# LOW VOLTAGE CATALOGUE 2022

Megger



# MEGGER OFFICE AACHEN










# Content

## SINCE 1889

Megger is a leading global premium manufacturer of measurement and testing technology.

We offer you solutions for the transmission of electrical energy from the power plant to the socket.

Our top priority has always been to make your everyday work easier and safer.

As such, insulation testers, micro-ohmmeters and multimeters are among the long line of Megger inventions, making us one of the pioneers in the electrical industry.

Megger's famous crank inductor has been synonymous with accurate insulation measurement for generations of electrical engineers.

This was invented by our founder Sidney Evershed more than 130 years ago.Over the decades we have continued to develop and expand the breadth and depth of our range. Today, we can proudly claim to have taken a leading role in measuring and testing technology as the manufacturer with by far the longest tradition and the widest range of products.

Our products combine many years of experience, the valued feedback from our global users with the inventiveness and conscientiousness of our product developers. Each generation of our products is a systematic evolution. Each successive series offers more safety, more reliability, more economy. In this way, we have established ourselves as one of the largest suppliers of electrical test technology.

**People for people:**

For more than 130 years, our commitment to providing leading electrical test and diagnostic solutions has been matched only by our appreciation of the technicians, engineers and power professionals who use our products around the world. Our challenge is to ensure that they can do what they do every day successfully and safely.

That's why we specifically seek exchanges with them in order to incorporate the knowledge gained from them into our devices. Since people - customers and colleagues alike - are the most important asset at Megger, we only produce under fair conditions at our company-owned sites. Our values - creativity, consistency, confidence and care - are always in focus for us.

In Germany, we manufacture at three sites, Aachen, Baunach near Bamberg and in Radeburg near Dresden. Other manufacturing locations are based in Sweden, England and America.

Our key technologies and patents form the basis for our current success and pave the way for great inventions in the future from which you will benefit for a long time to come.


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# **MFT**1815 / **MFT**1825 / **MFT**1845+




**MFT**1815
Item no. **1002-403**

**MFT**1825
Item no. **1002-408**

**MFT**1845+
Item no. **1012-597**

**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 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 mandartory 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.



**MFT**1815



**MFT**1825



**MFT**1845+

TRMS → 600V

TRUE LOOP

CAT IV

- 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
- ProgrammableRCD 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+)



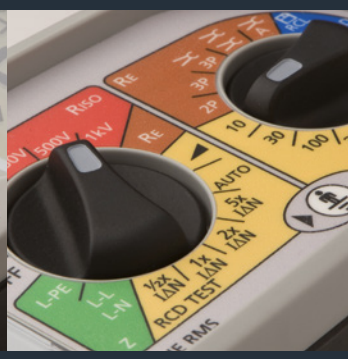

The analogue arc simulates the behaviour of a mechanical measuring needle display



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




Large buttons left and right for two-handed operation




Robust rotary switches with safe and easy colour coding

| |  **MFT**1815 |  **MFT**1825 |  **MFT**1845+ |
|---|---|---|---|
| **Insulation measurement** | | | |
| 100 V | | | ■ |
| 250 V | ■ | ■ | ■ |
| 500 V | ■ | ■ | ■ |
| 1000 V | ■ | ■ | ■ |
| Test voltage display | ■ | ■ | ■ |
| Acoustic signal adjustable | ■ | ■ | ■ |
| **Continuity and resistance measurement** | | | |
| 200 mA Test current | ■ | ■ | ■ |
| 15 mA Test | | ■ | ■ |
| Measurement line compensation | ■ | ■ | ■ |
| Acoustic signal adjustable | ■ | ■ | ■ |
| continuity test with automatic polarity reversal | ■ | ■ | ■ |
| **Loop impedance measurement** | | | |
| Fast loop measurement | | | ■ |
| 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 examination | ■ | ■ | ■ |
| 1 x IΔN FI/RCD examination | ■ | ■ | ■ |
| 2 x IΔN FI/RCD audit | | ■ | ■ |
| 5 x IΔN FI/RCD audit | ■ | ■ | ■ |
| 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 FI/RCD test current | | ■ | ■ |
| 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 | | ■ | ■ |
| Earth fault voltage test | | ■ | ■ |
| **Other functions** | | | |
| Voltage measurement (L-N, L-PE, N-PE) | ■ | ■ | ■ |
| Frequency measurement | ■ | ■ | ■ |
| Current measurement, with ILCAMP pliers | | ■ | ■ |
| Rotary field display | | ■ | ■ |
| Temperature measurement with external sensor, mV input | | ■ | ■ |
| Illuminated LC display | ■ | ■ | ■ |
| Automatic switch-off (Auto-Power-Off) | ■ | ■ | ■ |
| Calibration certificate included in delivery | ■ | ■ | ■ |
| Operation with batteries or rechargeable batteries (NiMH) | ■ | ■ | ■ |
| Batteries included | ■ | ■ | |
| Batteries and charger included | | | ■ |
| Internal measured value memory, Bluetooth® download | | | ■ |
| Optional software (dokuSTORE 2.0 and 4.0, PROTOCOL manager, ELEKTROmanager) | | | ■ |

# Accessories



**Extended test lead XTL30**
30 m
Item no. 2007-997

**Extended test lead XTL50**
50 m
Item no. 2007-998



**Three-phase current adapter 16A**
DE-CEE16-S (plug)
Item no. DE-060

**Three-phase current adapter 32 A**
DE-CEE32-S (plug)
Item no. DE-061



**Test lead set CAT IV 600 V**
standard 3 wire lead set with un-fused probes and clips
Item no. 1001-991

**Test lead set CAT IV 600 V**
with fuses 10A F, 600 V, especially for energy suppliers & public utilities
Item no. 1001-975



**Lead Set SI Red/ Blue/Green**
Item no. 1008-008



**SP5 Fern-bedienungssonde Zubehör**
Item no. 1007-157



**Instrument/ Document carry case**
Item no. 1004-326



**Prod & Clip Set-MFT/LOOP**
Item no. 1002-490



**Charger Power Supply - MFT17/18 / DLRO2**
Item no. 1002-736



**Accessory bag**
Item no. 1007-463



**Test & carry pouch**
(240 x 160 x 70mm)
Item no. 1006-408



**SIA45 Adaptor (Bipolar) SCHUKO (Accy)**
Item no. 1007-158

# only MFT1835 & MFT1845+



**MCC1010 (ICLAMP)**
CAT IV 600 V
Item no. 1010-516



**MVC1010 (VCLAMP)**
CAT IV 600 V
Item no. 1010-518



**Earth Test Spike Kit**
3 pcs. (4 m, 10 m, 15 m), with two earth spikes
Item no. 1001-810



**50m Earth Test Cables, Spikes & Clamps Kit**
Earth measuring cables (2 x 50M & 2 x 30M) ground spikes and clamps
Item no. 1010-179

## Other accessories on request

# EVCC300 ELECTRIC VEHICLE CHARGER CHECKER



## EVCC300

Item no. **1013-576**

- Checks mode 2 and single phase mode 3 (level 1 and two phase level 2) chargers
- Checks chargers with SAE J1772 Type 1 and Type 2 connectors
- Performs four EV charger safety checks
- Performs four EV charger operation checks
- Checks to see if nuisance tripping or RCD/GFCI is likely to occur
- Reads control pilot state response from EV Charger to IEC61852-1

**Included accessories:** Continuity/earth bond lead, Blow moulded case, EVA-T1 Type 2 to Type 1 connector adaptor

**The new EVCC300 introduces a new and convenient way of checking Electric Vehicle charge points. A simple all in one concept provides an easy to use solution to check both the safety and operation of mode 2 and single phase mode 3 (level 1 and two phase level 2) EV chargers. The instrument is ideal for those wishing to perform a check on an EV charger following manufacture, installation or repair, or just part of a maintenance schedule / inspection.**

## FEATURES

- **FOUR IMPORTANT SAFETY CHECKS:**

1. PE touch pad to check ground connection and hazardous voltages

2. PE resistance (RPE) test to check any exposed metal work is properly grounded / earthed

3. Touch voltage test to ensure the charger ground / earth does not rise to a hazardous level when charger output is on

4. RCD / GFCI protection check by timing the device tripping speed. This test causes a calibrated ground / earth leakage current appropriate to the trip rating of the device to flow and time how long it takes for the device to break the supply. If an RCD / GFCI was to take too long to trip it would not protect the charger user from electrocution, so it is an important safety check.




## NUISANCE CHARGER SUPPLY TRIPPING CHECK.

This test will help determine whether the EV charger user is likely to experience nuisance tripping of the RCD or GFCI. The EVCC300 slowly increases ground / earth leakage current until the protective device trips to ensure it trips at the correct leakage current level. If the leakage current that trips the device is too low it will indicate either an issue with the device or there is already a high level of leakage present.

## FOUR KEY EV CHARGER OPERATION CHECKS:

1. Proximity detection operation check. The EVCC300 can check that proximity is detected and also whether, when testing a type 1 connection, that latching detection has worked correctly

2. Control pilot operation check. Not only can the EVCC300 set CP states to operate the EV charger, the instrument can read the response state of the charger. The codes A, B, C, D, E and F can be set by the EVCC300 and the response of the charger displayed on the instruments colour display. The charger PC state is displayed together with the chargers indicated maximum charge current, all to IEC61851-1 requirements

3. Control pilot signal check. The EVCC300 measures the CP signal Voltage, Frequency and Duty cycle. Repeated measurements will highlight instability in the signal.

4. EV charger output check. The EVCC300 measures the output voltage and frequency of the EV charger when charging in is in progress. When appropriate the EVCC300 also checks for correct L – N supply polarity.

## APPLICATION

- Safety and operation checks on mode 2 and single phase mode 3 charge points (level 1 and two phase level 2 in the USA)
- Connects to SAE J1772 Type 1 and Type 2 charger connectors only
- Checking charger following installation before hand over to customer
- Checking charger as part of a regular maintenance schedule
- Checking charger following repair before hand over to customer
- Checking chargers following manufacturing as part of a QA inspection
- Fault checking when customer reports charger issues to car dealership/service centre

# EVCA210 TEST ADAPTER FOR EV CHARGING POINTS

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.

They are designed to test the function and safety of a charging point. The adapters allow you to conduct tests using appropriate single or multifunction test instruments on EV charging points in accordance with IEC/EN 61851-1 and IEC/HD 60364-7-722. Charging points should be tested as part of the initial installation and repeated periodically.



## EVCA210

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, EVCA210 Carry Case, Instruction Manual

**COMPATIBLE WITH ALL MULTIFUNCTION TESTERS WITH EV CHARGING TEST CAPABILITY**



# 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

Item no. **1004-731**

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

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



## MIT481/2

Item no. **1004-741**

- Insulation testing up to 500 V and 100 GΩ range in a hand held instrument
- 3 wire connection for A, B and E (Tip, Ring and Earth) connection (New)
- Gated access to 500 V to prevent accidental damage
- Rechargeable options for mains and car charging
- Differential measurement capability
- Single range, faster continuity testing from 0.01 Ω to 1 MΩ
- Stabilized insulation test voltage
- 600 V Trms AC and DC voltage measurement
- Test result storage and Bluetooth® downloading
- CAT IV 600 V and IP 54

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



## MIT485/2

Item no. **1004-742**

- Insulation testing up to 500 V and 100 GΩ range in a hand held instrument
- 3 wire connection for A, B and E (Tip, Ring and Earth) connection (New)
- Gated access to 500 V to prevent accidental damage
- Rechargeable options for mains and car charging
- Differential measurement capability
- Single range, faster continuity testing from 0.01 Ω to 1 MΩ
- Stabilized insulation test voltage
- 600 V Trms AC and DC voltage measurement
- Test result storage and Bluetooth® downloading
- CAT IV 600 V and IP 54

**Included accessories:** Red/Black silicone test leads with prods and clips, SP5 Switched probe, Owners Information CD 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

**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

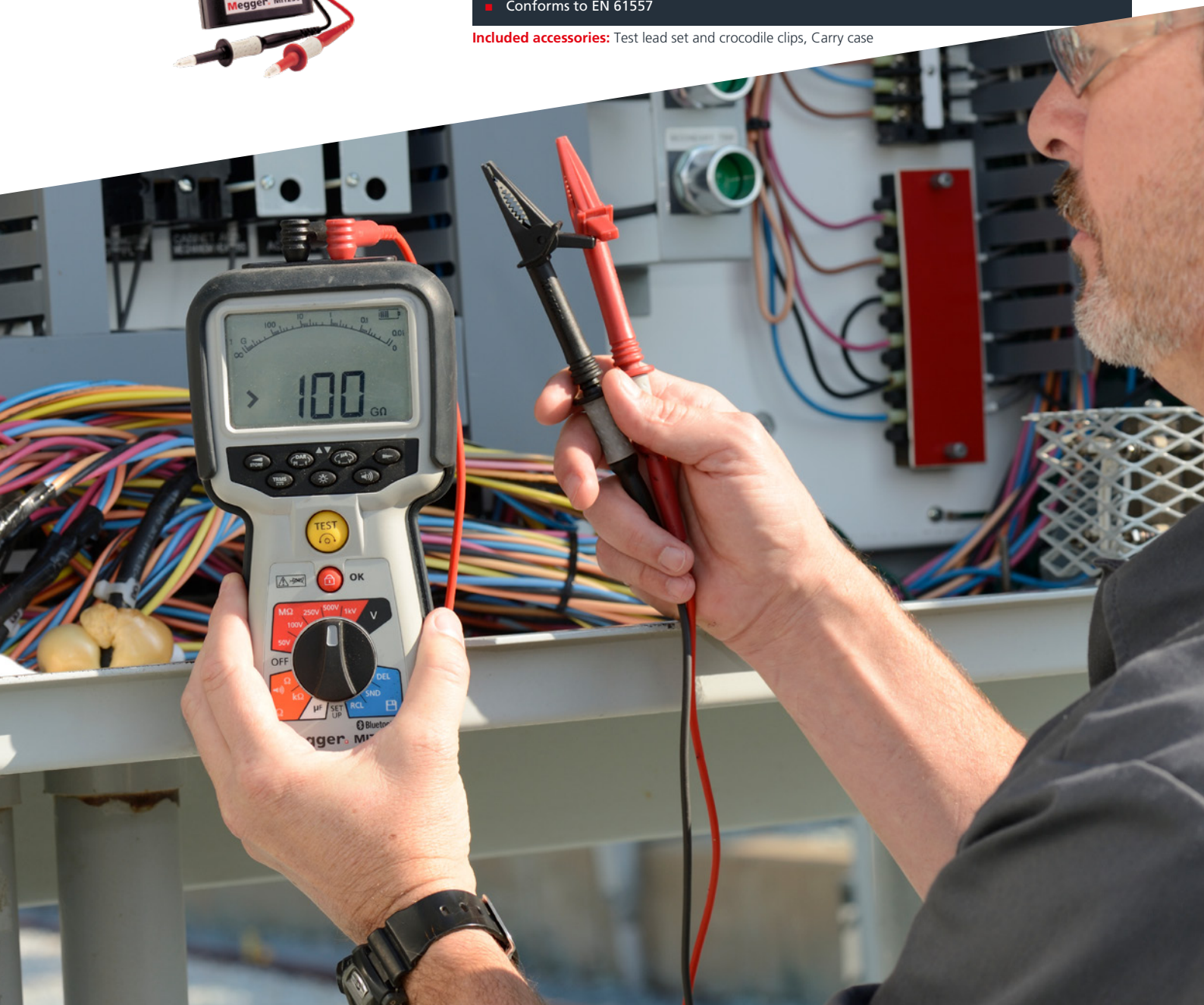



## MIT230

Item no. **MIT230-EN**

- Insulation testing to 1000 MΩ
- Continuity testing at 200 mA down to 0.01 Ω
- Live circuit warning (voltage display) and test inhibit
- Digital/analogue display
- Alkaline or rechargeable batteries
- –10 °C to +55 °C operating temperature
- CAT III 600 V
- Conforms to EN 61557

**Included accessories:** Test lead set and crocodile clips, Carry case



# INSULATION RESISTANCE MEASURING INSTRUMENTS



## MIT515
Item no. **1001-937**

- 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

## MIT525
Item no. **1001-941**

- 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, product information CD, lead set 3 m, medium sized insulated test clamps



## MIT1025
Item no. **1001-945**

- 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)

## MIT1525
Item no. **1002-908**

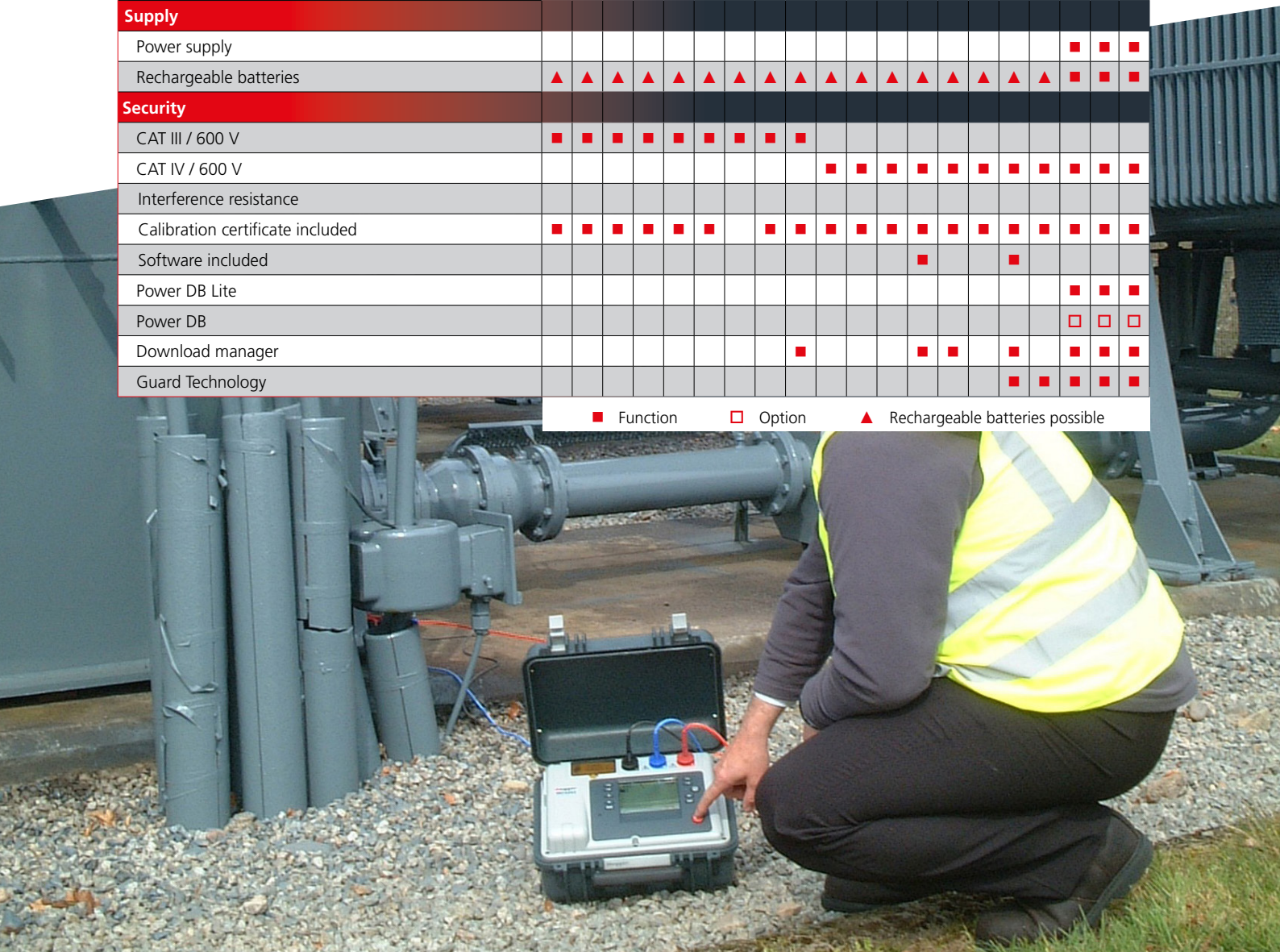
- Li-ion battery, high capacity, fast charging
- Quick charge function
- Automatic date function
- CAT IV 600 V
- Internal memory with data logger at 5-second intervals or real-time transmission via USB interface with one measurement per second

**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)



| | MIT200 | MIT210 | MIT220 | MIT230 | MIT300 | MIT310 | MIT310A | MIT320 | MIT330 | MIT400/2 | MIT410/2 | MIT420/2 | MIT430/2 | MIT481/2 | MIT485/2 | MIT2500 | MIT515 | MIT525 | MIT1025 | MIT1525 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Test voltages** | | | | | | | | | | | | | | | | | | | | |
| 10 kV / 15 kV | | | | | | | | | | | | | | | | | | | ■ | ■ |
| 5 kV | | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ |
| 2,5 kV | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ |
| 1000 V | | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 500 V | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 250 V | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| 50 V / 100 V | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| 10 V - 100 V | | | | | | | | | | | | | | | | | | | | |
| **Insulation - Test methods** | | | | | | | | | | | | | | | | | | | | |
| Polarization index | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Dielectric absorption ratio | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| Step voltage/ramp | | | | | | | | | | | | | | | | | | ■ | ■ | ■ |
| Dielectric discharge | | | | | | | | | | | | | | | | | | ■ | ■ | ■ |
| **Further tests** | | | | | | | | | | | | | | | | | | | | |
| Continuity check | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| Frequency measurement | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| Capacity measurement | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Voltage measurement | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Memory and interfaces** | | | | | | | | | | | | | | | | | | | | |
| Data memory | | | | | | | | | ■ | | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ |
| USB interface | | | | | | | | | ■ | | | | | | | | | ■ | ■ | ■ |
| Bluetooth interface | | | | | | | | | | | | | ■ | | ■ | ■ | | | | |
| **Supply** | | | | | | | | | | | | | | | | | | | | |
| Power supply | | | | | | | | | | | | | | | | | | ■ | ■ | ■ |
| Rechargeable batteries | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ■ | ■ | ■ |
| **Security** | | | | | | | | | | | | | | | | | | | | |
| CAT III / 600 V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | |
| CAT IV / 600 V | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Interference resistance | | | | | | | | | | | | | | | | | | | | |
| Calibration certificate included | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Software included | | | | | | | | | | | | | ■ | | | ■ | | | | |
| Power DB Lite | | | | | | | | | | | | | | | | | | ■ | ■ | ■ |
| Power DB | | | | | | | | | | | | | | | | | | □ | □ | □ |
| Download manager | | | | | | | | | ■ | | | | ■ | ■ | | ■ | | ■ | ■ | ■ |
| Guard Technology | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ |

■ Function □ Option ▲ Rechargeable batteries possible



# S1-Series

## INSULATION RESISTANCE MEASURING INSTRUMENTS



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

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

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

**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

Megger's new 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 new 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.

- Resistance measurement: 15 TΩ - 5 kV,
- 35 TΩ - 10 kV, 35 TΩ - 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 MΩ 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 compatabilty
- Option to record temperature and/or relative humidity with saved results (measured independently)

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.

Five preset voltage ranges are provided in insulation test mode, plus a user settable lock voltage range. Preconfigured diagnostic tests include Polarisation Index (PI), Dielectric Absorption Ratio (DAR), Dielectric Discharge (DD), Stepped Voltage (SV) and Ramp test.

Advanced memory storage includes time/date stamping of results, logging of data and recall of results to screen. A fully isolated USB interface or on-board Bluetooth® interface is used for safe transfer of data to Megger's asset management software; PowerDB Pro, Advanced or Lite packages.

Test leads are double insulated t with clamps rated at 3 kV t equivalent to 6 kV single insulation for the medium clip leadset and 5 kV t equivalent to 10 kV single insulation for the large clip. The 15 kV leadset is insulated to 15 kV.





# OPTIONALES ZUBEHÖR

## Accessories for all S1 and MIT 5, 10 & 15kV Insulation Testers



**CB101 Calibration Box + Cal Cert**
Item no. 6311-077



**CB101G Guard Terminal Check Box**
Item no. 1012-079



**Lithium-Ion Replacement Battery**
Item no. 1002-552

## Accessories for S1 and MIT 5 & 10kV



**Accessory Pouch**
Item no. 1008-019



**Lead set 3kV 3x3m Medium Clips**
Item no. 1008-022



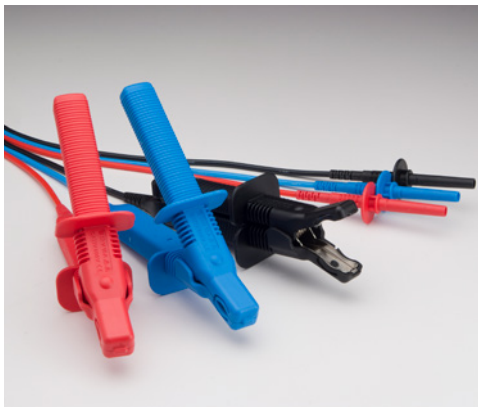
**Lead Set 1KV FOR 5&10KV MIT**
Item no. 6220-822



**Lead Set 5kV Shielded 15m**
Item no. 6311-080



**Lead Set 10KV Shielded 3M**
Item no. 6220-834



**Medium sized 6kV insulated clip test leads for S1 and MIT 5 &10kV**

**Lead Set HV 3x5m Medium Clips**
Item no. 1002-641

**Lead Set HV 3x8m Medium Clips**
Item no. 1002-642

**Lead Set HV 3x10m Medium Clips**
Item no. 1002-643

**Lead Set HV 3x15m Medium Clips**
Item no. 1002-644

**Large sized 10 kV insulated clip test leads for S1 and MIT 5 &10kV**

**Lead Set HV 3x3m**
Item no. 1002-534

**Lead Set HV 3x5m**
Item no. 1002-645

**Lead Set HV 3x8m**
Item no. 1002-646

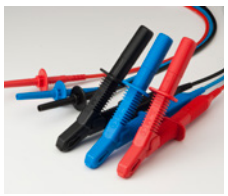
**Lead Set HV 3x10m**
Item no. 1002-647

**Lead Set HV 3x15m**
Item no. 1002-648

**Lead Set 5kV 3x25m**
Item no. 1003-201

**Lead Set 5kV 3x30m**
Item no. 1003-202

## Accessories for S1 and MIT 15kV



**Lead Set 15kV**
Item no. 1008-023



**15kV Lead Set 15kV Plug 3X5m, 15kV Clip**
Item no. 1005-259



**1kV Control Lead Set 15kV Plug 2 x 3m**
Item no. 1005-264



**15kV Screened 3m Lead Set, 15kV Clip**
Item no. 1005-266

## Accessories for the MIT200 Series



**Unfused Test Lead Set R/B, prods & clips**
Item no. 1002-001



**SIA45 Adaptor (Bipolar) SCHUKO (Accy)**
Item no. 1007-158



**Prod & Clip Set - Insulation Testers**
Item no. 1002-491




**Soft Carry Case MIT200**
Item no. 6220-773

## Accessories for the MIT400 and MIT480 Serie



**Magnetic Strap**
Item no. 1010-013

**1kV Silicon test leads w clips/ prods**
Item no. 1007-781



**Unfused Test Lead Set (Red/Black) with prods & clips - right angle plugs**
Item no. 1002-001



**SP5 Remote Switched Probe Accessory**
Item no. 1007-157



**Prod & Clip Set - Insulation Testers**
Item no. 1002-491



**Lead Set MIT480/2 series**
Item no. 1007-780

**2.5 kV Silicone Test Leads + Clips x3**
Item no. 1007-637



**Test Lead Probe Cap [Clear] Bag of 20**
Item no. 1000-562




**Carry Pouch MIT400/2 Series**
Item no. 1007-887




**Holster & Stand MIT400/1 Series**
Item no. 6121-626



**Battery Charger Kit MIT400/2 and MTR105**
Item no. 1007-464



**DC Car Charger 2.5mm Pin (Accy)**
Item no. 1004-183

## Other accessories on request

# RCDT300-Series

## RESIDUAL CURRENT DEVICE TESTERS




| | | |
|---|---|---|
| **RCDT310** | 30, 100, 300, 500 mA | |
| Item no. | | **RCDT310-EN-SC** |
| **RCDT320** | 10, 30, 100, 300, 500,1000 mA | |
| Item no. | | **RCDT320-EN-SC** |
| **RCDT330** | 10, 30, 100, 300, 500,1000 mA | |
| Item no. | | **RCDT330-EN-SC** |

- Tests standard, DC and selective RCDs
- Ramp testing
- Auto (Remote) testing
- 3 Phase safe
- Enables testing on 110 V centre tapped supplies.
- Tough rubber armoured case with built-in cover
- Weatherproof to IP54

**Included accessories:** Mains plug test lead (CEE 7/7), 2-wire test lead with prods and clips (not RCDT310)

**Even if they are inadvertently connected to a live three-phase supply, RCD testers in Megger's RCDT300 range remain undamaged, and present no safety hazard to the user. Introduced after extensive customer research into the requirements of electrical contractors, these innovative instruments combine rugged construction with straightforward operation, and they are offered at very competitive prices.**

Available in three models RCDT300 RCD testers feature a compact design, making them easy to use, and tough with a rubber overmoulding for additional protection, plus a built-in display cover. All models in the range are water and dust resistant, with an IP54 rating.

## Accessories for the RCDT-Series



**Lead USB Type A to Type B 1.8m**
Item no. 1004-610



**Case Catch - Pack of 10**
Item no. 1007-003



**Prod & Clip Set - Insulation Testers**
Item no. 1002-491

# LT-Series

## HIGH CURRENT LOOP TESTER




| | | |
|---|---|---|
| **LT300** | 16 - 400 Hz Railways | |
| Item no. | | **LT300-EN-00** |
| **LTW315** | 2 wire loop | |
| Item no. | | **LTW315-EU-SC** |
| **LTW325** | + maxZ and (R1+R2) | |
| Item no. | | **LTW325-EU-SC** |
| **LTW335** | + maxZ and (R1+R2)<br>+ Results memory and download | |
| Item no. | | **LTW335-EU-SC** |
| **LTW425** | 0,001 Ohm resolution | |
| Item no. | | **LTW425-EU-SC** |

**The Megger two wire earth loop testers verify the loop impedance of a live electrical circuit, i.e. without the need to disconnect the electrical supply.**

The new LTW300 series instruments offer a 2 wireloop testing solution that does not trip 30 mA RCDs and can be used on a wide range of voltages.

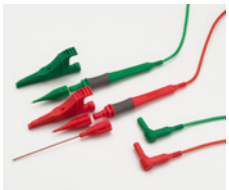
- 2 Wire Non-tripping loop tester
- 50 V to 440 V operation
- 110 V centre-tap loop testing
- CATIV installation testing
- AUTO start - operation
- 0.001 Ω resolution (LTW425)

**Included accessories:** 2 wire leadset with croc clips, Schuko plug test lead, Hard carry case, User CD

## Accessories for the RCDT- und LTW-Series



**Mains Test Lead SCHUKO**
Item no. 1005-078



**Unfused Lead Set Red, Green**
Item no. 1003-132

**SIA50 Adaptor SWISS Accessory**
Item no. 1007-164

## Other accessories on request

# PAT400-Series FULL DATABASE DRIVEN PORTABLE APPLIANCE TESTERS




| | | |
|---|---|---|
| **PAT410** | 200 mA | |
| Item no. | | **1000-748** |
| **PAT420** | 200 mA, 10A / 25A | |
| Item no. | | **1005-019** |
| **PAT450** | 200 mA, 10A / 25A, ISO 1500/3000 V | |
| Item no. | | **1000-751** |

**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 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.

- 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
- PAT 450: 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

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 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.

Accessories supplied with all models include a combined earth-bond and insulation test lead, an adaptor for testing 230 V extension leads, a laptop power supply adaptor, and a carry-case for convenient product and lead storage. All instruments also include Download Manager software, to enable data to be converted into a CSV format which can be read directly on a PC using Microsoft® Excel.

| Functions | PAT410 | PAT420 | PAT450 |
|---|---|---|---|
| **SUPPLY** | | | |
| 230 V | ■ | ■ | ■ |
| 110 V | | ■ | ■ |
| **EARTH BOND/CONTINUITY** | | | |
| 200 mA | ■ | ■ | ■ |
| 10 A | | ■ | ■ |
| 25 A | | ■ | ■ |
| Bond lead null | ■ | ■ | ■ |
| **INSULATION TEST** | | | |
| 250 V | ■ | ■ | ■ |
| 500 V | ■ | ■ | ■ |
| **ALTERNATIVE LEAKAGE TESTS** | | | |
| Substitute | ■ | ■ | ■ |
| Differential | ■ | ■ | ■ |
| Touch current | ■ | ■ | ■ |
| **OPERATION TEST VA MEASUREMENT** | ■ | ■ | ■ |
| **EXTENSION LEAD TEST** | | | |
| Earth bond / (continuity PAT410) | ■ | ■ | ■ |
| Insulation | ■ | ■ | ■ |
| Polarity | ■ | ■ | ■ |
| **FLASH TEST 1.5 kV and 3 kV** | | | ■ |
| **PORTABLE RCD TEST (230 V)** | ■ | ■ | ■ |
| **OTHER FEATURES** | | | |
| 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




- 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

**PAT120**
Item no. **1003-066**

**PAT150**
Item no. **1003-068**

**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





# Accessories



**Continuity/Bond Lead Set 32A**
Item no. 1001-233



**Extension Lead Adaptor SCHUKO CEE7/7**
Item no. 1001-235

# Accessories for the PAT400 Series



**Three-phase current adapter 16A** DE-CEE16-S (plug)
Item no. DE-060



**415V Adaptor Lead (5 Pin) TO SC (16A)**
Item no. 1000-771



**Plug Adaptor IEC C6-C13**
Item no. 1001-232



**Three-phase current adapter 32 A** DE-CEE32-S (plug)
Item no. DE-061




**Barcode Printer Brother P700**
Item no. 1005-423



**Drehstrom-Adapter PCT**
für 3/5-polige Verlängerungsleitungen
Item no. DE-009
765,- €*



**PC-Software dokuSTORE 2.0**
Item no. DE-SWDOKU



**Barcode Scanner (USB)**
Item no. 1001-047



**Drehstrom-Adapter CEE-Test 5/16** Aktiver CEE-Adapter mit Differenz- strommessung zum überprüfen von Drehstrom-Geräten bis 16 A (DE-050) oder bis 32 A (DE-051)
Item no. DE-050 / DE-051




**PC-Software dokuSTORE 4.0**
Item no. DE-DOKUSTORE4




**PAT Accessory Case**
(320 x 200 x 150 mm)
Item no. 2001-044



**Printer Cartridge for Brother PT-700 PC**
Item no. 90001-010

# Accessories for the PAT100 Series



**Mains Test Lead SCHUKO**
Item no. 1005-078



**Battery Charger Kit 15V**
Item no. 1003-436

**Mains Test Lead SWISS**
Item no. 1005-079

**Extension Lead Adaptor SWISS**
Item no. 1005-081

**Other accessories on request**

# MTR105 TESTER FOR ROTATING MACHINES




**5 TESTERS IN ONE!**

## MTR105

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 certifi cate; 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

**The MTR105 is a dedicated Static Motor Tester with Megger's tried and trusted suite of insulation resistance tests (IR), plus all the great traditional features and reliability of Megger's testers.**

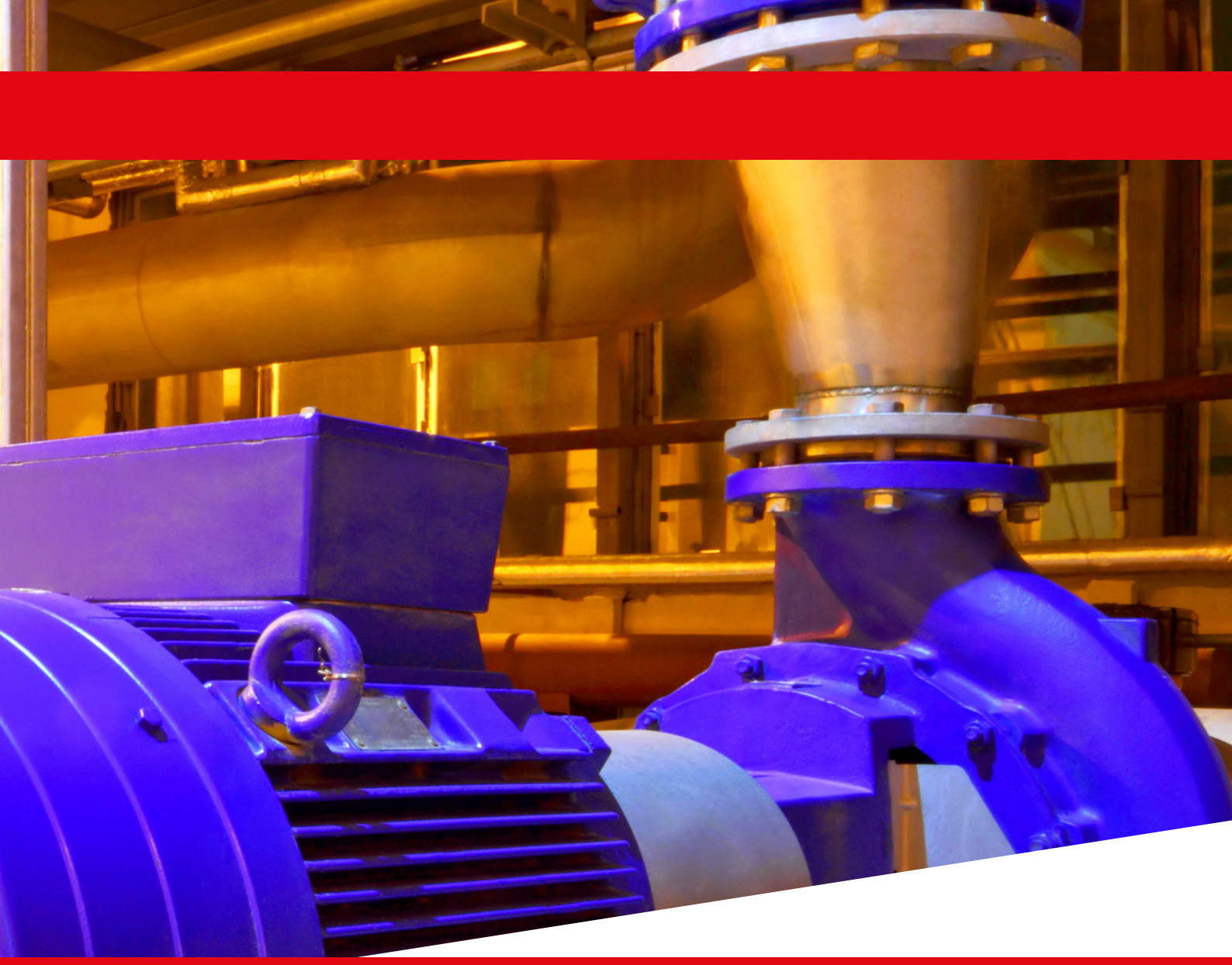
The MTR105 takes the test abilities of Megger's proven IR test instruments adding DLRO four wire Kelvin low resistance test, inductance and capacitance tests to provide a versatile motor tester, all packaged in a robust hand held instrument, which up to now has simply not been available.

Additionally the MTR105 incorporates temperature measurement and compensation (for IR tests), motor direction of rotation plus supply phase rotation tests.

These new test abilities make the MTR105 a real world, versatile, hand held motor test instrument.

The MTR105 comes in an over-moulded case, providing increased protection and robustness, achieving an IP54 weatherproof rating.





## Accessories for the MTR105



**Battery Charger Kit MTR105**
Item no. 1007-464



**Kelvin Probe Pins (Pack of 4)**
Item no. 1012-064



**Test Probe Set - Long Reach – CAT II**
Item no. 1012-065



**Test Probe Set - Long Reach – CAT IV**
Item no. 1012-066



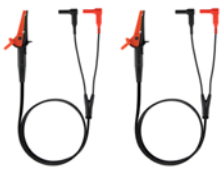
**Temperature Probe - T Type, CATIII 600V**
Item no. 1012-067



**Hanging Hook & Strap**
Item no. 1012-068



**Grabber Clip Leadset**
Item no. 1012-069



**Kelvin Clip Leadset**
Item no. 1011-928



**Kelvin Probe Leadset**
Item no. 1011-929



**SP5 Remote Switched Probe**
Item no. 1007-157



**Pouch MTR105**
Item no. 1012-063

**Other accessories on request**

# DET2/3 & ETK KIT DIGITAL GROUND IMPEDANCE TESTER




## DET2/3

Item no. **1008-944**

- High resolution of 1 mΩ, 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 Ω, lid pocket

## ETK30

Item no. **1010-176**

## ETK50

Item no. **1010-177**

## ETK100

Item no. **1010-178**

## ETK50C

Item no. **1010-179**

## ETK100C

Item no. **1010-180**

- Accessory kits to complete earth electrode testing and soil resistivity surveys
- Can be used with any of the DET2/2, DET2/3, DET3 or DET4 Megger earth testers as well as Megger MFT models
- Easy wind and unwind reels
- Easy to use, easy pack away
- Earth test spikes on reels
- Supplied with holdall bag for easy transportation
- Multiple lengths to meet all needs

# DET14C & DET24C DIGITAL EARTH CLAMPS




## DET14C

Item no. **1000-761**

## DET24C

Bluetooth® & Advanced memory functionality

Item no. **1007-331**

- 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 Ω to 1500 Ω
- 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.

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

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.

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.




The DET14C offers storage of results for later on-screen recall and the DET24C supports a download of results via Bluetooth® into PowerDB and PowerDB Lite, Megger's acceptance and maintenance test data management software. Stored data is indexed using a sequential serial number together with a time and date stamp for each record.

# DET3TD EARTH MEASUREMENT DEVICE




## 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

**The new ground testing instrument family from Megger offers a unique solution to your ground rod testing needs.The complete kit of instrument, test leads, stakes, batteriesand 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 Ω through to 2000 Ω 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.

# DET4TD2 EARTH MEASUREMENT DEVICE




## 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

| |  DET3TD |  DET3TC |  DET4TD2 |  DET3TR2 |  DET4TC2 |  DET4TCR2 |  DET14C |  DET24C |  DET2/3 |
|---|---|---|---|---|---|---|---|---|---|
| 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 | 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 |
| Software PowerDB Lite | | | ■ | ■ | ■ | ■ | | ■ | ■ |
| Software PowerDB full version | | | □ | □ | □ | □ | | | |

■ Function □ Option

## Accessories for the DET3 and DET4 Series



**Earth Spikes (x2)**
Item no. 6220-804



**3-Terminal Lead Set**
Item no. 1000-525



**4-Terminal Lead Set**
Item no. 1000-526

## Accessories for the DET4T Series



**MCC1010 Current Clamp**
Item no. 1010-516



**MVC1010 Voltage Clamp**
Item no. 1010-518



**MCC1010 Lead**
Item no. 1011-274



**MVC1010 Lead**
Item no. 1011-275




**Calibration Check 25 Ohms**
Item no. 1000-435




**Soft Carry Case**
Item no. 6220-773

## Other accessories on request

# DLRO10HD & DLRO10HDX 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 mΩ and 1 A into measurements up to 2.5 Ω. 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.

## Resolution and Accuracy

Test current accuracy ±10%

Voltmeter input impedance >200 kΩ

Maximum lead resistance at 10 A <100 mΩ

| Test current | Resistance range | Resolution (as displayed) | Basic accuracy* | Full scale voltage | Max. power output |
|---|---|---|---|---|---|
| 100 µA | 0 - 2,5 kΩ | 0,1 Ω | ±0,2% ±200 mΩ | 25 mV | 25 µW |
| 100 µA | 0 - 250 Ω | 0,01 Ω | ±0,2% ±20 mΩ | 25 mV | 2,5 µW |
| 1 mA | 0 - 25 Ω | 1 mΩ | ±0,2% ±2 mΩ | 25 mV | 25 µW |
| 10 mA | 0 - 2,5 Ω | 0,1 mΩ | ±0,2% ±200 µΩ | 25 mV | 250 µW |
| 100 mA | 0 - 250 mΩ | 0,01 mΩ | ±0,2% ±20 µΩ | 25 mV | 2,5 µW |
| 1 A | 0 - 25 mΩ | 1 µΩ | ±0,2% ±2 µΩ | 25 mV | 25 mW |
| 10 A | 0 - 2,5 mΩ | 0,1 µΩ | ±0,2% ±0,2 µΩ | 25 mV | 0,25 W |
| 1 A** | 0 - 2,5 Ω | 0,1 mΩ | ±0,2% ±200 µΩ | 2,5 V | 2,5 W |
| 10 A** | 0 - 250 mΩ | 0,01 mΩ | ±0,2% ±50 µΩ | 2,5 V | 25 W |

* Basic accuracy stated assumes forward and reverse measurements.

** Higher 2.5 W (1 A) and 25 W (10 A) power outputs.

## DLRO10HD No lead set

Item no. **1006-603**

## DLRO10HDX No lead set

Item no. **1008-047**



**DLRO**10HD



**DLRO**10HDX

- 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 µΩ, measuring range up to 2,500 Ω
- 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, Detailed operating instructions on CD-ROM, Schuko power supply cable



Robust rotary switches with safe and understandable colour coding



A sturdy hard shell case offers your device space and protection




Easy to use navigation buttons



USB connection

# KC SERIES TEST LEADS

WIND TURBINE LIGHTNING PROTECTION TEST LEAD SETS



The KC-series of test leads provide a complete and convenient solution to the problem of finding reliable test leads that are long enough for testing the continuity of lightning protection conductors in wind turbines.

KC-series wind turbine test leads are available in 330 ft, 200 ft and 100 ft (100 m, 60 m and 30 m) versions that are equally suitable for use on site or in the manufacturing plant. All lead set versions are 10 A rated.

## KC100 Kelvin lead kit (900 mΩ) 1x 100 m / 1x 6 m

Item no. **1000-809**

## KC60 Kelvin lead kit (500 mΩ) 1x 60 m / 1x 6 m

Item no. **1001-248**

## KC30 Kelvin lead kit (250 mΩ) 1x 30 m / 1x 6 m

Item no. **1001-249**

- Developed in conjunction with a leading manufacturer of wind turbines
- Allows easy and reliable measurement of lightning protection circuit resistance of wind turbines
- Available in three lengths, 30 m, 60 m and 100 m to suit both manufacturing and maintenance applications
- Long cable fitted on strong metal framed cable reel
- Cable reel fitted with friction brake to avoid tangles when paying out cable emfs
- Uses duplex connect test lead system

# DLRO10 & DLRO10X

## DIGITAL MICROHMMETER




**DLRO 10 and DLRO 10X are fully automatic instruments, selecting the most suitable test current up to 10 A DC to measure resistance from 0.1 µΩ to 2000 Ω, on one of seven ranges.**

For users who desire more control over the measurement process, DLRO 10X uses a menu system controlled by a two-axis paddle to allow the user to manually select the maximum test current.

The DLRO 10X also adds real time download of results and on board storage for later download to a PC.

Both instruments are built into a strong, lightweight case that is equally at home in the field or in the laboratory. Light enough to be worn around the neck, they are small enough to be taken into areas that were previously too small to access.

The DLRO 10 uses a large, bright 4 1/2 -digit LED display while DLRO 10X has a large, colour display. Normally, measurements are made with forward and reverse currents to cancel the effects of any standing voltages across the test sample.

| | | |
|---|---|---|
| **DLRO**10 | NO LEAD SET | |
| Item no. | | **1006-660** |
| **DLRO**10 | DH4-C TEST LEAD | |
| Item no. | | **1006-598** |
| **DLRO**10X | NO LEAD SET | |
| Item no. | | **1006-659** |
| **DLRO**10X | DH4-C TEST LEAD | |
| Item no. | | **1006-600** |

- Accurate results in under three seconds
- Auto current reversal cancels standing emfs
- Fuse protected to 600 V
- NiMH battery reduces weight
- 250 mW power limit (with optional override) to avoid heating the test sample
- Automatically detects continuity in potential and current connections
- Visible warning of high voltages present at the terminals
- Visible warning of current flowing in the test sample
- Multiple operating modes including fully automatic
- Alpha-numeric keypad for entering test notes (DLRO 10X)
- User setable high and low limits (DLRO 10X)
- Autoranging with Manual option (DLRO 10X)
- Printer output and memory (DLRO 10X)

**Included accessories:** 5.2 Ah lithium ion battery module, DH4-C 1.5 m Duplex handspikes (2), one has indicator lights. (No lead set included in NLS models) , Battery charger, Cigar lighter adapter for battery charging, User guide, Warranty card





The average value is then displayed within 3 seconds, to a basic accuracy of 0.2%. DLRO 10X displays both forward and reverse measurements as well as the average of the two.

The DLRO 10X allows the user to set high and low pass limits, thereby enabling simple go-no-go testing.

At the end of a test the DLRO10X will store the test results, as well as any notes relevant to the test.

To ensure customers are able to choose the best test leads to suit their application, the DLRO10 and DLRO10X may be purchased in one of two packages. The first option is supplied with a pair of duplex handspikes with 1.2 m (4 ft) leads, the second option is supplied without test leads to allow customers to order exactly the test leads they require from the accessory list.

The instruments are supplied as standard with a Lithium Ion battery pack. The battery packs are interchange-able so that an exhausted battery may be recharged using the external charger supplied while testing continues using a spare pack. Although full charging will take 4 hours, a fast charge mode allows the battery to be 90% charged within 2 1/2 hours from a 12 volt battery or from a standard 120/230 V AC supply via the supplied charger. The battery pack contains its own battery state indicator, which allows the charge-state to be monitored, even without being connected to the instrument.

In addition an optional mains / line power supply, the DLRO10LPU is available. This enables the instruments to be directly powered from 90V to 264V, 50/60Hz ideal for repetitive testing applications such as manufacturing production line use.

DLRO 10X is fitted with RS232 communications that will allow results to be downloaded in real time or stored for later retrieval.

Up to 700 sets of results may be stored within DLRO 10X complete with notes containing up to 200 characters which may be added using the on board keypad. These results can also be downloaded to a PC.

## Accessories for the DLRO10 / 10X & HD



**Sprung Probe Contact - Standard (Pack of 2)**
Item no. 1008-024



**Sprung Probe Contact - Serrated (Pack of 2)**
Item no. 1010-929



**Battery DLRO10/10X 7Ah**
Item no. 6121-492



**Battery Charger DLRO10/10X/ BITE3**
Item no. 6280-333



**DC Car Charger 2.5mm PIN (Accy)**
Item no. 1004-183

## Accessories for the DLRO10HD & DLRO10HDX




**Lid Pouch**
Item no. 1005-623



**DLRO10HD Terminal Cover**
Item no. 1002-390



**DLRO10HD/X CATIII terminal adaptor**
Item no. 1011-670



**DLRO10HD/X Current and potential leadset**
Item no. 1011-673



**Bridging leadset**
Item no. 1011-674



**Kelvin Clip Leadset**
Item no. 1011-928



**Kelvin Probe Leadset**
Item no. 1011-929

**DLRO10HD/HDX Industrial Appl Kit**
Item no. 1011-376














## Other accessories on request



# DLRO100 SERIES DIGITAL LOW RESISTANCE OHMMETERS




| | |
|---|---|
| **DLRO100 E** Item no. | **1004-853** |
| **DLRO100 EB** Item no. | **1004-874** |
| **DLRO100 X** Item no. | **1004-894** |
| **DLRO100 XB** Item no. | **1004-914** |
| **DLRO100 H** Item no. | **1004-934** |
| **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, CD containing the User Guide, Mains lead, USB Cable (X, H variants only)

**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 ofthe 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 E | EB | X | XB | H | HB | BENEFITS |
|---|---|---|---|---|---|---|---|
| CAT IV 600 VAC / 500 VDC up to 2000 m<br>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<br>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.<br>Works from an AC supply if the battery is fully discharged.<br>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 |
| Ultra tough outer case construction | ■ | ■ | ■ | ■ | ■ | ■ | Designed for use in demanding environments with a flame retardant UL94 V0 inner case for safety |
| DualGround™ | | | ■ | ■ | ■ | ■ | Using the optional DC clamp enables circuit breaker testing with ground protection in place for safety |
| Large, clear LCD | ■ | ■ | ■ | ■ | ■ | ■ | Ideal for all light conditions, with backlight |
| 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 |

## Accessories for the DLRO100 Series




**Lead Set High Current 200A 5M 50sq.mm**
Item no. 1004-448



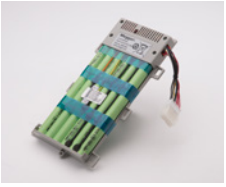
**Wing Nut Adapters**
Item no. 1005-555



**Lead Set High Current 200A Kelvin 5M**
Item no. 1005-634



**MCPD 100L - DC Current Probe**
Item no. 1005-622



**Battery Pack DLRO100EB/XB/HB Spare**
Item no. 1005-973

# DLRO200 & DLRO600 DIGITAL MICRO-OHMMETER




## DLRO200

Item no. **1001-841**

- Small and weighs less than 15kg
- Test currents from 10 A to 200 A d.c.
- 0.1 µΩ best resolution
- On board memory for up to 300 test results and notes
- RS232 port to download stored results or for real time output to a printer
- Supplied complete with 5m test leads and download software

**Included accessories:** Download manager, Quick Start Guide, CD containing the User Guide, RS232 download cable, Warranty Card

**Megger Ducter™ DLRO600 measures resistances between 0.1 µohms and 1 ohms, at high currents.**

These versatile instruments can provide test currents from 10 amps up to 200 amps (DLRO200) and 600 amps (DLRO600) subject to the load resistance and supply voltage. A large liquid crystal display provides all the information needed to perform a test; all test parameters and measurement results are displayed.

The unique design allows the weight and size of the DLROs to be kept to a minimum; the instrument weighs less than 5kg. This small size makes the DLRO equally at home in the workshop, on the production floor or in the field. The high current capability and compact design make DLRO suitable for testing circuit breaker contacts, switch contacts, busbar joints or other applications where high current is needed.







## DLRO600

Item no. **1003-148**

- Small and weighs less than 15 kg
- Test currents from 10 A to 600 A dc
- 0.1 µΩ best resolution
- On board memory for up to 300 test results and notes
- RS232 port to download stored results or for real time output to a printer
- Supplied complete with 16.4 ft (5 m) test leads and download software

**Included accessories:** Download manager, Quick Start Guide, CD containing the User Guide, RS232 download cable, Warranty Card

## Accessories for the DLRO200 & DLRO600








**Lead Set DLRO600/200 (5m) 4 LEADS**
Item no. 1008-028

**Lead Set DLRO600/200 (10m) 4 LEADS**
Item no. 6220-756

**Lead Set DLRO600/200 (15m) 4 LEADS**
Item no. 6220-757




**Carry Holdall**
Item no. 1008-836



**Serial PC Download Lead**
Item no. 25955-025

**Other accessories on request**

# DLRO2 Series

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

**SPEZIELLE FUNKTION FÜR WINDKRAFT-ANLAGEN**




### DLRO2
Item no. **1012-280**

### DLRO2X
Item no. **1013-795**

- Noise Rejection mode with Confidence MeterTM (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

**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 2000mAHR, USB memory stick (with user guide), hanging hook and strap, soft pouch

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.

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.

## EXAMPLE APPLICATIONS

**Aviation** – Lightning protection testing measuring mΩ resistance between receptors, wing tip to wing tip etc., using long test leads. Optional long cable reel test leads are available, can be used for assembly of components, interconnection of equipment, repair, and maintenance.

**Wind turbines** – Lightning protection, measuring mΩ resistance between wing tip to ground connection at base using long test leads. Optional long cable reel test leads are available.

**Rail, tram and underground** – Rolling stock and infrastructure, track high current joints, signalling systems.

**Marine** – Power wiring systems, protection systems, ship-to-shore bonding, cathode protection system testing, and cable laying applications.

**Oil and gas pipelines** – Bonding between welded joints and grounding systems.

**Automotive and EV** – Battery connections, weld quality, crimped connections quality, assembly robot welding cables.

**Cable manufacturers** – Quality control, cable length.

**Component manufacturers** – Quality control.

**Space exploration and engineering** – Structural metal to metal, ground network metal to metal, carbon fibre to metal, carbon fibre to carbon fibre.

**Data centres** – During electrical installation of main panel, generator, and UPS systems. Verification of protective device contact resistance, busbar parallel feeds, busbar lapped joints, optimum resistance over torque, and cable lug to busbar connections. During maintenance using trending data for all aspects of the above, verification after repair.

**Medical hand-held opportunity** – Earthing and bonding systems for protection against microshock and macroshock.

**Panel/switchgear manufacturers** – End of production line testing, site commissioning, maintenance, and fault finding.

**Robotics** – Wiring systems and connections which are subject to stress/movement/vibration, bonding of component parts to minimise static, grounding of machine, welding leads of robot spot welder.

**Electrical infrastructure** – Cable resistance from one end, cable length, identification of parallel supplies while connected, cable to lug to connection fault finding. Checking assembled connections main supply cables and panels, switchgear and protective devices, UPS and changeover panels, interlinking busbars, interlinking cables, distribution and PDU boards, lightning protection systems, final circuits.

**Photovoltaic Installations** – Test contact resistance of any ground connection including busbars, and in combination of the KC long test leads can test entire long distance strings.

## Accessories for the DLRO2 & DLRO600



**Pouch**
Item no. 1012-063



**KC50C-KIT**
**Kelv clip/probe reel(50m+3m)**
Item no. 1013-211



**KC100C-KIT**
**Kelv clip/probe reel(100m+3m)**
Item no. 1013-212



**KC50E Extension reel (50m)**
Item no. 1013-213



**Hanging Hook & Strap**
Item no. 1012-068



**Charger Power Supply**
Item no. 1002-736



**Kelvin Probe Leadset**
Item no. 1011-929



**Kelvin Probe Pins (Pack of 4)**
Item no. 1012-064



**Kelvin Clip Leadset**
Item no. 1011-928



**RA Terminal Adaptor Set**
Item no. 1012-511

**Other accessories on request**

# AVO210 DIGITAL MULTIMETER




## AVO210

Item no. **1006-969**

- 2000 count digital display
- 1000 V DC / 750 V AC ranges
- 10 A AC / DC ranges
- Resistance, frequency and capacitance ranges
- Non-contact voltage detector
- CAT III 600 V

**Included accessories:** Test leads

**The AVO210 is a general purpose multimeter suitable for electricians, heating engineers and alarm technicians. The additional features make the instrument useful for a wide range of applications.**

The instrument offers AC and DC voltage and current measurements as well as resistance, frequency and capacitance ranges. The AVO210 has simplified functions that avoid continuous reference to the user guide. The testleads included with the AVO210 have GS38 compliant shrouded tips.

## Accessories for the AVO210 & AVO410



**Unfused Test Lead Set R/B, prods & clips**

Item no. 1002-001




**Pouch**

Item no. 2007-366

# AVO410 DIGITAL MULTIMETER




## AVO410

Item no. **1001-613**

- 6000 count backlit digital display
- True RMS reading on AC mode
- 1000 V DC / 750 V AC ranges
- 10 A AC / DC ranges
- Resistance, frequency and capacitance ranges
- CAT IV 600 V

**Included accessories:** Test leads and probes

**The Megger AVO410 digital multimeter has been designed for the contracting electrician and has the additional features that also make the instrument suitable for wide range of applications and users.**

The instrument offers AC and DC voltage and current measurements as well as resistance, frequency and capacitance ranges. True RMS readings on the AC functions are standard on the AVO410 and the instrument features a CATIV 600 V safety rating meaning the instrument is suitable for industrial applications.

The slim, compact case has a tough rubberised holster that provides that extra degree of protection from the extreme conditions found in industrial environments. The style of the case and positioning of the function switch and buttons means the unit sits comfortably in the palm for single handed use.

Continuous references to the user guide have been avoided by the AVO410 utilising simplified functions.

The display features a back light that allows measurements to be made in poorly lit areas.

The AVO410 test leads are supplied with silicon cable and have GS38 compliant shrouded tips on the prods.

### Auto-ranging

When first selected, all functions are auto-ranging. A range button on the AVO410 allows multiple manual range selection on each function; a feature that is generally welcomed by many users.

### Minimum / Maximum measurements

The instrument has a MIN MAX function that allows the user to switch between minimum and maximum measurements. The display does not have to be continually monitored to capture a momentary increase or fall in readings.

### Data hold

This function allows a displayed result to be frozen on the display which avoids having to remember a measurement value. The hold function can be nested within the MIN MAX feature which stops the AVO410 continuously updating the minimum and maximum measurement values.

### Voltage measurements

Both AC and DC voltage measurements up to 750 V and 1000 V respectively are possible with the AVO410, the AC reading being a true RMS value.

### Current measurements

For current measurements up to 10 A, a separate fused terminal is provided to protect both user and instrument from excess current.

### Continuity / diode testing

The continuity function features a buzzer and provides the user both optical and audio indication of identifying and confirming continuity between two points. This function also allows forward and reverse bias testing of diode and semiconductor junctions.

### Resistance, capacitance and frequency

Resistance can measured directly on the ohms range from 0 to 60 MΩ with capacitance measurements from 0 to 6.000 mF. In addition, frequency measurements from 0 to 60 MHz are possible.

# **TDR**500/3 TIME DOMAIN REFLECTOMETER & CABLE LENGTH METER




## **TDR**500/3

Item no. **1002-227**

- 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 Ω 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, operating instructions CD

The TDR500/3 is a hand held, compact time domain reflectometer for locating faults on metallic cables. It has 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 Ω) and a velocity factor between 0.2 and 0.99 will meet any cable test requirements

The TDR500/3 has 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 TIME DOMAIN REFLECTOMETER & CABLE LENGTH METER




## TDR2050

Item no. **1005-022**

- Two measuring channels and measured value memory for 100 traces
- Graphical color display (800 x 400) for better comparison of the measured curves
- 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, instruction manual CD

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.



# TDR-Series TIME DOMAIN REFLECTOMETER & CABLE LENGTH METER




| | TDR500/3 | TDR1000/3 | TDR1000/3P | TDR2000/3 | TDR2000/3P | TDR2010 | TDR2050 |
|---|---|---|---|---|---|---|---|
| Range | 0,2m to 5km | 0,2 m to 5 km | 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 |
| Shortest pulse width | 2 ns | 2 ns | 2 ns | 2 ns | 2 ns | 2 ns | 2 ns |
| Number of Channels | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Built-in Blocking Filter | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Memory Function | Trace-Hold | 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 | Trace hold with Live Trace overlay |
| Automatic Section | Adjustable | Adjustable | Adjustable | Adjustable | Adjustable | Adjustable | Adjustable |
| Auto-error detection | | | | ■ | ■ | ■ | ■ |
| Trace Tagging | | | | | | ■ | ■ |
| Step Function | | | | | | | ■ |
| Distance dependant gain | | | | | | | ■ |
| Auto end find | | | | | | | ■ |
| Rechargeable Battery | | | | ■ | ■ | ■ | ■ |
| Test Lead type | Minature Clip | Minature Clip | Minature Clip | Minature Clip | 10A Fused standard clip | Minature Clip | 10A Fused standard clip |
| Safety rating | CAT III 300 V | CAT III 300 V | CAT III 300 V | CAT III 300 V | CAT III 300 V | CAT III 300 V | CAT III 600 V |
| Dust and weatherproof rating | IP54 | IP54 | IP54 | IP54 | IP54 | IP54 | IP54 |

# VF6 EX & VF5

## AC NON-CONTACT VOLTAGE DETECTOR




## VF6 EX

Item no. 1013-097

## VF5

Item no. 1013-098

- Hazardous area rated (only VF6 EX)
- 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 1000 V
- IP67

**Included accessories:** Batteries 2 x AAA





# TPT420 2-POLE TESTER




## TPT420

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
- Supplied with protective carry pouch

**Included accessories:** Pouch, GS38 shrouds, Batteries 2 x AAA




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.

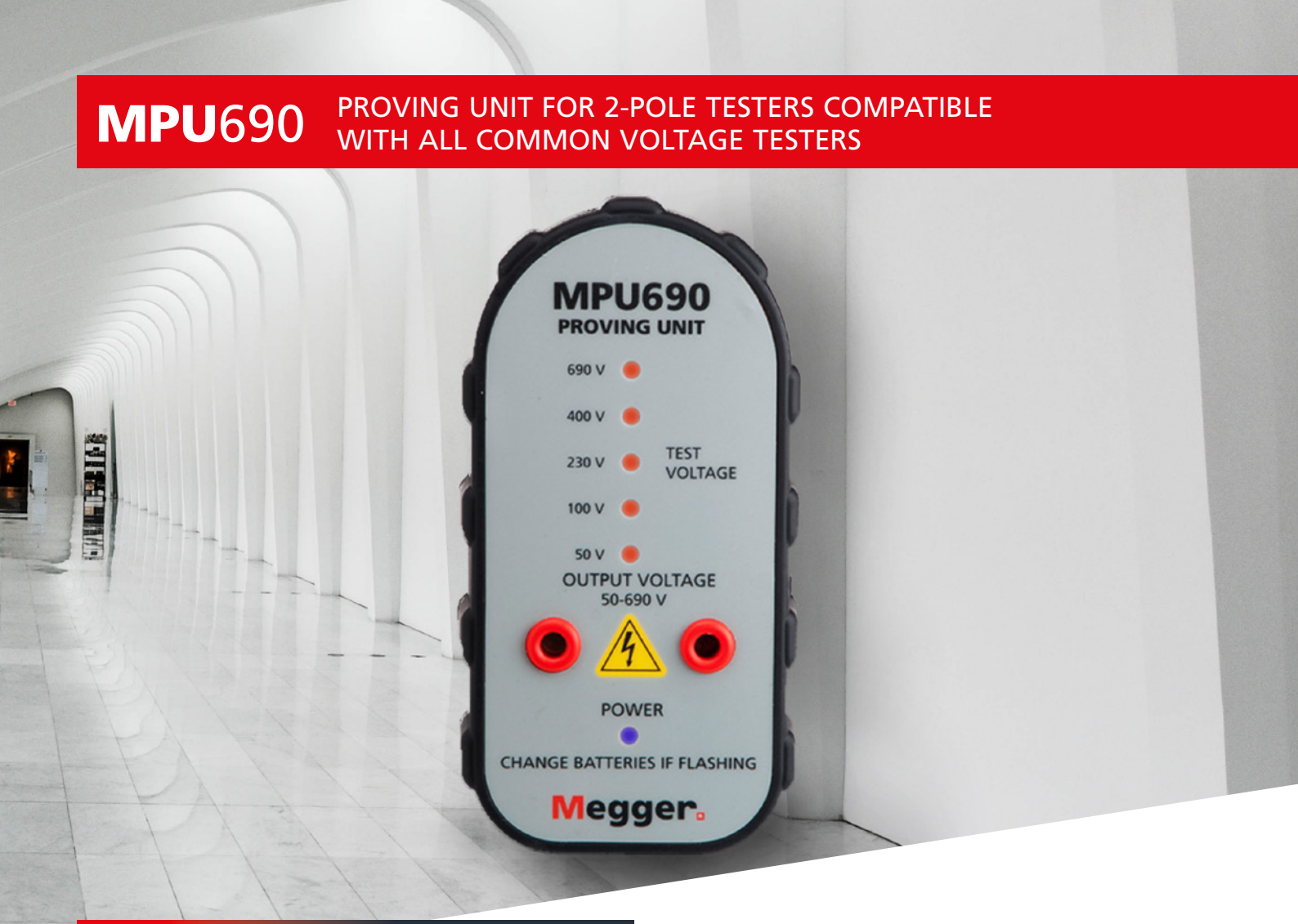
With both LCD and LED displays, the TPT420 provides both AC and DC voltage measurement - from 12 to 1000 V AC and up to 1500 V DC. In addition, a continuity function within the range 0 to 500 kΩ, is included and for added safety, continuity and voltage measurements are also accompanied by an acoustic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

A bright, integrated LED torch aids the operator when working in poorly lit environments. When testing between phase and earth on any circuit protected by an RCD, RCBO and Safety Breaker, the TPT420 is designed to work below the tripping threshold of these devices to help avoid unintentional disconnection.

The phase rotation indication test has been simplified, which now avoids the crossing of the test probes, adopted by some 2 pole testers. The TPT420 can also perform a single pole voltage indication test.

With safety in mind, the TPT420 is rated at CAT IV 1000 V with an IP64 housing and conforms to the latest IEC/EN 61243-3 and DIN VDE 0682-401 standards.

# MPU690 PROVING UNIT FOR 2-POLE TESTERS COMPATIBLE WITH ALL COMMON VOLTAGE TESTERS




## MPU690

Item no. 1001-561

- Tests 2-pole testers and voltage indicators
- Step LED indicate test voltages 50 V, 100 V, 230 V, 400 V,690 V
- 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



# MET1000 ELECTRICAL TESTER



# MET1000

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

The Megger MET1000 is a multifunctional voltage and current tester providing electricians and electrical engineers a versatile and robust hand - held all-in-one meter, with detachable test leads. Featuring both LED and LCD displays, it gives the user 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.

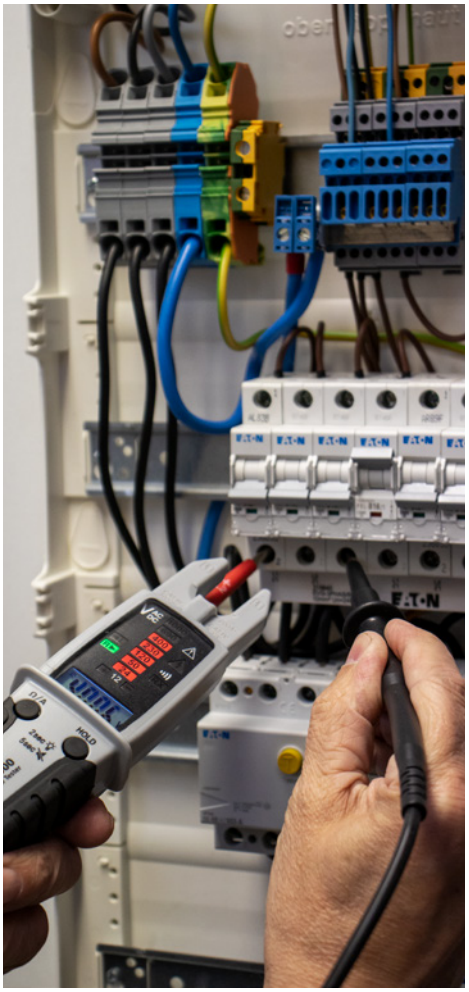
In addition to the versatile auto-ranging voltage and continuity tests the Megger MET1000 has a built-in current clamp for AC current measurement to 200 A.

With TRMS AC measurements, a phase rotation test and both inrush current and single pole voltage test built in, the MET1000 is a truly versatile electrical tester, ideal for use in commercial, industrial and domestic environments. GS38 shrouds are provided as standard to ensure compliance with the latest standards.

A bright LED torch aids safe working in poorly lit conditions and with the added benefit of an IP65 casing - incorporating a protective finger guard - ergonomic design, instrument carrying holster and a simple to use probe mounting on the rear of tester all help to keep the user safe and the instrument protected.

Incorporating a comprehensive self-test feature, acoustic continuity and voltage indication, a maximum current draw of >3.5m A to avoid unwanted tripping of RCD's/RCBO's and the ability to warn the operator of dangerous voltages, even when the batteries are exhausted, ensure the Megger MET1000 meets the practical demands of today's busy test technicians.





# DCM1500 AC/DC CURRENT CLAMP & DCM320 AC CURRENT CLAMP

## DCM1500

Item no. **1005-572**




- Current measurement up to 1500 A AC/DC
- Voltage measurement 750 V AC and 1000 V DC
- Measurement category CAT IV and True RMS
- Fast sampling rate of 10ms
- True RMS measurements for higher accuracy
- Large clamp opening for safe measurements on non-insulated conductors
- Resistance, continuity and frequency measurements
- Peak, min/max display and data hold function

## DCM320

Item no. **1000-304**




- Voltage measurement up to 600 V AC/DC
- Measuring range 0.1 to 400A AC
- Resistance measurement (DCM320)
- Acoustic continuity test
- Data hold function
- Jaw opening 27 mm
- Measurement category CAT III / 600 V



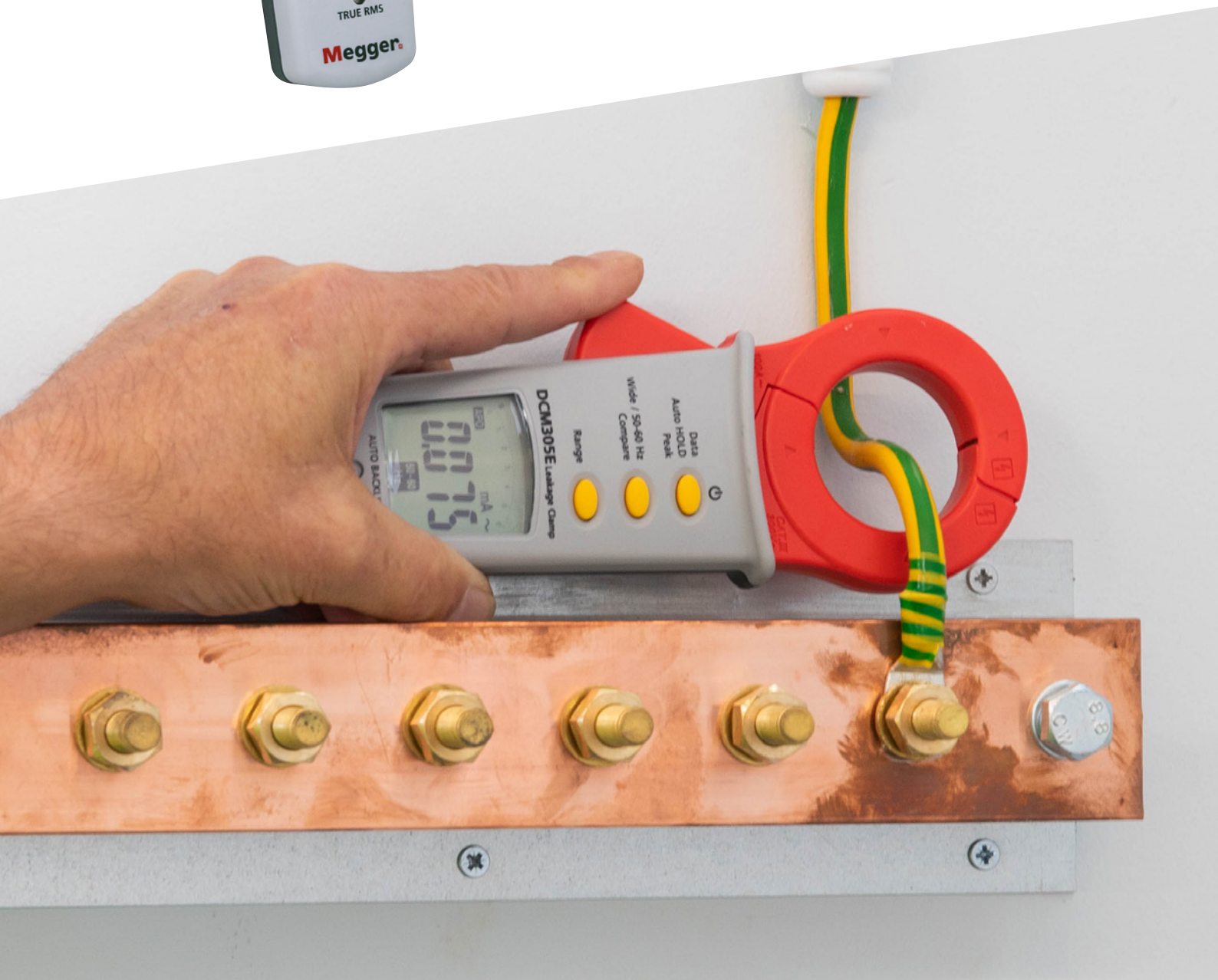
# DCM305E LEAKAGE CURRENT CLAMP



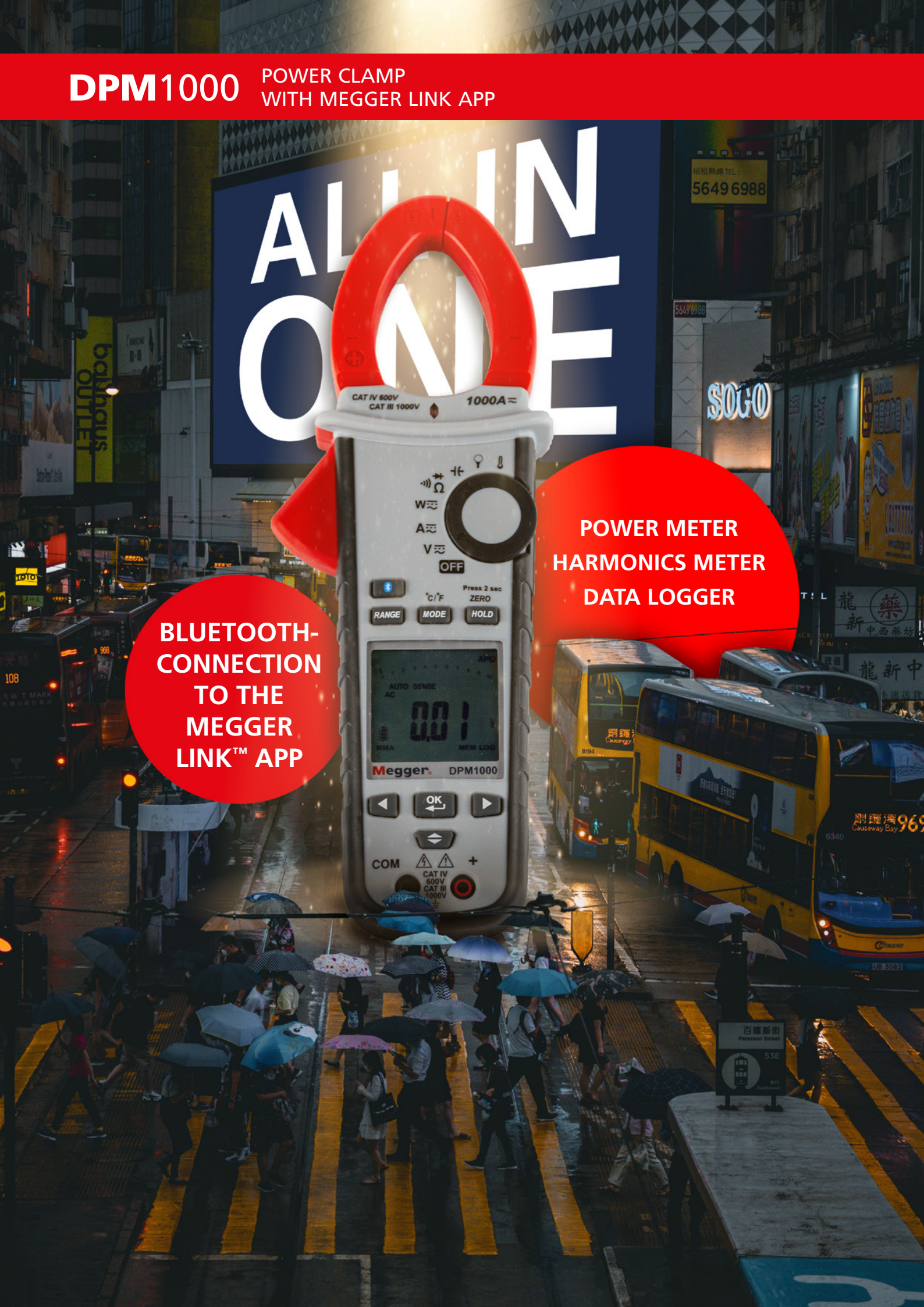

## DCM305E

Item no. **2009-574**

- 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



# DPM1000 POWER CLAMP WITH MEGGER LINK APP



## DPM1000

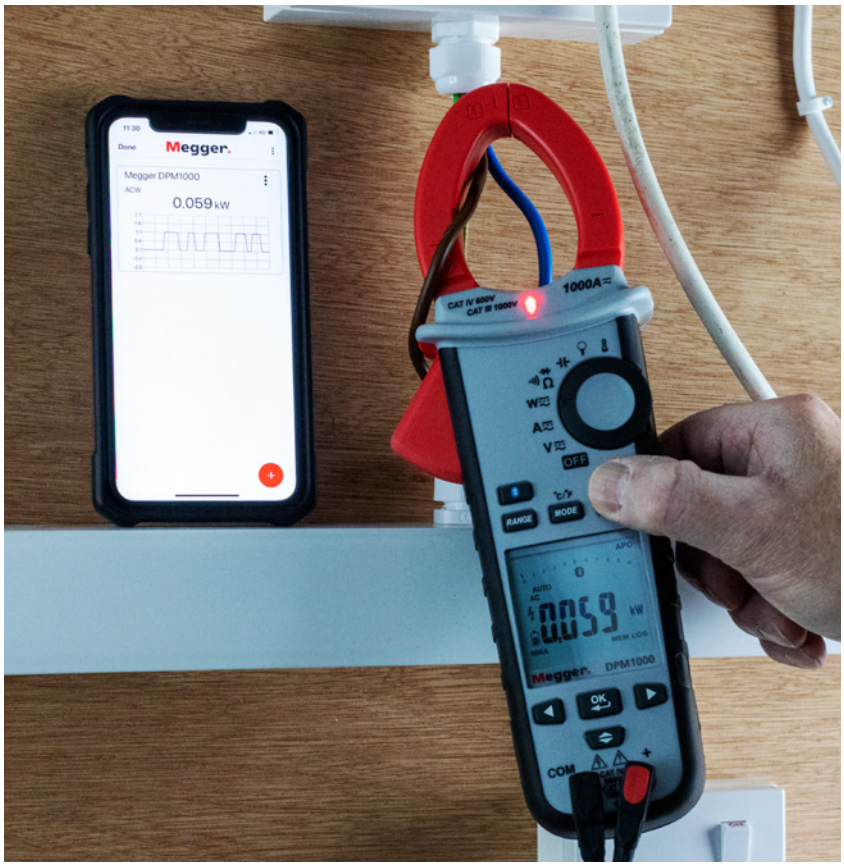
Item no. **1013-356**

- AC/DC Voltage to 1000 V
- AC/DC Current to 1000 A
- True RMS
- Resistance 100 kΩ
- LCD Display
- Phase rotation indication
- Auto backlight display
- Frequency measurement
- Capacitance measurement
- Power Factor Measurement
- Watt measurement to 1 MW
- 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 600 V Rating
- Supplied with carry case

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

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

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.






# DCM1500S SOLAR CLAMP METER UP TO 2000 V DC




## DCM1500S

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 600 V / CAT III 1000 V
- Data logger
- PV test leads with MC4PV plug

**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

Measuring up to 2000 V DC and 1500 V AC (using the PVHV Leads), as well as 1500 A AC or DC, the DCM1500S solar clamp meter is ideal for use in the installation, maintenance, monitoring and testing of photovoltaic systems as well standard AC or DC electrical equipment. It has a large clear backlit display and an automatic torch in the jaw to assist use in poorly lit areas. Using the free Megger Link App, the measurement value can be remotely monitored on a smart device using the built-in Bluetooth®. This will give a live trend graph and offer the ability to sample and log the values for later analysis.

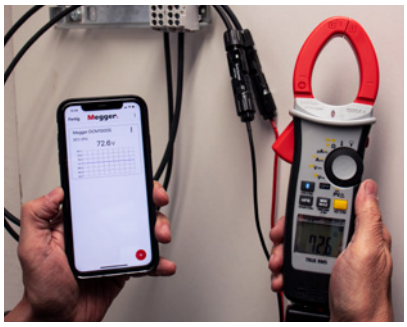
# MEGGER LINK APP

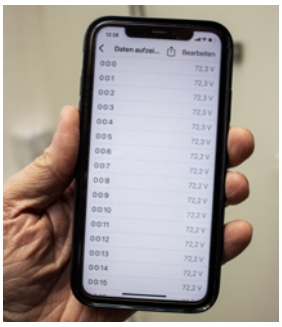



## MEGGER LINK APP

Free of charge in the App Store







The Megger Link App makes it easier for you to work with a range of Megger instruments. It allows you to connect the test Instrument to the app via Bluetooth. This connection is the prerequisite for displaying all previously downloaded test results. Of course, you can also view ‚live' values measured by the tester and a graphical representation of the results on the display. The graph is updated at intervals specified in the app settings. The measuring range of the tester can be changed at any time and displayed on your Smart Phone or Tablet. It is possible to display up to 4 test instruments with the corresponding measurements and line graphs at the same time. Furthermore, the Megger Link App allows you to record the measurement value directly on your Smart Phone or Tablet, download stored log data, rename the test instrument used and share an image section. The latter can be sent as a CSV file directly via email, text message, WhatsApp, etc. This file can be opened in Excel or other spreadsheet software to create charts and tables for reports or presentations.

Available on the App Store

GET IT ON Google Play

# PVK330 PHOTOVOLTAIC KIT




## PVK330

Item no. **1002-551**

- PVM210 irradiance meter
- DCM340 600 A AC / DC clampmeter
- MC4 solar connectors to 4 mm standard plug test leads
- MC3 to MC4 adaptor test leads
- PV kit storage pouch

**Included accessories:** Batteries, PVM210 pouch, DCM standard test leads with probes, Calibration certificate (PVM210 only)



**When installing, commissioning and testing a photovoltaic installation additional instrumentation is required to accompany the usual electrician's test equipment such as the Megger MFT1835 multifunction tester.**

The Megger PVK330 photovoltaic kit offers this additional instrumentation in the form of a PVM210 irradiance meter, DCM340 600 A ac / dc clampmeter and a kit of specialist solar test leads. To provide easy storage of the PV kit a zipped pouch is also included.

The PVK330 kit offers the solar / photovoltaic engineer a clampmeter option of verifying, with the PVM210 irradiance meter, the stated short circuit current as provided by the manufacturer of the solar panel as required by published standards. In addition, this clampmeter offers the option of testing the current within each 'string' on a larger solar array without disconnection of cables.

# PVM210 IRRADIANCE METER




## PVM210

Item no. **1002-548**

- Optimal incident angle and positioning of solar panels
- Measurement of solar power for panel short circuit calculation
- 3¾ digit LCD display with 1999 W/m2 range
- Single handed use
- Mini pocket size
- Standard camera mount fixing for accurate placement

**Included accessories:** Batteries, Pouch, Calibration certificate




**The Megger PVM210 provides the solar / photovoltaic engineer a compact, pocket size instrument that is easy to use.**

Single handed operation is possible because the solar detector and meter being housed in one neat unit. This feature is ideal when using the instrument on a sloping roof or at the top of a ladder.

With the easy to read display and measurement hold feature the meter gives fast, accurate readings of solar power for initially choosing optimum position for the photovoltaic panel. In addition the meter can provide the vital measurement for the calculation of short circuit current in conjunction with a suitable ammeter to verify the stated short circuit current provided by the manufacturer of the panel.

In addition to $W/m^2$ measurements, a selectable BTU (British Thermal Unit) measurement range is also featured.

To prolong battery life the PVM210 has an auto power off.

On the rear of the meter is a universal camera thread that allows mounting for precise readings if required. A protective pouch is included with each instrument.

# PVK350 PHOTOVOLTAIC KIT




## PVK350

CONSISTING OF:

### DCM1500S Solar clamp meter

- 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 plug

**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

### PVM210 Irradiance Meter

- Optimal incident angle and positioning of solar panels
- Measurement of solar power for panel short circuit calculation
- 3¾ digit LCD display with 1999 W/m2 range
- Single handed use
- Mini pocket size
- Standard camera mount fixing for accurate placement

**Included accessories:** Batteries, Pouch, Calibration certificate

**MC4 solar connectors to 4 mm standard plug test leads**

**MC3 to MC4 adaptor test leads**

# MLM50 LASER DISTANCE METER




**SUPPLIED WITH PROTECTIVE BELT POUCH**

## MLM50

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. It is housed in a shock absorbent IP54 rated protective case and incorporates soft-touch, sure-click buttons. 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.

The MLM50 offers the user the following measurement units:

| DISTANCE | AREA | VOLUME |
|---|---|---|
| 0,000 m | 0,000 $m^2$ | **0,000 $m^3$** |
| 0,0 in | 0,000 $ft^2$ | **0,000 $ft^3$** |
| 0 1/16 in | 0,000 $ft^2$ | **0,000 $ft^3$** |
| 0,000 ft | 0,000 $ft^2$ | **0,000 $ft^3$** |
| 0'00" 1/16 | 0,000 $ft^2$ | **0,000 $ft^3$** |

# MPQ1000 HANDHELD POWER QUALITY ANALYSER




## BASIC-KIT MPQ1000

Item no. **MPQ1000-BASIC**

**Included:** MPQ1000 analyzer, voltage leads, SD card, USB cable, ethernet cable, universal power adapter, soft-sided carry bag plus fuse adapters and hanging strap. Does not include current clamps.

## Silver-Plus-Kit MPQ1000

Item no. **MPQ1000-S-KIT-PLUS**

**Included:** Includes MPQ1000 analyzer, voltage leads, SD card, USB cable, ethernet cable, universal power adapter, soft-sided carry bag, plus hanging strap, voltage lead plunger clips, and 4 MCCV6000-18 (four range flex 18 cm ID) CTs

- Auto CT identifies the current clamp that is connected to the analyzer as well as the range to which the CT is set.
- Configuration verification which identifies and notifies you if the product has been connected incorrectly.
- On-board data analysis which can compare results against canned or custom standards. Create your own templates for internal your company standards.
- SD Card Support, USB Card Support, USB Communications as well as Ethernet connections, making it versatile.



**The MPQ1000 handheld power quality analyzer has features which make it ideal for troubleshooting, compliance testing and energy audits. Auto CT identification eliminates potential errors due to wrong CT range settings. The analyzer will automatically identify the CT and verify it is connected correctly. This means you can be confident you will have the correct data.**

But the hardware is not all it's about – behind the sturdy exterior is an intelligence that is focused on smart testing, with industry-leading software that enables you to minimize errors while testing, and quickly and easily analyze your results. For example, you can create your own company standard templates that can be stored and compared, as well as check your results against compliance standards. This saves time, effort and costs, making your entire testing process more efficient.

The software automatically creates custom configurations based on the issue you are troubleshooting, whether it be equipment tripping out, transformer or motor issues, EN50160 analysis or general PQ analysis. This ensures the analyzer will capture the power quality phenomenon that causes those problems. You do not have to be a PQ expert to carry out a comprehensive analysis.

# **MPQ**2000 PORTABLE POWER QUALITY ANALYZER




## **BASIC**-KIT **MPQ**2000

Item no. **MPQ2000-BASIC**

**Included:** MPQ2000 analyzer, voltage leads, SD card, USB cable, ethernet cable, universal power cords, soft-sided carry bag plus fused adapters. Does not include current clamps.

## **Silver-Plus**-Kit **MPQ2000**

Item no. **MPQ2000-S-KIT-PLUS**

**Included:** MPQ2000 analyzer, voltage leads, SD card, USB cable, ethernet cable, universal power cords, soft-sided carry bag, plus fused adapters and 4 MCCV6000-18 (four range flex 18 cm ID) CTs

- Power off Phase A or auxiliary, allowing it to be used anywhere
- Weather proof to NEMA 4 standard for use in any environment
- Auto CT identifies the current that the instrument is connected to and the range that it is in
- Configuration verification which highlights if the product has been connected incorrectly
- On-board data analysis which can compare results against compliance standards, including setting templates for internal company standards

**The MPQ2000 is identical to the MPQ1000 in terms of functions, but the MPQ2000 has 9 channels, 4 voltage channels, 5 current channels IP54 and is supplied in a robust, weatherproof carrying case.**

## **BASIC**-KIT **MPQ**1000




## **Silver-Plus**-KIT **MPQ**1000




## **BASIC**-KIT **MPQ**2000




## **Silver-Plus**-KIT **MPQ**2000



# TC3231 THERMAL CAMERA FOR FAST LOCATION OF HOTSPOTS

## TC3231

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 m, 1 m, 2 m or 3m for greater accuracy

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





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.

The TC3231 features a range of selectable thermal image colour palette display options along with high / low user preset temperature alarms. For convenience, background temperature is also user selectable.

An easy to use image blending function is also featured; the camera takes an aligned visible, non-infrared, image, together with a full infrared image. The 2 pictures are then blended and can be adjusted between 0 to 100%. This makes identifying problems and pinpointing their location far easier.

As well as centre spot temperature measurement, the camera also offers simultaneous hot and cold spot tracking, with resultant values and location updated continuously on the display.

Up to 6000 images can be saved on the included micro SD memory card which can be downloaded to a PC via the USB interface in BMP file format. An SD card adapter is also provided for file transfer directly to a computer if required.

# PSI410 PHASE SEQUENCE INDICATOR




## PSI410

Item no. 1001-612

- LED clockwise and counter clockwise phase rotation indication
- Audible indication of direction
- Phase condition LEDs
- Fused test leads
- Croc clips and prods provided
- Dual phase colour identification

**Included accessories:** Croc clips and Prods

**Electrical work on commercial and industrial installations often requires working on motorised machinery with three phase supplies. Correct sequence of the phases is important with certain motors and pumps as damage to brakes and valves will occur in minutes with incorrect phasing.**

The Megger PSI410 phase rotation indicator provides rapid indication of correct phase sequence utilising a three bi-coloured LED display and a specific audible tone. Clockwise rotation is indicated by clockwise rotating green LEDs with a continuous tone and counter clockwise rotation has counter clockwise rotating red LEDs and a warbling tone.

To avoid the display rotating at the supply frequency the unit has been designed to provide a slow rotational speed of the display to allow easy indication of rotation.

Dual phase colour coding has been adopted for the PSI410 to allow ease of use on both Brown / Black / Grey and Red / Yellow / Blue colour coded supplies.

The PSI410 also features a triple bi-coloured LED display that indicates that all three phases are present. A green LED indicates the phase is present while a red LED shows a missing phase connection.

The unit has a tough rugged case designed for an industrial environment and is supplied with long fused test leads with croc-clips and prods. The prods have insulated tips that provide less than 4 mm exposed tip.

The PSI410 is self powered from the supply and requires no batteries.

The PSI410 is an ideal addition to an electrician's tool kit where currently owned test instruments do not feature phase rotation. The unit provides a quick and simple means of checking phase sequence on motor, pump and air conditioning three phase supplies.

# WEBINARS

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Megger

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