range, faster continuity testing from 0.01 Ω to 1 MΩ
- Polarisation Index (PI) and Dielectric Absorption Ratio (DAR)
- CAT IV 600 V applications

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**Included accessories:** Red/Black/Blue silicone test leads with prods and clips, 2.5 kV Red/Black/Blue silicone test leads with clips, Owner's Information CD, Batteries 6 x AA Alkaline, Carry Case



# MIT515 MIT525

MIT515 Item no.  
**1001-937**

MIT525 Item no.  
**1001-941**



- Insulation measurement up to 5 kV DC
- Measuring range to 10 TΩ (MIT515)
- Measuring range to 20 TΩ (MIT525)
- Diagnostic function PI, DAR, DD and ramp test
- Li-ion battery, high capacity, fast charging
- Test category CAT IV / 600 Volt
- Robust impact-resistant outdoor carrying case, protection class IP65
- Operational up to 3,000 m above sea level
- Light and compact only 4.5 kg
- Measurement with discharged battery - with simultaneous charging at the mains

**Included accessories:** Power cord, USB cable, lead set 3 m, medium sized insulated test clamps

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# MIT1025

# MIT1525

MIT1025 Item no.  
**1001-945**

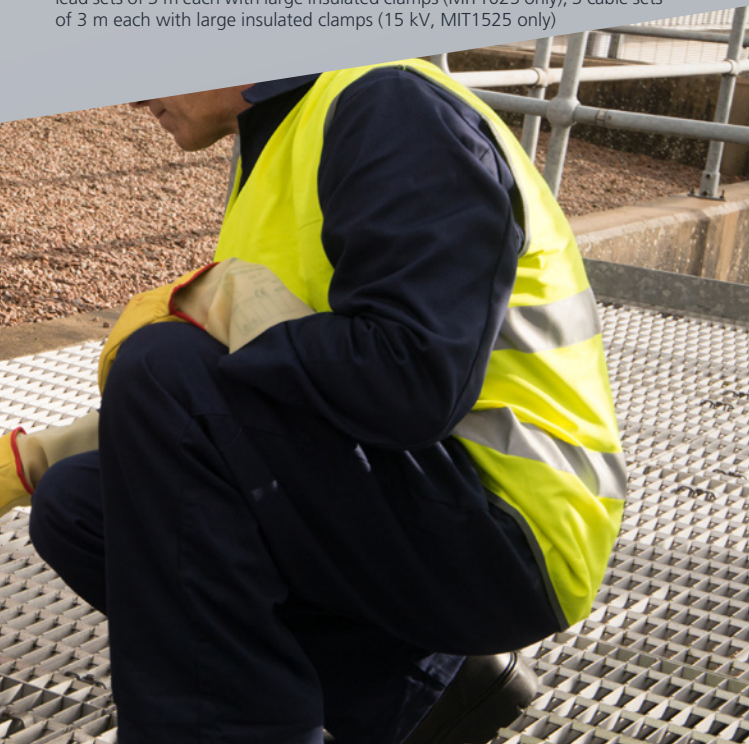
MIT1525 Item no.  
**1002-908**



- Insulation measurement 100 V to 10 kV DC (MIT1025)
- Insulation measurement 40 V to 15 kV DC (MIT1525)
- Measuring range to 20 TΩ (MIT1025)
- Measuring range to 30 TΩ (MIT1525)
- PI, DAR, DD, SV and ramp test
- Battery and mains operation (while the battery is charging)
- Li-ion battery, high capacity, fast charging
- Quick charge function
- Automatic date function
- CAT IV 600 V
- Internal memory with data logger at 5-second intervals or real-time transmission via USB interface with one measurement per second

**Included accessories:** Mains cable, USB cable, product information CD, 3 lead sets of 3 m each with large insulated clamps (MIT1025 only), 3 cable sets of 3 m each with large insulated clamps (15 kV, MIT1525 only)

CLICK FOR THE DATASHEET



# S1 SERIES

## INSULATION RESISTANCE MEASURING INSTRUMENTS



Megger's S1-Series of insulation resistance testers consist of a 5 kV, 10 kV and 15 kV models called S1-568, S1-1068 and S1-1568. These top end instruments are targeted at power utilities and service companies working in generation, transmission and distribution markets. Class leading charge current, noise rejection and software filters make the S1-Series Megger's most advanced DC insulation resistance testers to date.

Instrument productivity is a focus of the S1-Series which offers rapid charge batteries and operation from an AC source when the battery is flat. An intuitive user interface ensures no lost time remembering how to use the tester. Simplicity of operation is achieved with two rotary switches and a large backlight display which enables multiple results to be displayed simultaneously. A graphical quick start guide is provided inside the lid of each model to assist first time users.

Safety of operation is built in, 5 kV and 10 kV models are safety rated to CAT IV 600 V up to 3000 m and the 15 kV S1-1568 is rated at CAT IV 1000 V up to 4000 m. Original equipment manufacturers and repairers will welcome the remote control feature allowing them to

automate resistance testing on the factory floor, as will technicians in substations wanting to operate from a more convenient, safe distance.

The S1-Series have a dual case design with a tough outer case to protect the tester from knocks and drops and a fire retardant inner case. The case IP rating prevents moisture and dust ingress when storing or carrying the instrument. The lids have clip-on lead pouches ensuring that leads remain with the instrument at all times. Case lids are removable for improved access to the terminals.



S1-568 Item no.  
**1003-018**

S1-1068 Item no.  
**1003-009**

S1-1568 Item no.  
**1002-893**

- Resistance measurement: 15 T $\Omega$  - 5 kV,
- 35 T $\Omega$  - 10 kV, 35 T $\Omega$  - 15 kV
- High current – 6 mA short circuit current
- High noise immunity – 8 mA of noise rejection
- Four software filters: 10 s, 30 s, 100 s, 200 s
- Li-ion battery – charges in 2 hours and gives up to 6 hours continuous testing a 100 M $\Omega$  load (S1-568), battery meets IEC 62133
- CAT IV 600 V safety rating up to 3000 m (S1-568, S1-1068)
- CAT IV 1000 V safety rating up to 4000 m (S1-1568)
- Remote operation via USB cable
- Download of memory via isolated USB cable Bluetooth®
- IR, timed IR, DAR, PI, DD, SV and ramp diagnostic tests
- Large LCD display with backlight
- Dedicated voltmeter function (30 V to 660 V) AC or DC
- Advanced memory, on screen recall and real time clock for date/ time stamped results
- PowerDB Lite asset management compatibility
- Option to record temperature and/or relative humidity with saved results (measured independently)

**Included accessories:** Safety Warning Sheet, Product information CD, Power lead, Screened USB cable with filters, Remote control indicator beacon, 5 kV, 3 m x 3, medium insulated clips - S1-568 and S1-1068 only  
10 kV, 3 m x 3, large insulated clips - S1-1068 only  
15 kV, 3 m x 3, X-large insulated clips - S1-1568 only

CLICK FOR THE DATASHEET



# TPT420

## 2-POLE TESTER



The Megger TPT420 voltage tester is designed to provide electricians and electrical engineers with an easy-to-use voltage indicating instrument. The meter will continue to warn the operator of dangerous test voltages even when the batteries are exhausted.

With both LCD and LED displays, the TPT420 provides both AC and DC voltage measurement from 12 to 1000 V AC and up to 1500 V DC. In addition, a continuity function within the range 0 to 500 k $\Omega$ , is included and for added safety, continuity, and voltage measurements are also accompanied by an acoustic sounder.

Item no. **1013-189**

- CAT IV / 1000 V
- IP64 Rated
- 12...1000 V AC
- 12...1500 V DC
- LED and LCD Display
- Continuity test function with visual and acoustic indication
- Voltage indication with no batteries
- Single pole voltage test
- Phase rotation indication
- Integrated torch light

**Included accessories:** Pouch, GS88 shrouds, Batteries 2 x AAA

CLICK FOR THE DATASHEET





# MPU690

## PROVING UNIT FOR 2-POLE TESTERS COMPATIBLE WITH ALL COMMON VOLTAGE TESTERS

The MPU690 proving unit provides a portable battery operated voltage source that can verify the correct functioning of two-pole voltage detectors. The device safely generates a range of voltages from 50 to 690 V in five steps. At switch on, the unit initially generates 690 V then, after a short period, slowly ramps down through each voltage step until the device switches off. The individual voltage steps are indicated by an LED.



Item no. 1001-561

- Tests 2-pole testers and voltage indicators
- Step LED indicate test voltages 50V, 100V, 230V, 400V, 690V
- Simulates AC voltage with 50 Hz
- The compact housing contains a magnetic holder
- Automatic switch-on and switch-off for energy-saving operation, Battery level warning

CLICK FOR THE DATASHEET



# MET 1000


ELECTRICAL TESTER



IEC 61010-1  
CAT IV 600 V  
CAT III 1000 V

ALL  
IN  
ONE

-R

+ L2  - L1

The MET1000 All-in-one true RMS electrical tester is a multifunctional voltage and current tester that gives electricians and electrical engineers a versatile and robust handheld meter with detachable test leads. Featuring both LED and LCD displays, it gives you a 200 A AC and 1000 V AC/DC tester designed for everyday use. CATIV 600 V/CATIII 1000 V rated, with an IP65 housing for added protection, it reduces the number of testers required in the professional's tool bag.

In addition to the unit's adaptable auto-ranging voltage and continuity tests, the Megger MET1000 has a built-in current clamp for AC current measurement to 200 A. With true RMS AC measurements, a phase rotation test, and single pole voltage test built in, the MET1000 is a truly multi-purpose electrical test instrument, ideal for use in commercial, industrial, and domestic environments. It even comes with GS38 shrouds, provided as standard, to ensure compliance with the latest standards.

The instrument includes a bright LED torch to aid in safety when working in poorly lit conditions, and has a protective finger guard incorporated into its protective casing. This combined with its ergonomic design, carrying holster, and its easy-to-use probe mounting on the rear of the tester, all help to keep the user safe and the instrument protected.

Item no. **1013-099**

- LED & LCD Display with self-test
- Detachable Test Probes
- AC/DC Voltage to 1000 V
- 200 A AC measurement
- True RMS on ACV/ACA
- IP65
- Phase Rotation
- Single pole test
- Data Hold
- Measures voltage without batteries
- Complies with IEC/EN 61243-3:2014
- IP65

**Included accessories:** Red and black probe lead set, Carry holster with belt loop

CLICK FOR THE DATASHEET



# DCM305E

LEAKAGE CURRENT CLAMP



- Measuring ranges: 6 mA, 60 mA, 600 mA, 6 A, 60 A, 100A
- Automatic or manual measuring range
- 0.001 mA Resolution
- Up to 100 A range for standard AC current measurements
- TRMS value reading
- Low pass filter to aid stability of readings
- Auto Hold, Data Hold & Peak Hold
- 40 mm clamping jaw

**Included accessories:** Carry pouch, lead set and manual

CLICK FOR THE  
DATASHEET



The DCM305E earth leakage clamp meter is perfect for identifying and measuring the earth leakage current in a circuit where the RCD keeps tripping out unexpectedly. The measured result will quickly identify whether the earth leakage current present is excessive, causing the RCD to trip, or if the RCD itself is over sensitive or faulty.

Specially designed to check earth leakage currents, the DCM305E is an efficient and highly versatile instrument. It has six ranges, 6 mA, 60 mA, 600 mA, 6 A, 60 A, and 100 A, with a minimum resolution of 0.001 mA on the 6 mA range. Its upper range also enables TRMS AC current measurements up to 100 A.

The 40 mm jaw has been designed to allow measurements on both insulated and non-insulated conductors and this clamp meter vastly improves measurements on circuits with harmonics/ electric noise on the cables using a low pass filter of 50/60 Hz.

Safety is of the utmost importance and with that in mind, the DCM305E exceeds the latest safety design standards IEC1010-2-32 and EMC requirements and also includes a tactile hand barrier/hand guard in the instrument case design to help protect you when working.

A compare function is also featured which has 3 pre-set leakage limits (0.25, 0.50, 3.5 mA) which, when selected, offers a visual indication and audible warning when the pre-set limit is exceeded. Other key functions include the "Data Hold" feature, which helps you record measurements in areas that are difficult to access or are in poor lighting, and the „automatic power off" feature, which will switch the clamp off if no readings have been made during a 20 minute period, extending the battery life.

# DPM1000

**POWER CLAMP WITH MEGGER  
LINK APP**

**BLUETOOTH-  
CONNECTION  
TO THE  
MEGGER  
LINK™ APP**

**POWER METER  
HARMONICS  
METER  
DATA LOGGER**

The Megger DPM1000 power clamp meter combines the functionality of a power meter, harmonics meter, and data logger in one easy-to-use package that meets the requirements of BSEN 61010-1 CAT IV 600 V for supply side applications. It has a large, backlit LCD screen that clearly displays all measurements that can be selected at the touch of a button or when rotating the selection dial. It also features auto-ranging and has three-phase rotation indication and automatically switches off to save battery consumption.

- AC/DC Voltage to 1000 V
- AC/DC Current to 1000 A
- True RMS
- Resistance 100 k $\Omega$
- LCD Display
- Phase rotation indication
- Inrush current
- Auto backlight display
- Frequency measurement
- Capacitance measurement
- Power Factor Measurement
- Watt measurement to 1MW
- Harmonic measurement
- Harmonic distortion
- Diode test
- Non-contact volt alert
- Continuity Beeper
- Data Hold/Min-Max/Peak Hold
- Bright LED torch
- Temperature to 1000° C
- Hard carry case
- CAT IV 600V Rating
- Bluetooth/Megger Link™ APP
- Supplied with carry case

**Included accessories:** DCM 4mm Spare Lead Set, TP-90 Thermocouple Probe, Hard Carry Case

CLICK FOR THE DATASHEET



The DPM1000 can measure DC, AC, pulsed, and mixed currents up to 1000 A simply by clamping the jaws around the appropriate conductor, whilst voltages up to 1000 V AC or DC may be measured by the supplied test leads. Where power measurements are to be made, both techniques above are performed simultaneously. All power related parameters can be measured including energy consumption, frequency, total harmonic distortion, distortion factor, and capacitance.

The instrument can make temperature measurements up to 1000 °C using the thermocouple provided, has an internal torch that can be used during the operation of the clamp, and has automatic non-contact voltage detection for identification of live circuits.

The DCM1000 is ideally suited to measuring mains power quality and applications in the development, installation, maintenance, and repair of equipment and devices used in power electronics and power engineering.

# DCM1500S

## SOLAR CLAMP METER UP TO 2000 V DC

**BLUETOOTH-  
CONNECTION  
TO THE  
MEGGER  
LINK™ APP**



Item no. **1013-357**

- 2000 V DC
- TRMS 1500 V AC
- 1500 A AC/DC
- Smart Hold
- Auto ranging
- MIN/MAX Hold
- Inrush Current
- Megger Link app compatible
- CAT IV 600V / CAT III 1000V
- Data logger
- PV test leads with MC4PV plugs

**Included accessories:** DCM 4mm Lead Set (Inc. Probes and Crocodile Clips), TP-90 Thermocouple Probe, PVHV1 Lead (4mm Plugs), PVHV2 Lead (MC4PV Plugs), Hard Carry Case

CLICK FOR THE DATASHEET

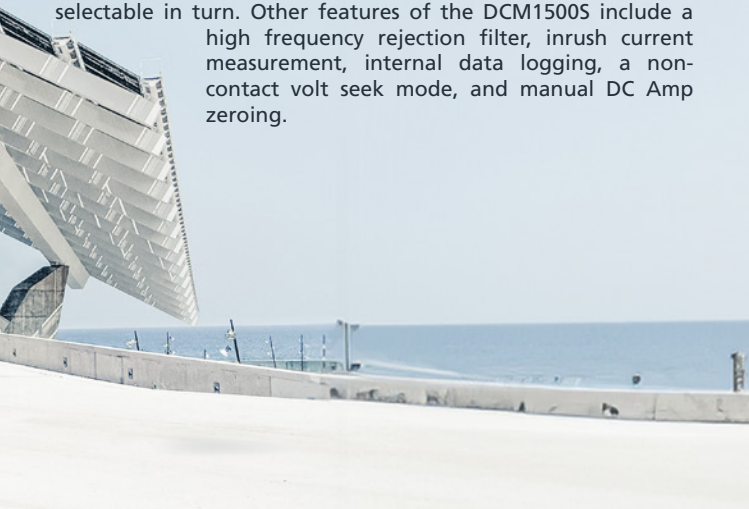




The DCM1500S solar clamp meter has been designed to be used on electrical systems and equipment, including solar/ photovoltaic installations where, there is a need to measure current, volts, resistance, and frequency. It is therefore intended for use while installing, maintaining, fault-finding, or monitoring those systems. In addition to voltage and current measurements, the DCM1500S has the ability to measure resistance, diode, capacitance, temperature, and frequency.

It can measuring up to 2000 V DC and 1500 V AC (using the PVHV Leads), as well as 1500 A AC or DC. It has a large, clear backlit display and an automatic torch in the jaw to make it easier to ses in poorly lit areas. Also, using the free Megger Link App, the measurement value can be remotely monitored on a smart device using its built-in Bluetooth. This will give a live trend graph and offer the ability to sample and log the values for later analysis.

The instrument's smart „data-hold“ function expands the standard hold function by giving the operator an audible warning if the ‚held‘ reading increases by 50 counts or above. „Min/Max“ hold gives you the ability to measure the maximum and minimum values over a period of time, with each value selectable in turn. Other features of the DCM1500S include a high frequency rejection filter, inrush current measurement, internal data logging, a non-contact volt seek mode, and manual DC Amp zeroing.



# MEGGER LINK APP

FREE OF CHARGE



Available on the  
 App Store

GET IT ON  
 Google Play



# SORTIMO BOX

ROBUST ALLROUND BOX



Item no.

**BSS610000982**

- Innovative, well-known click system
- Perfect storage and securing in vehicles
- Quick securing with lock, even combined with several boxes
- Can be used as step up to 85 kg

# DLRO 10HD 10HDX

## MICRO OHMMETER WITH 10 A TEST CURRENT



Augmenting Megger's DLRO10 and 10X range the DLRO10HDX combines ultimate simplicity of operation with a rugged IP65 case designed for stable ground and bench operation and provides memory storage.

These units are powered from either rechargeable battery or mains power making it suitable for continuous testing in production line/repetitive use environments.

Rotary switch controls are simple and easy to operate in all weather conditions and with gloved hands. A large, clear, backlit LCD display is easy to read from a distance.

The DLRO10HDX provides significantly enhanced compliance and is capable of delivering 10 A into measurements up to 250 m $\Omega$  and 1 A into measurements up to 2.5  $\Omega$ . The duration of each test may be up to 60 seconds.

The DLRO10HDX is rated CAT III 300 V provided the optional terminal cover is fitted to the instrument. Details of which can be found in the ordering information panel of this data sheet.

The DLRO10HDX provides five test modes each of which is selected through a simple rotary control on the Mode selection rotary switch. All memory functions, delete, download to PowerDB and recalling test results are also accessible via the Range Selection rotary switch.

A simple control panel enables easy navigation for configuration settings.

DLRO10HD  
Item no.  
**1006-603**

DLRO10HDX  
Item no.  
**1008-047**

- Simple rotary switch selection of five test modes, including auto start on connection, a high resolution of up to 0.1 micro-ohms, a basic accuracy of up to 0.2 percent and a special mode for measurements on inductive test objects.
- Automatic start function
- Resolution up to 0.1  $\mu\Omega$ , measuring range up to 2,500  $\Omega$
- Test current 0.1 mA up to 10 A
- High or low output power selection for condition diagnosis
- Protected to 600 V, test lead live voltage warning light
- Operates from battery or AC mains supply
- Heavy duty case: IP 65 lid closed, IP54 operational
- Onboard memory storage for test results up to 200 records (HDX only) Download to PowerDB
- Interchangeable test lead terminations

**Included accessories:** Printed short manual, Schuko power supply cable

CLICK FOR THE DATASHEET



# DLRO100 SERIES

## DIGITAL LOW RESISTANCE OHMMETERS



DLRO100 EB  
Item no.  
**1004-874**

DLRO100 XB  
Item no.  
**1004-914**

DLRO100 HB  
Item no.  
**1004-954**

- CAT IV 600 VAC / 500 VDC for safe operation
- Lightweight 100 A battery powered unit for portability
- High noise immunity for stable readings
- Smooth DC Output for circuit breaker testing
- IP54 for protection against dust and moisture whilst testing
- Save, download and delete results (100X/H variants)
- Remote operation, Bluetooth® & asset/result tagging (100H variants)

**Included accessories:** Certificate of Test, Quick Start Guide, Calibration Certificate, Mains lead, USB Cable (X, H variants only)

CLICK FOR THE DATASHEET



The Megger Ducter™ DLRO100 enables low resistance measurement, across multiple applications, in areas without access to mains power. The integral Li-ion battery supplies a constant 100 A current for up to 200 automatic or manual tests enhancing productivity in remote locations.

With a focus on user safety, advanced design features ensure the safe operation of the instrument in the most adverse conditions, including a CAT IV 600 V safety rating in accordance with IEC61010. A DualGround feature is available on the DLRO100X and DLRO100H, which adds to the operators' safety by grounding both sides of the breaker under test.

The tough design, intuitive interface and IP54 (lid open) rating ensure reliability and ease-of-use in the most arduous of conditions.

FEATURES	DLRO100			BENEFITS
	EB	XB	HB	
CAT IV 600 VAC / 500 VDC up to 2000 m, CAT IV 300 V up to 4000 m	■	■	■	On all test terminals for safe operation
Lightweight 100 A battery powered unit	■	■	■	Easily portable – 7.9 Kg (17 lbs) with battery
Mains only				Mains only units for manufacturing and production applications where AC is always available. Weight 7.0 Kg (15.5 lbs)
High noise immunity	■	■	■	For stable readings in noisy environments
Smooth DC Output	■	■	■	Circuit breaker testing
IP54 Lid open IP65 Lid closed	■	■	■	For protection against ingress during operation (lid open) and storage (lid closed)
Li-ion battery	■	■	■	Always ready to test with a Li-ion fast charge battery - 2.5 hours charge time from fully discharged. Works from an AC supply if the battery is fully discharged. Battery capacity - 200 single tests or up to 2x 10 minutes continuous 100 A output for extended use.
100A Manual, Auto and Continuous test	■	■	■	Quick selection of test modes for different applications with 4 terminal measurement for flexibility
Custom test	■	■	■	Adjustable current 10 - 110 A, ramp rates configurable from 0.5s upto 30s and configurable test duration for flexibility
Range and test mode rotary switches	■	■	■	Quick and easy selection of current ranges and test modes
DualGround™		■	■	Using the optional DC clamp enables circuit breaker testing with ground protection in place for safety
Internal memory storage with USB download capability		■	■	For effective results management, up to 220 time and date stamped records
Remote Control			■	Control the instrument remotely over USB via a PC or laptop for added safety
Asset tagging			■	Running a PowerDB app on Windows tablet or smart phone to populate unique asset IDs for efficient asset management
Bluetooth®			■	For effective wireless communication. For download and asset tagging

# DLRO<sup>2</sup><sub>2X</sub>

**2A MICRO-OHMMETER FOR MEASURING THE SMALLEST RESISTANCES BETWEEN ELECTRICAL CONNECTIONS**



The DLRO2 series are tough, hand-held 2 A low resistance ohmmeters. They are designed to provide fast, accurate, repeatable measurements, even in electrically noisy locations. The DLRO2 is the latest in a long line of instruments to proudly display the Ducter™ brand, the Ducter™ testers being as well-known and relied upon as Megger insulation resistance testers.

For the utility or industrial user, a high level of safety is provided with a CAT III 600 V/CAT IV 300 V rating to IEC61010. In addition, the instrument can protect itself from inadvertent connections to up to 600 V without blowing a fuse, thereby avoiding essential time lost due to repairs or finding a replacement fuse.



DLRO2  
Item no.  
**1012-280**

DLRO2X  
Item no.  
**1013-795**

- Noise Rejection mode with Confidence Meter™ (DLRO2X)
- Manual and auto save results for export to USB (DLRO2X)
- 'Difference Meter' for quick data comparisons
- Use very long test leads at 1 A using dedicated test mode
- Safely test the resistance of inductive loads at 1 A
- <600 V active protection against inadvertent live connections without blowing a fuse
- Ideal for outdoor use with protection against dust and moisture to IP54
- Industry standard safety rated at CAT III 600 V / CAT IV 300

CLICK FOR THE DATASHEET



**Included accessories:** Kelvin clip lead set 2m CAT IV 300 10 A, kelvin probe lead set 2m CAT IV 300 10 A, 240 V charger power supply, six Batteries: 1.2 V NiMH AA 2000mAh, USB memory stick (with user guide), hanging hook and strap, soft pouch

When working outside, the IP54 rating ensures that neither rain nor dust will prevent testing.

The DLRO2 measures low resistance values across a wide range of applications, from railways and aircraft, to the resistance of industry components.

Applications requiring long test leads are not a problem for the DLRO2 as it has a dedicated long lead test to optimise the output. The long test lead function is able to provide up to 1 A of test current into 3.2 ohms resistance. This makes the DLRO2, with its optional cable reel test leads, ideal for testing wind turbine and avionic lightning protection applications.

To allow testing of smaller inductive loads, the DLRO2 can apply 1 A for at least 15 seconds, made possible by the high-capacity built-in rechargeable batteries, together with a separate inductive load function. The batteries can be fully recharged in 2.5 hours, minimising downtime.

# DET 14C 24C

## DIGITAL EARTH CLAMPS



The DET14C and DET24C represent a new generation of earth/ground clamp-on resistance testers. These instruments induce a test current into earth systems and measure ground resistance in multi ground installations without needing to disconnect the ground. They offer market leading access, advanced features, simple operation and CAT IV 600 V safety protection.

DET14C  
Item no.  
**1000-761**

DET24C  
Item no.  
**1007-331**

Bluetooth® & Advanced  
memory functionality

- Elliptical clamp shape improves access to earthing cables and tapes up to 50 mm
- Low maintenance, flat jaw surface
- Measures the ground resistance from 0.05  $\Omega$  to 1500  $\Omega$
- Measures the effective value of the earth leakage current from 0.5 mA rms to 35 A rms.
- CAT-IV-600-V safety rating
- Backlit LCD display
- Measure the grounding resistance in multi-ground installations without the need to disconnect the ground connection
- The flat jaws help prevent dirt deposits
- In electrically noisy environments, the built-in filter function provides increased immunity to interference

CLICK FOR THE DATASHEET



**Included accessories:** Detailed manual CD-ROM, carrying strap (arm loop), calibration loop, carrying case



Designed with flat core ends they prevent dirt build up, ensuring measurement integrity and improved reliability over products with interlocking teeth. Other enhancements over current generation products include improved accuracy and up to 300% increase in battery life. In electrically noisy environments the built-in filter function offers increased noise immunity.

DET14C and DET24C also offer a true RMS AC current measurement facility up to 35 Amps. The instrument's ability to measure current flowing in an earth cable is a useful safety feature, especially if the earth cable has to be disconnected. A high current flow to earth could draw an arc on dis-connection with potentially severe consequences.

The elliptical shaped head design offers improved access to cables and earth straps in space constrained locations. The clamp head accommodates up to 37 mm diameter cable and 50 mm earth tapes making them suitable for use in power stations, substations, towers and many more facilities. Operation in dark and restricted areas is facilitated by a display with backlight and an audible tone associated with the hold key. Optimised jaw opening mechanism ensures proper jaw closure without excessive use of force when opening the jaws.

# TDR 500/3 1000/3P

## SINGLE CHANNEL TIME DOMAIN REFLECTOMETER & CABLE LENGTH METER



CATIV  
150V



TDR500/3P  
Item no.  
**1002-227**

TDR1000/3P  
Item no.  
**TDR1000/3P**

- Minimum resolution of only 0,1 m for troubleshooting very close to the cable end
- Maximum measuring range up to 5 km
- Output resistances of 25, 50, 75 and 100  $\Omega$  and a velocity factor between 0,2 and 0,99
- Trace Hold function
- High-resolution display
- Very intuitive and easy operation through a control switch
- AUTO selection of gain and pulse width
- IP54 protection class for harsh environments

**Included accessories:** Carrying case, test probe test set

CLICK FOR THE DATASHEET



The TDR500/3 and TDR1000/3P are hand held, compact time domain reflectometer for locating faults on metallic cables. They have a minimum resolution of 0.1 m and a 5 km maximum range depending on velocity factor selected and cable type.

Four output impedances are available (25, 50, 75, and 100  $\Omega$ ) and a velocity factor between 0.2 and 0.99 will meet any cable test requirements

The TDRs have a simple selection option which together with a 4 way control switch offers an intuitive operation for the user.

An AUTO selection option ensures that the most effective parameters are selected depending on the range required, aiding rapid diagnosis of the TDR trace. A clear operator controlled cursor allows instant measurement of the distance to the fault.

A trace HOLD feature also allows the operator to hold a trace on the screen, something not seen on most other handheld TDRs. Extra high resolution together with whitelight backlight and grey scale tones give the graphical display a vibrancy, aiding the user in identifying key events on the trace.



# TDR2050

DUAL CHANNEL TIME DOMAIN  
REFLECTOMETER &  
CABLE LENGTH METER

CAT IV  
600V



The Megger® TDR2000/3, TDR2010 and TDR2050 are state of the art, dual channel, high resolution, compact Time Domain Reflectometers with a colour screen for locating faults on paired metallic cables.

All TDRs in this series have a minimum resolution of 0.1 m / 0.3 ft and a 20 km / 65 kft maximum range depending on the velocity factor selected and the cable type. Various output impedances are available (TDR2000/3 and 2010: 25, 50, 75, 100, 125 ohm + AUTO. TDR2050: 25, 50, 75, 100, 140 ohm + AUTO) and an auto impedance matching feature. The velocity factor can be set between 0.2 and 0.99 to meet any cable test requirements.

The TDR2000 series have a large, high resolution, colour, WVGA display with easy set up features. Directional control buttons, together with soft keys, provide intuitive and easy operation for the user.

An AUTO selection option ensures that the most effective parameters are selected depending on the range required, aiding rapid diagnosis of the TDR trace. The ability to manually override the auto function allows fine tuning to enable identification of hard to determine faults.

Dual trace and dual cursor capabilities allow full flexibility, giving the operator full control and instant indication of distance between two points.

A trace comparison feature also allows close examination between trace conditions. Extra high resolution together with a white-light backlight, user definable colour schemes give the graphical display a vibrance, aiding the user in identifying key events on the trace.

Item no. **1005-022**

- Two measuring channels and measured value memory for 100 traces
- AUTO set up mode for instant, easy use
- Length measurement and fault localization on copper cables
- Ultra-fast pulses for searching at the very near end of the cable
- Measurement category up to CAT IV / 600 V
- Protection class IP54 for harsh environments
- Minimum resolution of 0.1 m with 20 km maximum range
- Output impedances from 25, 50, 75, 100, 125 up to 140 Ohm
- Velocity factor between 0.2 and 0.99
- CAT IV 600 V input protection
- Step and pulse TDR selection
- Trace tagging facility that allows a name to be saved with the trace pulse width of two nanoseconds for use on all twisted-pair metal cables

**Included accessories:** Carrying case, AC-DC charger

CLICK FOR THE DATASHEET





	<b>TDR 500/3</b>	<b>TDR 1000/3</b>	
Range	0,2m to 5km	0,2 m to 5 km	
Shortest pulse width	2 ns	2 ns	
Number of Channels	1	1	
Built-in Blocking Filter	■	■	
Memory Function	Trace-Hold	Trace hold with Live Trace overlay	
Automatic Section	Adjustable	Adjustable	
Auto-error detection			
Trace Tagging			
Step Function			
Distance dependant gain			
Auto end find			
Rechargeable Battery			
Test Lead type	Minature Clip	Minature Clip	
Safety rating	CAT III 300 V	CAT III 300 V	
Dust and weatherproof rating	IP54	IP54	



	<b>TDR 1000/3P</b>	<b>TDR 2000/3</b>	<b>TDR 2000/3P</b>	<b>TDR 2010</b>	<b>TDR 2050</b>
	0,2 m to 5 km	0,2 m to 20 km	0,2 m to 20 km	0,2 m to 20 km	0,2 m to 20 km
	2 ns	2 ns	2 ns	2 ns	2 ns
	1	2	2	2	2
	■	■	■	■	■
	Trace hold with Live Trace overlay	Trace hold with Live Trace overlay	Trace hold with Live Trace overlay	Trace hold with Live Trace overlay	Trace hold with Live Trace overlay
	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable
		■	■	■	■
				■	■
					■
					■
					■
		■	■	■	■
	Minature Clip	Minature Clip	10A Fused standard clip	Minature Clip	10A Fused standard clip
	CAT III 300 V	CAT III 300 V	CAT III 300 V	CAT III 300 V	CAT III 600 V
	IP54	IP54	IP54	IP54	IP54

# DET2/3

## ADVANCED DIGITAL EARTH RESISTANCE TESTER



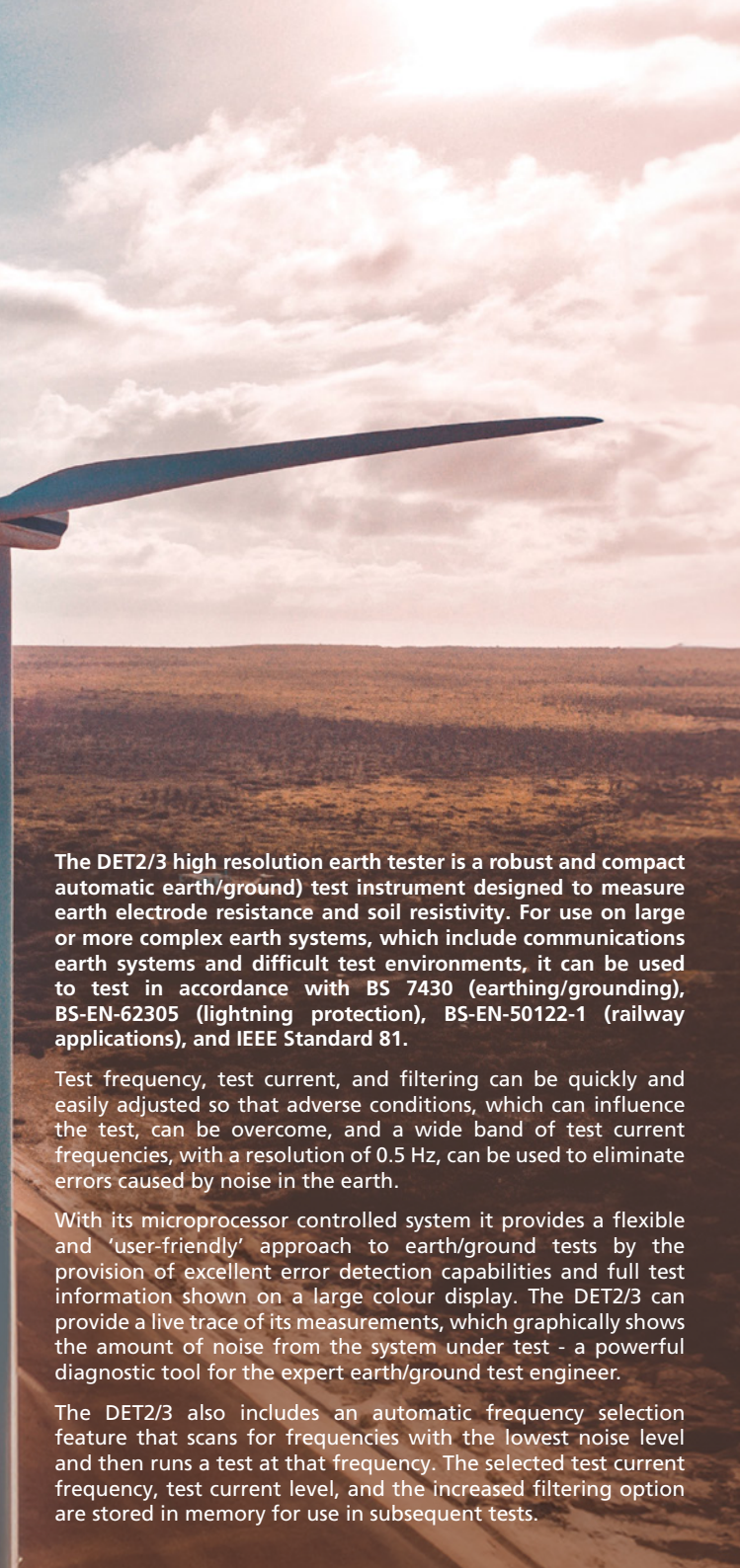
Item no. **1008-944**

- High resolution of 1 m $\Omega$ , ideal for large grounding systems
- Versatile test methods according to Wenner- or Schlumberger
- High accuracy for grounding resistances and ground resistance tests
- Rechargeable batteries, operating time up to 10 hours and quick recharge
- Robust device with protection class IP65
- Automatic or manual selection of test current frequencies with filter and noise suppression
- Diagnostic curve display
- Data storage
- Large colour display with numeric and graphic result display

**Included accessories:** Operating manual on USB stick, calibration certificate, charger, calibration checkbox 25  $\Omega$ , lid pocket

CLICK FOR THE DATASHEET





The DET2/3 high resolution earth tester is a robust and compact automatic earth/ground) test instrument designed to measure earth electrode resistance and soil resistivity. For use on large or more complex earth systems, which include communications earth systems and difficult test environments, it can be used to test in accordance with BS 7430 (earthing/grounding), BS-EN-62305 (lightning protection), BS-EN-50122-1 (railway applications), and IEEE Standard 81.

Test frequency, test current, and filtering can be quickly and easily adjusted so that adverse conditions, which can influence the test, can be overcome, and a wide band of test current frequencies, with a resolution of 0.5 Hz, can be used to eliminate errors caused by noise in the earth.

With its microprocessor controlled system it provides a flexible and 'user-friendly' approach to earth/ground tests by the provision of excellent error detection capabilities and full test information shown on a large colour display. The DET2/3 can provide a live trace of its measurements, which graphically shows the amount of noise from the system under test - a powerful diagnostic tool for the expert earth/ground test engineer.

The DET2/3 also includes an automatic frequency selection feature that scans for frequencies with the lowest noise level and then runs a test at that frequency. The selected test current frequency, test current level, and the increased filtering option are stored in memory for use in subsequent tests.

# DET SERIES

INSULATION RESISTANCE  
MEASURING INSTRUMENTS



DET3TD  
Item no.  
**DET3TD**

- 2 and 3 point testing
- Choice of digital or analog display
- Warning indicators prevent test failure
- IP54 rated
- Complete with leads, stakes and rugged carry case
- Simple one button operation
- Calibration test certificate included

**Included accessories:** Hard carry case, Stake and wire kit

CLICK FOR THE  
DATASHEET



DET4TD2  
Item no.  
**1000-347**

- 2, 3 and 4-wire earth test
- Specific earth resistance test
- Robust housing, protection class IP54
- Complete with test leads and ground spikes
- Robust carrying case

**Included accessories:** Printed quick start guide, full manual on CD, m calibration certificate, 4-wire earth test kit (3m, 10m, 10m & 15m) with stakes, right angle terminal adapters, hard carry case

CLICK FOR THE  
DATASHEET



**The ground testing instrument family from Megger offers a unique solution to your ground rod testing needs. The complete kit of instrument, test leads, stakes, batteries and calibration certificate are delivered in a tough polypro-pylene carry case - everything you need to start testing in one kit.**

The ground tester is rated to IP54 making it truly an outdoor instrument. The ground tester has been designed to be easy to use - a large selector switch makes selection of 2 and 3 pole test easy with gloved hands - and the design makes the fitting of shorting links to perform 2 pole tests a thing of the past. A large, clear, easy to read LCD display and thumb sized test button again makes the instrument particularly suited to the outdoor conditions of ground testing.

In addition to this ease of use, the ground tester also automatically checks the connection and condition of the P and C spike, indicating the status on the display. The instrument also includes a voltmeter to allow you to measure the ground voltage. The ground tester can measure resistance from 0.01  $\Omega$  through to 2000  $\Omega$  and earth voltages up to 100 V. To allow accurate testing in noisy environments the instrument is capable of rejecting noise of up to 40 V peak to peak.

The Megger digital ground tester is powered by eight AA batteries which are widely available and also give excellent testing time - the status of these batteries is given by a bar graph on the LCD display allowing you to decide when to change the batteries, before they expire.

The Megger ground testers are designed to meet stringent safety standards and are rated CAT IV 100 V.










**DET  
3TD**



**DET  
3TC**

Earth loop measurement			
Earth loop measurement with 2 opt. current clamps			
Selective grounding measurements "ART"		■	
Test frequency adjustable			
Measurement of earth voltage (0 to 100 V)	■	■	
2-wire earth measurement	■	■	
3-wire earth measurement	■	■	
4-wire earth measurement (spec. earth resistance)			
Battery operation	■	■	
Connection for charger			
Accumulator operation			
Illuminated display			
Measured value memory			
Measured value memory with interface			
Measurement leakage current (0.2 mA - 35 A)			
Measurement leakage current (0.5 mA - 19.9 A)		■	
Resistance measurement	0,1 to 2 kΩ	0,1 to 2 kΩ	
Software PowerDB Lite			
Software PowerDB full version			

	 <b>DET</b> 4TD2	 <b>DET</b> 3TR2	 <b>DET</b> 4TC2	 <b>DET</b> 4TCR2	 <b>DET</b> 14C	 <b>DET</b> 24C	 <b>DET</b> 2/3
					■	■	■
			■	■			■
			■	■			■
			■	■			■
	■	■	■	■			■
	■	■	■	■			■
	■	■	■	■			■
	■	■	■	■			■
	■		■		■	■	■
		■		■			■
		■		■			■
			■	■	■	■	■
					■	■	■
						■	■
					■	■	■
			■	■			■
	0,1 to 20 kΩ	0,1 to 20 kΩ	0,1 to 200 kΩ	0,1 to 200 kΩ	0,1 to 1500 Ω	0,1 to 1500 Ω	0,1 to 20 kΩ
	■	■	■	■		■	■
	□	□	□	□			

■ Function    □ Option

# PAT400 Series

## FULL DATABASE DRIVEN PORTABLE APPLIANCE TESTERS



The PAT400 series from Megger is a new generation of downloading portable appliance testers, fully testing portable electrical equipment to the latest edition of the Code of Practice for the In-Service Inspection and Testing of Electrical Equipment.

There are 3 products in the range; the PAT410 providing a low-profile 230 V only solution without the added weight required of 110 V operation, plus a database capacity for up to 10,000 test results. The PAT420 provides the same extensive memory and downloading capability, and has the added features of 110 V operation, and also 10 A and 25 A earth bond testing. The PAT450, the top of the range, has all of these features and includes 1.5 kV and 3 kV flash testing, ideal for tool hire outlets and service workshops where flash testing is routine.

All products in the range have a high duty-cycle, with the design tailored to fast testing, easy operation, and all-day use. The PAT400s feature a unique fast-re-start, so that when moving the tester from one room to another, it re-starts instantly from



PAT410  
Item no.  
**1000-748**

PAT420  
Item no.  
**1005-019**

PAT450  
Item no.  
**1000-751**

- Large, illuminated, coloured display with pass/fail indication
- Customer database - up to 100 customers with 2000 locations possible for each customer
- Test item database - up to 10,000 tests results
- Ex works with approx. 30 preset test groups
- Adjustable limit values and test times
- Login to the test device with a user name and personal PIN, for legally compliant documentation, a distinction is made here between "Supervisor" (all rights) or "User" (restricted rights)
- Complete database backup and, if necessary, restoration via USB memory stick
- PAT420: 200mA +10A +25A Protective conductor current
- PAT450: 200mA +10A +25A protective conductor current and insulation test with 1500V and 3000V
- Barcode scanner/ RFID reader and printer can be connected to the PAT via USB
- Five soft keys for quick access to frequently used functions

CLICK FOR THE DATASHEET



**Included accessories:** Printed short manual, Detailed operating manual on CD-ROM, calibration certificate, carrying case, measuring cable with test probe and clamp, adapter for extension cable, calibration certificate, measuring cable with test probe and clamp. (Schuko - cold devices), adapter IEC C6-C13 (cloverleaf), measuring cable for high-voltage tests (only PAT450)

the same menu where it was unplugged. This is a significant timesaver, so allowing more tests per day.

USB communication provides convenient download to a standard USB memory stick., and an on-board 10,000 record memory provides interruption-free testing for improved efficiency, with a large QWERTY keypad for fast data entry. Data is directly compatible with Megger PowerSuite® software for professional certification, and all products have the option of a barcode scanner and a thermal transfer barcode label printer operating directly from the USB port. Thermal transfer labels are highly resistant, stable and easily available. The PAT420 and PAT450 have dual 230 V and 110 V operation for complete industrial, commercial and residential applications.

5 soft-keys give direct access to frequently used functions, accelerating navigation through menus and therefore increasing productivity, where time is money. Both standard and customer configurable test groups are available for fast, flexible asset testing.

Tests available in the range include 250 V and 500 V insulation tests, 200 mA, 10 A and 25 A earth bond tests, differential, touch and alternative (substitute) leakage tests, operational VA tests, RCD trip-tests for portable RCDs, anti-surge and RCD protected extension leads and power cords. RCD testing is now a requirement of the UK Code of Practice.

<b>Functions</b>	<b>PAT 410</b>	<b>PAT 420</b>	<b>PAT 450</b>
<b>SUPPLY</b>			
230 V	■	■	■
110 V		■	■
<b>EARTH BOND/CONTINUITY</b>			
200 mA	■	■	■
10 A		■	■
25 A		■	■
Bond lead null	■	■	■
<b>INSULATION TEST</b>			
250 V	■	■	■
500 V	■	■	■
<b>ALTERNATIVE LEAKAGE TESTS</b>			
Substitute	■	■	■
Differential	■	■	■
Touch current	■	■	■
<b>OPERATION TEST VA MEASUREMENT</b>			
	■	■	■
<b>EXTENSION LEAD TEST</b>			
Earth bond / (continuity PAT410)	■	■	■
Insulation	■	■	■
Polarity	■	■	■
<b>FLASH TEST 1.5 kV and 3 kV</b>			
			■
<b>PORTABLE RCD TEST (230 V)</b>			
	■	■	■
<b>OTHER FEATURES</b>			
Low-profile light weight	■		
Auto test routine	■	■	■
Manual testing	■	■	■
Fuse check	■	■	■
Colour display	■	■	■
110 V test connection		■	■
Configurable tests times	■	■	■
Selectable pass limits	■	■	■
Lead storage pouch	■	■	■
10,000 record on-board storage	■	■	■
Download to USB memory stick	■	■	■

# PAT100 Series

## HAND HELD TESTER



The PAT100 series of handheld portable appliance testers enables simple, fast safety testing in all environments including offices, shops, and business units. It is tough, reliable, and easy-to-use making it ideally suited for training organisations with intensive courses.

PAT120  
Item no.  
**1003-066**

PAT150  
Item no.  
**1003-068**

PAT150R  
Item no.  
**1003-430**

- Simple tick or cross, pass or fail indication plus measurement
- Tough, rubber armoured with built-in front cover, hardened, scratch-proof display window
- Includes 250 V insulation and leakage testing for safe IT testing and surge protected devices
- Testing portable and fixed electrical equipment
- 10 mA and 30 mA portable RCD lead testing (PAT150)
- Adjustable PASS test limits (PAT150)
- Substitute and mains powered leakage testing (PAT150)
- Battery powered with rechargeable options

**Included accessories PAT120:** Test leads with test probe and clamp, adaptor for extension cable, hard-shell case

**Included accessories PAT150:** Test leads with test probe and clamp, adaptor for extension cable, mains connection lead, hard carry case

CLICK FOR THE DATASHEET



# TC3231

## THERMAL CAMERA FOR FAST LOCALISATION OF HOTSPOTS



Item no. **1012-514**

- Full thermal image for IR temperature measurement
- Measurement range -20 ° to 300 °C
- Adjustable emissivity
- Micro SD memory for storing up to 6000 images
- Max/Min Measurements on screen
- Hot & Cold Spot tracking on screen
- Full image blending and selectable measurement distance of 0,5, 1, 2 or 3m for greater accuracy

**Included accessories:** USB mains charger, USB lead, Micro SD card, SD card adapter

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The Megger TC3231 offers a professional infrared 32 x 31 pixels image thermometer with a 2.2 inch (55.88 mm) colour TFT LCD display. Quick, accurate readings are possible; covering a wide range of surface temperature measurements.

The product combines the convenience of an infrared thermometer with the visual advantage of a thermal imager providing a troubleshooting camera with infrared heat map.

# MCT105

## CABLE LOCATOR



Item no. 1013-836

- Trace cables and conductors in walls
- Works on both live and dead cables or conductors
- Locate conductor breaks and short circuits
- Identify fuses and circuit breakers
- Trace conductors buried in the ground
- Trace metal water and heating pipes
- Visual and audible signal strength indication
- Non-contact voltage detector (receiver)
- Automatic or manual sensitivity adjustment
- Built-in torch (receiver)

The kit for the Megger MCT105 cable locator includes a separate transmitter and receiver. The instrument is designed to help detect and trace cables or metallic conductors in walls or buried underground and can locate and identify fuses or breakers on electrical circuits. It can also find breaks or short circuits in cables and electrical underfloor heating systems and can be used for tracing metal water and heating pipes.

The transmitter operates on 5 voltage ranges: 12 V, 50 V, 120 V, 230 V, and 400 V, as well as generating a signal on dead or isolated cables and conductors. The receiver offers either automatic or manual adjustment of the signal sensitivity for increased accuracy and can detect buried cables up to a depth of 2.5 M. Both units include an auto power off feature and low battery indicators.

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# MFL205

## FUSE LOCATOR



Item no. **1013-835**

- Identify circuit breakers or fuses
- Simple to use
- Auto-Sensitivity adjustment
- Audible and visual indication
- 110/230 V operation
- Industry standard 4 mm connectors
- Red and Black crocodile clips supplied
- Carry case included

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DATASHEET



The Megger MFL205 is a simple to use instrument, designed to help identify an individual fuse or circuit breaker on a fuse board or within a consumer unit.

Using industry standard 4mm connectors, the MFL205 transmitter can be directly connected to a circuit using the supplied crocodile clips or - with relevant adaptors - be connected to a mains socket outlet or a light socket of the circuit that the fuse or breaker to be identified, is protecting.

# MTF230

## SOCKET ADAPTOR



Item no. **1013-838**

- R1 and R2 testing
- Colour coded terminals
- Standard 4 mm terminals
- CAT II 300 V
- Safe and simple to use

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DATASHEET



The Megger MTF230 Socket Adaptor enable the connection of electrical test instruments to the line, neutral and earth of a circuit via a standard socket outlet, removing the need to dismantle the socket or expose any live terminals or connections.


Colour coded front mounted sockets enable test leads or equipment to be connected quickly, accurately and safely. Using the adaptor saves potential damage to the socket or surrounding decoration and allows measurements to be taken using instrument leads that use standard 4 mm connectors.

# VF6 EX

## AC NON-CONTACT VOLTAGE DETECTOR



Item no. **1013-097**

-  Hazardous area rated
- AC non-contact voltage detector
- 12 V – 1000 V voltage range
- Visual, audible and vibration warning of low and medium voltages
- Screw-on battery cover
- Built-in bright-white LED torch
- CAT IV 1000V
- IP67

**Included accessories:** Batteries 2 x AAA

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The VF6 hazardous area AC voltage detector has designed to be used to check for the presence of AC voltage, indicated by a bright red LED situated within the white nylon tip, an audible sounder, and a vibration alert. The detector has both low voltage (12 - 1000 V) and medium voltage (100 - 1000 V) ranges.

The VF6 EX has the added advantage of a bright white LED torch for use in poor light and has been rated for use on gas platforms and other petrochemical environments. It is suitable for identifying live conductors, finding a break in a conductor, verifying a blown fuse while in circuit, and detecting AC voltage at socket outlets, switches, circuit breakers, fuses, cables, and luminaires.



# MLM50

## LASER DISTANCE METER



Item no. **1013-551**

- 50 m Range
- Accuracy 1.5 mm (up to 10 m range)
- Single measurement mode
- Continuous measurement mode
- Automatic Max/Min
- Area Calculation
- Volume Calculation
- Meters, Feet & Inch Ranges
- 20 measurement memory
- Front or rear measurement reference
- Built-in spirit level
- IP54

**Included accessories:** Carry pouch with belt loop

The Megger MLM50 Laser Distance Meter is a compact, simple to use, laser distance measuring device. With a measurement range of up to 50 m, the MLM50 offers the user either single or continuous measurement modes and the ability to track maximum and minimum measurements quickly and easily.

In addition, the unit can automatically calculate area or volume and has the added bonus of recording the last 20 readings into its internal memory for later recall. Memorised values are retained, even if the batteries are removed or replaced.

CLICK FOR THE DATASHEET



# LA-KIT

## LAMP ADAPTERS



Item no. **1014-833**

- 5 Most common lamp adaptors (B22, B15, E27, E14 & GU10)
- Allows easy testing at the lamp socket
- IEC61010 compliant

**Included accessories:** Carry case, 2-wire lead set

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DATASHEET



The Megger LA-KIT provides the user with 5 separate lamp socket adaptors, to allow electrical test equipment to be connected to the circuit via industry standard 4 mm sockets, for measurement and test purposes, without the need to disturb the circuit wiring or lamp housing. Includes B22 Lamp Adaptor, B14 Lamp adaptor, E27 Lamp adaptor, E14 Lamp adaptor, GU10 Lamp adaptor, 2 Wire lead set, Protective carry case.

# MSL10

## STUD LOCATOR



Item no. **1013-547**

- Locate wooden joists or studs
- Locate metal joists or studs
- Locate live AC cables
- Simple to use
- Adjustable depth range
- Audible and visual indication
- Carry case included

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DATASHEET



The Megger MSL10 is a simple to use instrument, designed to help locate the edges of wooden studs, metal joists or live AC cables through drywall or other common building materials. With clear LED and audible indication, the centre of studs or joists can be located by scanning from either side to locate each edge.

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A photograph of a person's hands typing on a laptop. The laptop screen displays the Megger logo and the word 'WEBINAR' in a clean, modern font. The background of the screen is white with a red and dark grey geometric design. The person is wearing a silver watch on their left wrist.

**Megger** WEBINAR

Errors excepted

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