

# Electrical Test Equipment Catalog

# Megger®





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**PRODUCTS MARKED WITH THIS LOGO WERE MANUFACTURED IN AN ISO 14001 COMPLIANT FACILITY.**

## 5/10/15-kV Insulation Test equipment



Equipment with operating voltages above 1 kV requires commensurately higher test voltages. Therefore, to be fully in conformance with the most modern testing requirements, Megger offers a family of high-quality insulation testers at voltages above 1 kV. At the core of high-voltage testing, our 5/10/15 kV units afford the highest level of quality testing along with prime safety, convenience and portability.

For complete insulation testing capability of all high-capital equipment, Megger goes one step further! The universal testing standard for rotational equipment, IEEE 43-2000, increased the test voltage recommendation to 10 kV for equipment rated 12 kV and above. Full compliance with this standard can be attained with just one tester, our 10 kV models.



The **MIT515**, **MIT525**, **MIT1025** are the ideal instruments for industrial plant maintenance, commissioning and industrial/OEM use. Typical applications include insulation testing of:

- **Transformers**
- **Substation equipment**
- **Quality control**
- **Cables and industrial/OEM testing**

All models are CATIV 600 V safety rated on **all** terminals and assembled in a rugged IP65 dual case. To ensure operation in electrically noisy environments, the units have a 3 mA noise filtering capability.

In order to quickly charge capacitive loads and cables the new units not only have 3mA short circuit current but have “max power regulation technology” which provides faster charge times and ensures that correct voltage is maintained even at low load impedances outstripping the performance of many 5 mA instruments.

Test results are easily identified with the convenient and useful date and time stamp function providing essential traceability. Saved test data can be easily transferred via a 10-kV isolated USB device interface to PowerDB Lite software supplied with the MIT525 and MIT1025.

New driver technology provides plug-and-play connection when connected to the internet.

Like all Megger 5/10 kV insulation testers, these units are housed in Megger’s dual case. This unique design allows for fire retardant protection without sacrificing ruggedness. They also include Megger’s industry best guard terminal.

These highly reliable and low maintenance products reduce the cost of ownership. Their unrivalled practicality performs even the most rigorous testing. For additional information and specifications, please turn to page 6.

# 5/10/15-kV Insulation Test equipment

## MIT1525

The Megger MIT1525 is a 15 kV insulation tester with a full range of DC insulation test modes and the ability to save summary readings in addition to logging results to on-board memory once every five seconds. Real-time streaming data can be captured on a laptop/tablet at a rate of once a second. The MIT1525 timer settings are set to reference timings contained in IEEE 43 and IEEE 95 standards but a user can change timer settings to suit their particular test requirement.

The MIT1525 has been designed, specified and tested to meet international requirements in the industrial and OEM market sectors. In addition to being a tough, high performance insulation tester, the MIT1525 offers the ability to perform accurate insulation resistance measurements up to 15 kV test voltage with a maximum resistance of 30 TΩ. Resistance measurement accuracy is ± 5 % from 1 MΩ to 3 TΩ!

For utilities and service companies the MIT1525 is an all-round tester with its flexibility and future proofing capability. Is simply the Megger MIT1525 is designed to work wherever you work.

- 15 kV test voltage – increases test current, helping to avoid negative current when testing high resistance insulation
- CATIV 1000 V safety on all test terminals to 3000 m
- Rapid charge of capacitive loads such as HV power cables
- Always ready to test with Li-ion fast charge battery or from an AC source
- Designed to be durable and survive in the harshest of environments
- High noise immunity 6 mA
- High 3 mA short circuit current
- Download/stream results
- 2 year warranty

The CB101 is a calibration box suitable for checking the accuracy of insulation testers. Four resistors are connected in the unit to enable a wide range of values to be checked. The high quality resistors, rated to high voltage, can be used to check resistance readings with test voltages up to 5 kV d.c. A calibration certificate is provided with each CB101 showing the actual value of each resistance checkpoint.



### WHY TEST AT 15 kV?

- 5 kV to 15 kV will triple test current - this can prevent negative test current in the presence of high noise.
- 15 kV is specified for assets for 35,000 V to 69,000 V based on NETA ATS 2007.
- Motors above 34,500 V should be tested at 15 kV based on NETA ATS 2007.

For additional information and specifications for these products, see page 6.



## MIT30

The MIT30 is a 30 kV Insulation tester that has been developed to satisfy the demand for a variety of high voltage, high accuracy, low current applications in electrical distribution industries, aerospace and defense applications.

- Continuous variable test voltage, 0-30 kV
- User selectable current trip point, 0-330 μA
- Robust bright LEDs visible in direct sunlight
- Built-in adjustable ionization indicator
- Wide input power range

### ORDERING INFORMATION FOR MIT30

Cat. No.	Test Voltage
MIT30	30 kV

# 5/10/15-kV Insulation Test equipment

SELECTION GUIDE FOR 5/10/15-kV INSULATION TESTERS					
Model Number		MIT515-US	MIT525-US	MIT1025-US	MIT1525-US
Cat. Number		1001-936	1001-940	1001-944	1002-909
Display	Analog/Digital	■	■	■	■
Power Supply	Line power	■	■	■	■
	Rechargeable	■	■	■	■
Lock test voltage $V_{\text{L}}$		■	■	■	■
Test Voltage	15.0 kV				■
	10.0 kV			■	■
	5.0 kV	■	■	■	■
	2.5 kV	■	■	■	■
	1.0 kV	■	■	■	■
	500 V	■	■	■	
	250 V	■	■		
	10 V steps 40 V to 1 kV 25 V steps 1 kV to max test voltage 1 kV to 15 kV in 25 V steps for 15 kV				■
Measurements	10 V steps 100 V to 1 kV 25 V steps 1 kV to max test voltage	■	■	■	
	Max. reading	10 T $\Omega$	10 T $\Omega$	20 T $\Omega$	30 T $\Omega$
	Min. reading	10 k $\Omega$	10 k $\Omega$	10 k $\Omega$	10 k $\Omega$
	Voltage	■	■	■	■
	Capacitance and time constant	■	■	■	■
Test Types	Leakage current	■	■	■	■
	Auto IR	■	■	■	■
	Auto PI	■	■	■	■
	Auto SV		■	■	■
	Auto DD		■	■	■
	Auto DAR	■	■	■	■
Other Features	Auto ramp test		■	■	■
	Safety rating	CAT IV 600 V	CAT IV 600 V	CAT IV 600 V	CAT IV 1000 V
	Timer control	■	■	■	■
	Timer display	■	■	■	■
	3mA short circuit currents	■	■	■	■
	USB output (cable included)		■	■	■
	Calibration certificate included	■	■	■	■
	IP65 rating case closed	■	■	■	■
	Alarm limit mode	■	■	■	■
	Compatible with Power DB		■	■	■
	User programmable lock voltage range	■	■	■	■
	Real time clock		■	■	■
	Battery charge time max (hours)	2.5	2.5	2.5	2.5
	Noise rejection	3 mA	3 mA	3 mA	6 mA
	Guard terminal performance	2% error guarding 500 k $\Omega$ leakage with a 100 M $\Omega$ load			
Warranty	Warranty (Years)	2	2	2	2

# 5/10/15-kV Test Leads



## ORDERING INFORMATION FOR 5/10/15-kV TEST LEADS

Cat. No.	Description
6220-861	30 ft (10 m) lead set, 10 kV screened, compact clips
6220-833	50 ft (15 m) lead set, 10 kV screened, compact clips
6220-834	10 ft (3 m) lead set, 10 kV screened, compact clips
1008-023	9.8 ft (3 m) lead set x 3, large 15 kV insulated slips for MIT1525 ONLY
1002-534	9.8 ft (3 m) lead set 10 kV insulated clips (set of 3)
1008-022	lead set 3kV medium clips (3 x 3 m) for 515/525/BM5200
6220-822	9.8 ft (3 m) control circuit lead set 1 kV for 5/10 kV ; 1 kV clips
6311-080	49 ft (15 m) 5 kV screened uninsulated small clips
1002-913	Fused 1 kV leadset for all 5/10/15kV Insulation Testers
1002-645	16.5 ft (5 m) lead set x 3, large insulated clips for 5 kV & 10 kV
1002-646	26.4 ft (8 m) lead set x 3, large insulated clips for 5 kV & 10 kV
1002-647	33 ft (10 m) lead set x 3, large insulated clips for 5 kV & 10 kV
1002-648	49 ft (15 m) lead set x 3, large insulated clips for 5 kV & 10 kV
1002-641	16.5 ft (5 m) lead set x 3, medium insulated clips for 5 kV & 10 kV
1002-642	26.4 ft (8 m) lead set x 3, medium insulated clips for 5 kV & 10 kV
1002-643	33 ft (10 m) lead setx 3, medium insulated clips for 5 kV & 10 kV
1002-644	49 ft (15 m) lead set x 3, medium insulated clips for 5 kV & 10 kV
1005-817	20 m Leadset x 10kV Screened 20m for 5 kV & 10 kV
1003-201	25 m Leadset x 3 10 kV large size insulated clips for 5 kV & 10 kV
1003-202	30 m Leadset x 3 10 kV large size insulated clips for 5 kV & 10 kV
1005-259	15 kV Leadset 15 kV Plug 3X5 m, 15kV Clip for MIT1525 only
1005-260	15 kV Leadset 15 kV Plug 3X10 m, 15kV Clip for MIT1525 only
1005-261	15 kV Leadset 15 kV Plug 3X15 m, 15kV Clip for MIT1525 only
1005-262	6 kV Leadset 15 kV Plug 3x3 m, Medium Clip for MIT1525 only
1005-263	6 kV Leadset 15 kV Plug 3x10 m, Medium Clip for MIT1525 only
1005-264	1 kV Control Leadset 15 kV Plug 2 x 3 m for MIT1525 only
1005-265	1 kV Fused Leadset 15 kV Plug 2 x 1.25 m for MIT1525 only
1005-266	15 kV Screened 3 m Leadset, 15 kV Clip for MIT1525 only
1005-267	15 kV Screened 10 m Leadset, 15 kV Clip for MIT1525 only
1005-268	15 kV Screened 15 m Leadset, 15 kV Clip for MIT1525 only
1005-269	15 kV Screened 20 m Leadset, 15 kV Clip for MIT1525 only

Megger provides a range of lead sets and clips of different sizes and electrical characteristics for use with Megger 5/10/15-kV insulation resistance testers, enabling the user to choose the most applicable set for the work at hand.

**These leads are designed in full compliance with IEC61010-031:2008 which requires a fully insulated clip design.**

For more information on our variety of test leads, visit our website [ca.megger.com](http://ca.megger.com).



## 2.5 kV Insulation Test Equipment

The MIT2500 insulation and continuity tester has been designed for Electrical and Industrial test applications, where operation voltages exceed 1000 V and higher insulation test voltages are needed.

The MIT2500 offers both fixed range voltages of 50 V, 100V, 250 V, 500 V, 1000 V and 2500 V, as well as a variable range that allows any voltage between 50 V and 2500 V to be "dialed in". This is supported by the new test voltage feedback control, which maintains the output test voltage to within 2% of the selected range, even when under test.

### MIT2500



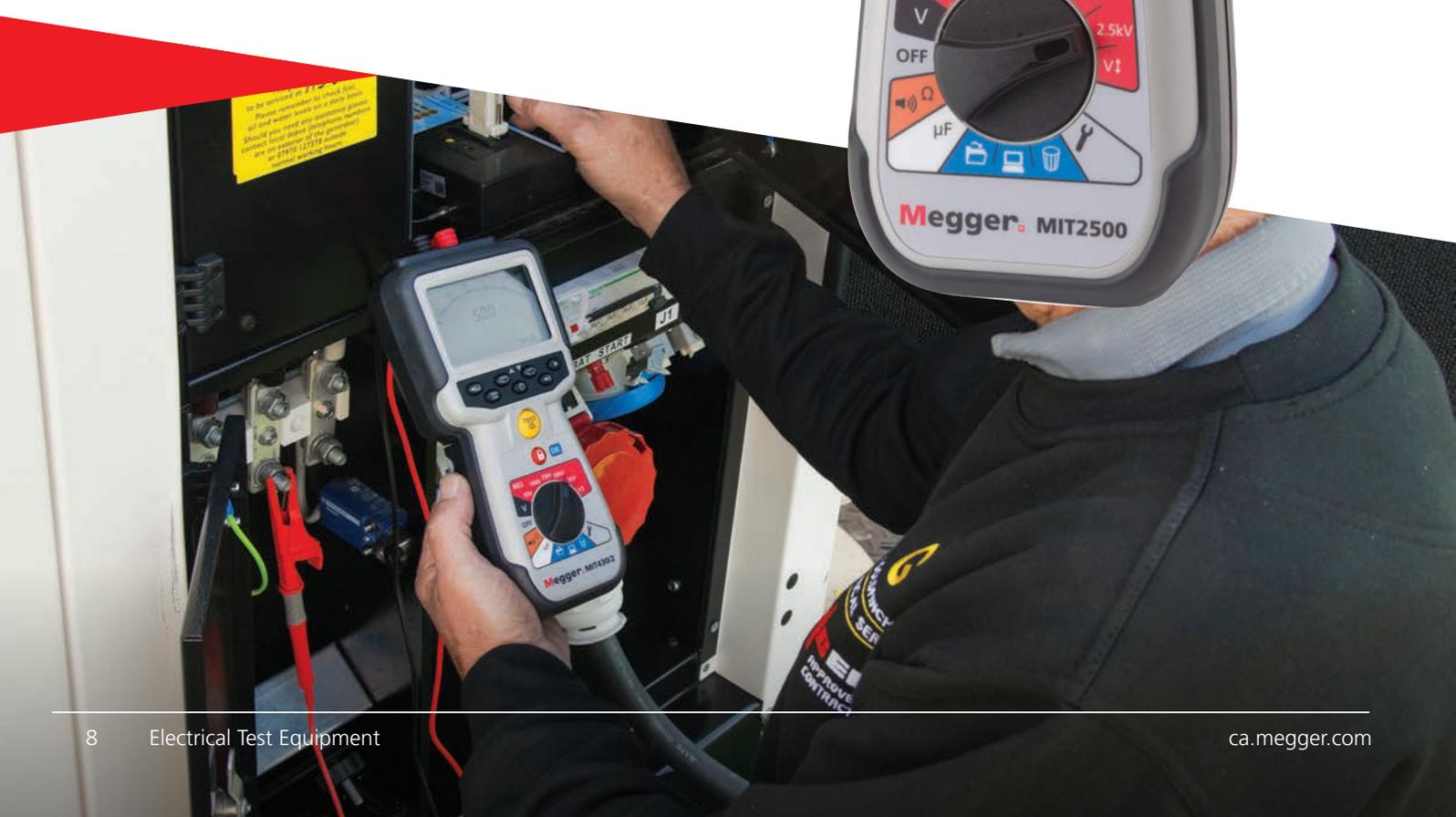
- Insulation testing up to 2.5 kV and 200 GΩ range in a hand held instrument
- Guard terminal for high resistance accuracy
- Adjustable insulation test voltage from 50 V to 2500 V
- Stabilized insulation test voltage
- Rechargeable options for ac and car charging
- Single range, faster continuity testing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

#### ORDERING INFORMATION FOR MIT2500

Cat. No.	Model	Description
1006-764	MIT2500	2.5 kV Insulation Resistance Tester

The MIT2500 uses the redesigned case, back-stand, and 6 cell battery compartment, as well as incorporating a guard terminal to reduce surface tracking currents that reduce accuracy at higher voltages.

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



# 1-kV Insulation Test Equipment

Megger is the originator of insulation resistance testing and the world recognized leader in this area. The first instrument to perform such testing was introduced over 100 years ago. Based on valuable customer feedback and our many years of experience, we offer a complete range of 1-kV insulation testers — the MIT200 Series, MIT300 Series and the MIT400/2 Series — designed to meet the varying needs and budgets of all types of customers.



**CAT IV 600 V RATED**  
The MIT430/2 offers result storage, recall and Bluetooth downloading



Can also be used in solar applications when paired with the PV test lead kit. See page 27 for additional information.



## MIT400/2 SERIES

- Insulation testing up to 1000 V and 200 GΩ range
- Stabilized 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 100V to 1000V, depending on model
- Test result storage and Bluetooth® downloading, depending on model
- Rechargeable options for AC and car charging depending on model
- CAT IV 600 V & IP54



ORDERING INFORMATION FOR MAGNETIC STRAP	
Cat. No.	Description
1010-013	Magnetic Strap

### SELECTION GUIDE FOR MIT400/2 SERIES

	Applications	Industrial				Telecom	
		MIT400/2	MIT410/2	MIT420/2	MIT430/2	MIT481/2-EN	MIT485/2-EN
Insulation voltage range	50 V, 100 V		■	■	■	■	■
	250 V, 500 V	■	■	■	■	■	■
	1000 V	■	■	■	■	■	■
	Variable			■	■		
	Insulation range (GΩ)	200	200	200	200	200	200
Continuity measurement	kΩ range to 999 kΩ	■	■	■	■	■	■
	0.01 to 100 Ω	■	■	■	■	■	■
	Variable current limit, 200 mA/20 mA	■	■	■	■	■	■
Additional functions	ac and dc voltage measurements (TRMS)	■	■	■	■	■	■
	Frequency: 40 Hz to 400 Hz		■	■	■	■	■
	Capacitance (0.1 nF to 10 μF)			■	■	■	■
	Insulation timed, PI, DAR tests		■	■	■	■	■
Additional features	Results storage			■	■	■	■
	Compatible with Megger download software				■		■
	Recharger options for AC line and car charging			■	■		
	Bluetooth downloading				■		■
Included Accessories	Remote switch probe		■	■	■	■	■
	Silicone test leads	■	■	■	■	■	■
	Calibration certificate	■	■	■	■	■	■
	Blow molded	■	■	■	■	■	■
Warranty	Warranty (Years)	3	3	3	3	3	3

# 1-kV Insulation Test Equipment

## MIT300 SERIES



The MIT300 Series of insulation testers includes five models to meet the needs of electrical contractors. They incorporate features such as automatic discharge, audio-visual warnings, and test inhibition to ensure operator safety and protection from accidental misuse.

The MIT310 adds a voltmeter function. The MIT320 has a backlight, illuminated panel, kΩ range, limit alarm and adjustable continuity buzzer. The MIT330 can store up to 1000 test results. The MIT310A features a genuine mechanical analog display.

The MIT300, MIT310, MIT320 and MIT330 feature an exclusive analog/digital display that clearly shows measurement results.

SELECTION GUIDE FOR MIT300 SERIES							
	Cat. No.	MIT300-EN	MIT310-EN	MIT320-EN	MIT330-EN	MIT310A-EN Analog	
Insulation testing	250 V	■	■	■	■	■	
	500 V	■	■	■	■	■	
	1000 V		■	■	■	■	
	Range to 999 MΩ	■	■	■	■	■	
	Insulation limit alarm (0.01 MΩ to 999 MΩ)			■	■		
Continuity testing	Continuity to 100Ω	■	■	■	■	■	
	Continuity buzzer	■	■	■	■	■	
	Lead null to 9Ω	■	■	■	■	0.5Ω	
	Adjustable buzzer 1 to 20 Ω			■	■		
	Audible buzzer disable			■	■		
Resistance measurement	10 Ω to 1 MΩ range			■	■		
	0 Ω to 2 KΩ range					■	
General	Voltage warning	■					
	Default voltmeter		■	■	■	■	
	Backlit display			■	■		
	Backlight selector ranges			■	■		
	Locking test button	■	■	■	■	■	
	Auto power-down	■	■	■	■		
	switched test probe			■	■		
	IP54 weatherproof	■	■	■	■	■	
	1000 test result storage				■		
	Downloading				■		
	Calibration certificate	■	■	■	■		
	Three-year warranty	■	■	■	■		
			■	■	■	■	■

## MIT200 SERIES



The MIT200 is one of the smallest insulation testers available on the market today. With four product options available, all the MIT200 instruments offer a range of safety and operation features expected from a Megger tester. The combined analog pointer and digital readout provide both accuracy and charge/discharge characteristics.

Voltage warning and display, plus voltage lockout protect both the user and the instrument, if accidentally connected to a live circuit. The MIT200 Series meet a wide range of international testing standards as well as BSEN 61557 and IEC61010.

SELECTION GUIDE FOR MIT200 SERIES					
	Cat. No.	MIT200-EN	MIT210-EN	MIT220-EN	MIT230-EN
Insulation testing	250 V			■	■
	500 V	■		■	■
	1000 V		■		■
	1000 MΩ range	■	■	■	■
	Auto-ranging	■	■	■	■
	Auto discharge	■	■	■	■
	Test inhibit	■	■	■	■
	Live circuit voltage display	■	■	■	■
Continuity testing	Continuity @ >200 mA	■	■	■	■
	Continuity to 0.01 Ω	■	■	■	■
	Test lead null (9.99 Ω)	■	■	■	■
	Automatic continuity test	■	■	■	■
	Continuity buzzer with 5 Ω threshold	■	■	■	■
	Default volts warning	■	■	■	■
General	Digital display + arc	■	■	■	■
	Battery condition	■	■	■	■
	Auto power down	■	■	■	■
	Tough carry case	■	■	■	■
	Test leads	■	■	■	■
	CATIII 600 V	■	■	■	■
			■	■	■
Warranty	Warranty (Years)	3	3	3	3

# Major Megger Insulation Resistance Testers

This specialty line of instruments has become synonymous over the years for fine craftsmanship, something you have come to expect from Megger. These instruments continue to be very popular today with a choice of three outstanding models.



General Purpose Model



High Resistance Model

SELECTION GUIDE FOR MAJOR MEGGER MODELS							
	Cat. No		Test Voltage (V dc)	Insulation Resistance	Resistance range	Power source	Warranty (Years)
General Purpose	MJ159	■	100, 250, 500, 1000	0 to 2000 MΩ	0 to 5000 Ω	Hand-cranked	NA
	MJ359	■	100, 250, 500, 1000	0 to 2000 MΩ	0 to 5000 Ω	Line/Hand-cranked	NA
High resistance	210170	■	100, 250, 500, 1000	0 to 20,000 MΩ	0 to 5000 Ω	Hand-cranked	1

## Additional Insulation Test Equipment

	Cat. No.	Test Voltages	Features
 BM5200	1001-289	250, 500, 1000, 2500, 5 kV	<ul style="list-style-type: none"> <li>1 TΩ, 1.4 mA, 5 kV digital insulation tester with digital and analog display.</li> <li>Five test ranges: 250 V, 500 V, 1000 V, 2500 V and 5000 V.</li> <li>Insulation, Polarization Index and variable timed test modes.</li> <li>Selectable DC or AC (including frequency) voltmeter functions.</li> <li>Guard terminal to shunt surface leakage currents.</li> <li>CATIII 600 V safety rating.</li> </ul>
 MJ15	MJ15	500, 1000, 2500, 5 kV	<ul style="list-style-type: none"> <li>Pass/Fail overlays for rapid "go/no go" testing and trend analysis.</li> <li>Insulation resistance to 20 GΩ.</li> <li>Voltage range to 600 V indicates auto discharge.</li> <li>MJ15 hand-cranked and battery operated.</li> <li>BM15 battery powered only.</li> </ul>
 BM15	BM15		
DC Dielectrics			
	220005	5 kV	<ul style="list-style-type: none"> <li>Ideal for insulation resistance measurements in medium voltage equipment, maintenance and field testing applications.</li> <li>Leakage current measurement as low as 0.1 μA.</li> <li>Fast charging of high capacitance equipment.</li> <li>Analog metering range switching for greater accuracy.</li> <li>Continuously adjustable Variac.</li> </ul>
	220015	15 kV	
Megohmmeters			
	210400	5 kV	<ul style="list-style-type: none"> <li>Suitable for step voltage and dielectric absorption testing.</li> <li>Analog metering for monitoring of variable measurements.</li> <li>Guard terminal eliminates surface leakage current from the measurement.</li> <li>Analog metering range switching for greater accuracy.</li> <li>Continuously adjustable Variac.</li> </ul>
15-kV Megohmmeter	210415	15 kV	

# Ground Resistance Test Equipment

Megger is the expert in ground resistance testing. From time saving clamp-on ground testers to specialty models for high sensitivity testing, we have the ground resistance tester to fit your application and budget.

The Megger line of ground resistance testers provides high accuracy, a broad testing range and fast, reliable measurements. Megger ground testers are easy to use and lightweight.

The next few pages will outline the full line of ground testing equipment that Megger has to offer.

Our staff of professionals will help with your technical grounding questions and recommend the ground tester that best fits your need. Call us at 416-298-6770 or search the web at [ca.megger.com](http://ca.megger.com).



## DET2/3 HIGH RESOLUTION EARTH TESTER



The DET2/3 is a robust and compact automatic Ground test instrument designed to measure earth electrode resistance and soil resistivity. For use on large or more complex earth systems, which include communications earth systems and difficult test environments, it can be used to test in accordance with IEEE 81 (Grounding), BS-EN-62305 (Lightning Protection), and BS 7430 (Earthing).

- High resolution down to 0.001 Ohm with stability and accuracy through use of analog filtering and automatic test frequency selection
- Color display with intuitive icon based control and continuous graphical result display for diagnostics
- Data storage and USB download as text file or to auto-fill PowerDB forms
- All day battery life, IP65 weather proofing, and CATIV 300V protection



### ORDERING INFORMATION FOR DET2/3

Model	Cat. No.	Description
DET2/3	1008-953	Ground Tester, 0.001 Ohm to 20k Ohm, all test modes included, Data storage & USB download
DET2/3 & ETK50C	1008-973	DET2/3 Ground Tester, 0.001 Ohm to 20k Ohm, all test modes included, Data storage & USB download ETK50 accessories: Kit bag with test leads, spikes, clips, and tape measure MCC1010 Current & MVC1010 Voltage clamps.
DET2/3 & ETK100C	1008-993	DET2/3 Ground Tester, 0.001 Ohm to 20k Ohm, all test modes included, Data storage & USB download ETK100C accessories: Kit bag with test leads, spikes, clips, and tape measure MCC1010 Current & MVC1010 Voltage clamps.



# Ground Resistance Test Equipment



## ETK GROUND TESTING KITS



A variety of accessory kits that have been expertly designed to meet the most demanding Ground testing requirements

- Can be used with any of the DET2/2, DET2/3, DET3, or DET4 models
- Lightweight with large comfortable handles and easy wind and unwind action
- Innovative reel system that retains clips and test stakes with ability to daisy chain, offering longer lengths

### ORDERING INFORMATION FOR ETK GROUND TESTING KIT

Model	Cat. No.	Description
ETK50	1010-177	Kit bag; with 50m red, 50m yellow, 30m green and 30m black leads on reels; 4 test spikes and clips; and 100m tape measure. Suitable for DET2/3, DET3 and DET4
ETK100	1010-178	Kit bag; with 100m red, 100m yellow, 60m green and 60m black leads on reels; 4 test spikes and clips; and 100m tape measure. Suitable for DET2/3, DET3, and DET4
ETK30	1010-176	Kit bag with 30m Red leads on reel, 20m Yellow leads on reel, 1.4m black lead with clip, and 2 test spikes. Suitable for DET3 only
MCC1010	1010-516	Current measuring clamp for use with DET2/3, DET3TC, DET4TC2, and DET4TCR2
MVC1010	1010-518	Voltage measuring clamp for use with DET2/3, DET4TC2, and DET4TCR2

## DET3 CONTRACTOR SERIES



The DET3 Series of digital ground testing instruments from Megger is comprised of two models: an instrument for grounding and bonding tests and a unit that adds a current measuring function. With this added function, current on the ground rod can be measured for improved personnel safety and noise detection. The DET3TC includes the ART (Attached Rod Technique) method of testing which greatly reduces testing time.

These Megger digital ground testers are powered by eight AA batteries which give excellent testing time — the status of the batteries is given by a bar graph on the LCD. The Megger DET3 Series earth/ground testers is designed to meet stringent safety standards and is rated CAT IV 100V.

Each DET3 comes complete with test leads, stakes, batteries, calibration certificate and rugged polypropylene carry case.



### DET3 SERIES SELECTION GUIDE

	DET3TC	DET3TD
2-wire resistance	■	■
3-wire resistance	■	■
ART (attached rod technique) resistance measurement	■	
Resistance range	0.01 to 2000	0.01 to 2000
	2% ± 3d	2% ± 3d
Ground voltage range	0 to 100 V	0 to 100 V
Ground current range (with optional current measuring clamp)	0.5 mA to 19.9 A	
Warranty (years)	2	2

### WHAT'S IN THE DET3T NAME?

#### DIGITAL EARTH TESTER 3 TERMINAL

**D** - Disposable Battery

**C** - Works with IClamp (optional)

DET3TC works with IClamp (not included)

# Ground Resistance Test Equipment



## DET4T2 ENHANCED SERIES



These ground testers from Megger offer a comprehensive solution to ground resistance and soil resistivity testing needs. The instruments provide such functions as 2 pole, 3 pole, 4 pole, Attached Rod Technique (ART), stakeless, leakage current and ground noise voltage measurements. All models now include selectable output voltage (25 V or 50 V). The DET4TC2 and DET4TCR2 offer four selectable test frequencies (94, 105, 111 and 128 Hz) for improved testing in noisy environments.

An optional ICLAMP augments the traditional fall-of-potential measurement method with ART which allows electrode testing without disconnection and also leakage current measurement down to 1 mA. The VCLAMP, a second optional clamp, enables true stakeless measurements to be made where driving a stake is not practical.

The DET4TC2 and DET4TD2 are powered by eight AA batteries which give excellent testing time. The DET4TR2 and DET4TCR2 are powered from rechargeable AA cells. For added convenience on all four units, the battery status is displayed using a bar graph.

The Megger DET4T2 Series earth/ground testers is designed to meet stringent safety standards and is rated CAT IV 100V.

## THE ART OF GROUND TESTING

Ground testing using the ART (Attached Rod Technique) method is more convenient and reduces testing time. Models DET3TC, DET4TC2 and DET4TCR2 include this additional testing capability.

A nagging problem with traditional ground testing has been the requirement to disconnect the utility connection. Using the ART method you can reliably measure a grounding electrode while still connected and prove it!

The ART method is more convenient and significantly reduces your testing time as much as 40 percent!

The DET4TC2 and DET4TCR2 offer ART capability as well as stakeless testing and of course 4, 3 and 2 pole testing.

## WHAT'S IN THE DET4T NAME?

### DIGITAL EARTH TESTER 4 TERMINAL

- R** - Rechargeable Battery
- D** - Disposable Battery
- C** - Works with Clamp
- 2** - Second generation



# Ground Resistance Test Equipment

DET4T2 SERIES SELECTION GUIDE					
	Model No.	DET4TD2	DET4TR2	DET4TC2	DET4TCR2
	Cat. No.	1000-347	1000-324	1000-345	1000-346
Tests	2-pole measurement	■	■	■	■
	3-pole measurement	■	■	■	■
	4-pole measurement	■	■	■	■
	Soil resistivity	■	■	■	■
	ART (attached rod technique) capability			■	■
	Stakeless (clamp-on) measurement capability			■	■
	Resistance range	0.01 to 20,000 Ω		0.01 to 200,000 Ω	
	Ground voltage range	0 to 100 V			
	Ground current range (with ICLAMP) capability	0.5 mA to 19.9 A			
Output	Selectable voltage (25/50 V)	■	■	■	■
	Test frequency	128 Hz		94, 105, 111, 128 Hz	
Power supply	Alkaline batteries	■		■	
	Rechargeable batteries		■		■
Noise rejection	40 V peak-to-peak	■	■	■	■
Safety rating	CAT IV 100 V	■	■	■	■
Ingress protection	Rated to IP54	■	■	■	■
Included accessories	Hard carry case	■	■	■	■
	test leads (49 ft, 33 ft, 10 ft) and spikes	■	■	■	■
	External ac/dc adapter		■		■
	Certificate of calibration	■	■	■	■
Warranty	2 year	■	■	■	■

DET4T2 SERIES ACCESSORIES SELECTION GUIDE											
Model No.	Cat. No.	Included Accessories								Battery	
		Hard carry case	4 Right-angle terminal adapters	Leads & spikes	External ac/dc Adapter	Field Calibrator	ICLAMP and VCLAMP	Earth/ground kit, C/N 6320-245	Disposable	Rechargeable	
DET4TD2	1000-347	■	■	■					■		
DET4TR2	1000-324	■	■	■	■					■	
DET4TC2	1000-345	■	■	■					■		
DET4TC2+Clamps	1000-365	■	■	■		■	■		■		
DET4TC2+Kit	1000-404	■	■	■		■	■	■	■		
DET4TCR2	1000-346	■	■	■	■					■	
DET4TCR2+Clamps	1000-366	■	■	■	■	■	■			■	
DET4TCR2+Kit	1000-405	■	■	■	■	■	■	■		■	

# Ground Resistance Test Equipment

## DET14C AND DET24C CLAMP-ON EARTH/GROUND TESTERS



The DET14C and DET24C are advanced clamp-on ground testers used for measuring resistance of ground rods and associated installations. These instruments induce a test current into ground systems and measure ground resistance in multi-earth installations without the need to disconnect the electrical system. The technique effectively measures a loop resistance.

Hard-to-reach ground spikes are easily accessed with the instruments' short body length, a unique pre-test hold function, and display backlight for low light environments. The elliptical head shape greatly improves capacity enabling round cables up to 37 mm diameter and earth tapes (flat strip conductors) up to 50 mm wide to be clamped.

Good reliability is provided with smooth, flat core mating surfaces to prevent dirt build-up and ensure measuring integrity, and an extremely high battery life (24 hours continuous).

Both instruments feature date- and time-stamped test result storage reviewable on the large dual display. The DET24C offers a larger memory plus PC download capability.

- Elliptical clamp shape improves access to earth cables and straps up to 50 mm
- Low maintenance flat jaw interface
- Measures ground resistance from 0.05 Ω to 1500 Ω
- Measures true RMS ground leakage current from 0.5 mA rms to 35 A rms
- Excellent safety rating of CAT IV 600V
- Backlit LCD display
- Automatic noise filter function
- DET24C includes Bluetooth® and PowerDB Lite software
- 1 year warranty



These instruments are supplied in a hard carry case together with a calibration check loop, 4 x AA alkaline batteries, and quick-start guide. The DET24C is supplied with Bluetooth® and Power DB Lite software.



Smooth mating jaw surface



Large elliptical jaw allows testing at any angle



Backlit display



Largest jaw opening on the market

These instruments cannot be used to test an isolated electrode.

### SELECTION FOR DET14C AND DET24C

Model	Cat. No.	Ground resistance range	Power source	Memory capacity
DET14C	1000-761	0.05 Ω to 0.99 Ω	Battery	256 records
DET24C	1007-331	1.00 Ω to 9.99 Ω 10.0 Ω to 99.9 Ω 100.0 Ω to 199.9 Ω 200 Ω to 400 Ω 400 Ω to 600 Ω 600 Ω to 1200 Ω 1200 Ω to 1500 Ω		2000 records Downloadable via Bluetooth

# Low Resistance Ohmmeters

Megger has been manufacturing low resistance ohmmeters since 1908. Since their debut, Megger's ohmmeter testing solutions have been designed to work wherever you are, whenever you need them. Their robust construction and

integrated software provide robust, reliable testing in the harshest environments. Megger's comprehensive line of Low Resistance Ohmmeters deliver accurate and reliable measurements with test currents ranging from a few  $\mu\text{A}$  to 600 A.

## DLRO100 SERIES

The new Megger DLRO100 series offers a unique range of 100 A digital low resistance testers. Never before has CATIV 600 V safety, operational IP54 ingress protection for dust and water, and lightweight, fast charge (2.5 hr), Li-ion battery technology been available on a continuous 100 A low resistance tester.

Providing low resistance measurements across a multitude of applications, including areas without access to line power, the DLRO100 is extremely flexible.

Applications include:

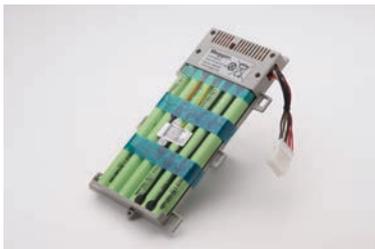
- Switchgear
- Circuit breaker
- Contact resistance
- Bus bar and cable joints
- Wire and cable resistance
- Lightning conductor bonding
- Welded joints
- Ground connections and joints

Megger has taken a no compromise approach when designing the new DLRO100 series. The range offers a unique combination of features with everything including DualGround™ testing, adjustable current ramping, high noise immunity, high power 100 A continuous testing and even remote control, yet still manages to be small and lightweight.

There are three models in the series, all three models can be line powered, are rated CAT IV 600 V and can test with currents from 10 to 110 A. B in the model name indicates the battery powered option (in addition to AC power).

- **DLRO100 E or EB** - The base model. B in the model name indicates the battery powered option.
- **DLRO100 X or XB** - This model includes all features in the basic model, with added data storage and DualGround™ testing capability.
- **DLRO100 H or HB** - The top-of-the-line model includes features in the E and X models, with asset tagging (enter unique asset ID's using the DLRO100 Asset Tag Windows app), Bluetooth® download and USB remote operation.

NOTE: The DLRO100 Units are not supplied with leads included.



A user replaceable high power lightweight Li-ion battery provides, from a single charge, 200 Manual/ Auto 100 A tests or up to two 10 minutes continuous 100 A tests and takes 2.5 hours to charge when fully discharged.



Cat. No.  
1005-555

A new terminal adapter has been designed to enable the use of user's own test leads.



Cat. No.  
1008-604



A new tough adjustable clamp has been designed to ensure flexibility in many applications and provides a good connection with the test piece.



# Low Resistance Ohmmeters

DLRO-10



DLRO-10X

## 10 AMP MODELS

### DLRO-10 AND DLRO-10X



The DLRO-10 and DLRO-10X are built into a strong, lightweight case that is equally suitable in the field or in the laboratory. Light enough to be worn around the neck, they are small enough to be taken into areas which were previously too small to access. The DLRO-10 uses a large, bright 4½-digit LED display while the DLRO-10X has a large, backlit LCD.

The DLRO-10 displays the average of measurements achieved using forward and reverse current, while the DLRO-10X displays both individual measurements and the average. The DLRO-10X uses a menu system controlled by a two-axis paddle to allow the user to manually select the test current. The unit also adds real-time download of results and on-board storage for later download to a PC.

See ordering information on pages 21–22.

See page 19 for a convenient accessory for the DLRO10 and DLRO10X.



### DLRO10HD



Common with the DLRO10 series, the DLRO10HD features output power limiting to 0.25 W so as not to heat the test piece. However, the DLRO10HD has the additional benefit of combining this with two high power\*, high compliance ranges. Benefits include the ability to use much longer test leads if required, the ability to heat and, therefore, identify circuit weakness. In addition, with the ability to maintain 10 A for at least a minute, this allows for improved testing of inductive loads.

The DLRO10HD is designed to operate in the harshest of conditions, surviving knocks, drops, dusty and wet conditions. It can be used in the rain, and with the lid closed is sealed to IP65. There is no need to worry about inadvertent connection to live supplies. High input protection shrugs it off without even blowing a fuse.

The DLRO10HD is battery powered, and is equally convenient at home running on a line supply, even while charging the battery. This means the instrument is at home in manufacturing environments, never having to wait for the battery to charge. The DLRO10HD is always ready to test.

\*25 W



**NEW**

### DLRO10HDX



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.

- Onboard memory storage for test results up to 200 records
- Interchangeable test lead terminations

# Low Resistance Ohmmeters

## OPTIONAL ACCESSORY

### DLRO10LPU LINE POWER UNIT

The DLRO10 and DLRO10X can now be powered from a mains / line power supply.

The DLRO10LPU unit is simply fitted to the instrument in place of the standard battery pack.

When in use a red LED is illuminated when the instrument is powered from a mains/line power supply.

\*This option also works with the BITE3. See page 35.



#### ORDERING INFORMATION FOR LINE POWER UNIT

Cat. No	Item
1003-171	DLRO10LPU-US Mains power attachment - US plug

## ADDITIONAL LOW RESISTANCE EQUIPMENT

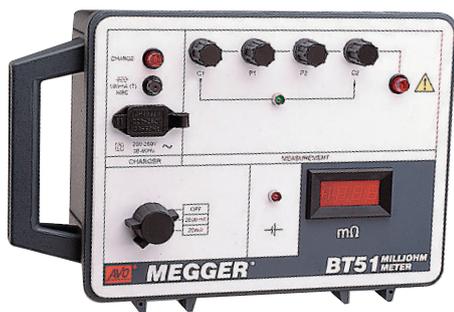
### DLRO200

- Small and weighs less than 15 kg
- Test currents from 10 A to 200 A dc
- 0.1  $\mu\Omega$  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

See ordering information on pages 21–22.



DLRO200



### BT51 MILLI-OHMMETER

- Stable, accurate and reliable
- Two measuring ranges (2000 m $\Omega$  and 20.00 m $\Omega$ )
- Four terminal measurement

#### ORDERING INFORMATION FOR BT51

Model No.	Cat. No.	Description
BT51/120	1006-606	Mill-ohmmeter

# Low Resistance Ohmmeters

## GENERAL PURPOSE DLROS (247000 SERIES)



Three models designed for general purpose testing applications. All units in this family feature digital readout, offer a resolution to 1  $\mu\Omega$  or better, and have a basic accuracy of  $\pm 0.25\%$ .

### Dual-Pak DLRO (Cat. No. 247000)

- Separate measuring and charging modules
- Weighs less than 8 lbs (3.6 kg)
- Rechargeable battery with separate charger for hours of testing

### Single-Pak DLRO (Cat. No. 247001)

- Measuring circuits, rechargeable batteries, and charger in one self-contained unit
- Housed in a tough case with hinged, removable lid and carrying handle
- Includes captive wing nuts

### Single-Pak/Low-Range DLRO (Cat.No. 247002)

- Features a current-reversing switch to average out voltage offset
- Includes captive wing nuts
- Adds an extra decimal of resolution



General Purpose Model (247001)

See ordering information on pages 21–22.

## MOM2 HANDHELD MICRO-OHMMETER

- Up to 240 A
- Battery powered
- Lightweight – 1 kg
- Safe test – DualGround™
- Auto range: 1  $\mu\Omega$  to 1000 m $\Omega$
- Bluetooth® PC communication
- Complies with IEEE and IEC standards

The revolutionary, MOM2 Micro-ohmmeter is designed to measure the resistance of circuit breaker contacts, bus-bar joints and other high-current links. This product is designed with safety, ease of use and versatility in mind.

The MOM2 uses an ultra capacitor to generate the high output current. The ultra capacitor is able to store a huge amount of energy compared to conventional capacitors and can deliver very high current during the discharge thanks to its very low internal resistance. The micro-ohmmeter can be used anywhere to measure a low resistance value with high accuracy.

With MOM2 it is possible to make measurements according to the DualGround™ method. This means that the test object will be grounded on both sides throughout the test giving a safer, faster and easier workflow

See MOM2 ordering information on page 24



### SELECTION GUIDE FOR MOM2

SELECTION GUIDE FOR MOM2		
Cat. No.	MOM2 + Clamps (BD-59092)	MOM2 + Probes (BD-59090)

# Low Resistance Ohmmeters

		SELECTION GUIDE FOR DIGITAL LOW RESISTANCE OHMMETERS																
		Cat. No																
		DLRO100E (1004-858)	DLRO100X (1004-899)	DLRO100H (1004-939)	DLRO100EB (1004-879)	DLRO100XB (1004-919)	DLRO100HB (1004-959)	DLRO10HD (1000-348)	DLRO10HDX (1008-075)	DLRO-10 (6111-428)	DLRO-10X (6111-429)	247000	247001	247002	DLRO200-EN (English QWERTY keyboard)	DLRO200-FR (French QWERTY keyboard)	BT51 (1006-606)	
Output Current	2 amp																	■
	10 amp	■	■	■	■	■	■	■	■	■	■	■	■	■				
	100 amp	■	■	■	■	■	■											
	200 amp†															■	■	
	Additional smoothing	■	■	■	■	■	■											
Resistance Range	0 to 599.9 μΩ														■			
	0 to 1.9999 mΩ									■	■							
	0 to 5.999 mΩ											■	■	■				
	0 to 19.999 mΩ									■	■							
	0 to 20.00 mΩ																	■
	0 to 59.99 mΩ											■	■	■				
	0 to 199.99 mΩ									■	■							
	0 to 599.9 mΩ											■	■	■				
	0 to 1.9999 Ω									■	■							
	0 to 5.999 Ω											■	■	■				
	0 to 19.999 Ω									■	■							
	0 to 59.99 Ω											■	■	■				
	0 to 199.99 Ω									■	■							
	0.1 mΩ to 1.999 Ω	■	■	■	■	■	■											
	0 to 1999.9 Ω									■	■							
	0.1 μΩ to 999.9 mΩ															■	■	
	0 to 2500.0 μΩ								■	■								
	0 to 25.000 mΩ								■	■								
	0 to 250.00 mΩ								■	■								
	0 to 2000 mΩ																	■
	0 to 2500.0 mΩ								■	■								
0 to 25.000 Ω								■	■									
0 to 250.00 Ω								■	■									
0 to 2500.0 Ω								■	■									
Resolution	0.1 μΩ	■	■	■	■	■	■	■	■	■	■			■	■			
	1 μΩ							■	■	■	■	■	■	■				
	10 μΩ							■	■	■	■	■	■	■				■
	100 μΩ							■	■	■	■	■	■	■				
	1 mΩ							■	■	■	■	■	■	■				■
	10 mΩ							■	■	■	■	■	■	■				
	100 mΩ							■	■	■	■	■	■	■				

continued on next page

† Configurable current output: 10 A to 200 A

# Low Resistance Ohmmeters

## SELECTION GUIDE FOR DIGITAL LOW RESISTANCE OHMMETERS (CONTINUED)

		Cat. No															
		DLRO100E (1004-858)	DLRO100X (1004-899)	DLRO100H (1004-939)	DLRO100EB (1004-879)	DLRO100XB (1004-919)	DLRO100HB (1004-959)	DLRO10HD (1000-348)	DLRO10HDX (1008-075)	DLRO-10 (6111-428)	DLRO-10X (6111-429)	247000	247001	247002	DLRO200-EN (English QWERTY keyboard)	DLRO200-FR (French QWERTY keyboard)	BT51 (1006-606)
Accuracy	0.25% + 1 lsd											■	■				
	0.3% + 2 lsd													■			
	1.00%														■		
	0.2% + 0.2 μΩ	■	■	■	■	■	■	■	■	■	■						
	0.2% + 2 μΩ							■	■	■	■						
	0.2% + 20 μΩ							■	■	■	■						
	0.2% + 200 μΩ							■	■	■	■						
	0.2% + 2 mΩ							■	■	■	■						
	0.2% + 20 mΩ							■	■	■	■						
	0.2% + 200 mΩ							■	■	■	■						
Onboard Memory storage			■			■			■		■						
Power Source	Rechargeable battery				■	■	■	■	■	■	■	■	■	■			■
	Line power	■	■	■	■	■	■	■	■						■		
Warranty	2 year warranty							■	■	■	■				■		■



### DLRO LEADS

Duplex connect test lead system for use with any Megger 10 A DLRO and BT51 instruments

The Megger DLRO duplex connect four terminal test lead system is designed to provide the most cost effective and convenient way to provide the user with all of the test lead terminations and lead lengths required for the many different applications encountered in low resistance testing.

#### Duplex Connect Probe – DP1-C

Ideal for general applications where a good reliable connection is required on uncoated or corroded surfaces. Serrated tips are available as an option. Maximum current: 10 A  
Cat. No.1006-463 (Complete Set)  
Cat. No.1006-450 (One Probe)



#### Concentric Duplex Connect Probe – CP1-C

Ideal for general applications where a good reliable connection is required on uncoated or corroded surfaces. The long probe length and small diameter makes this probe ideal for reaching deeply recessed terminal screws. A serrated tip is available as an option. Maximum current rating: 10 A  
Cat. No. 1006-448 (One Probe)



#### Large Touch Proof Insulated Clip – Adjustable Jaw Opening – KC2-C

Duplex connect Kelvin Clip 2 is a fully insulated touch proof clip for applications where a high safety rating is required. Maximum current rating: 20 A  
Cat. No. 1006-461 (Complete Set)  
Cat. No. 1106-451 (One Clamp)



#### Duplex Connect Twist Probe – DTP1-C

Ideal for cutting through surface coatings or corrosion on test piece for a good contact. Maximum current rating: 10 A  
Cat. No. 1006-442 (Complete Set)  
Cat. No. 1006-449 (One Probe)



#### Heavy Duty Kelvin Clip – KC1-C

Duplex connect Kelvin Clip 1 is a heavy duty clip for general purpose applications. Maximum current rating: 10 A  
Cat. No. 1006-462 (Complete Set)  
Cat. No. 1006-447 (One Clamp)



#### Wind Turbine Lightning Protection Test Lead Set

Specially designed for measuring resistance of lightning protection circuit between wind turbine blade tip to ground.  
Cat. No. 1000-809



# Low Resistance Ohmmeters

## DUPLEX CONNECT TEST LEADS SET

Cat. No.	Description
<b>Complete duplex connect lead sets</b>	
1006-442	DH1-C Two wire, four terminal duplex twist probe lead set - 3m
1006-443	DH2-C Single duplex twist probe lead - 6m
1006-444	Two wire, four terminal duplex probe lead set - 1.5 m One lead fitted with indicator lights.
1006-463	DH4-CHDC Two wire, four terminal duplex probe lead set 1.5 m long One lead fitted with indicator lights DLRO10HD terminal Cover
1006-445	DH5-C Two wire, four terminal duplex probe lead set - 3 m One lead fitted with indicator lights.
<b>Kelvin clip lead-sets</b>	
1006-462	Two wire, four terminal kelvin clip lead set - 3 m
1006-461	Two wire, four terminal insulated kelvin clip lead set - 3 m

## DUPLEX CONNECT TEST LEADS

Cat. No.	Description
<b>Duplex connect system - Component parts - one of each supplied</b>	
1006-456	TL1.5-CL Connect test leads with indicator light - 1.5 m
1006-458	TL3-CL Connect test leads with indicator light - 3 m
1006-459	TL6-CL Connect test leads with indicator light - 6 m
1006-452	TL1.5-C Connect test lead without indicator light - 1.5 m
1006-454	TL3-C Connect test lead without indicator light - 3 m
1006-455	TL6-C Connect test lead without indicator light - 6 m
1007-023	TL3-C-BT51 Connect test leads for BT51 - 3 m
1007-024	TL6-C-BT51 Connect test leads for BT51 - 6 m
1006-460	EL6-C Connect Extension Lead - 6 m
<b>Lead test connection terminations available - Terminations sold individually</b>	
1006-450	DP1-C Duplex connect probe
1006-449	DTP1-C Duplex connect twist probe
1006-448	CP1-C Concentric duplex connect probe
1006-447	KC1-C Heavy duty kelvin clip
1006-451	KC2-C Insulated connect Kelvin clip

## DLRO100 TEST LEADS

Cat. No.	Termination	Length	Current
1004-448	DLRO100 CAT IV Lead Set	16 ft. (5 m)	100 A
1004-449		33 ft. (10 m)	100 A
1004-450		49 ft. (15 m)	100 A
1005-634	DLRO100 CAT IV Kelvin Lead Set	16 ft. (5 m)	100 A
1005-635		33 ft. (10 m)	100 A
1005-636		49 ft. (15 m)	100 A
1005-555	DLRO100 Terminal adapters (x2)	N/A	N/A

## INDIVIDUAL TEST LEADS

Cat. No.	Type	Termination	Length	Current
242021-7	Potential	Hand Spikes	7 ft. (2 m)	N/A
242021-18			18 ft. (5.5 m)	
242021-30			30 ft. (9 m)	
242041-7	Current	Terminal Clips	7 ft. (2 m)	10 A
242041-18			18 ft. (5.5 m)	
242041-30			30 ft. (9 m)	
242144-16	Current	Clamps	16 ft. (5 m)	100 A



\* Used with DLRO10 and DLRO10X only \*\* Gold plated \*\*\* Silver plated

## TEST LEADS

Cat. No.	Termination	Length	Current
242011-7	Helical hand spikes with spring points	7 ft. (2 m)	10 A
1008-026		8 ft. (2.5 m)	10 A
242011-18		18 ft. (5.5 m)	10 A
1008-027		20 ft. (6 m)	10 A
242011-30		30 ft. (9 m)	10 A
242009-18	Helical hand spikes w/ spring points and current push-button switch	18 ft. (5.5 m)	10 A
242002-7	heavy-duty, fixed-point hand spikes	7 ft. (2 m)	10 A
242002-18		18 ft. (5.5 m)	10 A
242002-30		30 ft. (9 m)	10 A
242003-7	Replaceable needle points	7 ft. (2 m)	10 A
242104-2-16	Heavy-duty C-clamps	16 ft. (5 m)	100 A
242104-2-26		26 ft. (8 m)	100 A
242004-7		7 ft. (2 m)	10 A
242004-18	18 ft. (5.5 m)	10 A	
242004-30		30 ft. (9 m)	10 A
241005-7**	0.5 in. (1.3 cm) Kelvin clips	7 ft. (2 m)	10 A
242005-7***		7 ft. (2 m)	10 A
242006-7	1.5 in. (4 cm) Kelvin clips	7 ft. (2 m)	10 A
242006-18		18 ft. (5.5 m)	10 A
242006-30		30 ft. (9 m)	10 A
6220-755	Current lead with HD clips and separate potential leads with clips	16 ft. (5 m)	600 A
6220-756		33 ft. (10 m)	600 A
6220-757		49 ft. (15 m)	600 A
6220-787		16 ft. (5 m)	200 A
1000-809*		Kelvin clip and hook ends on HD cable reel with friction brake	328 ft. (100 m)
1008-027	DH2 lead with duplex hand spikes and hook end	20 ft. (6 m)	

## Low Resistance Ohmmeters

**NEW**



### DLRO10HD AND DLRO10HDX CATIII 300V INDUSTRIAL APPLICATION KIT

- Connect 4mm shrouded plugs to the DLRO10HD and DLRO10HDX
- Optimal for testing in Industrial locations
- Maintains instruments CATIII 300V rating of instruments
- Rated for 10 A current
- Kelvin probe and clip lead sets supplied
- Bridging lead set supplied for accurately measuring cable resistance
- Ideal for electrical breaker panel testing

#### ORDERING INFORMATION FOR INDUSTRIAL APPLICATION KIT

Cat. No.	Description
1011-376	Industrial Application Kit

Replacement parts available upon request



## Industrial/Commercial/Domestic Multifunction Tester

**NEW**

### MFT70

The MFT70 Multifunction Tester is designed for testing low voltage electrical installations to fulfill the requirements of NFPA70 and the National Electrical Code. It provides all the tests required to complete the necessary electrical certification for industrial, commercial and domestic fixed wiring installations.

- Simple color-coded test selection and large clear backlit display for ease of use
- Internal memory and Bluetooth® communications
- 3-terminal ground test and stake less testing for spike resistance measurement
- GFCI testing as defined in the ANSI/UL 943, CSA C22.2 No. 144.1 and ANCE NMX-J-520
- IEC61010 CATIV safety ratings and tough IP54 case



# Handheld Multifunction Motor Tester



## MTR105

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.

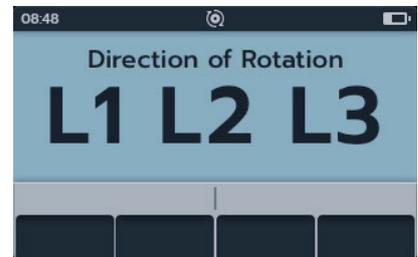
- Full colour graphic display
- 3 Phase insulation resistance
- Temperature correction for insulation resistance
- Guard terminal
- DLRO four wire Kelvin
- Continuity and diode test
- Motor direction of rotation
- Capacitance and inductance
- CAT III 600 V up to 3000 m
- Environmental protection to IP54



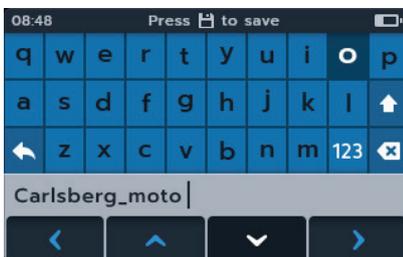
Insulation Testing



Low Resistance Testing



Motor Direction of Rotation



Saved Results and Data Tagging



# Thermal Camera



## TC3231 THERMAL CAMERA

The TC3231 combines the convenience of an infrared thermometer with the visual advantage of a thermal imager, which provides a troubleshooting camera with infrared heat map. The unit offers a professional infrared 32x31 pixels image thermometer with a 2.2 in. color TFT LCD. It covers a wide range of surface temperature measurements.

The TC3231 features a range of thermal image display color palette options and high/low user preset temperature alarms. The user can also set the background temperature.

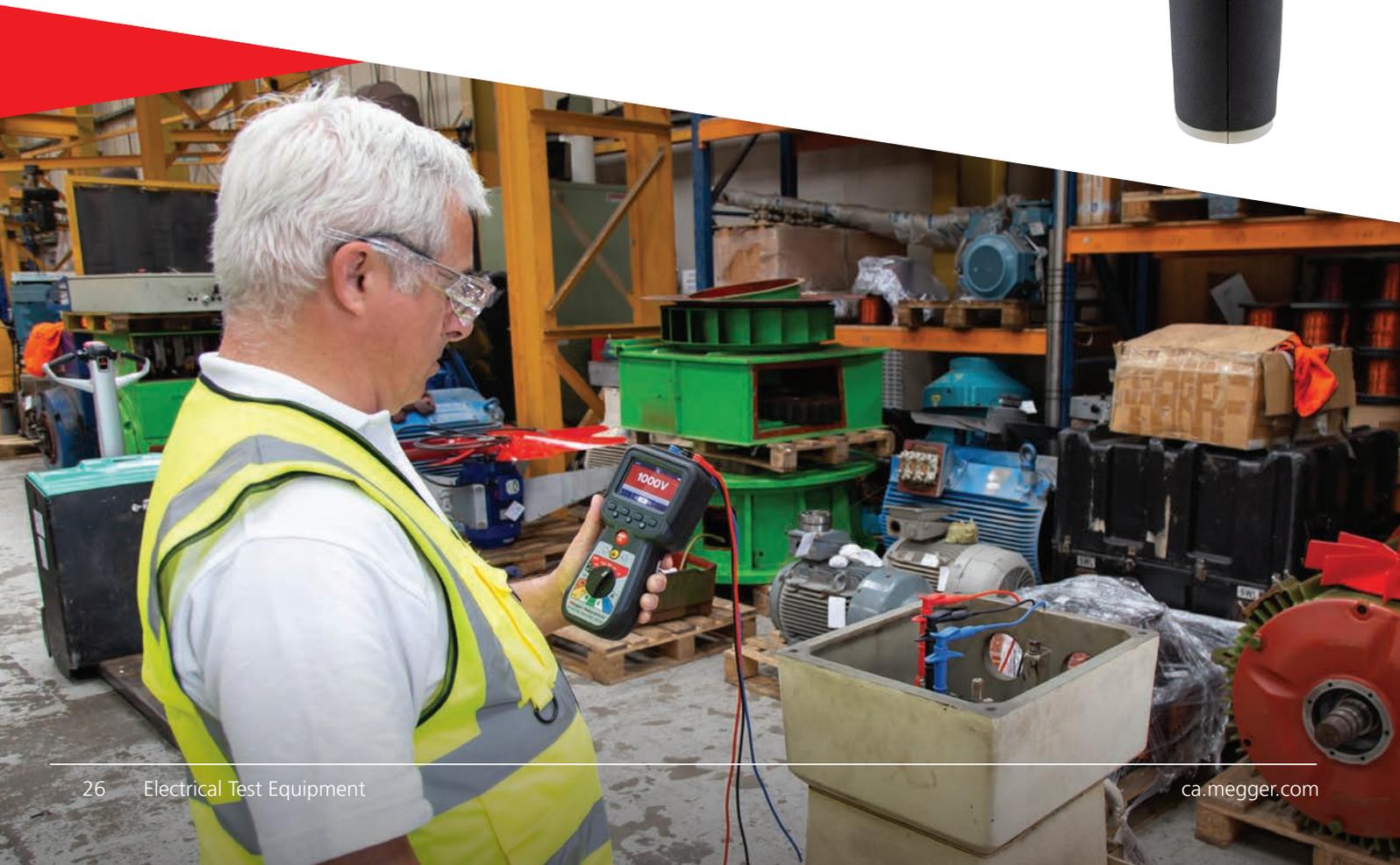
Additionally, the TC3231 is the ideal accessory for the MIT5/10/15 kV insulation testers, MPQ1000 and MTR105.



### ORDERING INFORMATION FOR TC3231

Cat. No.	Description	Warranty (years)**
1012-514	TC3231 Thermal Camera	1

\*\* Extended warranty available for some products



# Solar Products



## PVM210 IRRADIANCE METER

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.

- Optimal incident angle and positioning of solar panels
- Measurement of solar power for panel short circuit calculation
- 33/4 digit LCD display with 1999 W/m<sup>2</sup> range
- Single handed use
- Mini pocket size
- Standard camera mount fixing for accurate placement

### ORDERING INFORMATION FOR PVM

Cat. No.	Description	Warranty
1002-548	PVM210 Irradiance meter; 1999 W/m <sup>2</sup>	1 year



The **MIT400/2 series** has been proven to perform in the “renewable energy” industry. The MIT400/2 series has been used successfully in both wind and solar applications. From generators and cables to combiner boxes. Find pinched wires and leakage problems before they become dangerous with the Megger line of MIT400/2 series Insulation testers.

See page 9 for more details.



## PVK

Both kits include the PVM210 irradiance meter. Additionally, two pairs of specialized solar test leads are included with the PVK units. The first pair is comprised of 4-ft leads terminated with standard 4 mm plugs and MC4-type solar panel connector.

The other pair consists of 6-in. adapter leads terminated with MC4 and MC3 solar connectors. Ratings of the leads are 19 A 1000 V.



## PVK320 AND PVK330 PHOTOVOLTAIC KITS

The Megger PVK kits offer the photovoltaic engineer / electrician two choices of included test instruments for verifying a photovoltaic installation

The PVK320 kit features the Megger PVM210 irradiance meter combined with the Megger AVO410 CATIV multimeter, while the PVK330 kit features the PVM210 with the DCM340 AC/DC clampmeter.

Both kits have a combined PV test lead / adapter set for MC3 and MC4 connection to solar panels. Also included is a zipped pouch for storing each kit.

The PV test leads, included with both kits, feature a set of red and black test leads with 4mm instrument plugs at one end, terminated with MC4 solar connectors at the other end.

The included adapter leads have MC4 connectors at one end with MC3 connectors at the other end. Ratings of the leads are 19A 1000V.

Both kits have a zipped pouch to store the instruments and leads.

- Choice of multimeter/clampmeter options for verifying solar panels
- Data hold allows easy measurements
- Single button operation
- Automatic on/off for prolonged battery life
- Compact instruments fit in pocket for easy carrying

### ORDERING INFORMATION FOR PVK

Cat. No.	Description
1002-550	PVK320
1002-551	PVK330
1002-549	PV Test leads



# Multimeters/Clampmeters



**NEW**

## DCM305E GROUND LEAKAGE CLAMPMETER

- 0.001 mA resolution
- Up to 100 A AC
- TRMS reading
- Low pass filter to aid stability of readings
- Auto, data & peak hold
- 40 mm jaw



DCM310

## DCM310, DCM320, DCM340 CLAMPMETERS

- Resistance measurement up to 20 MΩ on DCM320; 400 Ω on DCM340
- Measures ac current up to 600 A
- Data hold feature
- Meet safety requirements of IEC 1010 CAT III 600V



## DCM300E AC LEAKAGE CLAMPMETER

- Designed for non-intrusive measurement of leakage current
- 30 mA, 300 mA, 30 A and 300 A range
- Resolution to 0.01 mA for recognition of minute leakage currents
- Data hold button retains the measurement on the LCD for viewing at a later time
- Designed for ground fault troubleshooting in conjunction with plant safety systems



## DCM1500 1500 A TRMS CLAMPMETER

- DC and AC current up to 1500 A
- True RMS measurement for greater accuracy
- Large jaw size safely assists with uninsulated conductor measurements
- 750 VAC and 1000 VDC
- Resistance, continuity and frequency
- Peak, min/max and data-hold functions

### ORDERING INFORMATION DCM SERIES

Cat. No.	Measurement Range	Warranty
DCM300E	300 mA / 300 A ac	3 Years
DCM305E	100 A ac	3 Years
DCM310-EN	400 A ac	1 year

Cat. No.	Measurement Range	Warranty
DCM320-EN	400 A ac	1 year
DCM340-EN	600 A ac/dc	1 year
DCM1500-EN	1500 A ac/dc	1 year

## AVO410 CAT IV TRUE RMS MULTIMETER



- 6000 count backlit digital display.
- True RMS reading on ac mode.
- 1000 V d.c. / 750 V ac ranges.
- 10 A ac / dc ranges.
- Resistance, frequency and capacitance ranges.
- CAT IV 600 V safety rating.



## AVO 830 SERIES, AVO 835 DIGITAL TRMS MULTIMETER

- CAT III 1000 V and CAT IV 600 V\*
- IP54 environmental protection
- Phase rotation
- High / Low sensitivity live circuit detection
- 10 MΩ / 10 kΩ input impedance
- MIN / MAX / AVG / Smoothing
- Resistance capacitance frequency and diode measurements
- Temperature measurements\*

### ORDERING INFORMATION FOR AVO410

Cat. No.	Description	Warranty
AVO410	CAT IV true RMS multimeter	3 years

### ORDERING INFORMATION FOR AVO410

Cat. No.	Description	Warranty
1007-494	AVO830	3 years
1008-221	AVO835*	3 years

\*Model dependent

# Time Domain Reflectometers

Whether locating cable faults or testing the integrity of communication, power, or control cables, TDRs available from Megger provide fast and accurate results.

Models with built-in or optional blocking filters can be used on energized cable up to a specified voltage limitation. Models without blocking filters are for de-energized cable only.

## CFL535G TIME DOMAIN REFLECTOMETER



The CFL535G is a dual channel, compact Time Domain Reflectometer for locating faults on metallic cables. It has a minimum resolution of 0.1m/0.3ft and a 20km/60kft maximum range depending on velocity factor selected and cable type.

- Comprehensive dual channel capability with dual aspect display
- AUTO set up for instant use
- Ultra fast pulse for near-end fault identification
- One button press Xpert guidance to potential fault
- IP54 rating offers real life working conditions
- Designed for use on all metallic cable pairs
- Toughened and fully bonded LCD screen viewable in all light conditions
- CAT III 300 V, CAT IV 150 V



Also available: TDR2000/3P equipped with dual fused, fitted test leads.

See CFL535G ordering information on page 31.



## TDR2010 TIME DOMAIN REFLECTOMETER



The TDR2010 has the same features as the CFL535G with added trace tagging.

The addition of the trace tagging function allows you to maintain accurate records of circuit details against every saved result.

See TDR2010 ordering information on page 31.



## TDR2050 TIME DOMAIN REFLECTOMETER



The same as TDR2010 but with the addition of 600 V CAT IV rating, Step, Distance Dependant Gain (DDG) and FindEnd functions. This unit can also be used on energized circuits.

See TDR2050 ordering information on page 31.

# Time Domain Reflectometers



## CFL510G TIME DOMAIN REFLECTOMETER

- Single trace display with dual cursor
- 2 ns fast pulse for near-end fault identification
- Trace hold with live trace overlay
- Last setting memory
- 14 hour battery life
- Has bed of nails test leads for telecommunication industry

Also available: TDR1000/3P equipped with fused, fitted test leads.



## TDR500/3

- Simple operation
- AUTO selection of gain and pulse width
- Ultra fast pulse for near end fault identification
- Trace HOLD feature
- IP54 rating offers real life working
- Designed for use on all metallic cable pairs



## TDR900

- Digital read-out TDR and cable length meter
- Autoranging for measuring power, telephony, CATV and LAN cable lengths
- Extra large, high resolution backlit LCD
- Internal library of 39 standard cable types
- Cable length calibration function
- Used only on de-energized circuits



# Time Domain Reflectometers

## SELECTION GUIDE FOR TDRS

Model	TDR900	TDR500/3	CFL510G	CFL535G	TDR2010	TDR2050
Measurement Ranges (full scale)	6200, 8000, 9800, 12,000 ft. (1900, 2400, 3000, 3700 m)	30, 75, 300, 750, 3000, 7500, 15000 ft (10, 25, 100, 250, 1000, 2500, 5000 m)	30, 75, 300, 750, 3000, 7500, 15,000 ft (10, 25, 100, 250, 1000, 2500, 5000 m)	Up to 65616 ft (20000 m) in 11 steps	Up to 65616 ft (20000 m) in 11 steps	Up to 65616 ft (20000 m) in 11 steps
Fault Location Modes	1	1	3	5	5	5
Display	Numeric	Graphic	Graphic LCD	Graphic LCD	Graphic LCD	Graphic LCD
Dual Cursors			■	■	■	■
Accuracy	±2 %	±1 %	±1 %	±1 %	±1 %	±1 %
Resolution	20 in. (50 cm)	1% of range	1% of range	1% of range	1% of range	1% of range
Gain	N/A	3 steps	3 steps	auto/manual	auto/manual	auto/manual
Velocity Factor	1.0 to 99.9%	0.2 to 0.99	0.2 to 0.99	0.2 to 0.99	0.2 to 0.99	0.2 to 0.99
Output Impedance (Ω)	25, 50, 75, 100, 125, 150 Automatically set	100	25, 50, 75, 100	25, 50, 75, 100, 125	25, 50, 75, 100, 125	25, 50, 75, 100, 125
Output Pulse	7 ns - 3 μs	2 ns for near fault location	2 ns for near fault location	2 ns for near fault location	2 ns for near fault location	2 ns for near fault location
Pulse Amplitude	5 V pk to pk	5 V pk to pk	5 V pk to pk	up to 20 V pk to pk	up to 20 V pk to pk	up to 20 V pk to pk
Low Battery Warning	■	■	■	■	■	■
Backlight	■	■	■	■	■	■
TX Null	N/A	■	■	■	■	■
Channels	1	1	1	2	2	2
Auto Shutdown	■	■	■	■	■	■
Result Storage	N/A	N/A	N/A	■	■	■
Download to PC	N/A	N/A	N/A	■	■	■
600V input protection						■
Rating	IP42	IP54	IP54	IP54	IP54	IP54
Trace Tagging	N/A	N/A	N/A	N/A	■	■

## INCLUDED ACCESSORIES FOR TDRS

Model	TDR900	TDR500/3	CFL510G	CFL535G	TDR2010	TDR2050
Included Accessories						
Lead Set	■	■	■	■	■	■
Test/Carry Case	■	■	■	■	■	■
USB Download Lead	N/A	N/A	N/A	■	■	■
Download Software	N/A	N/A	N/A	TraceXpert	TraceXpert	TraceXpert
Batteries	■	■	■	■	■	■
3-Year Warranty	■	■	■	■	■	■

# Substation

Megger makes a line of test equipment specifically designed to test and maintain a variety of critical electrical apparatus found in electric utility and industrial substations. Also, these instruments are rugged, field proven and useful in the following markets:

- Airports
- Power Plants
- Government/Military
- Universities
- Mining



## HANDHELD TTR25-1 AND TTR100-1

The TTR25-1 is an excellent complement to the world-renowned hand-cranked TTR. It can measure the full range of transformers, even high MVA types. It measures three-phase transformers phase by phase.

The TTR25-1 is the perfect tool for testing transformers for turns ratio, polarity and excitation current. It is primarily designed to fill a need for simple, push-to-test transformer testing. The TTR25-1 allows the user familiar with transformer testing to obtain results without transformer configuration knowledge.

The significant features of the TTR25-1 include:

- Fewer buttons and no menus make it extremely easy to use and acquire data
- No PC software needed to learn to upload data. Simply use HyperTerminal
- Prints data in real-time to maintain hard copies of test results
- Replaceable "AA" (IEC LR6) batteries that last 12 hours or more (if using the specified batteries)
- Measures turns ratio, polarity and excitation current
- New rugged metal connectors for use in harsh conditions

ORDERING INFORMATION FOR TTR	
Cat. No.	Description
TTR20-1	Handheld Transformer Turns Ratio Test Set
TTR25-1	Handheld Transformer Turns Ratio Test Set
TTR100-NAO-ENG	Handheld TTR, alphanumeric key pad, memory storage
TTR100-NA1-ENG	Handheld TTR with Delux Kit



# Oil Test Set

## SEMI-AUTOMATIC OIL TEST SET

The Megger OTS60SX/2 is a lightweight, semi-automatic, oil dielectric strength test set. The instrument is suitable for field use and can be powered from a range of mains supplies. The maximum 60 kV output allows tests to be performed on oil from a wide variety of electrical installations including transformers, circuit breakers and other equipment. The operation of the test set is extremely simple and the results are displayed on a bright LED display. A selection of vessels allows the instrument to be configured for a variety of test standards."



- Robust oil chamber lid
- Sturdy and protective control panel lid
- Easy, semi-automatic operation
- Suitable for all oil breakdown testing to 60 kV
- Automatic 1 minute timer for easy withstand testing

ORDERING INFORMATION SEMI-AUTOMATIC OIL TEST SET	
Cat. No.	Description
OTS60SX/2 (1005-272)	Semi-automatic Oil Test Set
OTS60SX/2 KIT (1008-225)	OTS60SX/2 US Kit (includes vessel, mushroom and cylindrical electrodes)
6320-233	Spherical-type vessel electrodes
6320-234	Mushroom-type electrodes
6111-356	Cylindrical-type electrodes

# Power Quality

**NEW**



## MPQ1000

The Megger MPQ1000 Power Quality Analyzer is an advanced handheld 3-phase analyzer. It is a highly intuitive analyzer that delivers unmatched capability in a smart ergonomic platform. View RMS data, waveforms, demand data, phase angles, harmonics, unbalance, flicker and more in real time with the MPQ1000 scope mode and DVM mode. When data needs to be recorded the MPQ1000 record verification will automatically identify the current clamps, recognize their range and verify the unit is connected properly. Simply connect it and push the record button.

The MPQ1000 can record for extended periods of time because of its massive memory. It utilizes an SD card, which makes expanding the memory as easy as installing a new SD card. The recorded data can be viewed on the MPQ1000 color VGA display or the data can be transferred to the high power Megger PQ Power Quality Analysis software via USB cable, USB stick, Ethernet or directly from the SD card.

- Automatic CT recognition
- Automatic connection verification
- On-board data analysis
- SD card and USB stick support
- 1000 V ac and 1000 V dc range
- Scope and DMM modes
- CATIV @ 600 V
- IEC61000-4-30 Class A compliant

### ORDERING INFORMATION FOR MPQ1000

Cat. No.	Description
MPQ1000	Power quality analyzer

**NEW**



## MPQSIM

The MPQSIM Power Quality Simulator is ideal for power quality training courses and demonstrations of power quality phenomenon. It is the perfect tool to use with the MPQ and PA9 Series. The MPQSIM provides a simple and easy method for simulating a three-phase voltage configuration off of a standard single-phase source. The simulator provides both continuous voltages/currents and harmonics for trending as well as instantaneous events for power quality demonstrations and training and will allow you to see signatures of different types of power quality phenomenon. It also allows you to learn how to program a power quality analyzer to capture these phenomenon.

### ORDERING INFORMATION FOR MPQ1000

Cat. No.	Description
MPQ-SIM-01	Power Quality Simulator

# Power Quality

## MPQ1000 SILVER KIT

Eight channel three phase hand held PQ analyzer.

Includes: PQ analyzer, voltage leads, SD Card, USB cable, Ethernet cable, universal power adaptor and soft sided carry bag plus voltage lead plunger clips, hanging strap and 3 MCCV6000-18 (four range flex 18 cm inner diameter (ID) CTs).



## MPQ1000 GOLD KIT

Eight channel three phase hand held PQ analyzer.

Includes: PQ analyzer, voltage leads, SD Card, USB cable, Ethernet cable, universal power adaptor and soft sided carry bag plus voltage lead plunger clips, hanging strap and 3 MCCV6000-27 (Wide Diameter 27cm - four range flex CTs).



**NEW**

## MPQ1000 PLATINUM KIT

Eight channel three phase hand held PQ analyzer.

Includes: PQ analyzer, voltage leads, SD Card, USB cable, Ethernet cable, universal power adaptor and soft sided carry bag plus voltage lead plunger clips, hanging strap and 3 MCCV6000-37 (Wide Diameter 37cm - four range flex CTs).



### ORDERING INFORMATION FOR MPQ1000

Cat. No.	Description	Number of CTs	Diameter of CTs
MPQ1000-S-KIT	MPQ1000 SILVER KIT	3	18 cm
MPQ1000-S-KIT-PLUS	MPQ1000 SILVER KIT PLUS	4	18 cm
MPQ1000-G-KIT	MPQ1000 GOLD KIT	3	27 cm
MPQ1000-G-KIT-PLUS	MPQ1000 GOLD KIT PLUS	4	27 cm
MPQ1000-P-KIT	MPQ1000 PLATINUM KIT	3	37 cm
MPQ1000-P-KIT-PLUS	MPQ1000 PLATINUM KIT PLUS	4	37 cm

### OPTIONAL A ACCESSORIES

 MCCV Rain Tight Flexible Current Clamps  
Available diameters:  
18 cm (MCCV6000-18)  
27 cm (MCCV6000-27)  
37 cm (MCCV6000-37)



Split Code Current Clamp 1000 A  
(CP-1000WCE)



Split Code Current Clamp Available options:  
100 A (CP-100CE-ID)  
20 A (CP-100CE-ID)  
5 A (CP-5CE-ID)



Hall Effect Current Clamp  
600 A dc and 400 A ac  
(CP-600DC-ID)

# Battery Test Equipment

Megger has the right equipment for your battery maintenance requirements regardless of whether you are testing flooded lead-acid, VRLA or Ni-Cd batteries. The BITE® products are so easy to use that the test can be performed quickly by one person. All BITE instruments have the ability to download to a PC for database use and further data analysis.



## BITE3

The BITE3 determines the health of lead-acid cells up to 2000 Ah by taking measurements of the most important battery parameters. It measures cell impedance, cell voltage, intercell connection resistance and float and ripple currents. It also measures the harmonic content of the ripple current with its built-in spectrum analyzer.

### The BITE3 comes complete with:

- Power DB lite software
- Dual point test leads (7 ft)
- Canvas carrying case
- Line charger
- RS232 modem cable
- Spare test lead tips

The BITE3, combined with Power DB, is extremely useful in determining the health of batteries and to plan their replacements in an orderly, non-emergency manner. The BITE3 and Power DB are the most powerful battery management system available today.

\*Optional accessory DLRO10LPU also available enables the BITE3 to be powered by 120 Vac. See page 18.

### ORDERING INFORMATION FOR BITE3

Cat. No.	Description
BITE3	Battery Impedance Test Equipment



## BITE2 AND BITE2P

The BITE2 and BITE2P determine the condition of lead-acid and nickel-cadmium cells up to 7000 Ah such as in telco, UPS, substation and many more.

The BITE2 is compact and is ideal for service companies and for those using laptops to interpret data on-site. Impedance measurements, along with other data such as ambient and pilot cell temperatures and ac ripple current, assist in determining the overall condition of battery systems.

The BITE2P has a built-in printer to review data, find weak cells, and leave a hard copy record at the site.

### ORDERING INFORMATION FOR BITE2 AND BITE2P

Cat. No.	Description
BITE2	Battery Impedance Test Equipment
BITE2P	Battery Impedance Test Equipment with built-in printer

# Portable Appliance Testers

Implementing a regular inspection program that includes PAT testing of electrical equipment and appliances will help protect personnel from shock hazards, facilities from electrically induced fires and businesses from litigation. For businesses that

manufacture and ship electrical products to the European Union, PAT testing at the factory will ensure that products shipped will pass import testing and not become a costly problem.

## PAT450

The PAT450 is the ideal instrument for companies who engage in portable appliance testing and have a requirement to customize and adapt testing routines. Because the PAT450 conforms to the latest European regulations and standards, it enables US companies shipping electrical products internationally to ensure that their export products will pass import testing.

The PAT450 can perform earth bond continuity tests; 250V and 500V insulation tests, and a touch current test. Others include a differential leakage test; a substitute/alternative leakage test; a functional load test; and a hi-pot/flash test. The PAT450 also tests extension and power cords.

- 10,000-record on-board memory
- Large 5.7 in. ¼ VGA backlit full color screen
- 200 mA; 10 A and 25 A bond test with high duty cycle
- Selectable PASS/FAIL limits
- Works with standard barcode scanners



### ORDERING INFORMATION FOR PAT450

Cat. No.	Description
1000-956 (PAT450-US)	Portable Appliance Tester



## PAT320

The PAT320 is a full-featured portable bench-top appliance tester designed for customers who do not need the complexity of a fully configurable database of clients and results within the tester. It offers a complete range of functions to allow automatic or manual testing of the widest range of electrical equipment. It is ideal for testing the safety of electrical equipment by performing a ground bond test, an insulation test, specific ground leakage tests and operational VA tests to international standards.

- Simple push button operation
- Pass/Fail indicator
- Full-color display
- Supports all regulatory test requirements (Class I and Class II equipment)

### ORDERING INFORMATION FOR PAT320

Cat. No.	Description
1001-366 (PAT320-US)	Portable Appliance Tester

# Special Maintenance

Megger offers a wide range of test and measuring instruments for unique applications. These high quality, easy to use instruments include:

- Electrical Appliance Testers
- Three-Phase Sequence



Cat. 230415 shown

## HIGH-POT TESTERS

- Ground continuity check of 3-wire devices with high voltage interlock
- Leakage current adjustable on front panel from 0.3 to 12.3 mA
- One-second or continuous testing
- Automatic failure shutdown

### ORDERING INFORMATION FOR HIGH-POT TESTERS

Cat. No.	Description
230315	AC High-pot Tester, 0 to 3 kV ac
230415	AC High-pot Tester, 0 to 4 kV ac
230425	AC/DC High-pot Tester, 0 to 4 kV ac, 0 to 5 kV dc



## CABLE HEIGHT METER

- No physical connection to cables under test
- Noise and stray signal rejection
- Measures the height of up to 6 overhead cables
- 3 ranges available

### ORDERING INFORMATION FOR CABLE LOCATORS AND CABLE ROUTE TRACERS

Cat. No.	Description
CHM2000	Telecom Cable Height Meter, 35 ft (11 m)
CHM600	Power Cable Height Meter, 50 ft (15 m)
CHM600E	Power Cable Height Meter, 75 ft (23 m)



## LT300 HIGH CURRENT LOOP TESTER



- CAT IV 300V applications
- High current loop tester
- Single and 3 phase testing
- 16 Hz to 400 Hz operation
- Two wire lead set or mains plug leads

### ORDERING INFORMATION FOR LT300

Cat. No.	Description
LT300-EN	High current loop tester



## SINGLE-PHASE, HAND-CRANK TTR

- Measures turns ratio and exciting current of windings in power, PTs and CTs
- Used for testing single- and three-phase power and distribution transformers
- Applies 8 Vac with current up to 1 Amp

### ORDERING INFORMATION FOR SINGLE-PHASE TTR

Cat. No.	Description
550005B	Single-phase, hand-crank Transformer Turns Ratio Test Set

# Three-Phase Sequence

The three-phase sequence equipment consists of a range of power line testing products including:

- Phase and motor rotation testers to determine motor rotation without energizing the motor
- Cable phasing meters to measure voltage and determine phase rotation of underground distribution systems
- Phase sequence indicators for identifying the phase sequence and any faulty or open phase of energized lines



Cat. No. 560060

## MOTOR & PHASE ROTATION TEST SETS

- Determine the rotation direction of single and three-phase motors before connection to the line
- Identify true phase sequence of energized 50/60 Hz power lines up to 600 V
- Supplied with easily connected alligator clip leads
- Determine polarity of power and instrument transformers

## CABLE PHASING METER

- Designed to phase out cables
- Battery operated
- Measures capacitance of test point if system voltage is known
- Works on capacitance test points incorporated into elbow connectors



Cat. No. 830220-1



Cat. No. PSI-700

## PHASE SEQUENCE TEST SETS

### Model PSI-700

- Indicates A, B or C phase
- No moving parts, batteries or binding posts and requires no power source
- Housed in a rugged, insulated enclosure

### SELECTION GUIDE FOR THREE-PHASE SEQUENCE EQUIPMENT

Cat. No.	Description	Max Voltage	Frequency
560060	Motor and Phase Rotation Tester	600 V	50/60
560400	Motor and Phase Rotation Tester	600 V	25/50/60/400
830220-1	Cable Phasing Meter	30 kV	50/60
PSI-700	Phase Sequence Tester	700 V	50/60

# Safety Test Equipment

## Voltage Detectors and Phasing Testers

### DETEX® VOLTAGE DETECTORS

- Verify the absence of voltage on a line or terminal of any grounded electrical system
- Flashing LEDs and piercing tone warn of phase-to-ground voltages
- Self-test ensures detector is working properly
- Continuous monitoring with no ON/OFF switch
- Fits most standard hot sticks
- All ratings per ANSI C84.1, with conformance to IEC 61243-1 guidelines for capacitive high-voltage test instruments
- Telescopic 48-in. pole retracts to 34-in. for easy storage when not in use

See ordering information on page 40.

### DETEX® PHASING TESTERS

- Ideal for use on grounded and ungrounded ac systems to check high-voltage fuses
- Analog models (514500 series) are ideal for areas where an LED lamp is not easily visible
- Cat. No. 510836-1 provides bright LED indication for easy visibility where lighting conditions are poor
- Equipped with two fixed-length poles connected by flexible, insulated cable
- Handguards are standard on lower voltage models
- High voltage units are fitted with universal spline-fitting for attachment to a standard hot stick

See ordering information on page 40.

### DETEX® SINGLE-POLE PHASE COMPARATOR

- Performs phase comparison with a single pole
- No connecting cable to limit distance and mobility
- Memorizes reference phase, then visual and audible indicators signal whether additional phases are in phase or in opposition
- Unit is fitted with universal spline-fitting for attachment to a standard hot stick
- Battery operated
- Complies with IEC 61481

NOTE: This unit is not a voltage detector.

See ordering information on page 40.



Cat. No. 514360-X  
Voltage Detector



Cat. No. 514440-2  
Voltage Detector



Cat. No. 514242  
Transmission Line Voltage Detector



Analog Phasing  
Tester  
Cat. No. 514500-2



Cat. No. 510900  
Single-pole Phase  
Comparator

# Safety Test Equipment

## PIEZO VERIFIERS

- Designed for use with both single pole and two-pole detectors
- Consist of a Piezo generator of very small dimensions enclosed in a case of insulating material
- Operated by a handle of molded material
- A high-voltage model (cat. no. 510006) provides selectable outputs of 10, 20, and 30 kV



### ORDERING INFORMATION FOR PIEZO VERIFIERS

Cat. No.	Description
510005	Piezo Verifier, generates 1800 V
510006	Piezo Verifier, generates 10, 20, 30 kV

## PNEUMATIC GLOVE TESTER

- Rugged molded air pump designed to test all types of rubber gloves, with maximum convenience and minimum effort
- Built-in check valve retains pressure within the glove
- Two fabric covered elastic sealing rings are provided



### ORDERING INFORMATION FOR PNEUMATIC GLOVE TESTER

Cat. No.	Description
512117	Pneumatic Glove Tester

### ORDERING INFORMATION FOR VOLTAGE DETECTORS & PHASING TESTERS

Cat. No.	Operating Voltage	Indicator Type
Voltage Detectors		
514360-1*	2.3 to 7.2 kV	Red LED & audible
514360-5	4 to 14.5 kV	Red LED & audible
514360-6	11.7 to 36.2 kV	Red LED & audible
514360-7	24.3 to 72.5 kV	Red LED & audible
514242-1	67 to 235 kV	Red LED & audible
514242-2	200 to 550 kV	Red LED & audible
514440-2*	3.6 to 36.5 kV	White LED
Phasing Testers		
510836-1*	4.16 to 34.5 kV	LED
514500-1*	2.4 to 6.9 kV	Analog Meter
514500-2*	6.9 to 34.5 kV	Analog Meter
514500-3	34.5 to 69 kV	Analog Meter
514500-4	6.9 to 34.5 kV	Analog Meter
510900	10 to 30 kV, 50/60 Hz	LED

\*Pole included

# Safety Test Equipment

## VF2 AC VOLTAGE DETECTOR

- Non-contact detection of ac voltage
- Automatic audible warning buzzer
- Also doubles as a flashlight
- 100-600 V ac 50/60 Hz



## MPU690 PROVING UNIT

- 5 stepped nominal output voltages (50 to 690) V ac
- Automatic operation
- High output power suitable for test lamps
- Extended battery life
- Magnetic base
- Rugged case



ORDERING INFORMATION FOR VF2	
Cat. No.	Description
1000-213	VF2 AC Voltage Detector

ORDERING INFORMATION FOR MPU690	
Cat. No.	Description
1001-561	MPU690 Proving Unit

# Test and Measurement Software

## Maintenance Test Data Management Software

PowerDB Lite software is used for managing instrument test results and archiving test forms that can be used for generating formal test reports. This cost-effective solution for test data form creation is supplied free of charge with selected Megger instruments.

For more information on PowerDB, log onto our website —ca.megger.com

## Insulation Resistance Tests

The test forms supplied in PowerDB Lite work with the Megger MIT525, MIT1025, and MIT1525 insulation resistance test sets. Test results can either be downloaded from the instrument onboard memory or during the test with real time download.

## Earth/Ground Resistance Tests

Two major challenges of earth ground resistance acceptance and maintenance testing are quickly addressed in this easy-to-use software package:

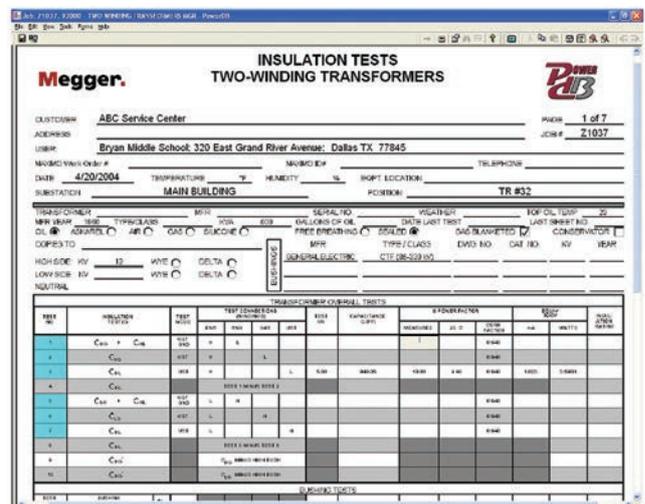
- Producing professional forms showing the test method utilized in a clear and easy to read format
- Carrying out the required calculations for chosen test method. Many methods that offer real advantages are not utilized because of their complexity

## Time Domain Reflectometer Software

TraceXpert is a fully featured PC software application for the Windows operating system, which is used to download results from compatible instruments, store, compare and manipulate these results, manage customer details, print out reports and upload data back to the TDR.

## Megger PQ Software

Used for creating custom setup files, creating custom templates, communicating with the analyzer, transferring files to and from the analyzer, as well as creating report, charts, exporting and analyzing data. Compatible with Windows 7, 8 and 10.

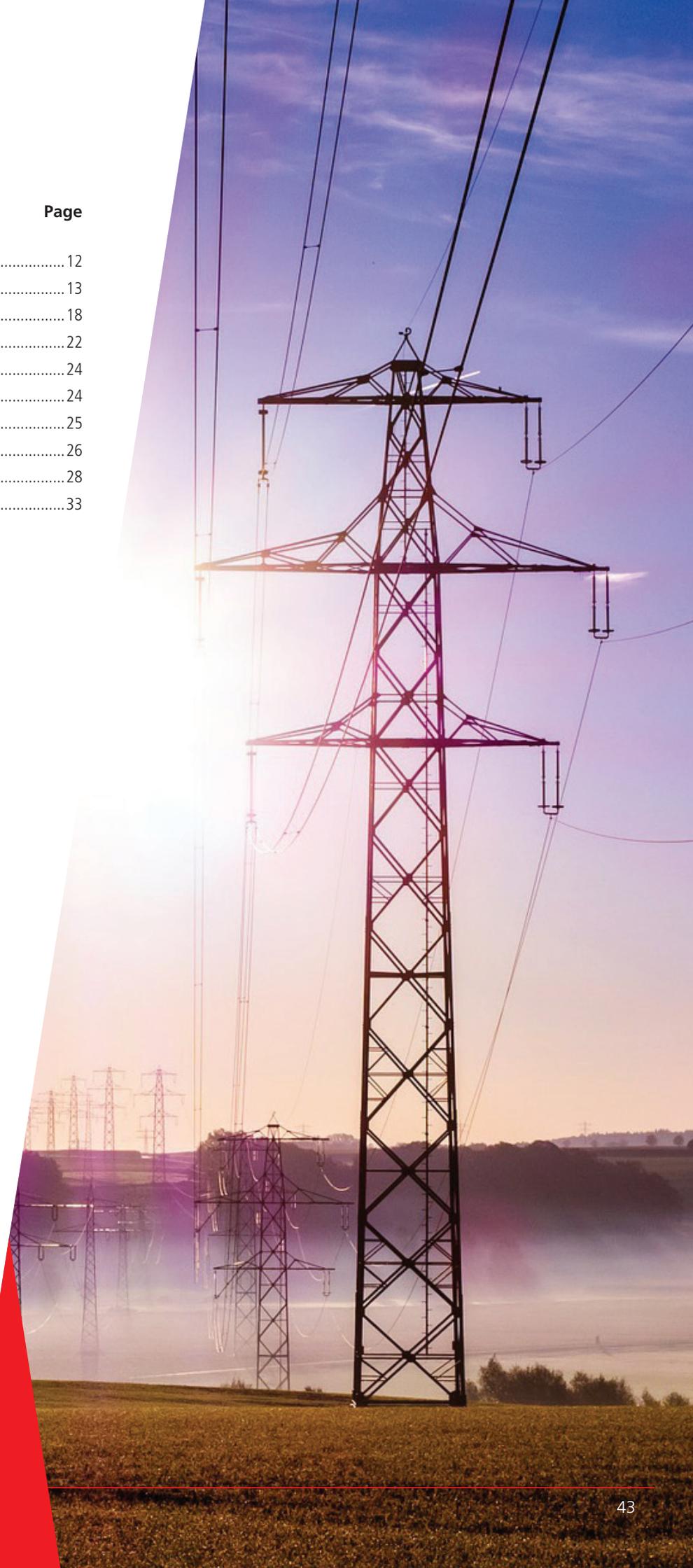


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# Megger<sup>®</sup>

Since 1889 Megger, and its predecessor companies, has been helping electrical engineers keep the power on by developing and manufacturing portable test and measurement tools. Insulation testers were first to be developed; this led to the registration of the Megger brand in 1903.

Five years later the low resistance ohmmeter (LRO) was invented, these later became known as Ducter testing. Housed in wooden cases, these testers had a long and admirable history. In 2006, Megger was given an early LRO that was still in calibration!

In 1923, Donald Macadie introduced the idea for the multimeter to Megger. Measuring amps, volts and ohms in a single instrument was revolutionary and the AVOMeter model 1 was born. 85 years later, Megger is launching the AVO830 range of multimeters.

Today with the help of digital electronics and revolutionary electronic components, Megger is continuing its mission of making your life easier by developing more powerful and safer testers that are light to carry, comfortable to hold and easier for you to use, helping you to power on.

Megger makes high quality instruments for the following electrical testing applications:

- Insulation Testing
- Ground Testing
- Relay Testing
- Oil Testing
- Circuit Breaker Testing
- Power Quality Analysis
- Low Resistance Testing
- Battery Testing
- Watthour Meter Testing
- Transformer Testing
- Cable Fault Locating
- Power Factor Testing
- Hi Pot Testing
- Motor Testing

For additional information about pricing, technical specifications, or scheduling a demo of the products in this catalog, contact us:

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**ASD\_Catalog\_Can\_V1**  
rev: 05/21/20

