TEST & MEASUREMENT INSTRUMENTS

- Cable Testers
- Clamp-On Meters
- Current Measurement Probes
- Data Loggers
- Digital Multimeters
- Electrical Test Tools
- Environmental Testers
- Ground Resistance Testers
- Leakage Current Meters & Probes
- Megohmmeters
- Micro-Ohmmeters
- Oscilloscopes
- Power Quality / Energy Analyzers, Meters & Loggers
- Test and Measurement (Lab) Instruments
- Thermal Imaging Cameras
- Transformer Ratiometers

VOLUME 23

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CHAUVIN ARNOUX GROUP

HOW TO ORDER

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For a list of authorized distributors in your state (US) or country (International), contact AEMC® Instruments or search on the “Where to Buy” tab of our website www.aemc.com

CONTACT SALES & MARKETING

15 Faraday Drive
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sales@aemc.com • marketing@aemc.com • www.aemc.com

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Fax: +1 (603) 742-2346
export@aemc.com

WHEN ORDERING PLEASE USE THE CATALOG NUMBER AND PRODUCT DESCRIPTION

Example:

QUANTITY	CATALOG #	DESCRIPTION
1	2137.52	Power & Energy Logger Model PEL 103 (W/LCD, w/3 MA193-10-BK Sensors)

PRICE LIST

A price list is available. Contact your AEMC® Instruments distributor or AEMC® Instruments directly for an up-to-date copy.

AEMC® Instruments reserves the right to discontinue models at any time, or change specifications, price or design without notice and without incurring any obligation. Please contact us, your district sales engineer or distributor for updates.

950.CAT-MASTER-VOL23
Printed in the USA
Rev.00 02/2023

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COMPANY PROFILE

AEMC® Instruments, with US operations in Dover - New Hampshire, began operations in 1976 in downtown Boston - Massachusetts. As a legal entity, AEMC® Instruments is Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments, and is affiliated with Chauvin Arnoux S.A.S. (Asnieres - France), founded in 1893 and still today a leader in the test and measurement instrument industry. Our products are backed by over 130 years of experien ce in test and measurement instruments, and encompass the latest international standards for quality and safety.

AEMC® Instruments manufactures professional electrical test and measurement instruments for the industrial, commercial and utility marketplace. Product reliability, excellent customer support and expert technical assistance are our top priorities.

AEMC® Instruments is the worldwide industry leading manufacturer of current measurement probes and is an industry leader in ground resistance testers, insulation resistance testers, and power/energy quality analyzers, meters and loggers. Our full product line also includes clamp-on meters, ratiometers, power meters, harmonic power meters, data loggers, thermal imagers, lightmeters, oscilloscopes, micro-ohmmeters and numerous other electrical test tools.

Our Megohmmeter line finds its roots in the early 1900s when Chauvin Arnoux® introduced its first model made from a galvanometer and a decade resistance box combined with a DC power source. Today, AEMC® Instruments megohmmeters are digital and incorporate many intelligent features. Timers, alarms and variable test voltages are standard features. AEMC® Instruments has introduced a unique line of professional 1000, 5000, 10,000, and 15,000 volt megohmmeters with added features, such as: data storage; automated tests and results (internal calculations of DAR, PI, DD and other factors); PC Control; and report compliant software.

Our Ground Tester line finds its roots in the early 1930s. A null balance galvanometer, a decade resistance box and a DC power source combined to make one of the first ground testers on the market. Over 20 years ago, AEMC® Instruments revolutionized the ground testing market by offering clamp-on ground resistance testers, eliminating the need to disconnect the system to test it and the need for auxiliary rods to perform the test. Several generations of improvements and additional features have strengthened AEMC® Instruments position as the industry standard and leader in clamp-on ground resistance testers.

We again led the way in fall-of-potential ground testing with the introduction of an automatic tester in 2006 that automatically locked onto the optimum frequency to test and calculated all the test results for soil resistivity, ground resistance earth coupling and bond resistance, as well as stored the test data and generated computer reports including fall-of-potential plots. Our tower test system, again, is an innovative design providing the ability to test tower grounding systems without de-energizing them or removing the overhead ground conductor, saving considerable time and money and improving operator safety.

We also manufacture and sell a wide variety of Power and Power Quality measuring instruments ranging from clamp-on meters to single and three-phase power quality analyzers and digital power meters. Our Power & Energy Loggers (PEL) can be used to monitor your power and energy usage and costs locally or from anywhere in the world!

AEMC's DataView® software, designed to configure instruments, run tests, download and store results, and generate final reports was added to the product offering in late the 1990s. Today DataView® is compatible with our Megohmmeters, Ground Resistance Testers, Micro-Ohmmeters, Power Quality Analyzers, Data Loggers and Multi-meters, thus offering a standard for interface and control to all its products, eliminating the need to learn new software every time. Additionally, tablet and Smartphone Apps based on the Android™ platform are now available free of charge for our power, ground and clamp-on products. Additionally some products incorporate a remote web server connection for universal communication, regardless of smart device type.

In addition to our product offering AEMC® Instruments offers a one-day accredited course in 'Understanding Ground Resistance Testing' and in 'Understanding Insulation Resistance Testing'. We also offer a 3-day comprehensive class in 'Understanding Power Quality Training'. Completing any of these three courses will give the student all the information they need to conduct resistance testing or power quality analyzing, safely, correctly and efficiently, as well as saving substantial time and money in the future. We also offer technical training online webinar seminars in ground resistance testing and insulation testing. Finally, we offer private classes that can be designed and customized to your specific needs.

Our corporate office comprised of sales, marketing, exports, engineering, production, technical support, product service and NIST calibration is located in Dover, NH. AEMC® Instruments products can be purchased through a worldwide network of distributors who can be found on our website at **www.aemc.com**. We also offer custom products on an OEM basis.

Visit our website at **www.aemc.com** to obtain information on our products and services and to get detailed information on attending our seminars. AEMC® Instruments prides itself as being your primary source for test and measurement instruments and training.

CABLE TESTERS

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MODEL 6681

Detects and locates faults in electrical cables, telecommunication cables, live and de-energized conductors buried or in walls

SPECIFICATIONS

MODEL	6681 (TRANSMITTER)
Display	LCD screen with display of functions and bargraph
Output Signal Frequency	125 kHz
External Voltage Measurement Range	(12 to 300) VAC/DC
Functions	Digital coding of signals for easy signal identification, selection of transmission signal code, flashlight
Power Supply	9 V battery
Dimension	(7.48 x 3.5 x 1.67) in (190 x 89 x 42.5) mm
Weight	15 oz (425 g) with battery
Electrical Safety	300 V CAT III

MODEL	6681 (RECEIVER)
Display	Backlit LCD with display of functions and bargraph, transmission code, receiver and transmitter battery-charge status
Detection Depth **Single and Pole Application** **Two and Pole Application** **Single Loopback Line**	 (0 to 6) ft (0 to 2) m (0 to 1.6) ft (0 to 0.5) m Up to 8.2 ft (2.5 m)
Line Voltage Detection	Approximately (0 to 1.3) ft (0 to 0.4) m
Functions	Automatic shutdown, automatic or manual adjustment of reception sensitivity, flashlight
Power Supply	(6) 1.5 V AAA batteries
Dimension	(9.5 x 3.07 x 1.5) in (241.5 x 78 x 38) mm
Weight	12 oz (340 g) with battery
Safety Rating	300 V CAT III

Consult factory for NIST Calibration prices

RECEIVER TRANSMITTER

Flashlight

PRODUCT INCLUDES

Soft carrying case, set of (2) color-coded (red/black) leads w/4 mm banana plugs {1000 V CAT III}, set of (2) color-coded (red/black) alligator clips {1000 V CAT II}, adapter-110 V outlet w/ banana plugs, mini ground rod, 9 V battery, (6) AAA batteries and user manual.

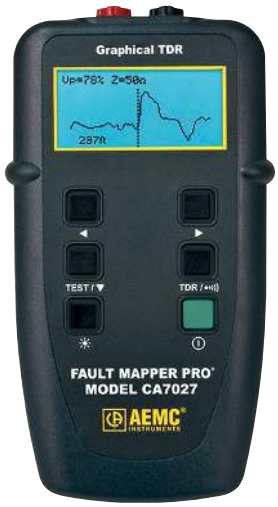
FEATURES

- Operates in both single and two-pole modes
- Locates and traces hidden cables
- Detects and locates line breaks
- Detects faults in floor radiant heating systems
- Detects constricted sections of non-metallic pipes
- Detects circuit breakers/fuses
- Detects short circuits
- Backlight and flashlight functions
- Compliant with standards electrical safety standard EN 61010-1 and electromagnetic compatibility standard EN 61326-1

CATALOG NO.	DESCRIPTION
2127.85	Cable Locator Model 6681

MODEL CA7027

Maps and pinpoints the locations of faults on power and communication cables



CA7027
Fault Mapper Pro® Telephone Cable Tester / Graphical TDR

SPECIFICATIONS

MODEL	CA7027
MEASUREMENTS	
Range @ Vp = 70 %	(23, 49, 98, 197, 394, 820, 1640, 3280, 6560, 9850, 19,000) ft
Range Selection	Manual range control
Resolution	Approximately 1 % of selected range
Accuracy	± 1 % of range
Minimum Cable Length	1.5 ft (0.5 m)
Cable Library	–
Sensitivity	Minimum 3 pixel return on a fault at 4 km on 0.6 mm 0, PE, TP
Velocity of Propagation (Vp)	Adjustable from (1 to 99) %
Output Pulse	+ 5 V peak to peak into an open circuit
Output Pulse Width	3 ns to 3 ms, Automatic with range
Scan Rate	2 scans / second or scan held
Output Impedance	Selectable between (25, 50, 75 & 100) Ω
Display Resolution	128 x 64 pixel graphical LCD
Tone Generator	Oscillating (810 to 1110) Hz
Voltage Warning	–
Power Supply	(4) 1.5 V AA alkaline batteries
Auto Power OFF	Selectable (1, 2, 3, 5) min or disabled
Weight	12 oz (340 g)

IP 54 Rated

FEATURES

- Built-in tone generator for tracing and locating cables
- Large high-visibility blue electroluminescent backlit display
- Compatible with industry standard Tone Receivers
- Works on de-energized conductors
- 11 range scales indicating cable faults and terminations up to 19,000 ft (58 00 m) in feet or meters
- Unique graphical and digital display of fault information and length
- Detects opens, shorts, taps, faulty taps, bridge taps, splitters, high resistance, wet cables, splices and more
- Identifies impedance mismatches
- Works with twisted pair, parallel and coaxial cable
- Dead band less than 9 ft
- Selectable cable impedance (25, 50, 75, 100) Ω
- Over-voltage protection up to 250 V
- Adjustable cursor assists in locating faults and termination

PRODUCT INCLUDES

MODEL CA7027

Soft carrying case, set of (2) color-coded (red/black) leads, test probes, alligator clips, (4) 1.5 V AA batteries and user manual.

CATALOG NO.	DESCRIPTION
2127.84	Fault Mapper Pro® Model CA7027 (Telephone / Cable Tester / Graphical TDR)

AEMC®
INSTRUMENTS
CHAUVIN ARNOUX GROUP

As a business of the Chauvin Arnoux® Group, our products are backed by over 130 years of experience and excellence in test and measurement instruments. We are the brand you can trust!

THE SMART CHOICE

FOR ELECTRICAL TEST & MEASUREMENT INSTRUMENTS

CLAMP-ON METERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE CLAMP-ON METERS

MODELS 407, 607

Download and store recorded data / Use included default report templates or create custom templates / Print reports of all test results

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

CLAMP-ON METERS
200, 400 & 600 SERIES
GENERAL PURPOSE METERS

MODELS 403/603 & 205/405

***Users can be sure of working in a higher degree of safety with 1000 V CAT IV rated meters** (model dependent)*

SPECIFICATIONS

MODELS	403/603 TRMS	205/405 TRMS
ELECTRICAL		
Current AC (rms)	(600 / 1000) A	
Current DC	(900 / 1500) A	
Current AC+DC	–	(900 / 1500) A
Voltage AC (rms)	(1000 / 1000) V	
Voltage DC	(1000 / 1000) V	
Voltage AC+DC	–	(1000 / 1000) V
Ohms	(60 / 100) kΩ	
Continuity (Buzzer)	Yes (< 40 Ω)	
Diode Test	Yes	
THD	–	Yes *(model 405)*
Single- and 3-Phase Real Power (AC, DC, AC/DC)*	–	(600 / 1000) kW
Single- and 3-Phase Reactive Power (AC, DC, AC/DC)*	–	(600 / 1000) kvar
Single- and 3-Phase Apparent Power (AC, DC, AC/DC)*	–	(600 / 1000) kVA
Temperature (int., ext., °C, °F)	Yes	–
Voltage Frequency	20 kHz	
Current Frequency	(3 / 2 / 1) kHz	
Power Factor	–	Yes
THD-r / THD-f	–	Yes / Yes
Current Probe Adapter Function (AC/DC)	(0 to 10) V	–
Phase Rotation	–	Yes (2 wire)
Auto AC/DC	Yes (V & A)	
Auto Power OFF	Yes	
Hold Button	Yes	
Backlight Button	Yes	
Min/Max Button	Yes	
True InRush® Function	Yes	
Relative Function	Yes	
Peak ± Function	–	Yes
Hz Button	Yes	

*Three-phase measurements assume balanced load
Consult factory for NIST Calibration prices

* 600V CAT IV RATING, 1000V CAT IV RATING, True InRush®
*205 only

IP 40, CE, TRMS

FEATURES

- 1000 V CAT IV Rated (Models 403, 603 & 405)
- UL 94 VI flame retardant self-extinguishing
- 10,000-count (400 & 600 series) and 6000 count (200 series) blue electroluminescent backlit display
- Measures up to 1000 VAC (1400 V peak), 1000 VDC and AC+DC with resolution to 10 mV
- Measures up to 2000 AAC and 3000 ADC (Model dependent)
- Measures W, VA, var and PF for single- and three-phase balanced systems (Models 205 & 405)
- Measures frequency to 20 kHz with 0.1 Hz resolution
- Auto selects AC or DC measurement voltage
- True InRush® current measurement with 100 mS capture
- Jaw opening up to: 1.34 in (34 mm) (200 series), 1.89 in (48 mm) (400 series), 2.36 in (60 mm) (600 series)
- K-thermocouple and adapter included (Models 403 & 603)

PRODUCT INCLUDES

Catalog #2139.21, #2139.31 Includes set of (2) color-coded silicone insulated test leads, test probes and alligator clips, K-thermocouple with 4 mm integrated adapter, soft carrying case, (4) 1.5 V AA batteries, and user manual.

Catalog #2139.40 Includes set of (2) 5 ft (1.5 m) needle tip color-coded leads with 4 mm right angle plug, soft carrying case, (1) 9 V battery and user manual.

Catalog #2139.50 Includes set of (2) color-coded silicone insulated test leads, test probes and alligator clips, soft carrying case, (4) 1.5 V AA batteries and user manual

CATALOG NO.	DESCRIPTION
2139.21	Clamp-On Meter Model 403 (TRMS, 1000 VAC/DC, 1000 AAC/1500 ADC, Ohms, Continuity, Temperature)
2139.31	Clamp-On Meter Model 603 (TRMS, 1000 VAC/DC, 2000 AAC/3000 ADC, Ohms, Continuity, Temperature)
2139.40	Power Clamp-On Meter Model 205 (TRMS, 1000 VAC/DC, 600 AAC/900 ADC, Ohms, Continuity, Phase Rotation, Power, THD)
2139.50	Power Clamp-On Meter Model 405 (TRMS, 1000 VAC/DC, 1000 AAC/1500 ADC, Phase Rotation, Ohms, Continuity, Power, THD)

CLAMP-ON METERS
400 & 600 SERIES BLUETOOTH EDITION
POWER AND HARMONIC METERS

MODELS 407 & 607

Now available with Android™ mobile application

SPECIFICATIONS

MODELS	407 TRMS	607 TRMS
ELECTRICAL		
Current AC (rms)	1000 A	2000 A
Current DC	1500 A	3000 A
Current AC+DC	1500 A Peak	3000 A Peak
Voltage AC (rms)	1000 V	
Voltage DC	1000 V	
Voltage AC+DC	1000 V	
Ohms	100 kΩ	
Continuity (Buzzer)	Yes (< 40 Ω)	
Total Harmonic Distortion	Yes	
Individual Harmonics (to 25th)	Yes	
Single- and 3-Phase Real Power (AC, DC, AC/DC)*	1000 kW	
Single- and 3-Phase Reactive Power (AC, DC, AC/DC)*	1000 kvar	2000 kvar
Single- and 3-Phase Apparent Power (AC, DC, AC/DC)*	1000 kVA	2000 kVA
Voltage Frequency	20 kHz	
Current Frequency	2 kHz	1 kHz
Power Factor	Yes	
THD-r / THD-f	Yes / Yes	
Auto AC/DC	Yes (V & A)	
Auto Power OFF	Yes	
Hold Button	Yes	
Backlight Button	Yes	
Min/Max Button	Yes	
True InRush® Function	Yes	
Peak ± Function	Yes	
Harmonics Function	Yes	
Rec (Record) Function	Yes	
Wireless BT (Bluetooth) Function	Yes	
Record (Recordings)	1000	
Hz Button	Yes	

*Three-phase measurements assume balanced load
Consult factory for NIST Calibration prices

True InRush®

FEATURES

- 1000 V CAT IV Rated
- UL 94 VI flame retardant self-extinguishing
- 10,000-count blue electroluminescent backlit display
- Measures up to 1000 VAC (1400 V peak), 1000 VDC and AC+DC with resolution to 10 mV
- Measures up to 2000 AAC and 3000 AAC (Model 607)
- Measures single- and three-phase power (real, reactive and apparent) up to 3 MW with resolution to 1 W
- Measures frequency to 20 kHz with 0.1 Hz resolution
- Auto selects AC or DC measurement
- True InRush® current measurement with 100 mS capture
- Measures harmonics up to the 25th
- Records up to 1000 measurements
- Bluetooth communication (communicates up to 30 ft)
- Includes FREE DataView® software for download and report generation
- Jaw opening up to
  1.89 in (48 mm) (400 series)
  2.36 in (60 mm) (600 series)

PRODUCT INCLUDES

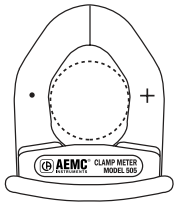
Hard carrying case, set of (2) color-coded silicone test leads, test probes and alligator clips, Bluetooth USB adapter, (4) 1.5 V AA batteries, safety information sheet, and USB drive supplied with DataView® software and user manual.

CATALOG NO.	DESCRIPTION
2139.51	Power Clamp-On Meter Model 407 (TRMS, 1000 VAC/DC, 1000 AAC/1500 ADC, Ohms, Continuity, Energy, Harmonics, Power, THD, Recording)
2139.61	Power Clamp-On Meter Model 607 (TRMS, 1000 VAC/DC, 2000 AAC/3000 ADC, Ohms, Continuity, Energy, Harmonics, Power, THD, Recording)

CLAMP-ON METERS
500 SERIES

MODEL 505

Small compact size clamp-on meter that fits comfortably in a tool bag



Jaw Opening: 1.18 in (30 mm)
Conductor Size: 500 kcmil cable

SPECIFICATIONS

MODEL	505
ELECTRICAL	
AC Current (Auto-Ranging)	(0.05 to 400) A
Resolution	(0.01 and 0.1) A
AC Voltage (Auto-Ranging)	(0.5 to 600) V
Resolution	(0.1 and 1) V
Input Impedance	10 MΩ
DC Current (Auto-Ranging)	(0.10 to 400) A
Resolution	(0.01 and 0.1) A
DC Voltage (Auto-Ranging)	(0.2 to 600) V
Resolution	(0.1 and 1) V
Input Impedance	10 MΩ
Resistance	(0.2 to 600) Ω
Max Test Voltage	1.5 VDC
Continuity	< 35 Ω
Max Test Voltage	1.5 VDC
Zero Mode / Delta Function	Yes
Peak + / - Function	Yes / No
MECHANICAL	
Dimensions	(7.83 x 2.95 x 1.42) in (199 x 75 x 36) mm
Weight	8.57 oz. (243 g) with batteries
Jaw Opening	1.18 in (30 mm)
Power Supply	(2) AAA, IEC LR3 (included)
Battery Life	40 h
ENVIRONMENTAL	
Operating Temperature	(+32 to 104) °F (0 to 40) °C
Storage Temperature	(+14 to 140) °F (-10 to 60) °C
Operating Humidity	< 70 %
Pollution Degree	2
SAFETY	
Safety Standards	EN/IEC 61010 to 600 V CAT III

Consult factory for NIST Calibration prices

FEATURES

- Compact size - fits into your pocket
- 400 AAC or 400 AAC/DC current measurements
- 600 VAC/DC volts measurements
- Resistance measurements to 600 Ω
- Continuity with beeper below 35 Ω
- Hold function to “freeze” readings
- Push-button for easy ADC zeroing
- Large, easy-to-read 6000-cts LCD Display
- 42-segment analog bar graph
- Includes test leads and soft carrying pouch

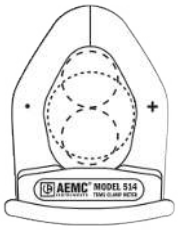
PRODUCT INCLUDES

Soft carrying case, set of (2) color-coded (red/black) test leads with probe tips, (2) 1.5 V AAA batteries and user manual.

CATALOG NO.	DESCRIPTION
2139.82	Clamp-On Meter Model 505 (TRMS, AC/DC, 400 AAC/DC, 600 VAC/DC, Ohms, Continuity) RATED 600 V CAT III

MODEL 514

Full ranges and compliance to international safety and quality standards ensure a professional and reliable tool



Jaw Opening: 1.575 in (40 mm)
Conductor Size: (1) 750 kcmil cable or (2) 350 kcmil cables

514

SPECIFICATIONS

MODELS	514 TRMS
AC Current (Auto-Ranging)	(0.05 to 1000) Arms
Resolution	(0.01, 0.1and 1) A
AC Voltage (Auto-Ranging)	(0.5 to 750) Vrms
Resolution	0.1 V and 1 Vrms
Input Impedance	10 MΩ
DC Current (Auto-Ranging)	(1 to 1000) A
Resolution	0.01 A, 0.1 A and 1 A
DC Voltage (Auto-Ranging)	(0.2 to 1000) V
Resolution	0.1 V and 1 V
Input Impedance	10 MΩ
Resistance	(0.2 to 4000) Ω
Max Test Voltage	3 VDC
Diode Test	1.7 mA
Open Circuit Voltage	3 VDC
Continuity	< 40 Ω
Max Test Voltage	3 VDC
Frequency (Auto-Ranging)	
CURRENT INPUT Range 4 kHz	1 Hz Resolution
CURRENT INPUT Range 10 kHz	10 Hz Resolution
Min Input Signal	2 Arms
Min Input Signal 4 kHz 10 kHz	5 Arms
VOLTAGE INPUT Range 4 kHz	1 Hz Resolution
VOLTAGE INPUT Range 10 kHz	10 Hz Resolution
Min Input Signal	5 Vrms
Min Input Signal 4 kHz 10 kHz	10 Vrms
Power Supply	9 V Alkaline battery (included)
ENVIRONMENTAL	
Operating Temperature	(*-14 to 122) °F (-25 to 50) °C, 80 % RH, non-condensing

Consult factory for NIST Calibration prices

*Note: If Model 514 is to be used below 32 °F (0 °C), we suggest that the battery be replaced to ensure proper results.

FEATURES

- Standard size, full function clamp-on meter
- 1000 AAC or 1000 AAC/DC current measurements
- Measures up to 750 VAC and 1000 VDC
- TRMS measurements
- Resistance measurements to 4000 Ω
- Continuity with beeper below 40 Ω
- Frequency measurements from V and A
- Diode test
- 1 ms peak function for fast capture of signals
- Hold function to freeze readings
- Push-button for easy ADC zeroing
- Large, easy-to-read, 4000-count LCD display
- 42-segment analog bargraph
- Includes test leads, soft carrying pouch and batteries

PRODUCT INCLUDES

Soft carrying case, set of (2) color-coded (red/black) test leads with probe tips, 9 V battery and user manual.

CATALOG NO.	DESCRIPTION
2117.70	Clamp-on Meter Model 514 (AC/DC, TRMS, 1000 AAC/DC, 750 VAC/1000 VDC, Hz, Ohms, Continuity)

CLAMP-ON METERS
100 AAC/DC LOW CURRENT

MODEL CM605

For general industrial monitoring and troubleshooting

SPECIFICATIONS

MODEL	CM605
ELECTRICAL	
AC Current	
Measurement Ranges	2 Ranges: 10 A, 100 A
Frequency Range	(50 to 500) Hz
DC Current (positive only)	
Measurement Ranges	2 Ranges: 10 A, 100 A
AC Volts	
Measurement Ranges	600 Vrms
Frequency	(40 to 500) Hz
Input Impedance	10 MΩ
DC Volts (positive only)*	
Measurement Ranges	600 V
Input Impedance	10 MΩ
Resistance (Ohms)	
Measurement Ranges	10 kΩ (9999 Ω)
Test Voltage	< 3.0 VDC
Continuity	
Measurement Ranges	Buzzer < 100 Ω ± 25 Ω
Resolution	1 Ω
Test Voltage	< 3.0 VDC
Analog Output	
Output	10 mV/AAC & ADC through front banana jacks
Frequency	(0 to 20) kHz @ ± 3 db
Output Impedance	3 kΩ, < 50 pF
Other Functions	
ADC Zero & Relative Function	One touch push button to Zero ADC, or other readings. Relative function to compare two measurements.
HOLD Function	Holds A & V measurements when pressed (HOLD button)
PEAK Function	Captures PEAK (1 ms) V or A measurement when activated (PEAK Button)
Auto-Ranging	"AUTO" displayed on LCD
Over Range	"OL" displayed on LCD for all measurements
Auto Power OFF	Auto Power OFF after approx 10 min with Over-Ride
Low Battery	Low Battery indication on LCD
Mechanical	
Max. Cable Diameter	Ø 0.45 in (12 mm)
Max. Jaw Opening	Ø 0.60 in (15 mm)
Power Supply	(2) 1.5 V AAA (LR03) batteries (included)
Dimensions **Weight**	(7.44 x 2.80 x 1.46) in (189 x 71 x 37) mm 6.5 oz (184 g)
SAFETY	
Safety Rating	IEC/EN 61010-1 and 2-032 – 600 V CAT II and 300 V CAT III – Pollution Degree 2 Class 2 – Double or reinforced insulation, CE mark

*For negative measurement, add 2 cts to the accuracy
Consult factory for NIST Calibration prices

FEATURES

- 10,000-count LCD display
- 100 AAC/DC Ammeter with low 10 A range (1 mA resolution)*
- Analog output in AAC/DC to data loggers, oscilloscopes and more
- Tapered jaws for crowded wiring areas
  Jaw opening: Ø 0.60 in (15 mm)
  Cable diameter: Ø 0.45 in (12 mm)
- 600 VAC/DC voltmeter
- Auto-ranging and ADC zero push-button
- Data HOLD and PEAK functions
- Relative function to compare two measurements
- Ohm range and continuity test with beeper
- Auto Power OFF and low battery indicator
- IEC/EN 61010 safety rated and CE mark
- 600 Vrms overload protection

PRODUCT INCLUDES

Soft carrying case, set of (2) color-coded (red/black) test leads with probe tips, (2) 1.5 V AAA batteries and user manual.

CATALOG NO.	DESCRIPTION
7000.02	Clamp-on Meter Model CM605 (100 AAC/DC, Low Current)

CLAMP-ON METERS
SELECTION GUIDE

Models	Catalog Number	Type	AC Current	AC Voltage	DC Current	DC Voltage	Resistance (Ω)	Continuity	Frequency (Hz)		Jaw Size	Dimensions
									Current	Voltage		
205	2139.40	AC/DC TRMS	600 A	1000 V	900 A	1000 V	60 kΩ	< 40 Ω	3 kHz	20 kHz	1.34 in (34 mm)	(8.7 x 3.1 x 1.65) in
403	2139.21	AC/DC TRMS	1000 A	1000 V	1500 A	1000 V	100 kΩ	< 40 Ω	2 kHz	20 kHz	1.89 in (48 mm)	(10.7 x 3.6 x 1.6) in
405	2139.50	AC/DC TRMS	1000 A	1000 V	1500 A	1000 V	100 kΩ	< 40 Ω	2 kHz	20 kHz	1.89 in (48 mm)	(10.7 x 3.6 x 1.6) in
407	2139.51	AC/DC TRMS	1000 A	1000 V	1500 A	1000 V	100 kΩ	< 40 Ω	2 kHz	20 kHz	1.89 in (48 mm)	(10.7 x 3.6 x 1.6) in
603	2139.31	AC/DC TRMS	2000 A	1000 V	3000 A	1000 V	100 kΩ	< 40 Ω	1 kHz	20 kHz	2.36 in (60 mm)	(11.65 x 4.37 x 1.61) in
607	2139.61	AC/DC TRMS	2000 A	1000 V	3000 A	1000 V	100 kΩ	< 40 Ω	1 kHz	20 kHz	2.36 in (60 mm)	(11.65 x 4.37 x 1.61) in
505	2139.82	AC/DC TRMS	400 A	600 V	400 A	600 V	600 Ω	< 35 Ω	400 Hz	400 Hz	1.18 in (30 mm)	(7.83 x 2.95 x 1.42) in
514	2117.70	AC/DC TRMS	1000 A	750 V	1000 A	1000 V	4000 Ω	< 40 Ω	10 kHz	10 kHz	1.58 in (40 mm)	(9.53 x 2.60 x 1.42) in
566*	2139.83	AC TRMS	100 A	600 V	–	600 V	600 kΩ	< 45 Ω	500 Hz	500 Hz	0.91 in (23 mm)	(8.27 x 3.0 x 1.32) in
CM605	7000.02	AC/DC	100 A	600 V	100 A	600 V	9999 Ω	< 100 Ω	500 Hz	500 Hz	0.60 in (15 mm)	(7.95 x 2.76 x 1.33) in

*Model 566 can be found in the Leakage Current Meters & Probes on Page 80
Consult factory for NIST Calibration prices

AEMC®
INSTRUMENTS
CHAUVIN ARNOUX GROUP

We've got you covered. Our products encompass the latest international standards for quality and safety and our product warranties provide maximum equipment protection. We are the brand you can trust!

THE SMART CHOICE

FOR ELECTRICAL TEST & MEASUREMENT INSTRUMENTS

CURRENT MEASUREMENT PROBES

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CURRENT MEASUREMENT PROBES
MINIFLEX® SERIES

HIGH FREQUENCY OSCILLOSCOPE COMPATIBLE MINIFLEX® PROBES

A compact AC current measurement device composed of a flexible sensor, a BNC connector, and an electronic module designed to measure frequency response up to 1 MHz

MF 300-10-2-10-HF (10 in probe)

MF 3000-14-1-1-HF (14 in probe)

SPECIFICATIONS

MODELS	MF 300-10-2-10-HF	MF 3000-14-1-1-HF
ELECTRICAL		
Current Range	30 A / 300 A	3000 A
Measurement Range	(0.5 to 300) A	(0.5 to 3000) A
Accuracy	1 % ± 300 mA	
Signal Output	100 mV / 10 mV/A	1 mV/A
Frequency Range	5 Hz to 1 MHz @ -3 db	
Influence of Conductor Positioning	1.5 % typical, 3 % max	
Influence of Conductor Positioning in Sensor Against Handle	4 % typical, 6 % max	
External Conductor Influence	(35 to 40) db on contact	
Power Supply	9 V Alkaline battery (6 LF22)	
MECHANICAL		
Sensor Diameter	Ø 0.2 in (5 mm)	
Sensor Length	10 in (254 mm)	14 in (355 mm)
Max Conductor Size	2.75 in (70 mm)	3.93 in (100 mm)
Connection Cable Length	6.5 ft (2 m)	15.75 in (400 mm)
Drop Test	Per IEC 68-2-32	
Vibration	Per IEC 68-2-6	
Mechanical Shock	Per IEC 68-2-27	
Weatherproofing	IP50	
ENVIRONMENTAL		
Operating Temperature Range	(14 to 131) °F (-10 to 55) °C	
Storage Temperature Range	(-40 to 158) °F (-40 to 70) °C	
Altitude	Operating: (0 to 6562) ft (0 to 2000) m, working voltage derating above; Non-operating: (0 to 39,000) ft (0 to 12,000) m	
SAFETY		
Safety Rating	Housing: EN 61010 600 V CAT III, 300 V CAT IV Sensor: EN 61010 1000 V CAT III, 600 V CAT IV	

FEATURES

- Measures from (0.5 to 3000) Arms
- Accuracy ± 1 % of Reading ± 0.3 A
- TRMS measurements when connected to a TRMS instrument
- No core saturation or damage if overloaded
- 9 V battery for typical 150 hours continuous operation
- 1 MHz frequency response
- Low phase shift for power measurements
- Insensitive to DC, measures only AC component on AC + DC signals
- Excellent linearity
- Lightweight
- Sensor is resistant to oils and aliphatic hydrocarbons
- Perfect accessory for any BNC oscilloscope

CATALOG NO.	DESCRIPTION
2126.84	MiniFlex® 30/300 A, 10 in, 100 mV/10 mV/A High Frequency (for any BNC Oscilloscope)
2126.86	MiniFlex® 3000 A, 14 in, 1 mV/A High Frequency (for any BNC Oscilloscope)

MODEL MA114

Provides a welcomed solution when accessing electrical conductors in tight places or clamping onto cable bundles

Trms

SAFETY 1000V CAT III RATING | SAFETY 600V CAT IV RATING | CE | IP 67

3 Aac	30 Aac	300 Aac	3000 Aac
1 mV/mA	100 mV/A	10 mV/A	1 mV/A

SPECIFICATIONS

MODEL	MA114
ELECTRICAL	
Nominal Range	3 Aac; 30 Aac; 300 Aac; 3000 Aac
Measurement Range	3 A Range: (0.5 to 3) Aac, 30 A Range: (2 to 30) Aac, 300 A Range: (5 to 300) Aac, 3000 A Range: (50 to 3000) Aac
Transformation Ratio	Voltage Output
Output Signal	3 A Range: 1 V/A (1 mV/mA) (3 Vac @ 3 A), 30 A Range: 100 mV/A (3 Vac @ 30 A), 300 A Range: 10 mV/A (3 Vac @ 300 A), 3000 A Range: 1 mV/A (3 Vac @ 3000 A)
Phase Shift	≤ 1 ° (0.5 ° typical)
Overload	3 A Range: 4.5 A, 30 A Range: 45 A, 300 A Range: 450 A, 3000 A Range: 4500 A
Frequency Range	3000 A Range: 10 Hz to 10 kHz, 3 A, 30 A, 300 A Range: 10 Hz to 20 kHz
Load Impedance	≥ 1 MΩ
Working Voltage	600 Vrms (CAT IV), 1000 Vrms (CAT III)
Power Supply	(2) 1.5 V AA batteries or LR6 alkaline, +5 Vdc with Type B micro-USB
Battery Life	300 hours typical. Approximately 1,800 10-minute measurements.
Output Termination	1.6 ft (0.5 m) lead with (2) 4 mm safety banana plugs
MECHANICAL	
Sensor Length	14 in (35.6 cm)
Cable Length	6.5 ft (2 m)
Maximum Conductor Size	Ø 3.93 in (10 cm)
Dimensions	(4.7 x 2.3 x 1.4) in (12 x 5.8 x 3.6) cm
Weight	Approximately 10.58 oz (300 g)
ENVIRONMENTAL	
Operating Temperature	(14 to 131) °F (-10 to 55) °C
Storage Temperature	(-40 to 158) °F (-40 to 70) °C
Operating Relative Humidity	(0 to 95) % RH @ 95 °F (35 °C)
SAFETY	
Safety Rating	IEC 61010-2-32 Type B, 1000 V CAT III, 600 V CAT IV, Pollution Degree 2
Electromagnetic Compatibility	IEC 61326-1
Ingress Protection	IP54 (electronic unit), IP67 (flexible sensor)
Double Insulation	Yes

Consult factory for NIST Calibration prices

FEATURES

- 14-inch flexible sensor capable of clamping around a 3.93 inch cable or bundle
- Waterproof sensor rated to IP67
- User selectable ranges of (3, 30, 300 and 3000) Amps
- 600 V CAT IV, 1000 V CAT III rated
- Not affected by magnetic saturation, provides excellent linearity and low phase shift
- Battery or USB powered for long term use
- Red LED indicates overload condition
- Positive click locking sensor eliminates disconnection errors
- Banana plug termination compatible with multimeters, data loggers and other instruments

CATALOG NO.	DESCRIPTION
2153.41	MiniFlex® 14 in Model MA114 (3 A/1 mV/mA, 30 A/100 mV/A, 300 A/10 mV/A, 3000 A/1 mV/A)

CURRENT MEASUREMENT PROBES
FLEXIBLE CURRENT PROBES

AMPFLEX® FLEXIBLE CURRENT PROBES

Flexible AC current probe composed of a flexible sensor and an electronic module

SPECIFICATIONS

MODELS	MEASUREMENT RANGE	OUTPUT SIGNAL	SENSOR LENGTH	MAX CONDUCTOR SIZE	CATALOG NO.
300-24-2-10	30/300 A	100/10 mV/A	24 in (610 mm)	8 in (203 mm)	2112.88
300-120-2-10	30/3000 A	100/10 mV/A	120 in (3048 mm)	38 in (970 mm)	2113.39
1000-24-1-1	1000 A	1 mV/A	24 in (610 mm)	8 in (203 mm)	2112.39
1000-24-2-1	100 A /1000 A	10/1 mV/A	24 in (610 mm)	8 in (203 mm)	2112.98
1000-36-2-1	100/1000 A	10/1 mV/A	36 in (914 mm)	11 in (279 mm)	2113.00
3000-24-1-1	3000 A	1 mV/A	24 in (610 mm)	8 in (203 mm)	2112.46
3000-36-1-1	3000 A	1 mV/A	36 in (914 mm)	11 in (279 mm)	2112.48
3000-24-2-1	300 A /3000 A	10/1 mV/A	24 in (610 mm)	8 in (203 mm)	2113.05
3000-36-2-1	300/3000 A	10/1 mV/A	36 in (914 mm)	11 in (279 mm)	2112.00
3000-48-2-1	300/3000 A	10/1 mV/A	48 in (1219 mm)	15 in (381 mm)	2112.01
6000-36-2-0.1	600/6000 A	1/0.1 mV/A	36 in (914 mm)	11 in (279 mm)	2113.21
30000-24-2-0.1	3000/30,000 A	1/0.1 mV/A	24 in (610 mm)	8 in (203 mm)	2113.33

Consult factory for NIST Calibration prices. Consult factory for special offers and ranges/lengths not shown.
Note: Output is safety shrouded 4 mm male banana plug.

FEATURES

- Models ranging from (0.5 to 30,000) Arms
- Accuracy ± 1 % of Reading
- TRMS measurements when connected to a TRMS instrument
- No core saturation or damage if overloaded
- Over range LED for measurement circuitry
- Waterproof sensor
- 9 V Alkaline battery, typically provides 150 hours of continuous operation (battery included)
- Shape memory for custom pre-shaping of sensor before use (no drooping)
- Very high frequency response
- Low phase shift for power measurements of < 1.3 °, 0.7 ° typical
- Insensitive to DC, measures only AC component on DC + AC signals
- Excellent linearity
- Lightweight

FLEXPROBE® FLEXIBLE CURRENT PROBE MODEL 24-3001

Low cost AC current measurement probe designed to plug into digital multimeters, oscilloscopes and power recorders

SPECIFICATIONS

MODEL	24-3001
ELECTRICAL	
Current Range	300 Aac / 3000 Aac
Output Signal	mV output (4000 mV peak max)
Three Position Slide Switch **10 mV/A** **1 mV/A** **ON/OFF**	5 A to 300 Arms 50 A to 3000 Arms
Power Supply	9 V Alkaline battery (included)
MECHANICAL	
Maximum Conductor Size	7.6 in (193 mm)
Sensor Length	24 in ± 1 in (610 ± 25) mm
Cable Length	6.5 ft (2 m)
Output Termination	Double insulated 14 in (356 mm) lead with safety banana plugs

Consult factory for NIST Calibration prices

CATALOG NO.	DESCRIPTION
2120.81	FlexProbe® Model 24-3001 (Lead)

FEATURES

- 24-inch flexible sensor fits around conductors up to 7.6 inch in diameter
- Dual measurement ranges of 300 A and 3000 Aac.
- Read amperage directly on DMM display
- mV output directly proportional to the AC current measured
- Output is 10 mV/A on 300 A range and 1 mV/A on 3000 A range
- Accuracy of ± 1 % of Reading ± 500 mA
- 4 % influence of conductor position in jaw
- Dual banana plug termination for direct input into DMMs
- Flashing LED low battery indicator
- 9 V Alkaline battery, provides typical 150 hours of continuous operation *(battery included)*

ACCESSORIES

BANANA (FEMALE)
BNC (MALE) (XM-BB)

Catalog #2118.46
(optional for AmpFlex® & FlexProbe® Flexible Current Probes)

CURRENT MEASUREMENT PROBES
DC/AC MICROPROBES AND CURRENT PROBES

MD SERIES & K SERIES

MD Series probes are rugged and designed for use on cables and bus bars

K Series small probes are designed for high accuracy measuring low currents

MD301 K100

SPECIFICATIONS

MODEL	MD301
ELECTRICAL	
Nominal Range	500 AAC
Measurement Range	(2 to 500) AAC
Transformation Ratio	Voltage output
Output Signal	1 mV/A (0.5 VDC @ 500 A)
Phase Shift 25 A 100 A 250 A 500 A 600 A	 – – – – –
Overload	700 A for 10 min
Frequency Range	(48 to 1000) Hz (error: add 2 % to the ref.)
Load Impedance	≥ 100 kΩ
Working/Common Voltage	600 Vrms
Output Termination	Double-insulated 5 ft (1.5 m) lead with (2) 4 mm safety banana plugs
MECHANICAL	
Jaw Opening	1.3 in (33 mm)
Maximum Conductor Size	1.18 in (30 mm), Max Bus Bar size: (2.48 x 0.20) in (63 x 5) mm
Dimensions	(2.6 x 7.68 x 1.34) in (66 x 195 x 34) mm
Weight	14.82 oz (420 g)
Material	Polycarbonate UL 94
ENVIRONMENTAL	
Operating Temperature	(5 to 122) °F (-15 to 50) °C
Storage Temperature	(-40 to 185) °F (-40 to 85) °C
SAFETY	
Electrical	EN 61010-2-032 600 V CAT III, Pollution: 2; 300 V CAT IV, Pollution: 2
Electromagnetic Compatibility	EN 50081-1 Class B; EN 50082-2 Electrostatic discharge IEC 1000-4-2; Radiated field IEC 1000-4-3; Fast transients IEC 1000-4-4; Magnetic field at (50/60) Hz IEC 1000-4-8

Consult factory for NIST Calibration prices

SPECIFICATIONS

MODELS	K100	K110
ELECTRICAL		
Current Range	(0 to ± 4.5) ADC (0 to 3) Arms	(0 to ± 450) mADC (0 to 300) mArms
Output Signal	1 mV/mA	10 mV/mA
Resolution	DC: 50 µA typical, AC: 100 µA typical	
Output Noise	< 100 µV, DC to 3 kHz	
Frequency Response	DC to 2 kHz (@ -3 dB sine)	DC to 1.5 kHz (@ -3 dB sine)
Output Termination	5 ft (1.5 m) lead with (2) 4 mm safety banana plugs; standard ¾ in (19 mm) spacing	
Power Supply	(1) 9 V Alkaline battery (included)	
Battery Life	20 hours	

Consult factory for NIST Calibration prices

FEATURES

MD SERIES

- 500 A range with mA or mV output
- Unique hook-shaped jaws that enable the user to pry into or hook onto cables
- Maximum conductor size is (2 x 500) kcmil
- Works as a traditional current transformer with ratio of 1000:1
- AC/DC outputs available

K SERIES

- Measures extremely low level DC from 100 µA
- Outputs signal proportional to total current (DC + AC)
- Low noise
- Ultra-compact size and non-contact clamp-on convenience
- Simple plug-in operation
- Designed for use with digital multimeters and oscilloscopes
- Accurate display of waveforms
- No range or mode (AC/DC) switching required
- Red LED indicates momentary or continuous overload
- Green LED indicates power and battery condition

ACCESSORIES

CATALOG NO.	DESCRIPTION
1201.07	AC Current Probe Model MD301 (500 A, 1 mVDC/AAC, Lead)
1200.67	DC/AC MicroProbe Model K100 (4.5 A, 1 mV/mA)
2111.73	DC/AC MicroProbe Model K110 (450 mA, 10 mV/mA)

Catalog #1017.45
Adapter – 4 mm Non-insulated for Safety Leads

Catalog #2118.46
Adapter - Banana (Female) – BNC (Male) (XM-BB)
600 V CAT III

SL SERIES

Compact, long nose probes designed for accurate measurements of low currents with 10 mADC sensitivity, capable of measuring both AC and DC current

SPECIFICATIONS

MODELS	SL261
ELECTRICAL	
Nominal Range	10 A; 100 AAC/DC peak
Measurement Range	100 mA to 100 AAC/DC peak
Transformation Ratio	Voltage output
Output Signal	10 A: 100 mV/A (1 V @ 10 A) 100 A: 10 mV/A (1 V @ 100 A)
Phase Shift (DC to 65 Hz) 1 mV/mA Range 10 mV/mA Range 100 mV/mA Range	 – < 1 ° < 1.5 °
Overload	Red LED indicator
Frequency Range	DC to 100 kHz (-3 dB with current derating)
Load Impedance	> 1 MΩ/100 pF
Working/Common Mode Voltage	600 Vrms
Output Termination	6.5 ft (2 m) coaxial cable with insulated BNC terminal
MECHANICAL	
Operating Relative Humidity	(10 to 30) °C: 85 ± 5 % RH (without condensation) (40 to 50) °C: 45 ± 5 % RH (without condensation)
Maximum Conductor Size	0.46 in (11.8 mm)
Dimensions	(9.09 x 1.42 x 2.64) in (231 x 36 x 67) mm
Weight	11.6 oz (329 g) with battery
Material	Polycarbonate UL 94
ENVIRONMENTAL	
Operating Temperature	(32 to 122) °F (0 to 50) °C
Storage Temperature	(-22 to 176) °F (-30 to 80) °C
SAFETY	
Electrical	EN 61010-2-32, 600 V CAT III
CE Mark	Yes
UL Approval	Yes

Consult factory for NIST Calibration prices

SL261 W/ BNC CONNECTOR

FEATURES

SL SERIES AC/DC CURRENT PROBES

- Low AC and DC measurements
- Measures from 10 mA to 100 A
- Dual range selection
- Unique design for probing in crowded|wiring areas
- Hall effect sensor technology
- UL approved for the United States and Canada
- Flame retardant UL94 V2 rated
- Use with DMMs, voltmeters and other voltage measuring instruments

CATALOG NO.	DESCRIPTION
1201.51	AC/DC Current Probe Model SL261 (10 A, 100 mV/A & 100 A, 10 mV/A, BNC)

SR600 SERIES

Current probes well-suited for power applications where high accuracy and low phase shift is important

SR601

SPECIFICATIONS

MODELS	SR601	SR604	SR651	SR661
ELECTRICAL				
Nominal Range	1000 AAC		1000 AAC	10, 100, 1000 AAC
Measurement Range	0.1 to 1200 AAC			
Transformation Ratio	1000: 1		Voltage output	
Output Signal	1 mA/A (1 AAC @ 1000 A)		1mV/A (1 VAC @ 1000 A)	100 mV; 10 mV; 1 mV/A (1 VAC @ 10, 100; 1000 A)
Phase Shift	10 A: 3 ° 50 A: 1.5 ° 200 A: 0.75 ° 1000 A: 0.5 ° 1200 A: 0.5 °			(10 A Range) 10 A: ≤ 15 ° (100 A Range) 20 A: ≤ 15 ° 100 A: ≤ 10 ° 120 A: ≤ 5 ° (1000 A Range) 200 A: ≤ 3 ° 1000 A: ≤ 2 ° 1200 A: ≤ 1 °
Overload	1200 A for 40 min ON, 20 min OFF			
Frequency Range	30 Hz to 5 kHz*			10 Hz to 100 kHz*
Load Impedance	5 Ω max		100 kΩ min	1 MΩ min
Working/Common Mode Voltage	600 V CAT III			
Output Surge Protection	30 V peak		N/A	
Output Termination	(2) 4 mm safety banana jacks	Lead with plugs	(2) 4 mm safety banana jacks	6.5 ft (2 m) coaxial cable with BNC terminal
MECHANICAL				
Jaw Opening	2.25 in (57 mm) max			
Maximum Conductor Size	2.05 in (52 mm)			
Maximum Bus Bar Size	(1) (1.95 x 0.19) in (50 x 5) mm			
Dimensions	(4.37 x 8.50 x 1.77) in (111 x 216 x 45) mm			
Weight	1.21 lb (550 g)			
Material	Polycarbonate UL 94			
ENVIRONMENTAL				
Operating Temperature	(14 to 122) °F (-10 to 50) °C			
Storage Temperature	(-4 to 158)°F (-20 to 70) °C			
Operating Relative Humidity	(0 to 85) % RH decreasing linearly above 95 °F (35 °C)			
SAFETY				
Electrical	EN 61010-2-32, 600 V CAT III			
UL Approval	Yes - United States and Canada			

Consult factory for NIST Calibration prices

FEATURES

- Measurement range of 100 mA to 1200 AAC
- Large jaw opening accommodates up to two 500 kcmil conductors
- Ergonomic design and easy operation
- Low phase shift for power measurements
- Available with mA or mV output signals
- Designed for DMMs, recorders, loggers, oscilloscopes, power and harmonic meters
- UL approved

ACCESSORIES

Catalog #1017.45
4 mm Banana plug adaptor
(Safety Leads to non-recessed plug)

Catalog #2118.46
Banana (Female)
BNC (Male) Adaptor

*Current derating above 1 kHz using the formula: 1000 A x 1/F (in kHz)

CATALOG NO.	DESCRIPTION
2113.43	AC Current Probe Model SR601 (1000 A, 1 mA/A, Jack) L**
2113.44	AC Current Probe Model SR604 (1000 A, 1 mA/A, Lead) L**
2113.45	AC Current Probe Model SR651 (1000 A, 1 mV/A, Jack)
2113.49	AC Current Probe Model SR661 (10 A, 100 mV/A; 100 A, 10 mV/A & 1000 A, 1 mV/A, BNC)

**L - Limited open Voltage Output

SR700 SERIES

Excellent linearity and low phase shift, plus a broad frequency response, permit accurate measurements of current for power and power quality measurements

SPECIFICATIONS

MODELS	SR701	SR704	SR752	SR759
ELECTRICAL				
Nominal Range	1000 AAC			1, 10, 100, 1000 AAC
Measurement Range	1 mA to 1200 AAC		100 mA to 1200 AAC	1 mA to 1200 AAC
Transformation Ratio	1000: 1		Voltage output	
Output Signal	1 mA/A (1 AAC @ 1000 A)		1 mV/A (1 VAC @ 1000 A)	1000, 100, 10, 1 mV/A, (1 VAC @ 1, 10, 100 or 1000 A)
Phase Shift	(1 to 10) A: ≤ 2 ° (10 to 100) A: ≤ 1 ° (100 to 1200) A: ≤ 0.7 °			(1 A Range) (0.1 to 1.2) A: ≤ 10 ° (10 A Range) (0.1 to 1) A: ≤ 5 °; (1 to 12) A: ≤ 2 ° (100 A Range) (1 to 10) A: ≤ 2 °; (10 to 120) A: ≤ 1 ° (1000 A Range) (10 to 100) A: ≤ 2 °; (100 to 1200) A: ≤ 1 °
Overload	1200 A for 40 min ON, 20 min OFF			
Frequency Range	30 Hz to 5 kHz; current derating above 1 kHz using the formula: 1000 A x 1/F (in kHz)			
Load Impedance	5 Ω max		100 kΩ min	
Working/Common Mode Voltage	600 V CAT III			
Output Termination	(2) 4 mm safety banana jacks	5 ft (1.5 m) lead with 4 mm safety banana plugs		
MECHANICAL				
Jaw Opening	2.25 in (57 mm) max			
Maximum Conductor Size	2.05 in (52 mm)			
Maximum Bus Bar Size	(1) (1.95 x 0.19) in (50 x 5) mm			
Dimensions	(4.37 x 8.50 x 1.77) in (111 x 216 x 45) mm			
Weight	1.21 lb (550 g)			
Material	Polycarbonate UL 94			
ENVIRONMENTAL				
Operating Temperature	(14 to 122) °F (-10 to 50) °C			
Storage Temperature	(-4 to 158) °F (-20 to 70) °C			
Operating Relative Humidity	(0 to 85) %		(0 to 90) %	
SAFETY				
Electrical	EN 61010-2-32			
UL Approval	Yes - United States and Canada			

Consult factory for NIST Calibration prices

FEATURES

- Measurement range of 1 mA to 1200 AAC
- Large jaw opening accommodates conductors up to two 500 MCM conductors
- Ergonomic design and easy operation
- Low phase shift for power measurements
- Available with mA output signals
- Designed for DMMs, recorders, loggers, oscilloscopes, power and harmonic meters
- UL approved

ACCESSORIES

Catalog #1017.45
4 mm Banana plug adaptor (Safety Leads to non-recessed plug)

Catalog #2118.46
Banana (Female) BNC (Male) Adaptor

CATALOG NO.	DESCRIPTION
2116.29	AC Current Probe Model SR701 (1000 A, 1 mA/A, Jack) HA* L**
2116.30	AC Current Probe Model SR704 (1000 A, 1 mA/A, Lead) HA* L**
2116.32	AC Current Probe Model SR752 (1000 A, 1 mV/A, Lead) HA*
2116.33	AC Current Probe Model SR759 (1 A, 10 A, 100 A, 1000 A, mV/A, Lead) HA*

*HA - High Accuracy and Low Phase Shift, **L - Limited open Voltage Output

MN SERIES

Small and compact, ideal complement for any meter to measure AC currents in low-power secondary transformers or industrial applications

MN01

SPECIFICATIONS

Patent #1385787 - Mini-Clamp Design

MODELS	MN01	MN02	MN05	MN09
ELECTRICAL				
Nominal Range	150 AAC	100 AAC	10 AAC; 100 AAC	150 AAC
Measurement Range	(2 to 150) AAC	50 mA to 100 AAC (1 Ω load) 50 mA to 90 AAC (10 Ω load)	5 mA to 10 AAC (1 to 100) AAC	(1 to 150) AAC
Transformation Ratio	1000:1		Voltage output	N/A
Output Signal	1 mA/A (150 mAAC @ 150 A)	1 mA/A (100 mAAC @ 100 A)	1 mV/mA, 1 mV/A (10 VAC @ 10 A, 100 mVAC @ 100 A)	100 mV/A (15 VDC @ 150 AAC)
Phase Shift	Not specified	< 3 ° (1 Ω load) < 6 ° (10 Ω load)	Not specified	
Overload	170 A for 10 min ON, 30 min OFF		10 A Range: 15 A 100 A Range: 150 A	170 A for 10 min ON, 30 min OFF
Frequency Range	(48 to 500) Hz	48 Hz to 10 kHz	(48 to 500) Hz	
Load Impedance	≤ 10 Ω		≥ 1 MΩ	≥ 50 KΩ
Open Secondary Voltage	≤ 30 V		–	≤ 30 V
Output Termination	5 ft (1.5 m) lead with (2) 4 mm safety banana plugs			
MECHANICAL				
Maximum Conductor Size	Ø 0.39 in (10 mm)			
Dimension	(5.12 x 1.5 x 1) in (130 x 38 x 25) mm			
Weight	6.35 oz (180 g)			
Material	Polycarbonate UL 94 V2			
ENVIRONMENTAL				
Operating Temperature	(14 to 122) °F (-10 to 50) °C			
Storage Temperature	(-40 to 176) °F (-40 to 80) °C			
Operating Relative Humidity	(0 to 85) % RH decreasing linearly above 95 °F (35 °C)			
SAFETY				
Safety Rating	IEC 61010-2-32: 300 V CAT IV, 600 V CAT III, Pollution Degree 2			
Ingress Protection	IP40			

Consult factory for NIST Calibration prices

SAFETY 600V CAT III RATING

* CE IP 40

*MN09 only

FEATURES

- Clothes pin shape makes them ideal for use in tight areas, such as breaker panels, controller panels or outlets
- Jaw opening accommodates conductors up to 0.39 in diameter

MN01

- Measurements from 2 A to 150 AAC
- Excellent companions to all DMMs, permits very low AC current measurements

MN02

- Measurement ranges: 50 mA to 100 A (1 Ω load) 50 mA to 90 A (10 Ω load)
- Designed for DMMs, loggers, recorders and oscilloscopes
- (48 to 10,000) Hz frequency range
- 1 mA/A from (1 to 10) Ω load output signals

MN05

- Measurements from 5 mA to 100 AAC
- Permits very low AC current measurements

MN09

- Measurements from (1 to 150) AAC
- DC voltage output enables you to overcome low AC sensitivity of certain measurement instruments

CATALOG NO.	DESCRIPTION
2129.17	AC Current Probe Model MN01 (150 A, 1 mA/A, Lead)
2129.20	AC Current Probe Model MN02 (100 A, 1 mA/A, Lead, 1 % Accuracy)
2129.19	AC Current Probe Model MN05 (100 A, 1 mV/A & 10 A, 1 V/A, Lead)
2129.21	AC Current Probe Model MN09 (150 A, 100 mVDC/AAC, Lead)

MN SERIES

Compact sized probes ideal for measuring low currents and leakage currents

Standard millivolt or milliamp outputs are compatible with multimeters, data loggers and oscilloscopes

MN103

MN185

SPECIFICATIONS

Patent #1385787 - Mini-Clamp Design

MODELS	MN103	MN114	MN185
ELECTRICAL			
Nominal Range	10 Aac, 100 Aac	10 Aac	120 Aac
Measurement Range	1 mA to 10 Aac (1 to 100) Aac	1 mA to 10 Aac	50 mA to 120 Aac
Transformation Ratio	Voltage output	Voltage output	1000:1
Output Signal	1 mV/mA, 1 mV/A (10 Vac @ 10 A, 100 mVac @ 100 A)	100 mV/A (1 Vac @ 10 A)	1 mA/A (120 mAac @ 120 A)
Phase Shift	–	(10 to 100) A, (45 to 65) Hz: 8 °	(1 to 100) A, (50 to 60) Hz: ≤ 3.5 °
Overload	–	20 A continuous	170 A continuous
Frequency Range	(45 to 500) Hz	(30 to 5) kHz	(30 to 10) kHz
Load Impedance	≥ 100 kΩ	≥ 100 kΩ	≤ 5 Ω non-inductive
Working/Common Mode Voltage	250 Vac/250 Vac		250 Vac/30 Vac
Output Termination	5 ft (1.5 m) lead with 4 mm safety banana plugs		(2) 4 mm banana jacks
MECHANICAL			
Jaw Opening	0.78 in (20 mm)		
Maximum Conductor Size	0.47 in Ø max (12 mm)		
Dimensions	(1.26 x 4.53 x 0.87) in (32 x 115 x 22) mm		
Weight	5.6 oz (159 g)		
Material	Polycarbonate UL 94		
ENVIRONMENTAL			
Operating Temperature	(14 to 122) °F (-10 to 50) °C	(-13 to 122) °F (-25 to 50) 0 °C	
Storage Temperature	(-40 to 176) °F (-40 to 80) °C		
SAFETY			
Safety Rating	3 kV (50/60) Hz dielectric for 1 min Probes MN 103/114 and 185 are not CE marked		

Consult factory for NIST Calibration prices

FEATURES

- Measurement range of 1 mA to 120 Aac
- Jaw opening of 0.78 inch
- Accommodates conductors up to 0.47 inch diameter
- Ergonomic design and easy operation
- Compact size accommodates hard to reach locations
- Low phase shift for power measurements
- Available with mV or mA output signals
- Constructed with UL94VO flame retardant material
- Designed for DMMs, recorders, loggers and oscilloscopes

CATALOG NO.	DESCRIPTION
1031.02	AC Current Probe Model MN103 (10 A, 1 mV/mA & 100 A, 1 mV/A, Lead)
2110.71	AC Current Probe Model MN114 (10 A, 100 mV/A, Lead)
100.185	AC Current Probe Model MN185 (100 A, 1 mA/A, Jack)

MODELS LM102 & LM103

Equipped with high performance magnetic material offering excellent linearity and improved performance

Ideal current measurement tool for use with multimeters, data loggers and power analyzers


LM102

SPECIFICATIONS

Patent #1385787 - Mini-Clamp Design

MODELS	LM102	LM103
ELECTRICAL		
Nominal Range	200 AAC	
Measurement Range	50 mA to 200 AAC (1 Ω or 10 Ω load)	100 mA to 200 A
Transformation Ratio	1000:1	Voltage Output
Output Signal	1 mA/A (200 mAAC @ 200 A)	1 mV/A (200 mVAC @ 200 A)
Phase Shift	≤ 3 ° (1 Ω load) ≤ 6 ° (10 Ω load)	≤ 3 °
Overload	350 A continuous @ ≤ 1 kHz 200 A continuous @ ≤ 8 kHz	
Frequency Range	48 Hz to 10 kHz	
Load Impedance	≤ 10 Ω	≥ 10 kΩ
Open Secondary Voltage	≤ 30 V	–
Output Termination	Double-insulated 5 ft (1.5 m) lead with (2) 4 mm safety banana plugs	
MECHANICAL		
Maximum Conductor Size	Ø 0.63 in (16 mm)	
Dimensions	(5.13 x 1.81 x 1.34) in (130 x 46 x 34) mm	
Weight	Approximately 8.8 oz (250 g)	
Material	Polycarbonate UL 94	
ENVIRONMENTAL		
Operating Temperature	(14 to 122) °F (-10 to 50) °C	
Storage Temperature	(-40 to 176) °F (-40 to 80) °C	
Operating Relative Humidity	(0 to 85) % RH decreasing linearly above 95 °F (35 °C)	
SAFETY		
Safety Rating	EN 61010-1, EN 61010-2-031, EN 61010-2-032 600 V CAT III, 300 V CAT IV Pollution Degree 2	
Ingress Protection	IP20 (EN 60529)	

Consult factory for NIST Calibration prices

FEATURES

- Clamping diameter 0.63 inch (16 mm)
- Measurement range from 0.05 Amps to 200 Amps
- Over range up to 350 Amps continuous
- 1 mA/A output (Model LM102)
- 1 mV/A output (Model LM103)
- Clothes pin design allows access to tight places
- Frequency response from 48 Hz to 10 kHz
- Arrow marker clearly assists in proper orientation for power measurement applications

CATALOG NO.	DESCRIPTION
2153.04	AC Current Probe Model LM102 (200 A/1 mA/A)
2153.05	AC Current Probe Model LM103 (200 A/1 mV/A)

MN200 SERIES

General purpose AC current probe with voltage output, for use with DMMs or with measuring instruments with voltage input

Permits measurement or recording of current with instruments that do not have current ranges. Output signal proportional to current measured

MN255

SPECIFICATIONS

MODELS	MN255	MN261	MN291
ELECTRICAL			
Nominal Range	20 AAC; 200 AAC		200 AAC
Measurement Range	(0.1 to 24) AAC; (0.1 to 240) AAC	(0.1 to 24) A; (0.1 to 240) A	(0.5 to 240) AAC
Transformation Ratio	Voltage output	–	DC Voltage output
Output Signal	20 A: 100 mV/A (20 VAC @ 200 A) 200 A: 10 mV/A (2 VAC @ 200 A)	100 mV/A (2 V @ 20 A), 10 mV/A AC (2 V @ 200 A)	100 mVDC/AAC (20 VDC @ 200 A)
Phase Shift (20 A Range)	Not Specified	Not Specified	–
(200 A Range) 0.5 A to 10 A	Not Specified	Not Specified	
10 A to 40 A	≤ 5 °	≤ 6 °	
40 A to 100 A	≤ 3 °	≤ 4 °	
100 A to 240 A	≤ 2.5 °	≤ 3 °	
Overload	(24 and 240) A for 10 min ON, 30 min OFF		
Frequency Range	40 Hz to 10 kHz (-3dB)		
Load Impedance	> 1 MΩ		
Working/Common Mode Voltage	600 V		
Output Termination	Double-insulated 5 ft (1.5 m) lead with (2) 4 mm safety banana plugs		
MECHANICAL			
Jaw Opening	0.83 in (21 mm)		
Maximum Conductor Size	Ø 0.78 in max (20 mm)		
Maximum Bus Bar size	(0.78 x 0.19) in (20 x 5) mm		
Dimensions	(5.47 x 2.00 x 1.18) in (139 x 51 x 30) mm		
Weight	6.5 oz (184 g)		
Material	Polycarbonate UL 94		
ENVIRONMENTAL			
Operating Temperature	(14 to 131) °F (-10 to 55) °C		
Storage Temperature	(-40 to 158) °F (-40 to 70) °C		
Operating Relative Humidity	(10 to 90) % RH		
SAFETY			
Safety Rating	EN/IEC 61010-2-32 600 V CAT III, EN/IEC 61010-032		
UL Approval	Yes - United States and Canada		
Ingress Protection	IP40		

Consult factory for NIST Calibration prices

IP 40

FEATURES

- Small compact size
- Measurement ranges from 100 mA to 240 A
- Frequency response to 10 kHz
- UL approved for both United States and Canada
- Designed to EN61010, 600 V CAT III
- Jaw opening accommodates 250 kcmil cables
- Constructed with UL94V0 flame retardant material
- Double insulated construction

CATALOG NO.	DESCRIPTION
2115.81	AC Current Probe Model MN255 (20 A, 100 mV/A & 200 A, 10 mV/A, Lead)
2115.82	AC Current Probe Model MN261 (20 A, 100 mV/A & 200 A, 10 mV/A, BNC)
2115.84	AC Current Probe Model MN291 (200 A, 100 mVDC/A, Lead)

CURRENT MEASUREMENT PROBES
MN SERIES AC CURRENT PROBES


MN307

MN300 SERIES

Compact sized probes ideal for measuring low currents and leakage currents

Standard millivolt and milliamp outputs are compatible with multimeters, data loggers and oscilloscopes

SPECIFICATIONS

MODELS	MN307	MN312	MN352	MN353	MN375	MN379*
ELECTRICAL						
Nominal Range	10 Aac	150 Aac			10 Aac	5 Aac; 100 Aac
Measurement Range	(0.1 to 12) Aac	(0.1 to 200) Aac			(0.1 to 10) Aac	5 mA to 6 Aac; (0.1 to 120) Aac
Transformation Ratio	Voltage output	1000:1	Voltage output			
Output Signal	100 mV/A (1 Vac @ 10 A)	1 mA/A (150 mAac @ 150 A)	10 mV/A (1.5 Vac @ 150 A)		100 mV/A (1 Vac @ 10 A)	5 A: 200 mV/A (1 Vac @ 5 A) 100 A: 10 mV/A (1 Vac @ 100 A)
Phase Shift	(0.1 to 1) A: ≤ 5 ° (1 to 5) A: ≤ 3 ° (5 to 12) A: ≤ 2.5 °	(0.1 to 1) A: Not specified (1 to 20) A: ≤ 3 ° (20 to 80) A: ≤ 2 ° (80 to 150) A:≤ 2.5 ° (150 to 200) A: Not specified			(1 to 5) A: ≤ 1 ° @ 60 Hz (5 to 10) A: ≤ 1.5 ° @ 60 Hz	(5 A Range) 5 mA: 6.5 ° 50 mA: 5 ° 0.5 A: 4.5 ° 5 A: 4 ° (100 A Range) 0.1 A: 3.2 ° (1; 10; 100) A: 2.2 °
Overload	20 A Continuous	200 A Continuous	240 A for 10 min ON, 30 min OFF		20 A Continuous	200 A Continuous
Frequency Range	40 Hz to 10 kHz				40 Hz to 3 kHz	40 Hz to 10 kHz
Load Impedance	1 MΩ	1 Ω	1 MΩ			
Crest Factor	3 @ 10 Arms with an error (due to CF) of 3 %	3 @ 200 A peak with an error (due to CF) of 3 %	3 @ 150 A peak with an error (due to CF) of 3 %		3 @ 10 Arms with an error (due to CF) of 3 %	Not specified
Working/Common Mode Voltage	600 Vrms					
Output Termination	Double-insulated 5 ft (1.5 m) lead with (2) 4 mm safety banana plugs	(2) standard safety 4 mm banana jacks		Double-insulated 5 ft (1.5 m) lead with (2) 4 mm safety banana plugs		
MECHANICAL / ENVIRONMENTAL						
Jaw Opening	0.83 in (21 mm)					
Maximum Conductor Size	0.78 in max (20 mm)					
Dimensions	(5.47 x 2.00 x 1.18) in (139 x 51 x 30) mm					
Weight	6.5 oz (180 g)					
Material	Polycarbonate UL 94					
Operating Temperature	(14 to 131) °F (-10 to 55) °C					
Storage Temperature	(-40 to 158) °F (-40 to 70) °C					
Operating Relative Humidity	85 % RH without roll-off above 95 °F (95 °C)					
SAFETY						
Safety Rating	EN/IEC 61010-1 600 V CAT III, EN 61010-2-32, Pollution Degree 2					
UL Approval	Yes - United States and Canada *(excludes MN379)					

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CATALOG NO.	DESCRIPTION	CATALOG NO.	DESCRIPTION
2116.23	AC Current Probe Model MN307 (12 A, 100 mV/A, Lead)	2116.27	AC Current Probe Model MN353 (150 A, 10 mV/A, Lead)
2116.24	AC Current Probe Model MN312 (150 A, 1 mA/A, Jack)	2115.41	AC Current Probe Model MN375 (10 A, 100 mV/A, Lead)
2116.26	AC Current Probe Model MN352 (150 A, 10 mV/A, Jack)	2153.01	AC Current Probe Model MN379 (5 A, 200 mV/A & 100 A, 10 mV/A, Lead)

CURRENT MEASUREMENT PROBES
MR SERIES AC/DC CURRENT PROBES

MR415 MR416 MR526

MODELS MR415 / 416 / 526

General Purpose Hall Effect Current Probes for use with DMMs, Data Loggers and Power Analyzers

SPECIFICATIONS

MODELS	MR415	MR416	MR526
ELECTRICAL			
Current Range	(0.5 to 400) AAC, 600 ADC	(0.5 to 40) AAC, 60 ADC (0.5 to 400) AAC, 600 ADC	(0.5 to 100) AAC, 150 ADC (0.5 to 1000) AAC, 1400 ADC
Output Signal	1 mV/A	10 mV/A, 1 mV/A	10 mV/A, 1 mV/A
Frequency Range	DC to 30 kHz (-3 dB) (depending of current value)		
Phase Shift At (50/60) Hz	≤ 1.5 ° @ 400 A	≤ 2.2 ° @ 40 A ≤ 1.5 ° @ 400 A	≤ 2 ° @ 100 A ≤ 1.5 ° @ 800 A
Load Impedance	> 1 MΩ and ≤ 100 pF		
Overload	3000 ADC or 1000 AAC continuous for < 1 kHz		
Zero Adjust	Automatic on both ranges		
Power Supply	9 V Alkaline battery (NEDA 1060A, 6LR61) or 5 V DC Micro-USB Type B		
Battery Life	50 h typical		
Low Battery Indication	Green LED blinking		
Overload Indication	Red LED on when measurement > selected range		
Output Termination	Double-insulated 5 ft (1.5 m) lead with (2) 4 mm safety banana plugs		
MECHANICAL			
Maximum Conductor Size	Cables: (1) 1.18 in (30 mm) or (2) .94 in (24 mm) Bus Bar: (1) (1.97 x 0.39) in (50 x 10) mm or (2) (1.23 x 0.39) in (31 x 10) mm or (3) (0.98 x 0.31) in (25 x 8) mm		Cables: (1) 1.5 in (38 mm) or (2) 1 in (25 mm) Bus Bar: (1) (1.97 x 0.49) in (50 x 12) mm or (2) (0.98 x 0.2) in (25 x 5) mm; (1) (1.24 x 0.30) in (31 x 8) mm or (3) (0.98 x 0.31) in (25 x 8) mm
Dimensions (H x W x D)	(8.82 x 3.82 x 1.73) in (224 x 97 x 44) mm		(9.31 x 3.82 x 1.73) in (236 x 97 x 44) mm
Weight (with Battery)	0.98 lb (444 g)		1.15 lb (521 g)
ENVIRONMENTAL			
Operating Temperature	(14 to +131) °F (-10 to 55) °C		
Storage Temperature	(-40 to +176) °F (-40 to 80) °C		
Relative Humidity	Up to 85 % RH @ 35 °C		
SAFETY			
Ingress Protection	IP40		
EMC	EN 61326-1		
Safety Rating	IEC 61010-1, EN 61010-2-32, Pollution Degree 2, 600 V CAT III		

Consult factory for NIST Calibration prices

FEATURES

- The jaw shape enables users to clamp on to cables or small bus bars
- Powered by battery or standard external 5 V power source via micro-USB connector
- Measures up to 1000 AAC and 1400 ADC (model dependent)
- Automatic Zero DC reset function
- Auto Power Off enable/disable function
- Millivolt output compatible with most equipment and instruments
- Battery life up to 50 hours
- Safety rating 600 V CAT III

4 mm Banana Plug Terminals

CATALOG NO.	DESCRIPTION
1200.80	AC/DC Current Probe Model MR415 (400 AAC, 1 mV/A & 600 ADC, 1 mV/A, 4 mm Banana Plug Lead) - Replaces MR410
1200.82	AC/DC Current Probe Model MR416 (40 AAC, 60 ADC, 10 mV/A & 400 AAC, 600 ADC, 1 mV/A, 4 mm Banana Plug Lead) - Replaces MR411
1200.83	AC/DC Current Probe Model MR526 (100 AAC, 150 ADC, 10 mV/A & 1000 AAC, 1400 ADC, 1 mV/A, 4 mm Banana Plug Lead) - Replaces MR521

CURRENT MEASUREMENT PROBES
MR SERIES AC/DC CURRENT PROBES

MR417 MR527

MODELS MR417 / MR527

Hall Effect AC/DC current probes for Oscilloscopes and other instruments with waveform displays

SPECIFICATIONS

MODELS	MR417	MR527
ELECTRICAL		
Current Range	(0.5 to 40) AAC, 60 ADC (0.5 to 400) AAC, 600 ADC	(0.5 to 100) AAC, 150 ADC (0.5 to 1000) AAC, 1400 ADC
Output Signal	10 mV/A, 1 mV/A	
Frequency Range	DC to 30 kHz (-3 dB) (depending of current value)	
Phase Shift At (50/60) Hz	≤ 2 ° @ 40 A ≤ 1.5 ° @ 400 A	≤ 2.2 ° @ 100 A ≤ 1.5 ° @ 1000 A
Load Impedance	> 1 MΩ and ≤ 100 pF	
Overload	3000 ADC or 1000 AAC continuous for < 1 kHz	
Zero Adjust	Automatic on both ranges	
Power Supply	9 V alkaline battery (NEDA 1060 A, 6LR61) or 5 V DC Micro-USB Type B	
Battery Life	50 hours typical	
Low Battery Indication	Green LED blinking	
Overload Indication	Red LED on when measurement > selected range	
Output Termination	6.5 ft (2 m) coaxial cable with insulated BNC terminal	
MECHANICAL		
Maximum Conductor Size	Cables: (1) 0.18 in (5 mm) or (2) .94 in (24 mm) Bus Bar: (1) (1.97 x 0.39) in (50 x 10) mm or (2) (1.23 x 0.39) in (31 x 10) mm or (3) (0.98 x 0.31) in (25 x 8) mm	Cables: (1) 1.5 in (38 mm) or (2) 1 in (25 mm) Bus Bar: (1) (1.97 x 0.49) in (50 x 12) mm or (2) (0.98 x 0.2) in (25 x 5) mm; (1) (1.24 x 0.30) in (31 x 8) mm or (3) (0.98 x 0.31) in (25 x 8) mm
Dimensions (H x W x D)	(8.82 x 3.82 x 1.73) in (224 x 97 x 44) mm	(9.31 x 3.82 x 1.73) in (236 x 97 x 44) mm
Weight (with Battery)	0.98 lb (440 g)	1.15 lb (521 g)
ENVIRONMENTAL		
Operating Temperature	(14 to +131) °F (-10 to 55) °C	
Storage Temperature	(-40 to +176) °F (-40 to 80) °C	
Relative Humidity	Up to 85 % RH @ 35 °C	
SAFETY		
Ingress Protection	IP 40	
EMC	EN 61326-1	
Safety Rating	IEC 61010-1, EN 61010-2-32, Pollution Degree 2, 600 V CAT III	

FEATURES

- The jaw shape enables users to clamp on to cables or small bus bars
- Powered by battery or standard external 5 V power source via micro-USB connector
- Measures up to 1000 AAC and 1400 ADC (model dependent)
- Equipped with a Zero DC reset function
- Auto Power Off enable/disable function
- LED overload and low battery indicators
- Millivolt output compatible with most equipment and instruments
- Equipped with a coaxial lead and isolated BNC connectors for direct connection to an oscilloscope
- Battery life up to 50 hours
- Safety rating 600 V CAT III

BNC Connector

CATALOG NO.	DESCRIPTION
1200.84	AC/DC Current Probe Model MR417 (40 AAC, 60 ADC, 10 mV/A & 400 AAC, 600 ADC, 1 mV/A, BNC Output) Replaces MR461
1200.85	AC/DC Current Probe Model MR527 (100 AAC, 150 ADC, 10 mV/A & 1000 AAC, 1400 ADC, 1 mV/A, BNC Output) Replaces MR561

CURRENT MEASUREMENT PROBES
MH SERIES

MODEL MH60

Designed to measure AC and DC currents using dual Hall effect and transformer technology at frequencies to 1 MHz

Self-powered directly from oscilloscope or line-power via line-adapter

SPECIFICATIONS

MODEL	MH60
ELECTRICAL	
Nominal Range	100 AAC/DC (140 A peak)
Measurement Range	500 mA to 100 AAC / 100 ADC
Transformation Ratio	Voltage Output
Output Signal	10 mV/A (1 VAC/DC @ 100 A)
Phase Shift	≤ 1 °
Overload	150 A Continuous
Frequency Range (@ -3 dB)	DC to 1 MHz
Load Impedance	0.25 mΩ (at 400 Hz) 0.628 mΩ (at 1 MHz) In RF: 0.1 µH for a primary transition
Common Mode Voltage	(600 V Max) At 50 Hz: 3.5 mA / 5 mA @ 100 V At 400 Hz: 25.9 mA / 50 mA @ 100 V
Power Supply	Internal NiMH rechargeable battery; 5 VDC external via female micro-USB Type B connection
Battery Life	8 h typical with fully-charged battery
Output Termination	6.6 ft (2 m) lead with molded isolated male BNC connector
MECHANICAL	
Maximum Conductor Size	Ø 1.02 in (26 mm)
Dimensions	(5.43 x 1.92 x 1.10) in (138 x 49 x 28) mm
Weight	Approximately 7.05 oz (200 g)
Material	Polycarbonate UL 94
ENVIRONMENTAL	
Operating Temperature	(14 to 122) °F (-10 to 50) °C
Storage Temperature	(-4 to 122) °F (-20 to 50) °C
Operating Relative Humidity	Up to 85 % RH decreasing linearly above 95 °F (35 °C)
SAFETY	
CE Mark	Yes
Double Insulation	Yes
Ingress Protection	IP40 (EN 60529)
Safety Rating	EN 61010-1 EN 61010-2-31 600 V CAT II, 300 V CAT III Pollution Degree 2

FEATURES

- Clamping diameter 1.02 in (26 mm)
- Measurement range from (0.5 to 100) Amps AC, 100 Amps DC
- Measures AC and DC signals
- 10 mV/A output
- Automatic compensation for earth's magnetic influence
- Battery Power (8 hour battery life) or USB continuous
- Frequency response from DC to 1 MHz
- Selectable 3 kHz or 30 kHz filter selection
- Push button zero adjust
- LED indicators for power, overload and filter selection
- UL 94 V2 self-extinguishing case material

CATALOG NO.	DESCRIPTION
2153.03	AC/DC Current Probe Model MH60 (100 A, 1 MHz, BNC)

MODELS 400D & 4000D

Provide a welcomed solution when accessing electrical conductors in tight places

MINIFLEX:
400D-10 (10 in probe)

MINIFLEX:
4000D-14 (14 in probe)

MINIFLEX:
400D-24 (24 in probe)
4000D-24 (24 in probe) (shown)

SPECIFICATIONS

MODELS	400D-10 & 400D-24	4000D-14 & 4000D-24
ELECTRICAL		
Display Range	4 Aac, 40 Aac, 400 Aac	40 Aac, 400 Aac, 4000 Aac
Measurement Range	(0.020 to 3.999) A, (4.00 to 39.99) A (40.0 to 399.9) A	(0.20 to 39.99) A, (40.0 to 399.9) A, (400 to 3999) A
Resolution	1 mA, 10 mA, 100 mA	10 mA, 100 mA, 1 A
Sensor Diameter	400D-10: Ø 2.75 in (70 mm) 400D-24: Ø 8 in (203 mm)	4000D-14: Ø 3.94 in (100 mm) 4000D-24: Ø 8 in (203 mm)
Sensor Length	400D-10: Ø 10 in (254 mm) 400D-24: Ø 24 in (610 mm)	4000D-14: Ø 14 in (355 mm) 4000D-24: Ø 24 in (610 mm)
Bandwidth	10 Hz to 3 kHz	
MECHANICAL		
Power Supply	(2) 1.5 V AAA / LR3 batteries	
Weight	Approx. 0.29 lb (132 g) MiniFlex	
Casing Dimensions	(3.94 x 2.36 x 0.79) in (100 x 60 x 20) mm	
Connection Cable Length	6 ft (1.8 m)	
ENVIRONMENTAL		
Operating Temperature	(32 to 122) °F (0 to 50) °C	
SAFETY		
Safety Rating	IEC 61010, 600 V CAT IV	

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

Digital FlexProbe®, (2) 1.5 V AAA batteries and user manual.

FEATURES

- Easy access and measurement, even in confined spaces
- Measurement from 20 mAac to 4000 Aac (model dependent)
- Available with (10, 14 and 24) inch sensor lengths
- Sensor diameter 2.75 in (70 mm) to 8 in (203 mm) (model dependent)
- Resolution down to 1 mA (model dependent)
- HOLD feature
- Direct reading
- Compact and simple to use
- Flexible current sensor
- True RMS
- Safety rating of 600 V CAT IV

ACCESSORIES

CATALOG #5000.44

MultiFix (universal mounting system) for use with models 5231, 5233, 400D, and 4000D

CATALOG NO.	DESCRIPTION
2153.31	Digital FlexProbe® Model 400D-10 w/6' Lead (TRMS, 4 Aac, 40 Aac, 400 Aac)
2153.36	Digital FlexProbe® Model 400D-24 w/6' Lead (TRMS, 4 Aac, 40 Aac, 400 Aac)
2153.32	Digital FlexProbe® Model 4000D-14 w/6' Lead (TRMS, 40 Aac, 400 Aac, 4000 Aac)
2153.35	Digital FlexProbe® Model 4000D-24 w/6' Lead (TRMS, 40 Aac, 400 Aac, 4000 Aac)

CURRENT MEASUREMENT PROBES
GENERAL PURPOSE PROBES SELECTION CHART

Series	Model	Ratio	Measurement Range		Output Signal		Phase Shift**	Maximum Conductor Size		Output Connection	Catalog No.
			AC	DC	Current	Voltage		Ø Cable	Bus Bar		
	MN01	1000:1	(2 to 150) A	–	1 mA/A*	–	N/A	0.39 in (10 mm)	N/A	Leads	2129.17
	MN02	1000:1	50 mA to 100 A 50 mA to 90 A	–		–	N/A	0.39 in (10 mm)	N/A	Leads	2129.20
	MN05	–	5 mA to 10 A (1 to 100) A	–		1 mV/mA 1 mV/A	N/A	0.39 in (10 mm)	N/A	Leads	2129.19
	MN09	–	(1 to 150) A	–		100 mVDC/AAC	N/A	0.39 in (10 mm)	N/A	Leads	2129.21
	MN103	–	1 mA to 10 A (1 to 100) A	–		1 mV/mA 1 mV/A	N/A	0.47 in (12 mm)	N/A	Leads	1031.02
	MN114	–	1 mA to 10 A	–		100 mV/A	< 8 °	0.47 in (12 mm)	N/A	Leads	2110.71
	MN185	1000:1	50 mA to 120 A	–	1 mA/A	–	< 3.5 °	0.47 in (12 mm)	N/A	Jacks	100.185
	MN255	–	(0.1 to 24) A (0.1 to 240) A	–		100 mV/A 10 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	Leads	2115.81
	MN261	–	(0.1 to 24) A (0.5 to 240) A	–		100 mV/A 10 mV/A	< 6 °	0.78 in (20 mm)	N/A	BNC	2115.82
	MN291	–	(0.5 to 240) A	–		100 mVDC/AAC	N/A	0.78 in (20 mm)	N/A	Leads	2115.84
	MN307	–	10 mA to 12 A	–		100 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	Leads	2116.23
	MN312	1000:1	(0.1 to 200) A	–	1 mA/A*	–	< 2.5 °	0.78 in (20 mm)	N/A	Jacks	2116.24
	MN352	–	(0.1 to 150) A	–		10 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	Jacks	2116.26
	MN353	–		–			< 2.5 °	0.78 in (20 mm)	N/A	Leads	2116.27
	MN373	–	(0.1 to 24) A (0.1 to 200) A	–		1000 mV/A 10 mV/A	< 3 °	0.78 in (20 mm)	N/A	Leads	2116.28
	MN375	–	(0.1 to 10) A	–		100 mV/A	< 1.5 °	0.78 in (20 mm)	N/A	Leads	2115.41
	MN379	–	5 mA to 6 A (0.1 to 120) A	–		200 mV/A 10 mV/A	< 4 °	0.78 in (20 mm)	N/A	Leads	2153.01
	MN379T	–	5 mA to 6 A (0.1 to 120) A	–		200 mV/A 10 mV/A	< 4 °	0.78 in (20 mm)	N/A	Lead w/ BNC	2153.02
	SL206	–	10 mA to 1.5 A 50 mA to 60 A	10 mA to 2 A 50 mA to 80 A	–	1 mV/mAAC/DC 10 mV/AAC/DC	< 1 °	0.46 in (12 mm)	N/A	Leads	1201.45
	MD301	1000:1	(2 to 500) A	–		1 mVDC/AAC	N/A	1.18 in (30 mm) (2 x 500) kcmil	(2.48 x 0.20) in (63 x 5) mm	Leads	1201.07

*Output Protection for open secondary
**Phase shift indicated at maximum rating

Note: Models MN103, MN106, MN114 & MN185 are not CE compliant. MN200 & MN300 series are UL approved except MN379.
Consult factory for NIST Calibration price.

CURRENT MEASUREMENT PROBES
GENERAL PURPOSE PROBES SELECTION CHART

SERIES	MODEL	RATIO	MEASUREMENT RANGE		OUTPUT SIGNAL		PHASE SHIFT**	MAXIMUM CONDUCTOR SIZE		OUTPUT CONNEC-TION	CATALOG NO.
			AC	DC	CURRENT	VOLTAGE		Ø CABLE	BUS BAR		
	**MR415**	–	(0.5 to 400) A	(0.5 to 600) A	–	1 mV/A	≤ 1.5 °	1.18 in (30 mm)	2 bus bar (1.24 x 0.39) in (31 x 10) mm	5 ft (1.5 m) Lead	1200.80
	MR416	–	(0.5 to 40) A (0.5 to 400) A	(0.5 to 60) A (0.5 to 600) A	–	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.95 x 0.19) in (50 x 5) mm	5 ft (1.5 m) Lead	1200.82
	MR526	–	(0.5 to 100) A (0.5 to 1000) A	(0.5 to 150) A (0.5 to 1400) A	–	10 mV/A 1 mV/A	≤ 2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.95 x 0.19) in (50 x 5) mm	5 ft (1.5 m) Lead	1200.83
	**SR601**	1000:1	(0.1 to 1200) A	–	1 mA/A*	–	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2113.43
	SR604	1000:1	(0.1 to 1200) A	–	1 mA/A*	–	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2113.44
	SR651	–	(0.1 to 1200) A	–	–	1 mV/A	< 0.5 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2113.45
	SR701	1000:1	1 mA to 1000 A	–	1 mA/A*	–	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Jacks	2116.29
	SR704	1000:1	1 mA to 1000 A	–	1 mA/A*	–	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.30
	SR752	–	(0.1 to 1000) A	–	–	1 mV/A	< 0.7 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.32
	SR759	–	1 mA to 1 A 10 mA to 10 A (0.1 to 100) A (1 to 1000) A	–	–	1000 mV/A 100 mV/A 10 mV/A 1 mV/A	< 1 °	2.05 in (52 mm)	(1.95 x 0.19) in (50 x 5) mm	Leads	2116.33
	**K100**	–	0.1 mA to 3 A	0.05 mA to ± 4.5 A	–	1 mV/mA	N/A	0.18 in (4.5 mm)	N/A	Plugs	1200.67
	K110	–	(0.1 to 300) mA	(0.05 to ± 450) mA	–	10 mV/mA	N/A		N/A	Plugs	2111.73
	**LM102**	1000:1	50 mA to 200 A	–	1 mA/A*	–	< 3 °	0.63 in (16 mm)	N/A	Leads	2153.04
	LM103	–	(0.1 to 200) A	–	–	1 mV/A	< 3 °		N/A	Leads	2153.05

*Output Protection for open secondary
**Phase shift indicated at maximum rating

Note: All SR probes listed on this chart are UL approved, however not all SR series probes are UL approved; please consult factory.
Consult factory for NIST Calibration price.

OUTPUT TERMINATIONS

Lead with BNC
Insulated 6.5 ft (2 m) coaxial cable with insulated BNC connector rated 600 Vrms

Jacks
Two standard safety banana jacks (4 mm)

Leads
Double/reinforced 5 ft (1.5 m) leads with 4 mm safety banana plug

Shrouded Banana Plugs
Two 4 mm safety banana plugs; standard ¾ in (19 mm) spacing

SERIES	MODEL	RATIO	MEASUREMENT RANGE	OUTPUT SIGNAL	MAXIMUM CONDUCTOR SIZE	CATALOG NO.
	MF 300-10-2-10-HF	–	30 A / 300 A	100 mV/A, 10 mV/A	2.95 in (75 mm)	2126.84
	MF 3000-14-1-1-HF	–	3000 A	1 mV/A	3.93 in (100 mm)	2126.86
	MA114	–	3 A / 30 A / 300 A / 3000 A	1 mV/mA, 100 mV/A 10 mV/A, 1 mV/A	4 in (101 mm)	2153.41
	300-24-2-10	–	30 A / 300 A	100 mV/A, 10 mV/A	7.48 in (190 mm)	2112.88
	1000-24-1-1	–	1000 A	1 mV/A	7.48 in (190 mm)	2112.39
	1000-24-2-1	–	100 A / 1000 A	10 mV/A, 1 mV/A	7.48 in (190 mm)	2112.98
	1000-36-2-1	–	100 A / 1000 A	10 mV/A, 1 mV/A	11 in (280 mm)	2113.00
	3000-24-1-1	–	3000 A	1 mV/A	7.48 in (190 mm)	2112.46
	3000-36-1-1	–	3000 A	1 mV/A	11 in (280 mm)	2112.48
	3000-24-2-1	–	300 A / 3000 A	10 mV/A, 1 mV/A	7.48 in (190 mm)	2113.05
	3000-48-2-1	–	300 A / 3000 A	1 mV/A	15 in (381 mm)	2112.01
	6000-36-2-0.1	–	600 A / 6000 A	1 mV/A, 0.1 mV/A	11 in (280 mm)	2113.21
	30000-24-2-0.1	–	3000 A / 30,000 A	1 mV/A, 0.1 mV/A	7.48 in (190 mm)	2113.33
	24-3001	–	300 A / 3000 AAC	10 mV/A, 1 mV/A	7.48 in (190 mm)	2120.81

Consult factory for NIST Calibration price

OSCILLOSCOPE & BNC TERMINATED PROBES

MODEL	MEASUREMENT RANGE		OUTPUT SIGNAL	PHASE SHIFT*	MAXIMUM CONDUCTOR SIZE		OUTPUT CONNECTION
	AC	DC	VOLTAGE		Ø CABLE	BUS BAR	
SL261 	100 mA to 10 A (1 to 100) A		100 mV/A 10 mV/A	< 1.5 °	0.46 in (12 mm)	N/A	6.5 ft (2 m) Lead w/BNC
MN261 	(0.1 to 24) A (0.5 to 240) A	–	100 mV/A 10 mV/A	< 2.5 °	0.78 in (20 mm)	N/A	6.5 ft (2 m) Lead w/BNC
SR661 	(0.1 to 12) A (0.1 to 120) A (1 to 1200) A	–	100 mV/A 10 mV/A 1 mV/A	< 1 °	2.05 in (52 mm)	(1.96 x 0.19) in (50 x 5) mm	6.5 ft (2 m) Lead w/BNC
MN251T MN379T 	(0.5 to 240) A	–	1 mV/A	< 2.5 °	0.78 in (20 mm)	0.78 in (20 mm)	10 ft (3 m) Lead w/BNC
	(0.005 to 6) A	–	200 mV/A	< 4 °			
	(0.1 to 120) A	–	10 mV/A	< 2.2 °			
MH60 	(0.5 to 100) A	(0.5 to 100) A	10 mV/A	< 1 °	1.02 in (26 mm)	N/A	6.6 ft (2 m) Lead w/BNC
MR417 	(0.5 to 40) A (0.5 to 400) A	(0.5 to 60) A (0.5 to 600) A	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.18 in (30 mm)	2 bus bar (1.24 x 0.39) in (32 x 10) mm	6.6 ft (2 m) Lead w/BNC
MR527 	(0.5 to 100) A (0.5 to 1000) A	(0.5 to 150) A (0.5 to 1400) A	10 mV/A 1 mV/A	≤ 2.2 ° ≤ 1.5 °	1.53 in (39 mm)	2 bus bar (1.96 x 0.19) in (50 x 5) mm	6.6 ft (2 m) Lead w/BNC

*Phase shift indicated at maximum rating. Note: All probes are rated 600 V CAT III and CE compliant. Not all models are UL approved; please consult factory.
Consult factory for NIST Calibration price.

DATA LOGGERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE DATA LOGGERS

MODELS L261, L452, L562, DL913-914

Print reports of all test results / Configure all data logger functions and parameters from a PC including sample rate, recording length, channel configuration and more / Create and store a library of configurations / Capture, display and analyze data in real-time on a PC

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

600 VAC/AC+DC MODEL L261

One channel simple -logger for voltage measuring, monitoring and troubleshooting

SPECIFICATIONS

MODEL	L261
ELECTRICAL	
Channels	One
Input Connection	Two recessed 4 mm safety banana jacks
Measurement Range	(0 to 600) VAC/AC+DC
Resolution	0.1 V
Accuracy (50/60) Hz	(0 to 5) V: unspecified (5 to 50) V: ± (0.5 % of Reading + 1 V) (50 to 600) V: ± (0.5 % of Reading + 0.5 V)
Input Impedance	40 MΩ
Sample Rate	64 samples/cycle
Storage Rate	Programmable from 8 every s to 1 every d
Storage Modes	Start/Stop, FIFO, Extended Recording Mode (XRM™) and Alarm
Recording Length	15 min to 8 weeks, programmable using DataView®
Memory	240,000 measurements (512 kB) The recorded data is stored in non-volatile memory and will be retained even if the battery is low or removed.
Communication	USB 2.0 optically isolated
Power Supply	(2) 1.5 V AA-cell alkaline batteries (included)
Battery Life	100 h to > 45 d (dependent on sample rate and recording length)
MECHANICAL	
Dimensions	(4.94 x 2.75 x 1.28) in (125 x 70 x 32) mm
Weight (with battery)	6.4 oz (181 g)
Case	UL94-V0
Vibration	IEC 68-2-6 (1.5 mm, 10 Hz to 55 Hz)
Shock	IEC 68-2-27 (30 G)
Drop	IEC 68-2-32 (1 m)

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

USB cable, (1) set of color-coded (red/black) leads and alligator clips and a thumb drive with DataView® software.

FEATURES

- TRMS voltage recording up to 600 VAC/AC+DC
- AC: 64 samples per cycle and DC: 8 samples per second
- Programmable storage rates from 8 every second to 1 every day
- 4 user selectable storage modes
- Stores up to 240,000 measurements in non-volatile memory
- Powered by standard alkaline batteries
- Lightweight and compact
- 5 LED indicators quickly and clearly display logger status
- Includes FREE DataView® software for data retrieval, real-time display, analysis and report generation
- Optically isolated USB 2.0 communication cable included
- EN 61010-1; 300 V CAT IV; 600 V CAT III

APPLICATIONS

- Surge and Sag recording
- Long term supply monitoring
- Industrial, commercial and residential monitoring
- Monitor voltage harmonics
- Find intermittent voltage problems
- Machine monitoring

CATALOG NO.	DESCRIPTION
2126.05	Simple Logger® II Model L261 (1-Channel, TRMS, 600 VAC/AC+DC, DataView® Software)

DATA LOGGERS
SIMPLE LOGGER® II TRMS VOLTAGE & CURRENT

MODEL L562

Two input channel logger capable of recording Arms, Vrms and VA

SPECIFICATIONS

MODEL	L562	
ELECTRICAL		
Channels	Two	
Connection	Current Channel	Voltage Channel
Input Connection	BNC	Two recessed banana jacks
Input Range	(0 to 1) VAC (for use with current probes with a voltage output)	(0 to 600) VAC
Resolution	0.1 mV	0.1 V
Accuracy ((50/60) Hz)	(0 to 10) mV unspecified (10 to 50) mV: ± (0.5 % of Reading + 1 mV) (50 to 1000) mV: ± (0.5 % of Reading + 0.5 mV)	(0 to 5) V unspecified (5 to 50) V: ± (0.5 % of Reading + 1 V) (50 to 600) V: ± (0.5 % of Reading + 0.5 V)
Input Impedance	800 kΩ	40 MΩ
Maximum Input Voltage	5 Vrms or ± 7.07 V peak	(1.2 x 600) V
Sample Rate	64 samples/cycle	
Storage Rate	Programmable from 8 every s to 1 every d	
Storage Modes	Start/Stop, FIFO, Extended Recording Mode (XRM™) and Alarm	
Recording Length	15 min to 8 weeks, programmable using DataView®	
Memory	240,000 measurement (512 kB). The recorded data is stored in non-volatile memory and will be retained even if the battery is low or removed.	
Communication	USB 2.0 optically isolated	
Power Supply	(2) 1.5 V AA-cell alkaline batteries (included)	
Battery Life	100 h to > 45 d (Dependent on sample rate and recording length)	
MECHANICAL		
Dimensions	(5.38 x 2.75 x 1.28) in (137 x 70 x 33) mm	
Weight (with battery)	6.4 oz (181 g)	
Case	UL94-V0	
Vibration	IEC 68-2-6 (1.5 mm, (10 to 55) Hz)	
Shock	IEC 68-2-27 (30 G)	
Drop	IEC 68-2-32 (1 m)	

Consult factory for NIST Calibration prices

FEATURES

- 2 input channels
- Voltage: (0 to 600) VAC TRMS
- Current: compatible with AC current probes with voltage outputs (see page 32 - sold separately)
- 64 samples per cycle
- Records Arms, Vrms & VA (VA displays in DataView® software)
- 4 user selectable storage modes
- Programmable storage rates from 8 every second to 1 every day
- Stores up to 240,000 measurements in non-volatile memory
- Powered by standard alkaline batteries
- 5 LED indicators quickly and clearly display logger status
- Includes FREE DataView® software for data retrieval, real-time display, analysis and report generation
- Optically isolated USB 2.0 communication cable included
- Complies with EN 61010-1; 300 V CAT IV; 600 V CAT III (a safety rated current probe is required)

APPLICATIONS

- Single phase power monitoring
- Residential, commercial, industrial, troubleshooting
- Find sags and surges / track energy usage
- Start-Stop time stamping

PRODUCT INCLUDES

Set of color-coded (red/black) 5 ft voltage leads and alligator clips, USB cable, (2) 1.5 V AA batteries, printed quick start guide, USB drive with DataView® software.

PROBE MODEL NUMBER	CATALOG NUMBER	PROBE OUTPUT	PROBE RANGE	MAX RANGE FOR SLII	CABLE DIAMETER	BUS BAR SIZE	OUTPUT CONNECTION
MN261	2115.82	100 mV/A / 10 mV/A	(0.1 to 24) A / (0.5 to 240) A	10 A / 100 A	0.78 in (19.8 mm)	N/A	Lead w/BNC
MN379T	2153.02	200 mV/A / 10 mV/A	5 A / 100 A		0.78 in (19.8 mm)	N/A	Lead w/BNC
SR661	2113.49	1 mV/A 10 mV/A 100 mV/A	1000 A 100 A 10 A		2.13 in (54.1 mm)	N/A	Lead w/BNC

SEE PAGE 32 FOR MORE COMPATIBLE CURRENT PROBES (SOLD SEPARATELY)

CATALOG NO.	DESCRIPTION
2126.35	Simple Logger® II Model L562 (2-Channel, TRMS, Voltage & Current, DataView® Software)

DATA LOGGERS
TWO-CHANNEL DC VOLTAGE, CURRENT, PULSE & EVENT

MODEL L452

Bluetooth-enabled logger and event counter that records DC voltage, DC current, (4 to 20) mA or pulse counts

Real-time display!

Powered by batteries or through a USB

IP 20 with terminals

DataView®

SPECIFICATIONS

MODEL	L452			
ELECTRICAL				
Channels	Two*			
Input	Six-pin terminal strip			
Measurements	DC Current	DC Voltage	Event	Pulse
Range	(4 to 20) mA	100 mV, 1 V, 10 V	N/A	
Accuracy (% of Reading)	± (0.25 % + 5 ct)	± (0.5 % + 1 ct)	N/A	
Resolution	0.01 mA	0.1 mV, 1 mV, 10 mV	N/A	
Input Impedance	100 Ω	1 MΩ		N/A
Sample Rate	5 samples/s		16 samples/s	100 samples/s
Sample Period	DC inputs: 200, 400, 600, or 800 ms; or from 1 to 60 s Pulse detection: 10 ms			
Storage Modes	Start/Stop (ends when memory is full or when the recording stop time is reached, whichever comes first)			
Recording Length	10 min to 1 y, set via instrument front panel or through DataView®			
Memory	32 MB internal Flash memory (up to 1024 logging sessions, 16 M samples)			
Communication	Bluetooth 2.1, Class 1 or USB 2.0			
Power Supply	External: via USB connector Internal: (2) AA NiMH rechargeable batteries (charges through USB port)			
Battery Life	Up to 180 d (dependent on storage rate/recording length)			
MECHANICAL				
Dimensions	(1.28 x 2.58 x 5.4) in (32 x 65 x 137) mm			
Weight (with battery)	6.7 oz (190 g) with batteries			
Vibration	IEC 68-2-6 (1.5 mm, (10 to 55) Hz)			
Shock	IEC 68-2-27 (30 G)			
ENVIRONMENTAL				
Operating Temperature	(32 to 122) °F (0 to 50) °C			
Humidity	(16 to 85) %			
Ingress Protection	IP40 (instrument alone); IP20 (instrument with terminal strip)			

*Both channels must have the same input type.
Consult factory for NIST Calibration prices

PRODUCT INCLUDES

6 ft USB cable, US 120 V wall-to-USB plug, 6-pin screw terminal block, (2) AA rechargeable NiMH batteries, a printed quick start guide, a USB drive containing DataView® software and user manual.

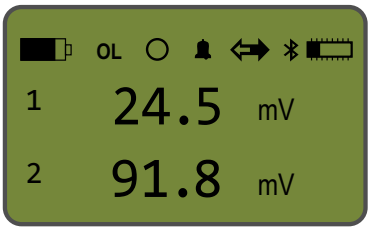
DATA LOGGERS
TWO-CHANNEL DC VOLTAGE, CURRENT, PULSE & EVENT

FEATURES

- Multiple data input types. The L452 can log DC voltage, DC current, 4 mA to 20 mA, pulse counts, or events. Measurements can be performed directly on the instrument, or through a variety of sensors. This data is stored in the instrument's large 32 MB internal Flash memory.
- Expanded user interface. You can set up the instrument and view real-time measurement data through the front panel LCD screen and input buttons. The L452 features an on-board menu-based interface for navigating measurement data and selecting configuration options.
- Enhanced DataView® support. The instrument connects to a PC using either Bluetooth or USB. Once connected, logged data can be downloaded, analyzed, and formatted into reports using the DataView® Data Logger Control Panel. This Control Panel also enables users to change settings on the instrument, view real-time measurements, schedule recording sessions, and perform other configuration tasks.

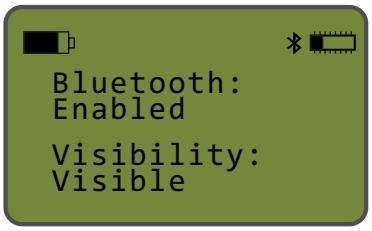
FRONT PANEL & FUNCTIONAL DISPLAYS

INSTRUMENT CONFIGURATION



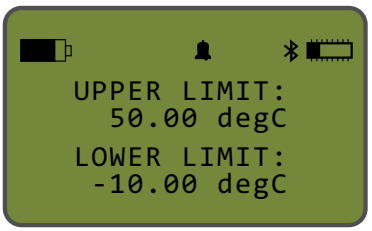
Instrument configuration parameters can be set through the front panel interface.

BLUETOOTH ENABLED/VISIBILITY



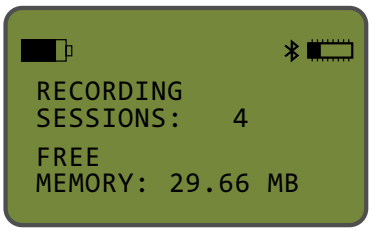
Enable and configure Bluetooth's functionality.

ALARM TRIGGERS



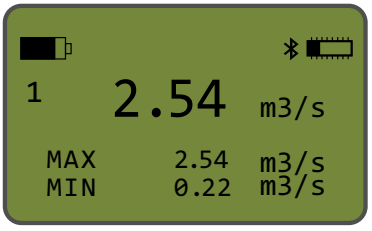
Allows you to set the upper and/or lower alarm trigger limits.

RECORDING SESSION



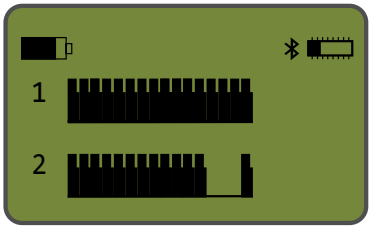
Displays the number of recording sessions currently stored in memory. It also shows the amount of free memory left for storing additional recording sessions.

MIN/MAX MEASUREMENTS



For analog input types, this screen displays the session's MIN/MAX measurement values for each channel.

EVENT MEASUREMENT DATA



For event input, the Channels 1 & 2 measurement graphic data screen appears.

CATALOG NO.	DESCRIPTION
2153.51	Data Logger Model L452 (2-Channel, w/LCD, 100 mV/1 V/10 VDC, (4 to 20) mADC, Event & Pulse, DataView® Software)

DATA LOGGERS
THREE- AND FOUR- CHANNEL AC CURRENT

MODELS DL913 & DL914

Waterproof three and four channel AC current data loggers with flexible sensors

SPECIFICATIONS

MODELS	DL913 / DL914				
ELECTRICAL					
Channels	3 (DL913) / 4 (DL914)				
Inputs	MiniFlex®				
Measurement Ranges	300 AAC / 3000 AAC				
Accuracy ((50/60) Hz)	300 A range		3000 A range		
	(0.50 to 99.99) A ± (1 %r + 10 D)	(90.0 to 360.0) A ± (1 %r + 4 D)	(4.00 to 99.99) A ± (1 %r + 10 D)	(90.0 to 999.9) A ± (1 %r + 5 D)	(0.900 to 3.600) kA ± (1 %r + 4 D)
Resolution	0.01 A	0.1 A	0.01 A	0.1 A	1 A
Frequency	(45 to 65) Hz ± 0.1 Hz				
Storage Rate	Normal recording mode: Once per second Extended recording mode: Four per aggregation period				
Recording Length	Battery Power: 4 d with no missing samples *(normal recording mode)* 7 to 30 d depending on the selected aggregation period *(extended recording mode)* External Power: 365 d				
Memory	Internal 8 GB				
Communication	USB, Wi-Fi via router (Ethernet), or Wi-Fi Direct				
Battery Charge Time	10 h maximum (Wi-Fi off)				
Power Supply	Internal: 4.2 A·h NiMH rechargeable battery pack External: USB connection				
Battery Life	Normal recording mode: 4 d Extended recording mode: 7 to 30 d* (*Depending on the selected aggregation period) *Reference user manual for in-depth information on the battery life, aggregation period, storage interval, and recording modes.*				
MECHANICAL					
Dimensions	(5.9 x 5.9 x 3.57) in (150 x 150 x 91) mm w/o sensors				
Weight (with battery)	DL913: 2.2 lbs (1 kg) / DL914: 2.42 lbs (1.1 kg)				
Sensor/Cable Length	3 (DL913) or 4 (DL914) integral 24 in (610 mm) MiniFlex® probes with 6.5 ft (2 m) leads				
Max. Conductor	7.64 in (194 mm)				
Case	UL94-V0 Flame retardant				
Vibration	IEC 68-2-6 (1.5 mm, (10 to 55) Hz)				
Shock	IEC 68-2-27 (30 G)				
Drop	IEC 68-2-32 (3.3 ft [1 m] in the most severe position without permanent mechanical damage or functional deterioration)				
ENVIRONMENTAL					
Operating/ Storage Temperature	(14 to 122) °F (-10 to 50) °C / (-40 to 158) °F (-40 to 70) °C				
Relative Humidity	Operation: up to 85 % RH (non-condensing) Storage: up to 95 % RH				

Consult factory for NIST Calibration prices

with USB cap on and cover closed

FEATURES

- Simple-to-use, 3 (DL913) and 4 (DL914) channel AC current data loggers
- 4th channel for neutral current monitoring (Model DL914)
- Includes 3 (DL913) or 4 (DL914) integral 24-inch flexible current sensors
- Current measurements from 500 mA up to 3600 A
- LCD displays real-time measurements and parameters such as memory, power, and communication status
- Front panel navigation of configuration options and measurement screens
- Built-in web server for remote monitoring
- Extended recording mode for increased battery life
- Battery and/or USB powered options
- Frequency measurements
- Wi-Fi and USB communications
- Waterproof IP67 rated (USB cap on, cover closed)

APPLICATIONS

- Single/Split-phase and 3- or 4-phase load monitoring
- Neutral and ground current monitoring
- Intermittent problem detection
- Machine load monitoring / Load profiling
- Fault current detection

PRODUCT INCLUDES

Includes small classic tool bag, 10 ft USB Type A to Type B cable, (4) stainless steel mounting brackets, (4) stainless steel M4 machine screws, USB power adapter, quick start guide, and USB thumb drive with DataView® software and user manual.

CATALOG NO.	DESCRIPTION
2153.61	Data Logger Model DL913 (3-channel, TRMS, MiniFlex® 300/3000 A, Wi-Fi, DataView® Software)
2153.62	Data Logger Model DL914 (4-channel, TRMS, MiniFlex® 300/3000 A, Wi-Fi, DataView® Software)

DATA LOGGERS
SIMPLE LOGGER® DATA LOGGERS

MODELS SL01 TO SL13
Small AC and DC simple loggers can be ready to go in minutes with just a few parameters to set up

MODELS SL20 & SL50
Log DC Current and Temperature

SPECIFICATIONS

MODELS	SL01	SL10	SL11	SL12	SL13	SL20
VOLTAGE						CURRENT
Range	(0 to 5) VAC	± 100 mVDC	± 1 VDC	± 10 VDC	± 50 VDC	± 20 mA
Resolution	10 mV	0.1 mV	1 mV	10 mV	50 mV	0.02 mA
Accuracy	± (0.5 % of Reading + 50 mV)*	± (0.5 % of Reading + 0.5 mV)*	± (0.5 % of Reading + 5 mV)*	± (0.5 % of Reading + 50 mV)*	± (0.5 % of Reading + 250 mV)*	± (0.5 % of Reading + 0.1 mA)*
Maximum Input Voltage	60 VDC					25 mADC
Input Impedance	800 KΩ					49 Ω
Power Supply	Internal: (2) 1.5 V AA non-rechargeable batteries External: USB 2.0 (computer or other USB power source)					
Power Consumption	Internal power: 1 mA (average) / External power: 100 mW					

*Accuracy is specified with the 10-point filter selected to reduce noise.
Consult factory for NIST Calibration prices

FEATURES

- Simple one button operation
- Quick two wire input connection
- User configurable scaling, units of measure and recording length
- Stores up to 4 million measurements
- Data analysis software included
- Software provides real-time trend graph display, data download, analysis and report generation
- Micro-B USB cable included

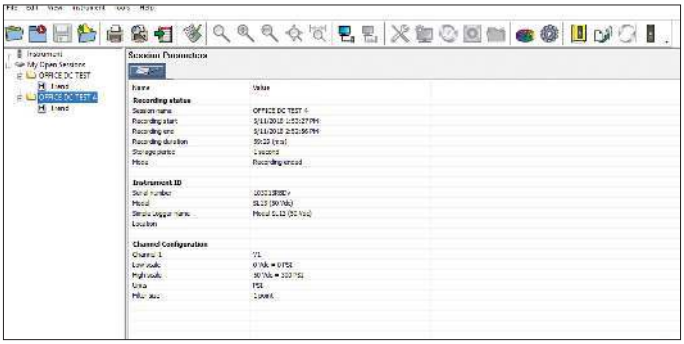
MODEL	SL50						
	Thermocouple Type:						
	J	K	N	T	E	R	S
	TEMPERATURE						
Range	(-346 to 2192) °F (-210 to 1200) °C	(-328 to 2502) °F (-200 to 1372) °C	(-328 to 2372) °F (-200 to 1300) °C	(-328 to 752) °F (-200 to 400) °C	(-328 to 1832) °F (-200 to 1000) °C	(32 to 3200) °F (0 to 1760) °C	
Resolution	0.1 °C						
Accuracy	Below -148 °F (-100 °C): ± (0.4 % of Reading + 9 °F [5 °C])*					(32 to 212) °F (0 to +100) °C: ± (0.3 % of Reading + 18 °F [10 °C])*	
	(-148 to 212) °F (-100 to 100) °C: (0.3 % of Reading + 7.2 °F [4 °C])*						
	Above 212 °F (100 °C): ± (0.2 % of Reading + 5.4 °F [3 °C])*					Above 212 °F (100 °C): ± (0.2 % of Reading + 14 °F [8 °C])*	
Maximum Input Voltage	1 V						
Input Impedance	800 KΩ						
Power Supply	Internal: (2) 1.5 V AA non-rechargeable batteries External: USB 2.0 (computer or other power source, when powered by the USB the battery is automatically disconnected)						
Power Consumption	Internal power: 1 mA (average) / External power: 100 mW						

*Accuracy is specified with the 10-point filter selected to reduce noise.
Consult factory for NIST Calibration prices

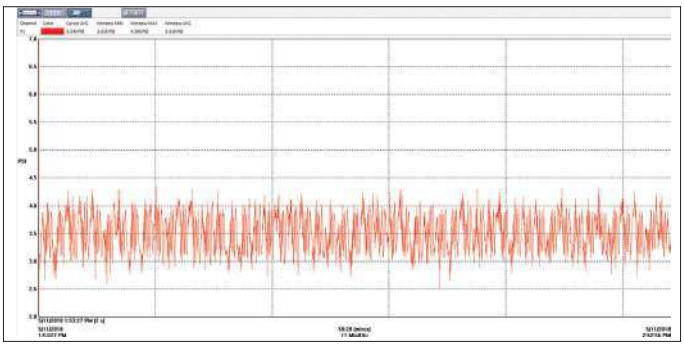
SIMPLE LOGGER CONTROL PANEL

The Simple Logger Control Panel allows you to configure how data measured by these instruments is recorded and displayed. The available settings depend on which model is connected to the computer. The following table shows which configuration options are available for each model.

FEATURE	SL01	SL10	SL11	SL12	SL13	SL20	SL50
Set up recording	✓	✓	✓	✓	✓	✓	✓
Define units	✓	✓	✓	✓	✓	✓	✓
Set instrument clock	✓	✓	✓	✓	✓	✓	✓
Erase instrument memory	✓	✓	✓	✓	✓	✓	✓
Scaling	✓	✓	✓	✓	✓	✓	
Filtering	✓	✓	✓	✓	✓	✓	✓
Thermocouple type							✓
Cold Junction Compensation							✓



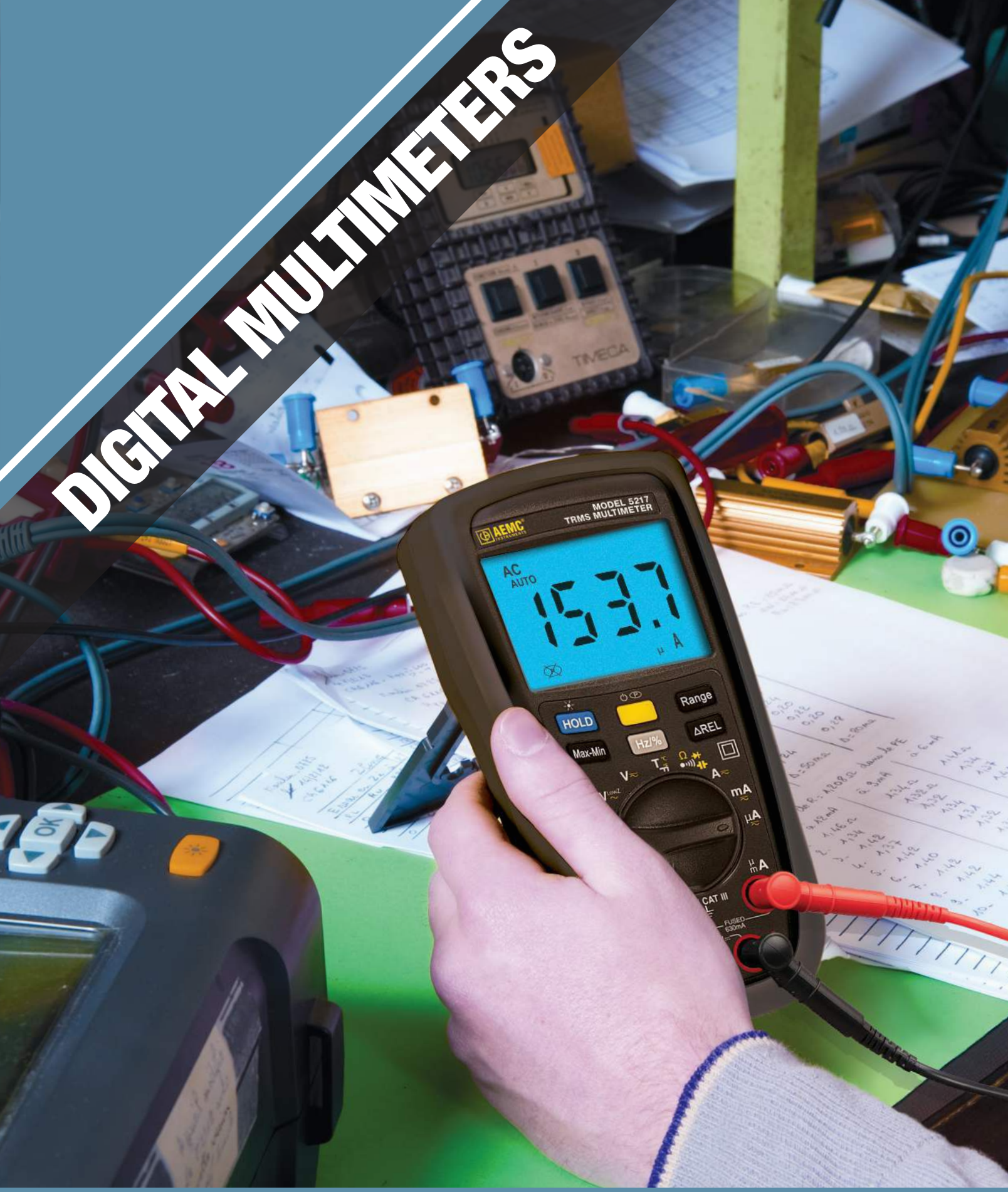
Current configuration of a logger



Typical real-time trend graph

CATALOG NO.	DESCRIPTION
2156.01	Simple Logger® Model SL01 (Low Voltage, 5 VAC)
2156.10	Simple Logger® Model SL10 (Voltage, 100 mVDC)
2156.11	Simple Logger® Model SL11 (Voltage, 1 VDC)
2156.12	Simple Logger® Model SL12 (Voltage, 10 VDC)
2156.13	Simple Logger® Model SL13 (Voltage, 50 VDC)
2156.20	Simple Logger® Model SL20 (Current, 4 to 20 mADC)
2156.50	Simple Logger® Model SL50 (Temperature, Thermocouple)

DIGITAL MULTIMETERS



SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

DIGITAL MULTIMETERS
5000 SERIES

MODELS 5212, 5217, 5231 & 5233

Compact and simple to use, these multimeters with a large backlit display and non-contact voltage detection are exceptional products and a great value for today's market

SPECIFICATIONS

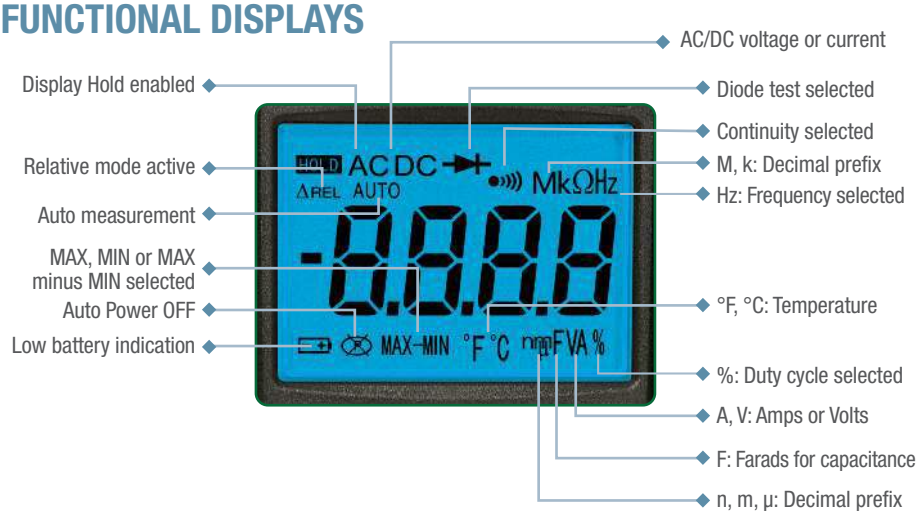
MODELS	5212	5217	5231	5233
GENERAL				
True RMS	Yes			
AC Bandwidth	1000 Hz			
Auto/Manual Ranging	Yes			
LCD Display	4000-count	6000-count	6000-count + 61 segment bargraph	
Auto/Manual Range Select	Yes			
Voltage AC/DC	600 V	750 VAC / 1000 VDC	6 ranges / 60 mV to 1000 V; Resolution: 0.01mV	
Current AC/DC	4 A / 10 A	6 A /10 A	With 1 mV/A clamp: 600 A Resolution: 0.1 A	2 ranges / (6 to 10) A Resolution: 0.001 A
µAmps AC/DC	400 / 4000 µA	600 / 6000 µA	–	
Resistance	40 MΩ	60 MΩ	6 ranges / 60 MΩ; Resolution: 0.1 Ω	
Frequency/Duty Cycle	–	1000 Hz/Yes	–	3 ranges: up to 3 kHz/Yes
Capacitance	100 mF		–	6 ranges / 1000 µF; Resolution: 0.01 nF
Temperature	–	(-61 to 2192) °F (-55 to 1200) °C	–	(4 to 1400) °F (-20 to 760) °C
Continuity with Beeper	Yes			
Diode Test	Yes			
V Low Z	Yes		4 ranges / 60 mV to 1000 V; Resolution: 0.01 mV	
Non Contact Voltage Detection (NCV)	Yes/Red flashing display with buzzer		Yes/Red display	
Max / Min / Max-Min	No / No / No	Yes / Yes / Yes	No / No / No	Yes / Yes / No
Δ REL	No	Yes	No	Yes
OTHER FEATURES				
Display Hold	Yes			
Flashlight	Yes		No	
Backlight	Yes – Blue/Red			
Removable Holster	Yes		No	
Magnetic Hanger	Yes – in the holster		No	
Auto Power OFF	Yes			
Auto Power OFF Disable	Yes			
Power Supply	(2) 1.5 V AA		9 V	
Battery Life	500 h		> 100 h	
Low Battery Indication	Yes			
Direct Fuse Access	Yes			
Drop Resistant	Yes – 6.56 ft (2 m)		Yes – 3.28 ft (1 m)	
Operating Temperature Range	(-4 to 122) °F (-20 to 50) °C		(32 to 122) °F (0 to 50) °C	
Double Insulated	Yes			
WARRANTY/SAFETY				
Warranty	3 y		2 y	
Ingress Protection	IP54			
Safety	600 V CAT III		1000 V CAT III, 600 V CAT IV	

Consult factory for NIST Calibration prices

DIGITAL MULTIMETERS
5000 SERIES

Non-contact detection of network voltage (NCV Function-AC only)

FUNCTIONAL DISPLAYS



5212 & 5217 5233

FEATURES

- AC/DC current up to (10 or 600) A with a current clamp giving direct readings (Model 5231)
- High sensitivity with a resolution of 0.01 mV
- Withstands overloads up to 8000 V
- VLowZ function detects and eliminates ghost voltages by placing a burden on the circuit
- Multi-position mounting
- Battery life extended with “sleep mode” feature
- Backlight screen and flashlight (Models 5212 & 5217)
- Displays MAX, MIN and MAX-MIN (Models 5217; Model 5233 displays MAX & MIN only)
- Displays relative measurement (Models 5217 & 5233)
- Measures temperature (Models 5217 & 5233)
- Measures frequency and duty cycle (Models 5217 & 5233)

MODELS 5231 & 5233

PRODUCT INCLUDES

5212 & 5217
Soft carrying pouch, set of (2) color-coded (red/black) leads, (2) 1.5 V AA batteries and user manual.

THERMOCOUPLE ADAPTER
Included with Model 5217

5231
Soft carrying case, set of (2) 5 ft color-coded leads (red/black) with needle tip (1000 V CAT IV 15 A), and user manual.

5233
Soft carrying case, set of (2) 5 ft color-coded leads (red/black), adapter - banana (male) to mini (female) with K-type thermocouple, and user manual.

CATALOG NO.	DESCRIPTION
2154.07	DMM Model 5212 (TRMS, 4000-cts, NCV, V, A, AC/DC, Ohm, Auto Hold)
2154.09	DMM Model 5217 (TRMS, 6000-cts, NCV, V, A, AC/DC, Ohm, T, Frequency, Auto Hold)
2125.64	DMM Model 5231 (TRMS, 6000-cts, V, AC/DC, Ohm, CT, NCV)
2125.65	DMM Model 5233 (TRMS, 6000-cts, V, A, AC/DC, Cap, Ohm, T, NCV)

DIGITAL MULTIMETERS
3000 SERIES

3Yr WARRANTY


MTX 3290


MTX 3291

MODELS MTX 3290 & 3291

A compact, rugged, comfortable to grip, waterproof (to IP67 standard) meter

SPECIFICATIONS

MODELS	MTX 3290	MTX 3291
ELECTRIC		
DC, AC & AC+DC Voltages	60 mV to 600 V	60 mV to 1000 V
Voltage DC Accuracy	± 0.3 %	± 0.05 %
AC & AC+DC Bandwidth	20 kHz	100 kHz
DC, AC & AC+DC Current	600 µA to 10 A / 20 A (30 s max) (MTX 3291)	
Current DC Accuracy	± 0.08 %	
Frequency	60 Hz to 600 kHz	
Resistance	600 Ω to 60 MΩ	
Audible Continuity	600 Ω signal < 30 Ω ± 5 Ω < 5 V	
Diode Test	3 V with 1 mV resolution	
Capacitance	6 nF to 60 mF	
Temperature Pt100/1000	(-328 to 1472) °F (-200 to 800) °C	
Temperature K/J TC	–	
OTHER FUNCTIONS		
MIN/MAX/PEAK	Time/date-stamped MAX/MIN/AVG or PEAK ±, on all functions	
Relative Mode (ΔRel)	Relative value + measured reference value on secondary display (MTX 3291)	
PWM Filter	4th-order 300 Hz low-pass filter for measuring variable speed drives with asynchronous motors	
V-Output Clamp Function for Direct Reading	Integration of the ratio: 1, 10, 100, 1000 mV/A	
Secondary Functions or Measurements	dBm and VA resistive power, +/- duty cycle, and pulse width (MTX 3291)	
SPEC Mode	–	
GRAPH	–	
Center Zero	Selectable or automatic (MTX 3291) bargraph for VDC and ADC	
Memory	–	
GENERAL		
Display	LCD with backlighting (MTX 3291) and digits 14 mm high; Dual-line 60,000 (MTX 3291) or 6000-count display	
Communication	–	USB optical connector & SX-DMM software (included)
Power Supply	(4) AA batteries (included) or NiMH batteries	
Environment	Storage: (-4 to 158) °F (-20 to 70) °C Operation:(32 to 104) °F (0 to 40) °C	
Dimensions	(7.72 x 3.54 x 1.85) in (196 x 90 x 47) mm	
Weight	20 oz (570 g)	

Consult factory for NIST Calibration prices

SAFETY 1000V CAT III RATING · SAFETY 600V CAT IV RATING · CE · IP 67 · Trms

SAFETY 600V CAT III RATING · SAFETY 300V CAT IV RATING

MTX 3290 only

FEATURES

- Easy-to-read (2.75 x 2.04) in (70 x 52) mm backlit LCD screen
- On screen connection indicator
- Current: auto-ranging up to 10 A
- Secondary measurements in addition to the main measurement to facilitate analysis
- MIN/MAX and AVG data with relative time/date-stamping and voltage and current peaks
- SX-DMM software for real-time processing of the data on a PC (MTX 3291)
- Powered by four standard AA batteries or four NiMH batteries rechargeable available with optional external charging module

PRODUCT INCLUDES

Set of color-coded (red/black) safety leads, set of (2) color-coded (red/black) test probes, (4) 1.5 V AA alkaline batteries (installed), multilingual operation instructions, quick start guide, and a USB drive with user manual.

Model MTX 3291 also includes a soft carrying case, USB cable, and USB drive with SX-DMM software.

CATALOG NO.	DESCRIPTION
2154.01	DMM Model MTX 3290 (ASYC IV, TRMS, 6000-cts, Digital LCD)
2154.02	DMM Model MTX 3291 (ASYC IV, TRMS, 60,000-cts, USB, Backlit, Digital LCD)

DIGITAL MULTIMETERS
3000 SERIES

3Yr WARRANTY

MTX 3292B

MTX 3293B

MODELS MTX 3292B & 3293B

Portable multimeter measuring resistance, capacitance, temperature, duty cycle, pulse counts and frequency

SPECIFICATIONS

MODELS	MTX 3292B	MTX 3293B
ELECTRICAL		
DC, AC & AC+DC Voltages	100 mV to 1000 V	
Voltage DC Accuracy	± 0.03 %	± 0.02 %
AC & AC+DC Bandwidth	100 kHz	200 kHz
DC, AC & AC+DC Current	1000 µA to 10 A / 10 to 20 A (30 s max)	
Current DC Accuracy	± 0.01 %	
Frequency	10 Hz to 5 MHz	
Resistance	100 Ω to 100 MΩ	
Audible Continuity	1000 Ω signal < 20 Ω < 3.5 V	
Diode Test	Diode 0 to 2.6 V < 1 mA + Zener Diode or LED 0 to 20 V < 11 mA	
Capacitance	1 nF to 10 mF	
Temperature Pt100/1000	(-328 to 1472) °F (-200 to 800) °C	
Temperature K/J TC	(-40 to 2192) °F (-40 to 1200) °C	
OTHER FUNCTIONS		
MIN/MAX/PEAK	SURV time/date-stamped MAX/MIN/AVG or PEAK ± on all functions	
Relative Mode (ΔRel)	Relative value REF-delta unit or on 3 displays + main measurement	
PWM Filter	4th-order 300 Hz low-pass filter for measuring variable speed drives with asynchronous motors	
V/A-Output Clamp Function for Direct Reading	Programmable ratio	
Secondary Measurements	3 measurements + main measurement	
SPEC Mode	Display of measurement tolerance: Smin, Smax	
GRAPH	Trends of main measurements < 60 s + Zoom + Cursor	
Center Zero	Automatic trend bargraph	
Memory	10,000 measurements	30,000 measurements
GENERAL		
Display	Color graphical display (70 x 52) with backlighting on four-line 100,000-count display	
Communication	USB optical connector or Bluetooth Class II (optional) & SX-DMM software (included)	
Power Supply	Charger or (4) AA batteries or NiMH batteries (included)	
Environment	Storage: (-4 to 158) °F (-20 to 70) °C Operation: (32 to 104) °F (0 to 40) °C	
Dimensions	(7.72 x 3.54 x 1.85) in (196 x 90 x 47.1) mm	
Weight	20.1 oz (570 g)	

Consult factory for NIST Calibration prices

1000V CAT III RATING · 600V CAT IV RATING · IP 67

* Google Play **

*Bluetooth Communication for Models 3292B-BT & 3293B-BT only

**Android™ App available on Google Play for Models 3292B-BT & 3293B-BT

FEATURES

MTX 3292B & MTX 3293B

- Easy-to-read 320 x 240 pixel color matrix graphical screen with black background
- Trace, cursors and zoom on recordings
- Programmable storage rate
- Stores up to 30,000 measurements (MTX 3293B)
- On screen connection indicator
- USB or Bluetooth Class II communication available as an option
- NiMH AA rechargeable battery
- No downtime: instrument operates while charging

PRODUCT INCLUDES

MTX 3292B & MTX 3292B-BT, MTX 3293B & MTX 3293B-BT

Soft carrying case, set of (2) color-coded (red/black) safety leads, set of (2) color-coded (red/black) test probes, printed quick start guide, (4) NiMH 2400 mA·h 1.5 V rechargeable batteries (installed), optical USB cable, USB Type A charger, USB charging cable and USB drive with SX-DMM software.

SHOWN: MTX 3293B

CATALOG NO.	DESCRIPTION
2154.03	DMM Model MTX 3292B (ASYC IV, TRMS, 100,000-cts, USB, Color Graphical Display)
2154.04	DMM Model MTX 3293B (ASYC IV, TRMS, 100,000-cts, USB, Color Graphical Display)
2154.05	DMM Model MTX 3292B-BT (ASYC IV, TRMS, 100,000-cts, Bluetooth, USB, Color Graphical Display)
2154.06	DMM Model MTX 3293B-BT (ASYC IV, TRMS, 100,000-cts, Bluetooth, USB, Color Graphical Display)

FUNCTIONAL DISPLAYS

The TRMS measurements of AC voltages and currents are also accurate on non-linear signals

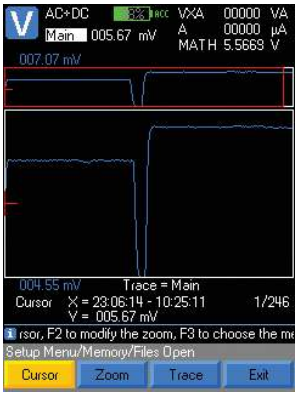
MTX 3292B & MTX 3293B COLOR MATRIX GRAPHICAL SCREENS

SETUP MENU

Configuration of measurements

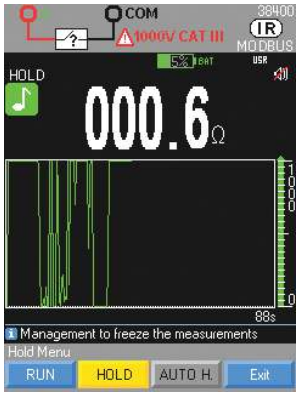
MEASUREMENT

Configuration of the measurement parameters



MEM

Storing of the measurements recording mode



HOLD

Management and hold of the display

MTX 3290 & MTX 3291 BACKLIT LCD SCREENS

MAX/MIN AVG

Displays maximum, minimum and average values

PEAK MODE

Example of screen showing Peak+value

ΔREL MODE

Displays relative values with respect to referenced measured value

ELECTRICAL TEST TOOLS

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

ELECTRICAL TEST TOOLS
PHASE AND MOTOR ROTATION METERS

6608 6609 6610

MODELS 6608, 6609 & 6610

Ideal for installing rotating machinery or motors, and checking generator output phase direction

SPECIFICATIONS

MODELS	6608	6609	6610
ELECTRICAL			
Operating Voltage	(40 to 850) VAC between phases	With leads connected: (40 to 600) VAC between phases	(75 to 1000) VAC Static induction
Frequency Range	(15 to 400) Hz		(45 to 65) Hz
Power Supply	Self-powered via the measurement inputs	(1) 9 V Alkaline battery (included)	
MECHANICAL			
Dimensions	(5.1 x 2.7 x 1.3) in (130 x 69 x 33) mm		(5.0 x 2.8 x 1.8) in (127 x 71 x 46) mm
Weight	4.5 oz (128 g)	6 oz (170 g)	13.4 oz (380 g)
ENVIRONMENTAL			
Operating Temperature	(32 to 104) °F (0 to 40) °C		(14 to 122) °F (-10 to 50) °C; max. 80 % RH
Storage Temperature	(-4 to 122) °F (-20 to 50) °C; < 80 % RH		(-4 to 140) °F (-20 to 60) °C; max. 80 % RH
SAFETY			
Safety Rating / Ingress Protection	IEC 61010-1, DIN VDE 0411; IEC 61557-7, DIN VDE 0413-7; Tightness / IP40		EN 61010-1, EN 61326-1
Electrical Safety	600 V CAT III		1000 V CAT III; 600 V CAT IV

6610 only Except 6610

FEATURES

- Voltage sensing detector clips – no metal contact points to promote greater safety (Model 6610)
- Indication of live phase presence or phase absence
- Designed for checking a wider range of 3-phase power supply from 75 VAC to 1000 VAC (Model 6610)
- Determination of a motor's rotation direction (Model 6609)
- Automatic testing as soon as the instrument is connected
- Terminals and cables identified by color-coding to simplify connection (test leads are attached to Model 6610)
- Phase rotation indicators (Model 6608)
- Phase and motor rotation indicators (Models 6609 & 6610)
- Color-coded leads (red, black, blue) and alligator clips (black)
- Color-coded jacks for common U.S. phase colors
- Line supplied - no battery needed (Model 6608)
- Protected internally by high impedance circuit to limit the current to user safe limits

PRODUCT INCLUDES

6608 & 6609

Soft carrying case, (3) 4 ft color-coded (red/black/blue) test leads, (3) color-coded (black) alligator clips and user manual.

6610

Soft carrying case, meter with attached test leads (black, red & blue) with alligator clips, 9 V battery and user manual.

6608 case 6610 case

CATALOG NO.	DESCRIPTION
2121.10	Phase Rotation Meter Model 6608
2121.11	Phase & Motor Rotation Meter Model 6609
2121.12	Phase Rotation Meter Model 6610 (Non-contact)

AC LINE SPLITTER
MODEL ALS-1
For use with clamp-on meters and multimeters using current probes

FEATURES

- Avoids splitting lines - makes reading current easy
- Increases sensitivity of clamp-on current probes and clamp-on meters ten times in X10 mode
- Direct reading X1 mode
- Voltmeter input jacks
- Integral ground conductor
- Facilitates reading current draw of device plugged into it
- Facilitates reading current draw through extension cords
- 120 V, 15 A capacity

ALS-1

NON-CONTACT AC VOLTAGE DETECTOR
MODEL NC-1

NC-1

SPECIFICATIONS

MODEL	NC-1
Voltage Sensitivity	(120 to 240) VAC
Frequency	(50/60) Hz
Detection Distance	< 5 mm
Over Voltage	600 V CAT III
Power Supply	(2) 1.5 V AAA Alkaline (included)
Electrical Safety	For indoor use and in accordance with over voltage 600 V CAT III, Pollution Degree 2

CATALOG NO.	DESCRIPTION
2121.05	AC Line Splitter Model ALS-1
2121.09	Non-Contact AC Voltage Detector Model NC-1

ELECTRICAL TEST TOOLS
NON-CONTACT HIGH VOLTAGE DETECTOR

MODEL 275HVD

Warns the operator of live conductors with the use of its detection sensor

CE IP 65

SPECIFICATIONS

MODEL	275HVD
ELECTRICAL	
Detection Frequency	(45 to 70) Hz
Ranges	240 V, 2 kV, 6 kV, 11 kV, 22 kV, 33 kV, 132 kV, 275 kV
Detection	Selection range is detected at approximately 10 in (25 cm) from the voltage. Greater detection distances can be obtained at lower voltage positions
Power Supply	(3) 1.5 V C cell batteries (included)
MECHANICAL	
Self Test	User selectable
Indicators	Bright red LED and audible buzzer
ENVIRONMENTAL	
Operating Temperature	(5 to 130) °F (-15 to 55) °C
Storage Temperature	(-4 to 150) °F (-20 to 65) °C
Humidity	Up to 93 % RH @ 104 °F (40 °C)
Electrical Safety	EN 61326-1, EN 61000-4-2, EN 61000-4-3, EN 55011

Note: Not designed to work on shielded cable or enclosure.

FEATURES

- Non-contact high voltage detector
- Wide range of detection; 80 V to 275 kV; one instrument fits all applications
- Eight switch-selectable voltage sensitivity ranges
- Audible and visual (LED) indication of live voltage
- Self-test ensures that all system functions and indicators are working properly by energizing the complete system
- Designed for use with hot sticks incorporating a shotgun adapter
- Lightweight, minimizes sway at the end of long hot sticks
- Suitable for indoor and outdoor use
- Easy access to batteries

PRODUCT INCLUDES

Hard carrying case, universal spline for hot stick connection, (3) C cell batteries, shotgun adapter and a user manual.

Note: Hot stick not supplied

ACCESSORIES/ REPLACEMENTS

Catalog #5100.03
Battery housing with o-ring and spring

Catalog #5100.08
Metal Universal Spline Adapter

Catalog #2131.36
Replacement Carrying Case

CATALOG NO.	DESCRIPTION
2131.12	Non-Contact High Voltage Detector Model 275HVD (240 V to 275 kV, Manual self-test)

MODEL CA 773

An essential tool for electricians to ensure no voltage is present before working on any electrical installation connected to the network

CA 773

SPECIFICATIONS

MODEL	CA 773
ELECTRICAL	
Display	LEDs + backlit digital display
Voltage Absence Testing (VAT)	12 VAC ≤ U ≤ 1000 VAC; 12 VDC ≤ U ≤ 1400 VDC
Voltage LEDs	(12 to 1000) VAC; (12 to 1400) VDC
Voltage LEDs + backlit digital display	(1.0 to 299.0) VAC/DC (300 to 1,000) VAC / 1,400 VDC
Frequency	DC, (16.67 to 800) Hz
Impedance	> 500 kΩ
Max. Peak Current	3.5 mA RMS
Polarity Indication	Yes
Redundant Hazardous Voltage Indication	The ELV (Extra-Low Voltage) LED indicates that the voltage is higher than the SELV (Safety Extra-Low Voltage) with rate at flashing proportional to the voltage level
Stray Voltage Detection	Yes (by low-impedance load switching)
GFI Tripping	Up to 30 mA
Phase/Neutral Identification	Above 50 V (45 to 65) Hz; Above 150 V (16.67 to 45) Hz
CONTINUITY & RESISTANCE	
Buzzer Trigger Threshold	100 Ω typical (150 Ω max.)
Extended Continuity Test (Resistance)	0.5 Ω to 2999 kΩ
Test Current / Open-circuit Voltage	≤ 1 mA / ≤ 3.3 V
Phase Rotation	2-wire method with microprocessor
Ph/Ph Voltage	50 V ≤ U ≤ 1000 VAC (45 to 400) Hz
Buzzer	Intermittent beep for Voltage Detection Continuous beep for continuity
Electrical Safety	IEC 61243-3, EN 61243-3, IEC 61010 1000 V CAT IV
Operating Temperatures	(5 to 113) °F (-15 to 45) °C (Class N)
Power Supply	(2) AA batteries (included) or NiMH batteries
Environment	Storage: (-40 to 158) °F (-40 to 70) °C
Dimensions	(7.72 x 3.54 x 1.85) in (196 x 90 x 47) mm
Weight	1.25 lb (567 g)

FEATURES

- Full autotest
- Voltage detection, LED display:
  12 VAC ≤ U ≤ 1000 VAC
  12 VDC ≤ U ≤ 1400 VDC
- Frequency: DC, (16.67 to 800) Hz
- Detection of stray voltages
- Unipolar phase detection (a single contact)
- Two-pole phase-sequence testing with 2-wire method = a third hand is not required
- Continuity test with audible and visual indication (R < 100 Ω)
- Extended continuity test with visual indication for:
  R < 0.5 Ω to 2.999 kΩ
- RCD trip test
- Complies with EN 61243-3 & IEC 61010 1000 V CAT IV
- Battery life > 2500 x 10 s measurements
- Removable lead and test probe
- Delivered complete and ready to use

PRODUCT INCLUDES

Set of removable test probes Ø 2 mm with crystal safety cover, probe-tip protector, velcro strap, (2) 1.5 V AA batteries, and a multilingual user manual.

CATALOG NO.	DESCRIPTION
2121.15	Voltage Tester Model CA 773 (LED & backlit display, VAT 12 VAC ≤ U ≤ 1000 VAC; 12 VDC ≤ U ≤ 1400 VDC, Absence of Voltage)

CA 1725 CA 1727

MODELS CA 1725 & CA 1727

Simple to use and offers numerous measurement capabilities with or without contact

CE IP 51

SPECIFICATIONS

MODELS	CA 1725	CA 1727
MEASUREMENTS		
Rotational Speed Function	Range: (6 to 100,000) RPM Resolution: (0.0006 to 6) RPM depending on range	
Linear Speed Function	Range: (0.1 to 10,000) m/min or ft/min Resolution: (0.0006 to 6) m/min or ft/min depending on range	
Frequency Function	Range: (0.1 to 10,000) Hz Resolution: (0.0004 to 0.4) Hz depending on range	
Period Function	Range: (0.1 to 10,000) ms Resolution: (0.0003 to 0.3) ms depending on range	
Duty Cycle Function	Range: (10 to 10,000) % Resolution: (0.1 to 1) % depending on range	
Count Function	Range: 0 to 99,999 events; Accuracy: ± 1 event (Model CA 1727)	
GENERAL		
Power Supply	9 V Alkaline battery (included)	
Battery Life	250 x 5 min measurements with optical sensor; 600 x 5 min measurements with external sensor	
Data Storage	4000 measurements (Model CA 1727)	
Dimensions	(8.5 x 2.83 x 1.85) in (216 x 72 x 47) mm	
Weight	8.8 oz (250 g)	
Weatherproofing	IP51	
Environment	Storage: (-4 to 158) °F (-20 to 70) °C 95 % RH; Operation: (32 to 131) °F (0 to 55) °C 90 % RH	
OPTICAL SENSOR		
Reflective Area	(10 to 90) % of the target area	
Measurement Distance	(0.4 x 19.7) in (1 to 50) cm The maximum distance is given for a reflective adhesive strip with a minimum area of 10 cm^2.	
Measurement Angle	± 15 ° in relation to the perpendicular of the reflective surface.	
MECHANICAL		
Adapter	End-fittings: elastomer with a durometer hardness of 80	
Pressure on Moving Part	Between 2 and 40 N; maximum speed: 10,000 RPM	
Service Life	Approx. 1000 h at 3000 RPM with a pressure of 20 N	
Conical End-fitting Accessory	Minimum diameter of measurement shaft: 0.2 in (5 mm)	
Cylindrical End-fitting Accessory	Speed measurements on shafts with a diameter greater than 0.2 in (5 mm) or flat-ended shafts	
End-fitting Accessory with Wheel	Wheel diameter: 1.19 in (30 mm); Wheel development: 3.94 in ± 0.004 in (99 mm ± 0.1 mm)	

Consult factory for NIST Calibration prices

FEATURES

- Measurements up to 100,000 RPM
- Multiple functions and automatic routines for data acquisition and storage: measurement of rotational speed, linear speed, count, frequency and period
- Extensive programming possibilities
- Digital display with analog bargraph
- USB interface for processing results on a PC (Model CA 1727)
- Includes TachoGraph software on CD-ROM (Model CA 1727) download memory only
- Stores up to 4000 measurements results (Model CA 1727)

ACCESSORIES

MECHANICAL ACCESSORIES KIT
Catalog #1749.02
Mechanical adapter, calibrated wheel, conical and cylindrical end fitting

PRODUCT INCLUDES

Hard case, FRB F connector, 9 V battery, set of (15) reflective strips, quick start guide and user manual.

CA 1727 also includes a USB cable and TachoGraph software.

CATALOG NO.	DESCRIPTION
1748.10	Tachometer Model CA 1725
1748.30	Tachometer Model CA 1727

ENVIRONMENTAL TESTERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE ENVIRONMENTAL TESTERS

MODELS 1110, 1246, 1510, 1821, 1822 & 1823

Capture and display data in real-time / Configure all user selectable functions and parameters / Download and analyze stored data
Create customizable reports / Print reports of all test results

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MODELS CA811 & CA813

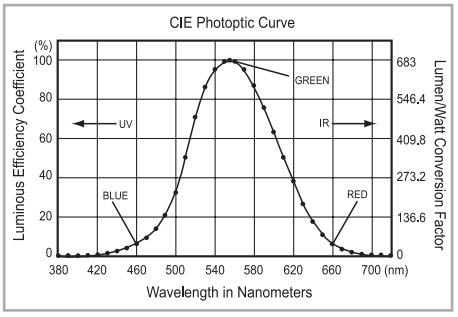
Features optical sensors that are designed to match the response of the human eye

CA811 CA813

SPECIFICATIONS

MODELS	CA811	CA813*
MEASUREMENTS		
Range	20 fc, 200 fc, 2000 fc, 20 kfc	
	20 lx, 200 lx, 2000 lx, 20 klx	20 lx, 200 lx, 2000 lx, 20 klx, 200 klx
Display Resolution	0.01 fc or 0.01 lx	
Sensor	Silicon photodiode	
Spectral Response	CIE Photopic Curve	
Accuracy **2856 K Light Source** **Common Light Source**	± 5 % of Reading ± 10 cts ± 18 % of Reading ± 2 cts	± 5 % of Reading ± 10 cts ± 11 % of Reading ± 2 cts
Sample Rate	2.5 times per s, nominal	
GENERAL		
Display	3½ digit liquid crystal display (LCD), 2000-count	
Operating Temperature	(32 to 122) °F (0 to 50) °C, < 80 % RH	
Storage Temperature	(-4 to 140) °F (-20 to 60) °C, (0 to 80) % RH without battery	
Polarity	Automatic	
Power Supply	(1) 9 V Alkaline battery (included)	
Low Battery Indication	Displayed when battery voltage is low	
Dimensions	(6.81 x 2.38 x 1.5) in (173 x 60 x 38) mm	
Weight	Approx. 7.55 oz (214 g) including battery	Approx. 7.9 oz (224 g) including battery

Consult factory for NIST Calibration prices



*Note: Model CA813 offers higher sensitivity (200 klx) and has a better spectral response to common light sources. Model CA811 is used to measure incandescent lighting.

PRODUCT INCLUDES

Rugged shockproof protective holster, 9 V battery and user manual.

FEATURES

- Easy one-hand operation
- Designed to measure a wide range of lighting types
- Removable sensor for remote reading
- Measures in foot-candles (fc) or lux (lx)
- Measures incandescent lighting
- Cosine corrected
- Hold function
- Max function (CA811)
- Peak function (CA813)
- CIE photopic (human eye) response
- 2000-count backlit LCD
- Lightweight and compact
- Removable protective sensor cover
- Includes rugged, shockproof, protective and dirt resistant gray cover

APPLICATIONS

- Testing for OSHA compliance in workplace, cleanroom and industrial settings
- Ambient testing for light-sensitive displays and archives in museums and art galleries

CATALOG NO.	DESCRIPTION
2121.20	Lightmeter Model CA811
2121.21	Lightmeter Model CA813

ENVIRONMENTAL TESTERS
AIR QUALITY

MODEL 1510

Monitor CO_2, temperature, and humidity for a healthy environment

Assists with the prevention of COVID 19 by testing indoor air quality. Contact us to learn more.

SPECIFICATIONS

MODEL	1510
CO_2 MEASUREMENT	
Measuring Principle	Non-dispersive infrared (NDIR) technology
Type of Sensor	Double-beam infrared cell sensor
Measurement Range	(0 to 5000) ppm
Accuracy (CO2)	± 50 ppm ± 3 % of value measured
Response Time (63 %)	< 200 s
Resolution	1 ppm
TEMPERATURE MEASUREMENT	
Type of Sensor	CMOS
Units	°C or °F
Measurement Range	(14 to 140) °F (-10 to 60) °C
Accuracy	± 0.1 °F (± 0.5 °C)
Resolution	0.1 °F (0.1 °C)
HUMIDITY MEASUREMENT	
Type of Sensor	Capacitive
Measurement Range	(5 to 95) % RH
Accuracy	± 2 % RH
Resolution	0.1 % RH
GENERAL	
Recording Interval	Programmable from 1 min to 2 h
Storage	> 1 million measurements
Alarm	Yes
Backlighting	Blue - red when in alarm condition
Hold, Min & Max	Yes
Auto Power OFF	Yes (in portable mode only)
Dimensions / Weight	(4.92 x 2.58 x 1.26) in (125 x 65 x 32) mm / 6.7 oz (190 g) with batteries
Power Supply	Alkaline batteries: (2) AA or rechargeable battery connection to 120 V 60 Hz line / USB to wall adapter
Communication	Bluetooth (Class I) wireless communication / USB link; the product is then recognized as a USB drive for easy file transfer
Mounting	Optional padlock wall mount (padlock is not included), optional desktop stand and wall mount holster
DataView® Software	Graphic representation or as table of values, data export, real-time mode calculation of the confinement index with selection of presence periods & report generation
SAFETY	
Safety Rating	IEC 61010-1, 50 V CAT II – IEC 61326-1
Ingress Protection	IP40

Consult factory for NIST Calibration prices

FEATURES

- CO_2, temperature, and humidity logger
- Free app for Android™ from the Google® Play Store
- Display turns red when any of the measurements are in alarm condition
- Compact and stand-alone: for mounting or portable use
- User-friendly: comfort indicators based on the CO_2, temperature and humidity levels
- Accurate: complies with the latest standards concerning air quality monitoring
- Quick, simple data download using supplied DataView® software
- On-site calibration test module with adapter, tube and software for adjusting the zero and thresholds

PRODUCT INCLUDES

Soft carrying pouch, adapter - US wall plug to USB, 6 ft USB cable, (2) 1.5 V AA batteries, printed quick start guide, and a USB drive with DataView® software and user manual.

ACCESSORIES/REPLACEMENTS

Catalog #2138.61
Wall Mount Holster (Gray)

Catalog #2138.63
Calibration Kit

Catalog #2138.66
6 ft USB cable

Catalog #2153.78
Adapter - US Wall Plug to USB

Catalog #2117.73
Replacement Carrying Pouch

CATALOG NO.	DESCRIPTION	CATALOG NO.	DESCRIPTION
2138.08	Air Quality Logger Model 1510 (Gray)	2138.09	Air Quality Logger Model 1510 (White)

MODEL CA832

Designed to assess sound ambiences or nuisances in accordance with international safety and quality standards

SPECIFICATIONS

MODEL	CA832
MEASUREMENTS	
Measurement Range	(37 to 80) dB (50 to 100) dB (80 to 130) dB
Measurement Rate	2.5 times per s
Dynamic Range	50 db
Frequency Range	(31.5 to 8000) Hz
Accuracy	± 1.5 dB (ref. 94 dB @ 1 kHz)
Resolution	0.1 dB
Precision	± 2.0 dB
Display	2000-count
Sensor Type	0.5 in (13 mm) electric (pre-polarized) condenser microphone True RMS measurement with independent frequency weighting
Applicable Standard	IEC 651 Type 2 / ANSI S 1.4 Type 2 / JIS C 1502
Auxiliary Output	DC output: 10 mV/dB – 50 Ω AC output: 1.0 Vrms – 600 Ω
Frequency Weighting	Curves A and C
Time Weighting	S (slow) - 550 ms and F (fast) - 55 ms
GENERAL	
Display	3½ digit liquid crystal display (LCD), 2000-count
Operating Temperature	(32 to 122) °F (0 to 50) °C, 80 % RH without condensation
Storage Temperature	(-4 to 140) °F (-20 to 60) °C, (0 to 80) % RH without battery
Power Supply	(1) 9 V Alkaline battery (included)
Low Battery Indication	is displayed when battery voltage is low
Dimensions	(9.33 x 2.38 x 1.5) in (237 x 60 x 38) mm
Weight	8.11 oz (230 g) including battery

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

Shockproof holster, protective foam microphone cap, screwdriver, male jack connector, assembly screw for camera type tripod, 9 V battery and user manual.

Tripod mounting screw allows for mounting on a standard tripod stand. (Tripod not included)

FEATURES

- Easy one-hand operation
- Measures sound according to the sensitivity of the human ear
- Max function
- Three measurement ranges from (37 to 130) dB
- Accuracy ± 1.5 dB (ref. 94 dB @ 1 kHz)
- Two time weighting curves:
  S (slow) - 550 ms and F (fast) – 55 ms
- Two frequency weighting curves: A and C
- Auxiliary output for recording
- Tripod mountable
- 2000-count backlit LCD
- Lightweight and compact
- Includes rugged, shockproof, protective and dirt resistant gray cover

APPLICATIONS

- Factories
- Schools and libraries
- Airports
- Office environments and studios
- Auditoriums
- Hospitals
- Art Galleries

CATALOG NO.	DESCRIPTION
2121.23	Sound Level Meter Model CA832

ENVIRONMENTAL TESTERS
THERMO-HYGROMETER

DataView®

MODEL 1246

Measure humidity and temperature in all conditions

SPECIFICATIONS

MODEL	1246
RELATIVE HUMIDITY	
Measurement Range	(3.0 to 98.0) % RH
Accuracy	(10 to 90) % RH: ± (2 % RH ± 1 ct), outside that range: ± (4 % RH ± 1 ct)
Resolution	0.1 % RH
Response Time (66 %)	60 s
TEMPERATURE	
Type of Sensor	Temperature sensor with semiconductor
Measurement Range	(-10.0 to + 60.0) °C; (14.0 to + 140.0) °F
Resolution	Display in °C: 0.1 °C; Display in °F: 0.1 °F
Accuracy (°C)	(10 to 40) °C: ± (0.5 °C ± 1 ct) Outside that range: ± (0.032 x (T-25) ± 1 ct) / T= temperature in °C
Response Time (66 %)	30 s
DEW POINT	
Measurement Range	(-10.0 to + 60.0) °Ctd; (14.0 to + 140.0) °Ftd
Resolution	Display in °C: 0.1 °C; Display in °F: 0.1 °F
FUNCTIONS	
Recording	Manual Start/Stop Short press for MEM: spot recording Long press for REC: recording at the user selectable rate Programmed recording rates from 1 min to 2 h Start date and end date can be customized with the PC software
Alarms	Alarm thresholds settable in the software Recording can be triggered on an alarm threshold
Data storage	More than 1 million measurements
Min-Max	Real-time display of Min and Max readings available at the press of a button
Hold	Freezes the measurement value on the display
Units	°C or °F / % RH
Automatic power-off	User selectable choice of 3 min, 5 min, 10 min, or OFF through DataView® software
POWER SUPPLY	
Type	(3) 1.5 V AA / LR6 alkaline batteries. Connection to line power using supplied micro-USB cable. Wall adapter sold separately
Battery Life	1,000 h (portable mode) 3 y of recording (15-minute measurement interval)
GENERAL	
Interfaces	2 Communication modes: Bluetooth wireless link and USB
Mounting	Case equipped with a magnet for mounting to a metal surface and a tear drop for wall mounting. Compatible with the Multifix accessory (cat. #5000.44)
Dimensions / Weight	(7.36 x 2.84 x 1.28) in (187 x 72 x 32) mm / 14.1 oz (400 g) with batteries
Operating Range	Temperature: (14 to 140) °F (-10 to +60) °C / Humidity: (10 to 90) % RH
DataView® software Functions	Display as a graph or table of values; Data export in graph/MS Excel table; Real-time mode; Automatic standard or custom report generation
SAFETY/WARRANTY	
Safety Rating	IEC61010-1 / IEC 61326-1
Ingress Protection	IP54
Warranty	2 y

Consult factory for NIST Calibration prices

FEATURES

- Measures temperature, humidity and dew point
- Dual line display toggles between any two of the measurements
- User selectable temperature units (°F or °C)
- Built in sensor with removable protective cap
- Min, and Max measurements stored
- Hold function freezes the display
- Spot or continuous recording up to 1 million measurements
- Blue luminescent backlit display
- Programmable alarms for temperature and humidity through included software
- USB and Bluetooth communication
- Magnetic mount
- Battery or USB powered
- DataView® graphing and analysis software

PRODUCT INCLUDES

Soft carrying case, 6 ft USB cable (Type A to Type B USB), (3) 1.5 V AA alkaline batteries, printed quick start guide, and a USB drive with DataView® software and user manual.

ACCESSORIES

Catalog #2118.09
General Purpose Carrying Case

Catalog #2118.65
Soft Carrying Case

Catalog #2122.31
Shockproof Housing

Catalog #2138.66
6 ft USB cable

Catalog #2153.78
Adapter - US Wall Plug to USB

Catalog #5000.44
MultiFix Universal Mounting System

CATALOG NO.	DESCRIPTION
2121.73	Thermo-Hygrometer Data Logger Model 1246

ENVIRONMENTAL TESTERS
THERMO-HYGROMETER

MODEL CA846

Provides excellent response time to changes in temperature, good repeatability and accurate readings

CE

SPECIFICATIONS

MODEL	CA846
MEASUREMENTS — TEMPERATURE	
Measurement Range	(-4 to 140) °F (-20 to 60) °C
Display Resolution	0.1 °F (0.1 °C)
Sensor	NTC Temperature Sensor
Accuracy	(-4 to 32) °F: ± 2 °F (-20 °C to 0 °C: ± 1 °C) (32 to 140) °F: ± 1 °F (0 °C to 60 °C: ± 0.5 °C)
MEASUREMENTS — RELATIVE HUMIDITY	
Measurement Range	(0 to 100) % RH
Display Resolution	0.1 % RH
Sensor	Capacitive Humidity Sensor
Accuracy	± 5.0 %, 25 °C, (10 to 90) % RH ± 10.0 %, 25 °C, (0 to 10) % RH, (90 to 100) % RH
GENERAL	
Display	3½ digit liquid crystal display (LCD), 2000-count
Operating Temperature	(32 to 122) °F (0 to 50) °C, 80 % RH
Storage Temperature	(-4 to 140) °F (-20 to 60) °C, (0 to 80) % RH without battery
Polarity	Automatic
Power Supply	(1) 9 V Alkaline battery (included)
Low Battery Indication	is displayed when battery voltage is low
Dimensions	(6.81 x 2.38 x 1.5) in (173 x 60 x 38) mm
Weight	Approx. 7 oz (198 g) including battery

FEATURES

- Easy one-hand operation
- Measures temperature in °F and °C
- Accurate NTC sensor
- Quick response RH sensor
- MAX and HOLD functions
- 2000-count backlit LCD
- Lightweight and compact
- Removable protective sensor cover
- Includes rugged, shockproof, protective and dirt resistant gray cover

PRODUCT INCLUDES

Shockproof holster, 9 V battery and user manual.

APPLICATIONS

- Greenhouses
- HVAC installation and maintenance
- Office environments
- Labs
- Environmental studies
- Weather monitoring
- Food distribution and storage
- Blood banks

CATALOG NO.	DESCRIPTION
2121.24	Thermo-Hygrometer Model CA846 (NTC)

MODEL 1822

Versatility & high performance temperature measurement

1822

CE IP 50 with USB connector closed AUTOMATIC REPORT GENERATION DataView®

PRODUCT INCLUDES

Soft carrying case, 6 ft USB cable (Type A to Type B USB), (2) K Thermocouple flexible sensors, (3) 1.5 V AA alkaline batteries, printed quick start guide, and a USB drive with DataView® software and user manual.

FEATURES

- Selectable Thermocouple type, J, K, T, N, E, R, S
- Single and dual channel
- Dual line display
- User selectable temperature units, °F, °C
- Min and Max measurements stored
- HOLD function freezes the display
- Spot or continuous recording up to 1 million measurements
- Blue luminescent backlit display
- Programmable store on alarm function
- Magnetic mount
- Programmable alarms through software
- DataView® graphing and analysis software included
- Battery or USB powered
- Free app for Android™ from the Google® Play Store

ACCESSORIES/REPLACEMENTS

Catalog #2117.73
Carrying Pouch

Catalog #2138.66
6 ft USB cable

Catalog #5000.44
MultiFlex Universal Mounting System

Catalog #2153.78
Adapter – US Wall Plug to USB

Catalog #2122.31
Shockproof Housing

CATALOG NO.	DESCRIPTION
2121.75	Thermocouple Thermometer Data Logger Model 1822

	1822 Thermocouple Thermometer
	J, K, T, N, E, R, S: 2 Channel
MEASUREMENTS	
Measurement Range	J: (210 to + 1,200) °C / (-346 to + 2,192) °F K: (200 to + 1,372) °C / (-328 to + 2,501) °F T: (250 to + 400) °C / (-418 to + 752) °F N: (200 to + 1,300) °C / (-328 to + 2,372) °F E: (150 to + 950) °C / (-238 to + 1,742) °F R,S: (0 to + 1,767) °C / (32 to + 3,212) °F
Resolution	Display in °C: ø < 1,000 °C : 0.1 °C and ø ≥ 1,000 °C : 1 °C Display in °F: ø < 1,000 °F : 0.1 °F and ø ≥ 1,000 °F : 1 °F
Accuracy (°C) J, K, T, N, E:	ø ≤ - 100 °C ± (0.2 % Reading + 0.6 °C) - 100 °C < ø ≤ + 100 °C ± (0.15 % R + 0.6 °C) + 100 °C < ø ± (0.1 % R + 0.6 °C)
R, S:	ø ≤ + 100 °C ± (0.15 % R + 1.0 °C) + 100 °C < ø ± (0.1 % R + 1.0 °C)
FUNCTIONS	
Recording	Manual Start/Stop Short press on MEM: spot recording Long press on REC: recording at the user selectable rate Programmed recording rates from 1 min to 2 h Start date and end date can be customized with the PC software
Alarms	Alarm thresholds set using the software. Visual alert on the product in the event of an overrun. Recording can be triggered on alarm thresholds.
Data Storage	More than 1 million measurements
Min-Max	Real-time display of Min and Max readings available at the press of a button.
Hold	Freezes the measurement value on the display.
Differential Measurement	Yes
Units	°C or °F
Backlighting	Blue luminescent
Automatic Power Off	User selectable choice of 3, 5 or 10 min, or off through DataView® software.
MECHANICAL	
Interfaces	2 communication modes: Bluetooth and USB
Mounting	Case equipped with a magnet, a wall mount system and a slot for suspension of the product. Compatible with the MultiFix accessory (Cat. #5000.44). Shockproof housing available as an accessory (Cat. #2122.31).
Connections	Compensated miniature female connectors
Dimensions/Weight	(5.9 x 2.84 x 1.28) in (150 x 72 x 33) mm / 9.2 oz (260 g) with batteries
Operating Range	Temperature from (14 to 140) °F (-10 to +60) °C / Humidity from (10 to 90) % RH
POWER SOURCE	
Type	(3) 1.5 V AA / LR6 alkaline batteries Connection to line power using supplied micro-USB cable. Wall adapter sold separately
Battery Life	Model 1821 & 1822: 1,000 h (portable mode) Model 1823 : 800 h (portable mode) 3 y for recording (15-minute measurement interval)
SAFETY	
Safety Rating	IEC61010-1 / IEC 61326-1
Ingress Protection	IP50 with the USB connector closed, per IEC 60 529
GENERAL	
DataView® Software Functions	Real-time mode; Automatic report generation in Microsoft Word format Graph or value-table presentation; Data export in graph or Microsoft Excel table format
Warranty	2 y

MODEL 1110

Features optical sensors that are designed to match the response of the human eye

DataView®

IP 50 CE

SPECIFICATIONS

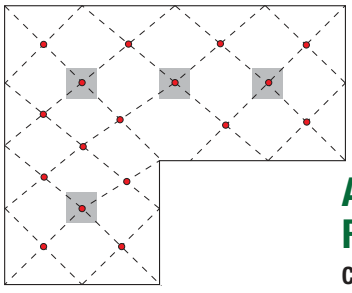
MODEL	1110	
Measurement Range	(0.01 to 200,000) lx	(0.01 to 18,580) fc
Accuracy	± 3 % of R on incandescent sources ± 6 % of R on LEDs (3,000 to 6,000) K ± 9 % of R on fluorescent sources	
Accuracy with Compensation	LED mode: ± 4 % of R (at 4,000 K) Flou mode: ± 4 % of R (type F11, 4,000 K)	
Display Resolution	0.1 lx (0.1 to 999.9) lx 1 lx (1,000 to 9,999) lx 10 lx (10,000 lx to 99.99 klx) 100 lx beyond	0.01 fc (0.01 to 99.99) fc 0.1 fc (100.0 to 999.9) fc 1 fc (1,000 to 9,999) fc 10 fc beyond
Recording	Manual start/stop on the product Short press for MEM: spot recording Long press for REC at the defined default rate Programed recording: start date, recording interval, and end date defined using DataView® software	
Other Functions	MIN-AVG-MAX-HOLD	
Sampling Rate	Programmable from 1, 2, 5, 10, 20, or 30 s, 2, 5, 10, 15 or 30 min, and 1 hr	
MAP mode	The MAP mode can be used to map the lighting on the surface of a room. In this case the measurements are saved in the same file.	
Operating Temperature	(14 to 140) °F (-10 to 60) °C	
Storage Temperature	(-4 to 140) °F (-20 to 60) °C	
Relative Humidity	Up to 90 % RH	
GENERAL		
Memory	1,000,000 measurements on each channel (4 MB). Recorded data is stored in non-volatile memory and will be retained even if battery is low or removed.	
Communication	USB 2.0 and Bluetooth	
Power Supply	(3) 1.5 V AA (LR6) alkaline batteries or USB port (micro-USB adaptor offered as an accessory)	
Battery Life	500 h, 3 yrs with 15 min intervals	
Dimensions	Case: (5.9 x 2.84 x 1.28) in (150 x 72 x 33) mm Sensor: (2.64 x 2.52 x 1.38) in (67 x 64 x 35) mm	
Weight (with battery)	12.2 oz (34 g) with batteries	
Case	Polycarbonate	
SAFETY		
EMC	EN 61326-1	
Safety Rating	IEC 61010-1	
Ingress Protection	IP50 with USB connector closed and protective cap on sensor	
Warranty	2 y	

Consult factory for NIST Calibration prices

CATALOG NO.	DESCRIPTION
2121.71	Lightmeter Data Logger Model 1110

FEATURES

- User selectable light source, natural, LED or fluorescent
- Spectral error compensation for LED and fluorescent lighting
- Removable light sensor with expandable cable up to 48 inches
- Map mode profiles the illuminance map of the area or room by storing multiple measurements
- Min, Max, and Average measurements stored
- Free app for Android™ from the Google® Play Store
- Spot or continuous recording of up to 1,000,000 measurements stored in 8 MB flash memory
- Blue luminescent backlit display
- User selectable foot-candle (fc) or lux (lx) units
- USB and Bluetooth communication
- Magnetic mount
- Battery or USB powered
- DataView® graphing and analysis software included



Measure and record multiple measurements to create an illuminance map of the room or area of interest

PRODUCT INCLUDES

Soft carrying pouch, 6 ft USB cable, (3) 1.5 V AA batteries, a printed quick start guide, USB drive with DataView® software and user manual.

ACCESSORIES/ REPLACEMENTS

Catalog #2118.65
Soft Carrying Case

Catalog #2138.66
6 ft USB cable

Catalog #2118.09
General Purpose Carrying Case

Catalog #2122.31
Shockproof Housing

Catalog #2153.78
Adapter - US Wall Plug to USB

Catalog #5000.44
MultiFix Universal Mounting System

AEMC® INSTRUMENTS

CHAUVIN ARNOUX GROUP

AEMC® Instruments is a global leader in Power/Energy Quality Analyzers, Meters and Loggers, Current Probes, Ground Resistance Testers and Insulation Testers. We are the brand you can trust!

THE SMART CHOICE

FOR ELECTRICAL TEST & MEASUREMENT INSTRUMENTS

GROUND RESISTANCE TESTERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE GROUND RESISTANCE TESTERS

MODELS 6417, 6471 & 6472

Run tests and analyze real-time data from your PC / Configure all test functions and parameters from your PC / Customize views, templates and reports / Display Fall-of-Potential plots, tabular listing of test results and more / Print reports of all test results

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MODELS 6422 & 6424

To keep your installation safe, measure the resistance of its connection to earth

SPECIFICATIONS

MODELS	6422			6424			
ELECTRICAL							
Voltage							
Measurement Range	–			(0.1 to 600) VAC/DC			
Resolution	–			0.1 V			
Accuracy	–			± (1 % R + 1 ct)			
Current							
Range	–			(0.5 to 60.00) AAC (requires optional MN72 probe)			
Ground Resistance (2P Mode)							
Measurement Range	(0.05 to 99.99) Ω, (80.0 to 999.9) Ω, (0.80 to 9.999) kΩ, (8.00 to 50.00) kΩ						
Resolution	0.01 Ω, 0.1 Ω, 1 Ω, 10 Ω						
Accuracy	± (2 % R + 10 ct), ± (2 % R + 2 ct), ± (2 % R + 1 ct), ± (2 % R + 1 ct)						
Ground Resistance (3P Mode)							
Measurement Range	(0.50 to 99.99) Ω	(80.0 to 999.9) Ω	(0.800 to 2.000) kΩ	(0.50 to 99.99) Ω	(80.0 to 999.9) Ω	(0.800 to 9.999) kΩ	(8.00 to 50.00) kΩ
Resolution	0.01 Ω	0.1 Ω	1 Ω	0.01 Ω	0.1 Ω	1 Ω	10 Ω
Accuracy	± (1 % R + 10 ct)	± (1 % R + 2 ct)	± (1 % R + 1 ct)	± (1 % R + 10 ct)	± (1 % R + 2 ct)	± (1 % R + 1 ct)	
Measurement Frequency	(128 or 256) Hz (automatically selected)						
No-load Voltage	± 10 V peak						
Maximum Test Current	20 mA						
Measurement Mode	One shot or continuous						
Data Storage	–			Stores the (52, 62 and 72) % 3P resistance measurements			
Calculation	–			Calculates average and % deviation of the three saved readings			
GENERAL							
Display	Backlit LCD						
Measurement Mode	2P (Ω), 3P (Ω)			V, I, 2P (Ω), 3P (Ω)			
Power Supply	(6) AA alkaline batteries			(6) NiMH rechargeable batteries, charging time approx. 6 h			
Battery Life	> 2,000 x 3P earth measurements at 100 Ω			> 1,500 x 3P earth measurements at 100 Ω			
Dimensions	(8.78 x 4.96 x 2.75) in (223 x 126 x 70) mm						
SAFETY							
Safety Rating	EMC: IEC 61326-1; IEC 61010-2-030 / 600 V CAT IV						

Consult factory for NIST Calibration prices

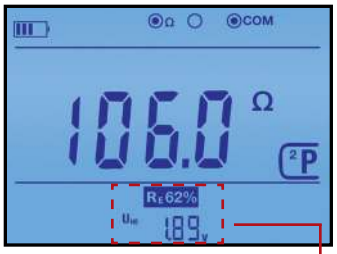
CATALOG NO.	DESCRIPTION
2135.55	Ground Resistance Tester Model 6422 (Digital, 3-Point)
2135.56	Ground Resistance Tester Model 6422 Kit-150 ft (Digital, 3-Point)
2135.57	Ground Resistance Tester Model 6424 (Digital, 3-Point)
2135.58	Ground Resistance Tester Model 6424 Kit-150 ft (Digital, 3-Point)
2135.59	Ground Resistance Tester Model 6424 Kit-300 ft (Digital, 3-Point)

MODELS 6422 & 6424

FEATURES

- Simple, one button operation - eliminates errors in testing
- Test button turns green when measurement is stable
- 2 P resistance measurement up to 50 kΩ
- 3 P ground resistance measurement up to 2 kΩ (Model 6422) up to 50 kΩ (Model 6424) for highly resistive terrain
- Large back lit digital display – easier to read in all lighting conditions
- Automatic hold function - retains last measurement after the reading stabilizes ensuring the measurement is valid
- Automatic test frequency selection between 128 Hz and 256 Hz, providing stable results in adverse environments
- Powers up in 2 pole mode – automatically checks the injector lead connection when connected to the H auxiliary rod
- Convenient storage of the three measurements along with the average and % deviation - easily determines proper test results
- Built in test lead compensation capability – improves the accuracy of low resistance measurements
- CAT IV 600 V rated for a high level of operator safety
- Checks AC/DC voltage (Model 6424)
- Stores (52, 62 and 72) % measurements – eliminates errors in determining the ground resistance (Model 6424)
- Leakage current measurement from 0.5 mA to 60 A (Model 6424)
- Battery recharging via AC adapter, USB or vehicle DC port (Model 6424)
- Color coded leads and terminals provide fast, error-free connection
- Detects the presence of hazardous voltage and prohibits measurement
- Direct access to all functions, even when wearing work gloves
- Rugged water resistance case, for all terrain use
- Built-in display stand to prop up instrument for seeing the display better when placed on the ground

FUNCTIONAL DISPLAYS



2 P mode used for continuity and bonding checks – is active when the instrument is turned on

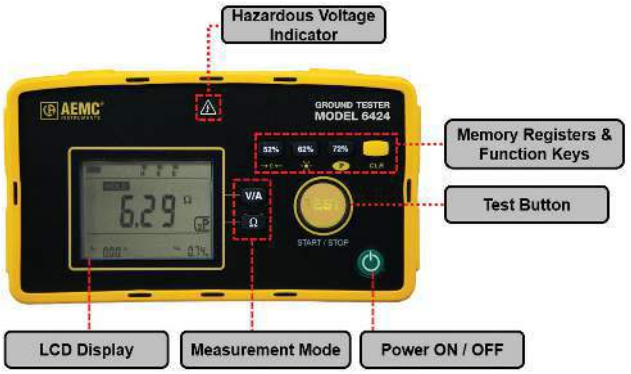
3 P mode used for measuring the grounding system. The resistance of the injector electrode and the test voltage are also displayed

Model 6424

Live voltage is displayed when the V/A function is selected and test leads are connected to AC or DC voltage *(Model 6424)*

Leakage current is displayed when the optional MN72 probe is connected and the V/A function is selected *(Model 6424)*

FRONT PANEL - 6424



PRODUCT INCLUDES

Models 6422 and 6424: (2) 150 ft color-coded leads on spools (red/blue), (1) 30 ft lead (green), (2) T-shaped auxiliary ground electrodes, set of (2) 5 ft color-coded (red/blue) leads, (1) 100 ft tape measure, (6) AA rechargeable NiMH batteries, carrying bag and user manual

Model 6424 also includes: USB to wall charger, 5 V, 2 A, USB charger cable

ACCESSORIES/REPLACEMENTS

Catalog #2135.39
Ground Rod – Set of (2) 14.5 in T-shaped Auxiliary Rods

Catalog #2153.06
MN72 AC Current Probe (6424 only)

CATALOG #5000.92
Calibration Checker

CATALOG #5000.92

CATALOG #2153.06

KITS AVAILABLE
SHOWN: CATALOG #2135.35

GROUND RESISTANCE TESTERS
DIGITAL TESTERS

MODELS 4620 & 4630

Both models will perform over 2000 measurements for the 15 second tests between recharging or battery replacement

4620 4630

SAFETY 30V CAT III RATING

IP 65 cover closed

IP 53 cover open

SPECIFICATIONS

MODELS	4620		4630
ELECTRICAL			
Range	20 Ω	200 Ω	2000 Ω
Measurement Range	(0.00 to 19.99) Ω	(20.0 to 199.9) Ω	(200 to 1999) Ω
Resolution	10 mΩ	100 mΩ	1 Ω
Open Voltage	≤ 42 V peak		
Measurement Frequency	128 Hz square wave		
Test Current	10 mA	1 mA	0.1 mA
Accuracy	± 2 % of Reading ± 1 ct		± 5 % of Reading ± 3 cts
Aux Electrode Influence Max Res. - Current Circuit	3 kΩ	30 kΩ	50 kΩ
Max Res. - Voltage Circuit	50 kΩ		
Response Time	Approximately four to eight seconds for a stabilized measurement		
Withstanding Voltage	250 VAC or 100 VDC		
Power Supply	(8) C cell batteries (included); Alkaline recommended		(120/230) V, (50/60) Hz Rechargeable 9.6 V, 3.5 A·h NiMH battery pack (included)
Battery Life	> 2000 15-second measurements; LO BAT indication on LCD		
Fuse Protection	0.1 A, > 250 V , (0.25 x 1.25) in; 30 kA Interrupt Capacity		

Consult factory for NIST Calibration prices

FEATURES

- Ground Integrity Measurement
- Measures soil resistivity (4-Point)
- Measures ground resistance (2- and 3-Point) Fall-of-Potential method
- Step voltage tests and touch potential measurements
- Auto-Ranging: automatically selects the optimum resistance range and test current
- Designed to reject high levels of noise and interference
- Extremely simple to operate: connect/press/hold/read
- LED on faceplate informs operator of high input noise, high auxiliary rod resistance and faulty connections
- Large easy-to-read backlit display
- Battery powered (Model 4620)
- AC powered with rechargeable NiMH battery pack (Model 4630)
- Rugged dustproof and watertight field case
- Color-coded terminals

ACCESSORIES/REPLACEMENTS

Catalog #2130.60
Tape Measure (100 ft)

Catalog #2135.35*
Test Kit for 3-Point Testing – 150 ft

Catalog #2135.36*
Test Kit for 4-Point Testing – 300 ft

Catalog #2135.37*
Test Kit for 4-Point Testing – 500 ft

Catalog #5000.14
AC Power cord (4630)

Catalog #2135.38
Ground Test Kit for 3-Point Testing (Supplemental for 4-Point testing – includes (2) 100 ft color-coded leads, (1) 30 ft lead (green), (2) 14.5 in T-shaped auxiliary ground electrodes and soft carrying bag)

Catalog #2130.59
Calibration Checker 25 Ω for Models 3640, 4500, 4610, 4620 and 4630

KIT SHOWN

4630 KIT (500 ft)

*Refer to page 75 for Test Kit descriptions

PRODUCT INCLUDES

(8) C-cell batteries (4620) or rechargeable 9.6 V NiMH battery pack (4630), AC power cord (4630), and user manual.

CATALOG NO.	DESCRIPTION
2130.43	Ground Resistance Tester Model 4620 (Digital, 4-Point, Battery Powered)
2130.44	Ground Resistance Tester Model 4630 (Digital, 4-Point, Rechargeable Battery)
2135.19	Ground Resistance Tester Model 4620 Kit – 150 ft (Model 4620 and Catalog #2135.35)
2135.20	Ground Resistance Tester Model 4620 Kit – 300 ft (Model 4620 and Catalog #2135.36)
2135.21	Ground Resistance Tester Model 4620 Kit – 500 ft (Model 4620 and Catalog #2135.37)
2135.22	Ground Resistance Tester Model 4630 Kit – 150 ft (Model 4630 and Catalog #2135.35)
2135.23	Ground Resistance Tester Model 4630 Kit – 300 ft (Model 4630 and Catalog #2135.36)
2135.24	Ground Resistance Tester Model 4630 Kit – 500 ft (Model 4630 and Catalog #2135.37)

GROUND RESISTANCE TESTERS
CLAMP-ON

MODELS 6416 & 6417

Provides high safety level with new ground voltage indication feature

6416 6417

DataView®
*6417 only

SPECIFICATIONS

MODELS	6416 & 6417		
ELECTRICAL			
	Measurement Range	**Resolution**	**Accuracy (% of Reading)**
Ground Resistance	(0.010 to 0.099) Ω	0.001 Ω	± 1.5 % ± 0.01 Ω
	(0.10 to 0.99) Ω	0.01 Ω	± 1.5 % ± 0.02 Ω
Auto-Ranging (0.01 to 1499) Ω	(1.0 to 49.9) Ω	0.1 Ω	± 1.5 % ± 0.1 Ω
	(50.0 to 99.5) Ω	0.5 Ω	± 2 % ± 0.5 Ω
	(100 to 199) Ω	1 Ω	± 3 % ± 1 Ω
	(200 to 395) Ω	5 Ω	± 5 % ± 5 Ω
	(400 to 590) Ω	10 Ω	± 10 % ± 10 Ω
	(600 to 1150) Ω	50 Ω	20 % approx
	(1200 to 1500) Ω	50 Ω	25 % approx
Current Measurement	(0.200 to 0.999) mA	1 µA	± 2 % ± 50 µA
	(1.000 to 2.990) mA (3.00 to 9.99) mA	10 µA	
Auto-Ranging 1 mA to 40 A	(10.00 to 29.90) mA (30.0 to 99.9) mA	100 µA	± 2 % ± 100 µA
	(100.0 to 299.0) mA (0.300 to 0.990) A	1 mA	± 2 % ± 1 mA
	(1.000 to 2.990) A (3.00 to 39.99) A	10 mA	± 2 % ± 10 mA
Selectable Measurement Frequency	(50, 60, 128 or 2083) Hz		
Current Measurement Frequency	(47 to 800) Hz		
Inductance Measurement	(10 to 100) µH; (100 to 500) µH		
Current Overload	OL displayed above 39.99 Arms		
Communication	Bluetooth connection (Model 6417 only)		
Power Supply	(4) 1.5 V LR6 (AA) alkaline batteries or (4) NiMH batteries; Battery life: 12 h, or 1440, 30 - s measurements approx.		
SAFETY			
Safety Rating	EN 61010-1, 600 V CAT IV		

Consult factory for NIST Calibration prices

FEATURES

- Ground Integrity Measurement
- Ground voltage indication (warns of possible unsafe conditions)
- Large multi-function bright yellow OLED (organic LED display)
- Selectable test frequency (improves accuracy in inductive environments)
- Clamping diameter of 1.37 in (35 mm) with large jaw design
- Storage of measurements (Ω and/or A, with time-stamping)
- Model 6416: up to 300 measurements stored
- Model 6417: up to 2000 measurements stored
- View stored measurements on the OLED display or via Bluetooth (Class 2 - communicates up to 30 ft) to a PC or the Android™ based mobile application (Model 6417)
- Auto Power OFF function
- Alarm function with adjustable set point and buzzer for quick field checks for volts, amps and ohms
- Rugged Lexan® head and body construction resists breakage
- Alarm settings and stored memory information saved during shutdown
- Includes DataView® software for data retrieval, real-time display, analysis, report generation and system configuration (Model 6417)
- Noise icon and buzzer alert user to presence of dangerous voltage and current levels

PRODUCT INCLUDES

6416 & 6417
Hard carrying case, wrist strap calibration loop, (4) 1.5 V AA batteries and user manual.

6417
Also includes Bluetooth USB adapter, printed quick start guide, a USB drive with DataView® software, ground tester workbook and user manual.

CATALOG NO.	DESCRIPTION
2141.01	Ground Resistance Tester Model 6416 (Clamp-On, Alarm, Memory)
2141.02	Ground Resistance Tester Model 6417 (Clamp-On, Bluetooth, Alarm, Memory, DataView® Software)

GROUND RESISTANCE TESTERS
CLAMP-ON

MODEL 6418

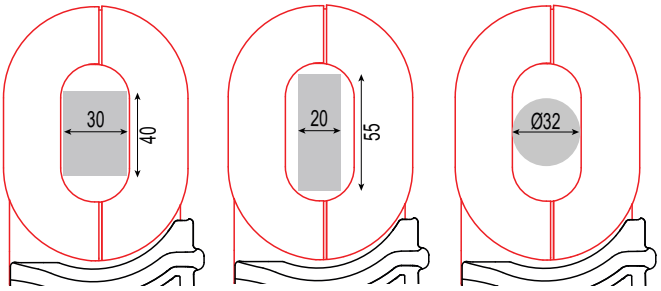
Designed for measuring ground impedance on ground rods and bus bars

SPECIFICATIONS

MODEL	6418		
ELECTRICAL			
	Measurement Range	**Resolution**	**Accuracy (% of Reading)**
Ground Resistance	(0.010 to 0.099) Ω	0.001 Ω	± 1.5 % ± 0.01 Ω
	(0.10 to 0.99) Ω	0.01 Ω	± 1.5 % ± 0.02 Ω
	(1.0 to 49.9) Ω	0.1 Ω	± 1.5 % ± 0.2 Ω
	(50.0 to 149) Ω	1 Ω	± 2.5 % ± 2 Ω
Auto Ranging	(150 to 245) Ω	5 Ω	± 5 % ± 10 Ω
	(250 to 440) Ω	10 Ω	± 10 % ± 20 Ω
	(450 to 640) Ω	10 Ω	± 15 % ± 20 Ω
	(650 to 1200) Ω	50 Ω	± 20 % Reading + 100 Ω
Measurement Frequency	2083 Hz		
Current Measurement	(0.50 to 9.950) mA	50 µA	± 2 % + 200 µA
	(10.00 to 99.90) mA	100 µA	± 2 % + 100 µA
Auto Ranging 1 mA to 20 A	(100.0 to 299.0) mA	1 mA	± 2 % ± 1 mA
	(0.300 to 2.990) A	10 mA	± 2 % ± 10 mA
	(3.000 to 20.00) A	100 mA	± 2 % ± 100 mA
Current Measurement Frequency	(47 to 800) Hz		
Current Overload	OL displayed above 19.99 Arms		
Power Supply	(4) 1.5 V LR6 (AA) alkaline batteries or (4) NiMH batteries; Battery life: 12 h, or 1440 30 s *Measurements approx.*		

Consult factory for NIST Calibration prices

CLAMPING CHARACTERISTICS



FEATURES

- Ground Integrity Measurement
- Large multi-function bright yellow OLED (organic LED display) (1.89 x 1.55) in (48 x 39) mm
- Clamping diameter accommodates both cable and bus bar
- Storage of measurements (Ω and/or A, with time-stamping)
- Up to 300 measurements stored
- View stored measurements on the OLED display
- Auto Power OFF function
- Auto Hold
- Alarm function with adjustable set point and buzzer for quick field checks for amps and ohms
- Rugged Lexan® head and body construction resists breakage
- Alarm settings and stored memory information saved during shutdown
- Noise icon and buzzer alert user to presence of dangerous current levels
- Designed to EN 61010-1, 100 V CAT IV and 150 V CAT III safety standards
- Automatic calibration of the jaw gap at power-up

PRODUCT INCLUDES

Hard carrying case, 5 Ω calibration loop, (4) 1.5 V AA batteries, wrist strap and a user manual.

CATALOG NO.	DESCRIPTION
2141.03	Ground Resistance Tester Model 6418 (Clamp-On, Alarm, Memory, Oblong Jaws)

FUNCTIONAL DISPLAYS

Note: Display shown larger than actual size

MEASUREMENT RESULTS

Displays the leakage current and loop impedance at the test frequency

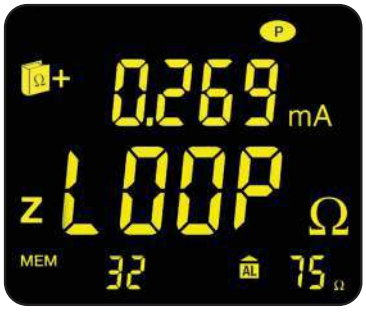
MEMORY RECALL MODE

Measurement storage date-time screen

ALARM

Indicates voltage/current alarm threshold along with the direction of impedance

LOOP DETECTION



Detects and displays possible false readings associated with metal loops

GROUND VOLTAGE

Indicates voltage potential at the point of measurement

IMPEDANCE OVER RANGE

Indicates that the impedance is greater than 1500 Ω

GROUND RESISTANCE TESTERS
MULTI-FUNCTION

MODEL 6471

Test ground resistance without the need of auxiliary rods or with the 3- and 4- Point methods

DataView®

cover closed

SPECIFICATIONS

MODEL	6471
ELECTRICAL	
2-Clamp Measurement	
Range	(0.10 to 500) Ω
Resolution	(0.01 to 1) Ω
Measurement Frequency	Auto: 1611 Hz Manual: (128, 1367, 1611, or 1758) Hz
3-Point Measurement	
Range (Auto-Ranging)	0.09 Ω to 99.9 kΩ
Resolution	(0.01 to 100) Ω
Test Voltage	Nominal (16 or 32) Vrms user selectable
Resistance Measurement Frequency	(41 to 513) Hz automatic or user selectable
Test Current	Up to 250 mA
Accuracy	± 2 % of Reading + 1 ct @ 128 Hz
Soil Resistivity 4-Point Measurement	
Test Method	Wenner or Schlumberger selectable with automatic calculation in Ω-meters
Range (Auto-Ranging)	(0.01 to 99.9) kΩ; ρ max: 999 kΩm
Resolution	(0.01 to 100) Ω
Test Voltage	(16 or 32) V user selectable
Frequency	From (41 to 128) Hz selectable
External Voltage Measurement	
Range (Auto-Ranging)	(0.1 to 65.0) VAC/DC – DC to 440 Hz
Accuracy	± 2 % of Reading + 1 ct
Resistance Measurement (Bond Testing)	
Measurement Type	2-Pole (with lead resistance compensation) or 4-Pole (Kelvin sensing) user selectable
Range (Auto-Ranging)	2-Pole (0.12 to 99.99) kΩ; 4-Pole (0.02 to 99.99) kΩ
Accuracy	± 2 % of Reading + 2 cts
Test Voltage	16 VDC (+, - or auto polarity)
Test Current	Up to 250 mA max
Data Storage	
Memory Capacity	512 test results (64 kB)
Communication	Optically Isolated USB
Power Supply	9.6 V rechargeable battery pack (included)
Recharging Source	110 V/220 V, (50/60) Hz external charger with 18 VDC, 1.9 A output

Consult factory for NIST Calibration prices

ACCESSORIES

MN82 CURRENT PROBE
(2 mA to 10 Arms)
Catalog #2135.71

SR182 CURRENT PROBE
(0.5 mA to 40 Arms)
Catalog #2135.72

REEL CADDY
Catalog #2135.85 Set of (2), for use with ground kit spools

GROUND RESISTANCE MEASUREMENT USING 2 PROBES

For systems with parallel ground connections, Models 6471 and 6472 are capable of accurately measuring a ground resistance using probes only. This method involves placing 2 probes around the ground conductor to be tested and connecting them each to the instrument. One probe injects a known signal (32 V/1367 Hz) while the other probe measures the current circulating in the loop. This method saves considerable time when ground testing because it is no longer necessary to set up auxiliary rods or to disconnect the ground connector.

PRODUCT INCLUDES

CAT. #2135.48 MODEL 6471 ***(without probes)***
Meter, carrying bag, 110 V/240 V power adapter with US power cord, optical USB cable, rechargeable NiMH battery, and a USB drive with DataView® software, ground tester workbook and user manual.

CAT. #2135.49 MODEL 6471 ***(with probes)***
Meter, carrying bag, set of (2) SR182 current probes, 110 V/240 V power adapter with US power cord, optical USB cable, rechargeable NiMH battery, and a USB drive with DataView® software, ground tester workbook and user manual.

KIT SHOWN 300 FT KIT: CATALOG #2135.50

Meter, carrying bag for kit, (2) 300 ft color-coded (red/blue) leads on spools, (2) 5 ft color-coded (red/blue) leads, (2) 100 ft hand-tied color-coded (green/black) leads, set of (2) SR182 current probes, 110 V/240 V power adapter with US power cord, optical USB cable, (4) T-shaped auxiliary ground electrodes, set of (5) spaded lugs, 100 ft tape measure, rechargeable NiMH battery, and a USB drive with DataView® software, ground tester workbook and user manual.

2 probes required to perform stakeless testing

GROUND RESISTANCE TESTERS
MULTI-FUNCTION

MODEL 6472

Use under difficult conditions such as the presence of high stray currents that normally affect accuracy

SPECIFICATIONS

MODEL	6472
ELECTRICAL	
2-Clamp Measurement	
Range	(0.1 to 500) Ω
Resolution	(0.01 to 1) Ω
Measurement Frequency	Auto: 1611 Hz Manual: (128, 1367, 1611, or 1758) Hz
3-Point Measurement	
Range (Auto-Ranging)	0.09 Ω to 99.9 kΩ
Resolution	(0.01 to 100) Ω
Test Voltage	Nominal (10, 16, 32 or 60) Vrms user selectable
Resistance Measurement Frequency	(41 to 5078) Hz automatic or user selectable
Test Current	Up to 250 mA
Accuracy	± 2 % of Reading + 1 ct @ 128 Hz
Soil Resistivity 4-Point Measurement	
Test Method	Wenner or Schlumberger selectable with automatic calculation of test results in Ω-meters
Range (Auto-Ranging)	(0.01 to 99.9) kΩ; ρ max: 999 kΩm
Resolution	(0.01 to 100) Ω
Test Voltage	(16 or 32) V user selectable
Frequency	From (41 to 128) Hz selectable
External Voltage Measurement	
Range (Auto-Ranging)	(0.1 to 65.0) VAC/DC – DC to 440 Hz
Accuracy	± 2 % of Reading + 1 ct
Resistance Measurement (Bond Testing)	
Measurement Type	2-Pole (with lead resistance compensation) or 4-Pole (Kelvin sensing) user selectable
Range (Auto-Ranging)	2-Pole 0.12 Ω to 99.99 kΩ; 4-Pole 0.02 Ω to 99.99 kΩ
Accuracy	± 2 % of Reading + 2 cts
Test Voltage	16 VDC (+, - or auto polarity)
Test Current	Up to 250 mA max
Data Storage	
Memory Capacity	512 test results (64 kB)
Communication	Optically Isolated USB
Power Supply	9.6 V rechargeable battery pack (included)
Recharging Source	110 V/220 V, (50/60) Hz external charger with 18 VDC, 1.9 A output

Consult factory for NIST Calibration prices

DataView®

SAFETY 50V CAT IV RATING

IP 53 cover closed

The Model 6472 provides an automated way to measure the value of the earth/ground using the Fall-of-Potential method and storing measurements.

PRODUCT INCLUDES

Carrying bag, (110/240) V power adapter with US power cord, optical USB cable, rechargeable NiMH battery, and a USB drive with DataView® software, ground tester workbook and user manual.

TEST KITS

6472 METER
300 ft Kit: Catalog #2135.53
500 ft Kit: Catalog #2135.54
(shown)

Refer to page 75 for Model 6472 Kit descriptions Catalog #2135.35, #2135.36 and #2135.37

2 probes required to perform stakeless testing

ACCESSORIES

MN82 CURRENT PROBE
(2 mA to 10 Arms)
Catalog #2135.71

SR182 CURRENT PROBE
(0.5 mA to 40 Arms)
Catalog #2135.72

REEL CADDY
Catalog #2135.85
Set of (2), for use with ground kit spools

LARGE FUNCTIONAL DISPLAYS

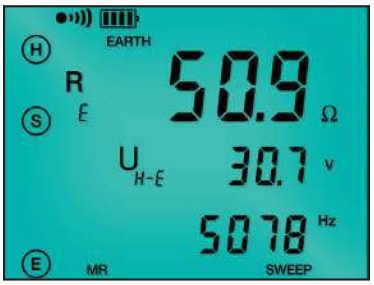
FEATURES

- Ground Integrity Measurement
- Ground Resistance testing using the 2-clamp method (no auxiliary rods needed)
- 2- and 4-Point Bond Resistance/Continuity measurement (DC Resistance) with automatic polarity reversal
- 3-Point Fall-of-Potential measurement with manual or automatic frequency selection
- 4-Point Soil Resistivity measurement with automatic calculation of Rho (ρ) and user selection of the Wenner or Schlumberger test method
- 3-Point Earth Coupling measurement
- Manual and Automatic frequency scan from (41 to 5078) Hz for optimum test accuracy in electrically noisy environments
- Selectable test voltage of (10, 16, 32 or 60) V up to 250 mA of test current (model dependant)
- Auto Power OFF feature
- Automatic recognition of all electrode connections and their resistance value
- Stores up to 512 complete test results in internal memory
- Display with automatic backlight when entering a function
- Optically isolated USB communication cable included
- Rechargeable NiMH batteries from wall charger or vehicle power (Cat. #2135.43 needed for vehicle power)
- Rugged dustproof and water-resistant field case (IP53 rated in closed position)
- Grounding standards IEC 61557 parts 4 and 5 compliant
- Includes DataView® software for set up, data retrieval, real-time display, analysis, report generation and system configuration
- Can also be used for continuity tests on bonding

4-POINT BOND TEST

The 4-Point Bond test shows lead connections, bond resistance test results, test voltage and current

3-POINT FALL-OF-POTENTIAL TEST



The 3-Point Fall-of-Potential test displays test lead connection, grounding rod resistance and test electrode resistances

SCHLUMBERGER TEST

The Schlumberger test displays test lead connection, soil resistivity (ρ) test results and electrode spacing

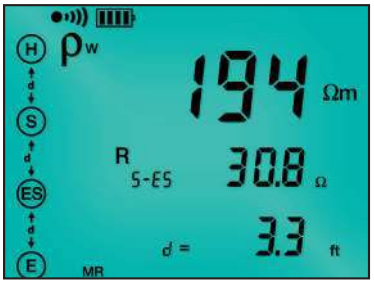
TWO CLAMP TEST

The 2-Clamp method displays clamp connection resistance, test current and frequency

DATA STORAGE

Memory Recall displays test results stored at a specific memory location

WENNER TEST



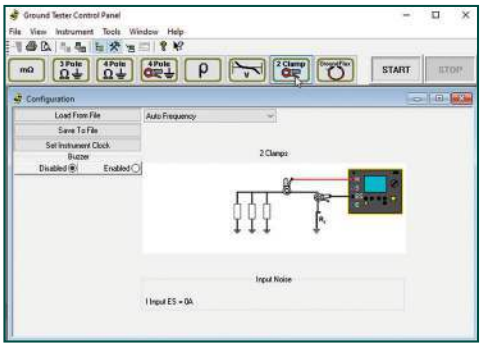
The Wenner test displays test lead connection, soil resistivity (ρ) test results, electrode spacing and resistance

2 probes required to perform stakeless testing.

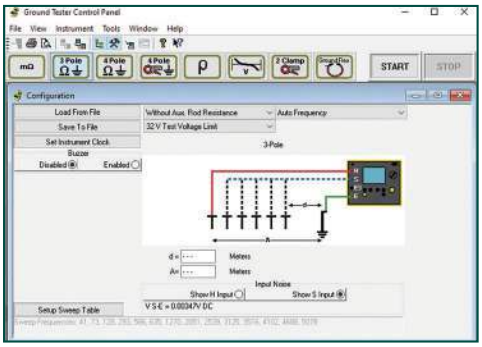
CATALOG NO.	DESCRIPTION
2135.48	Ground Resistance Tester Model 6471 (Digital, 3-Point, 4-Point, Clamp-on (SR182 probes not included), DataView® Software)
2135.49	Ground Resistance Tester Model 6471 (Digital, 3-Point, 4-Point, Clamp-on, (includes 2-SR182 probes), DataView® Software)
2135.50	Ground Resistance Tester Model 6471 Kit – 300 ft (Catalog #2135.49 and Catalog #2135.36)
2135.51	Ground Resistance Tester Model 6472 (Digital, 2-Point, 3-Point, 4-Point, Bond Test, DataView® software)
2135.53	Ground Resistance Tester Model 6472 Kit – 300 ft (Catalog #2135.51 and Catalog #2135.36)
2135.54	Ground Resistance Tester Model 6472 Kit – 500 ft (Catalog #2135.51 and Catalog #2135.37)
2135.60	Ground Resistance Tester Model 6471 Kit – 300 ft w/o Probes (Catalog #2135.48 and Catalog #2135.36)
2135.61	Ground Resistance Tester Model 6471 Kit – 500 ft w/o Probes (Catalog #2135.48 and Catalog #2135.37)

GROUND TESTERS MODELS 6471 & 6472 — TYPICAL DATAVIEW® FUNCTIONAL DISPLAYS

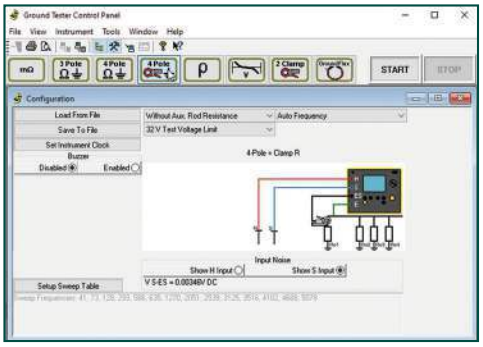
2-CLAMP METHOD SETUP



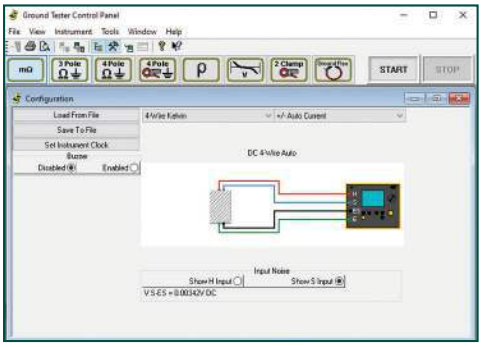
FALL-OF-POTENTIAL, STEP-TOUCH POTENTIAL



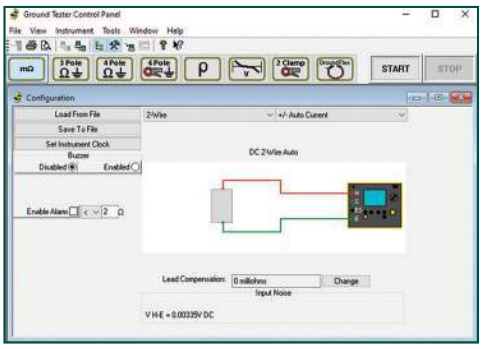
SELECTIVE 3-POINT TESTING OF MULTIPLE RODS



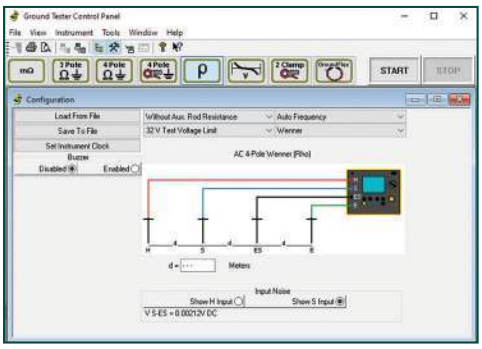
4-POINT BONDING FOR VERY LOW RESISTANCE



BONDING



SOIL RESISTIVITY



OPTIONAL KITS

150 FT KIT
Catalog #2135.35

Test Kit for 3-Point testing includes carrying bag, (2) 150 ft color-coded (red/blue) leads on spools, (2) 5 ft color-coded (red/blue) leads, (1) 30 ft lead (green), (2) 14.5 in T-shaped auxiliary ground electrodes, a set of (5) spaded lugs and (1) 100 ft tape measure.

300 FT KIT
Catalog 2135.36

Test Kit for 4-Point testing includes carrying bag, (2) 300 ft color-coded (red/blue) leads on spools, (2) 5 ft color-coded (red/blue) leads, (2) 100 ft hand-tied color-coded leads (green/black), (4) 14.5 in T-shaped auxiliary ground electrodes, a set of (5) spaded lugs and (1) 100 ft tape measure.

500 FT KIT
Catalog #2135.37

Test Kit for 4-Point testing includes carrying bag, (2) 500 ft color-coded (red/blue) leads on spools, (2) 5 ft color-coded (red/blue) leads, (2) 100 ft hand-tied color-coded (green/black) leads, (1) 30 ft lead (green), (4) 14.5 in T-shaped auxiliary ground electrodes, a set of (5) spaded lugs and (1) 100 ft tape measure.

GROUND RESISTANCE TESTERS
MULTI-FUNCTION

GROUNDFLEX® FIELD KIT

Test active tower grounds safely without de-energizing or disconnecting any cables

Unique in the industry!

SAFETY 50V CAT IV RATING

IP 53 cover closed

SPECIFICATIONS

MODELS	6472 & 6474						
ELECTRICAL	**3-POINT METHOD**	**4-POINT & SELECTIVE METHODS**	**GROUND MEASUREMENT WITH 2 CLAMPS**	**SOIL RESISTIVITY**	**GROUND POTENTIAL MEASUREMENT**	**DC RESISTANCE MEASUREMENT**	**MEASUREMENTS WITH 6474**
Range (Auto-Ranging)	0.09 Ω to 99.9 kΩ	0.011 Ω to 99.99 kΩ	(0.1 to 500) Ω	0.01 Ω to 99.9 kΩ	0.01 mV to 65.00 V	0.02 Ω to 99.99 kΩ	0.067 Ω to 99.99 kΩ
Resolution	(0.01 to 100) Ω	(0.001 to 10) Ω	(0.01 to 1) Ω	(0.01 to 100) Ω	(0.01 to 10) mV	2 wires: (0.01 to 100) Ω 4 wires: (0.001 to 10) Ω	(0.001 to 10) Ω
Accuracy	± (2 % + 1 count)		± (10 % + 1 count)	± (2 % + 1 count)	± (5 % + 1 count)	± (2 % + 2 counts)	± (5 % + 1 count)
No-Load Voltage	(10, 16, 32 or 60) Vrms (Not applicable w/2-clamp method)					± 16 VDC	(10, 16, 32 or 60) Vrms
Measurement Frequency	(41 to 5078) Hz		Auto: 1611 Hz Manual: (128, 1367, 1611, or 1758) Hz	(41 to 128) Hz	(41 to 5078) Hz	DC	(41 to 5078) Hz
Coupling Measurement	Yes	–					
Auxiliary Rod Resistance Measurement	0.14 Ω to 99,9 kΩ		–				0.14 Ω to 99,9 kΩ
Voltage Interference	Maximum 60 V peak						
Soil Resistivity	–			Wenner and Schlumberger	–		
Type of Measurement	3 wires	4 wires	2 clamps	4 wires	3 wires	2 or 4 wires	GroundFlex®
Measurement Current	> 200 mAAC		< 26 ARMS (w/SR182) < 5 ARMS (w/MN82)	> 200 mAAC		> 200 mADC	> 200 mAAC
MECHANICAL							
Memory/ Communication	512-record memory / Optically isolated USB						
Dimensions/Weight	(10.7 x 9.84 x 5.04) in (272 x 250 x 128) mm / Model 6472: 7.05 lb (3.2 kg) / Model 6474: 5.07 lb (2.3 kg)						
Safety							
Safety Rating	50 V CAT IV, complies with IEC 61326-1 / IEC 61010 / IEC 61557-1-4-5						

Consult factory for NIST Calibration prices

GROUND TESTER 6472 KIT-500 FT

Includes meter, rechargeable NiMH batteries, optical USB cable, power adapter (110/240) V with power cord 115 V US, (2) 500 ft color-coded leads on spools (red/blue), (2) 100 ft color-coded leads (hand-tied, green/black), (1) 30 ft lead (green), (4) T-shaped auxiliary ground electrodes, (1) 100 ft AEMC® tape measure, DataView® software, ground tester workbook, user manual on USB drive, (1) carrying bag for meter and (1) carrying bag for kit.

GROUNDFLEX® FIELD KIT 6474

Catalog #2136.03 ***(Includes Ground Tester 6472 KIT-500 FT)***

Includes GroundFlex® Adapter Model 6474, Ground Tester Model 6472, (4) GroundFlex® sensors (16 ft/5 m) with (12) color-coded rings, connection lead, (2) extension leads on H reel (black/green) with color-coded alligator clips, (1) extra black and green alligator clip, (6) BNC extension leads, (1) calibration loop, (3) C-clamps, a carrying case with wheels and handle for meters, carrying bag for meter and kit, (1) inverter 12 VDC to 120 VAC 200 watt (vehicle use) and user manual.

SHOWN: 6474 KIT

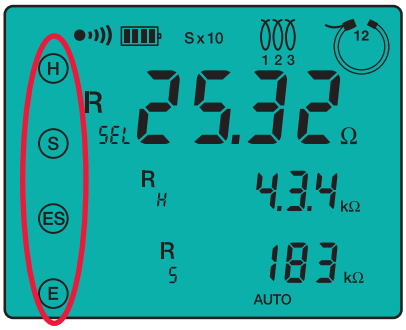
GROUND RESISTANCE TESTERS
GROUNDFLEX® FIELD KIT

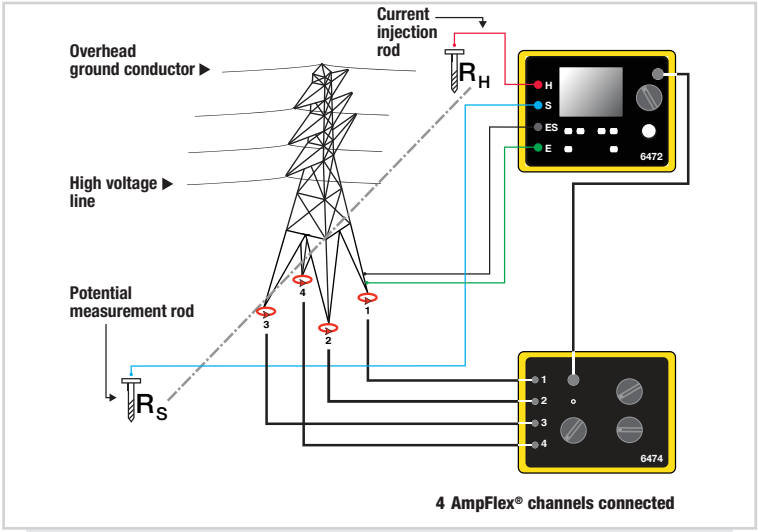
FEATURES

- Ground Integrity Measurement
- 3- and 4-Point Fall-of-Potential measurement with manual or automatic frequency selection
- 4-Point soil resistivity measurement with automatic calculation of Rho (ρ) and user selection of the Wenner or Schlumberger test method
- 2- and 4-Wire DC resistance measurement (Bond testing) with automatic polarity reversal
- 3-Point Earth coupling measurement
- Automatic frequency scan from (41 to 5078) Hz for optimum test accuracy in electrically noisy environments
- Selectable test voltage limit of (10,16, 32, or 60) V with up to 250 mA of test current
- Automatic recognition of all electrode connections and measurement of their resistance value
- Determines bonding condition of overhead ground conductors
- Auto Power OFF management
- Optically isolated USB communication
- Remote set up and operation of all measurements using DataView® software supplied
- Rechargeable NiMH batteries from wall charger or vehicle power *(Cat. #2135.43 needed for vehicle power)*
- Rugged dustproof and water-resistant field case *(IP53 rated in closed position)*
- Includes DataView® software for data retrieval, real-time display, analysis, automatic report generation and system configuration

AUTOMATIC RECOGNITION AND DISPLAY OF INPUT CONNECTIONS TO MATCH TEST

The connections are displayed and flash if incorrect or absent for the test selected.





4 AmpFlex® channels connected

GROUND MEASUREMENT ON TOWERS WITH GROUND CABLE

High-voltage lines are usually equipped with a ground cable to allow lightning to discharge to ground via the tower. As all the towers are connected to this conductor, all the tower's resistances are in parallel. This means it is impossible to measure tower resistance using traditional 3-Point methods unless the ground cable is disconnected, which is a dangerous and time-consuming operation.

ACCESSORIES

CAT #2135.87
GroundFlex® Sensor
32 ft (10 m)
(Model 6474 only)

CAT #2135.72
Model SR182
AC Current Probe
(Models 6471 & 6472)

CAT #2135.86
Lead – BNC 150 ft (46 m)
M/F Extension Lead
(Model 6474 only)

CATALOG NO.	DESCRIPTION
2136.03	GroundFlex® Field Kit Model 6474 (Tower Tester)

GROUND RESISTANCE TESTERS
SELECTION CHART

AEMC MODEL NUMBER	AEMC CATALOG NUMBER	RESISTANCE RANGE	POWER SOURCE	2 POINT TEST	3 POINT TEST	4 POINT/ SELECTIVE	SOIL RESISTIVITY TEST	EARTH COUPLING	2 CLAMP	BONDING	DISPLAY	VOLTAGE INDICATION	INDUCTANCE INDICATION	SWEEP FREQUENCY
6416	2141.01	(0.01 to 1500) Ω	Battery	Clamp-On Ground Resistance Tester w/Alarm and Memory				–	✓	✓**	Digital	Voltage Displayed (noise icon, buzzer)	✓	–
6417	2141.02	(0.01 to 1500) Ω	Battery	Clamp-On Ground Resistance Tester w/Alarm, Memory and Bluetooth communication				–	✓	✓**	Digital		✓	–
6418	2141.03	(0.01 to 1200) Ω	Battery	Clamp-On Ground Resistance Tester w/Alarm and Memory				–	✓	✓**	Digital	Noise Icon	–	
6422	2135.55	0.05 Ω to 50 kΩ	Battery	✓		–				✓	Digital	Noise Icon	–	
6422 Kit 150 FT	2135.56	0.05 Ω to 50 kΩ	Rechargeable Battery	✓		–				✓	Digital	Noise Icon	–	
6424	2135.57	0.05 Ω to 50 kΩ	Rechargeable Battery	✓		–				✓	Digital	Noise Icon	–	
6424 Kit 150 FT	2135.58	0.05 Ω to 50 kΩ	Rechargeable Battery	✓		–				✓	Digital	Noise Icon	–	
6424 Kit 300 FT	2135.59	0.05 Ω to 50 kΩ	Rechargeable Battery	✓		–				✓	Digital	Noise Icon	–	
GroundFlex® Field Kit Model 6474	2136.03	0.001 Ω to 99.99 kΩ	Rechargeable Battery	–	✓			–		✓	Digital	Voltage Displayed	–	✓
6471 (SR182 probes not included)	2135.48	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓***		✓	Digital	Voltage Displayed	–	✓
6471	2135.49	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓		✓	Digital	Voltage Displayed	–	✓
6471 Kit 300 FT (with probes)	2135.50	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓		✓	Digital	Voltage Displayed	–	✓
6471 Kit 300 FT (no probes)	2135.60	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓		✓	Digital	Voltage Displayed	–	✓
6471 Kit 500 FT (no probes)	2135.61	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓		✓	Digital	Voltage Displayed	–	✓
6472	2135.51	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓***		✓	Digital	Voltage Displayed	–	✓
6472 Kit 300 FT	2135.53	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓***		✓	Digital	Voltage Displayed	–	✓
6472 Kit 500 FT	2135.54	0.001 Ω to 99.99 kΩ	Rechargeable Battery	✓				✓***		✓	Digital	Voltage Displayed	–	✓
4620	2130.43	(0.0 to 1999) Ω	Battery	✓		–	✓	–			Digital	LED/Buzzer	–	
4620 Kit 150 FT	2135.19	(0.0 to 1999) Ω	Battery	✓		–	✓*	–			Digital	LED/Buzzer	–	
4620 Kit 300 FT	2135.20	(0.0 to 1999) Ω	Battery	✓		–	✓	–			Digital	LED/Buzzer	–	
4620 Kit 500 FT	2135.21	(0.0 to 1999) Ω	Battery	✓		–	✓	–			Digital	LED/Buzzer	–	
4630	2130.44	(0.0 to 1999) Ω	Rechargeable Battery	✓		–	✓	–			Digital	LED/Buzzer	–	
4630 Kit 150 FT	2135.22	(0.0 to 1999) Ω	Rechargeable Battery	✓		–	✓*	–			Digital	LED/Buzzer	–	
4630 Kit 300 FT	2135.23	(0.0 to 1999) Ω	Rechargeable Battery	✓		–	✓	–			Digital	LED/Buzzer	–	
4630 Kit 500 FT	2135.24	(0.0 to 1999) Ω	Rechargeable Battery	✓		–		–			Digital	LED/Buzzer	–	

* Performing soil resistivity tests with this kit requires two additional auxiliary electrodes not supplied in the 150 ft kit and one additional test lead.
** Clamp-on Ground Resistance Tester can measure system continuity inclusive of all bonding points.
*** Must purchase an additional (2) SR182 or (2) MN82 accessory clamps.

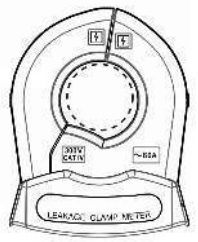
LEAKAGE CURRENT METERS & PROBES

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

LEAKAGE CURRENT METERS & PROBES

TRMS CLAMP-ON LEAKAGE CURRENT METER

1 µA Resolution



Jaw Opening: .91 in (23 mm)

MODEL 566

Designed to measure low AC currents, which are typically leakage currents in ground conductors

SPECIFICATIONS

MODEL		566	
ACmA Current (TRMS, Auto-Ranging)			
Resolution	**6 mA** **60 mA** **600 mA**	0.001 mA (1 µA) 0.01 mA (10 µA) 0.1 mA (100 µA)	
Accuracy	**(50 to 60) Hz (6 mA)** **(50 to 60) Hz (60 and 600 mA)**	± 1.0 % of Reading ± 8 cts ± 1.0 % of Reading ± 5 cts	
	(60 to 500) Hz (6 mA) **(60 to 500) Hz (60 mA and 600 mA)**	± 2.0 % of Reading ± 8 cts ± 2.0 % of Reading ± 5 cts	
AC Current (TRMS, Auto-Ranging)			
Resolution	**6 A** **60 A**	1 mA 10 mA	
Accuracy	**(50 to 60) Hz** **(60 to 500) Hz**	± 1.0 % of Reading ± 5 cts ± 2.0 % of Reading ± 5 cts	
AC Voltage (TRMS)			
Accuracy	**60 V** **600 V**	± 1.0 % of Reading ± 3 cts	
DC Voltage			
Resolution	**60 V** **600 V**	0.01 V 0.1 V	
Accuracy	**60 V** **600 V**	± 1.0 % of Reading ± 2 cts	
Resistance		(0 to 1) kΩ	
Accuracy		± 1.0 % of Reading ± 2 cts	
CONTINUITY		Buzzer activates < 45 Ω (0 to 1) kΩ	
Frequency (Auto-Ranging)			
Function		A-Hz	V-Hz
Resolution	**(0 to 100) Hz** **100 Hz to 1 kHz**	0.1 Hz 1 Hz	0.1 Hz 1 Hz
Sensitivity		10 mArms min	5 Vrms min
Accuracy		± 0.5 % of Reading ± 2 cts	
Filter		On (50/60) Hz only; Off (full frequency range)	
MAX Sample Rate		100 ms	
MECHANICAL			
Jaw Opening I Max Conductor Size		0.91 in (23 mm)	
Weight		10.4 oz (296 g) with batteries	
Power Supply		(2) 1.5 V AAA batteries (included)	
ENVIRONMENTAL			
Operating Temperature		(32 to 104) °F (0 to 40) °C; < 80 % RH (non-condensing)	
SAFETY			
Safety Rating		EN 61010-1, EN 61010-2-032, 600 V CAT III	

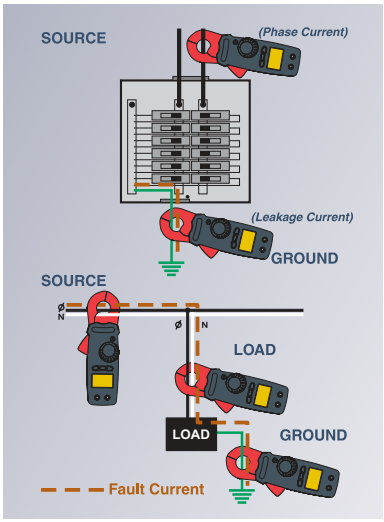
Consult factory for NIST Calibration prices

PRODUCT INCLUDES

Soft carrying case, (2) color-coded (red/black) 5 ft test leads, (2) 1.5 V AAA (LR03) batteries and user manual.

FEATURES

- Check for leakage and locate insulation breakdowns on live circuits
- Measures leakage current down to 0.001 mA with up to 1 µA resolution
- Measures current up to 60 Arms
- Measures up to 600 VAC/DC
- Measures Hz on either V or A inputs
- Measures resistance and continuity
- Hold feature freezes value
- MAX feature keeps track of highest measured in-rush value
- Zero button ideal for measuring relative values
- Low pass filter to isolate (50/60) Hz fundamental from harmonics
- Compatible with VDE 0404
- Backlight LCD display



CATALOG NO.	DESCRIPTION
2139.83	TRMS Clamp-on Leakage Current Meter Model 566 (6/60/600 mA, 1/10/100 A, 600 VAC/DC, Hz, Ohms, Continuity)

LEAKAGE CURRENT METERS & PROBES
ARTIFICIAL NEUTRAL & LEAKAGE CURRENT PROBE

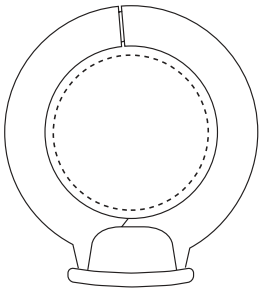
MODEL 2620

Check for leakage and locate insulation breakdowns on live circuits

SPECIFICATIONS

MODEL	2620	
ELECTRICAL		
	4 A Range	400 A Range
Current Range	500 µA to 4 A	500 mA to 400 A
Output Signal	1 mV/mA (4 V max)	1 mV/A (400 mV max)
Accuracy		
500 µA to 10 mA	± 3 % of Reading ± 1 mV	–
(10 to 100) mA	± 0.5 % of Reading ± 0.5 mV	–
100 mA to 4 A	± 0.5 % of Reading ± 0.5 mV	–
500 mA to 10 A	–	± 0.5 % of Reading ± 0.5 mV
(10 to 100) A	–	± 0.35 % of Reading ± 0.5 mV
10 A to 400 A	–	± 0.35 % of Reading ± 1 mV
Phase Shift		
500 µA to 10 mA	–	
(10 to 100) mA	< 15 °	–
100 mA to 4 A	< 10 °	–
500 mA to 10 A	–	
(10 to 100) A	–	< 1 °
(100 to 400) A	–	< 0.6 °
Load Impedance	1 MΩ min	
Frequency Range	(48 to 1000) Hz	
MECHANICAL		
Dimensions	(11.22 x 6.89 x 1.77) in (285 x 175 x 45) mm	
Weight	2.87 lb (1.3 kg)	
Jaw Opening	4.4 in (112 mm)	
Maximum Conductor Size	4.4 in (112 mm)	
ENVIRONMENTAL		
Operating Temperature	(-14 to 131) °F (-10 to 55) °C; Up to 85 % RH (non-condensing)	
SAFETY		
Safety Rating	EN 61010-2-032, 600 V CAT III	

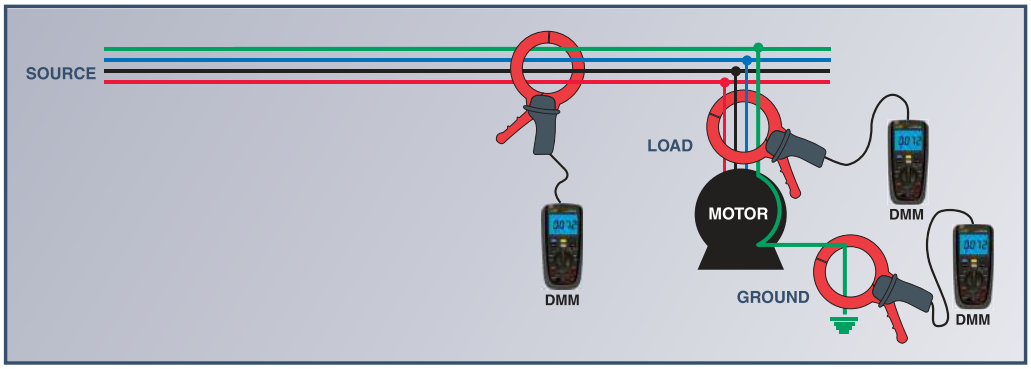
Consult factory for NIST Calibration prices



Jaw Opening: 4.4 in (112 mm)
Conductor Size: 4.4 in (112 mm)

FEATURES

- Very high sensitivity
- Differential or leakage current from 500 µA
- Current up to 400 A
- Two switch-selectable measurement ranges: 4 AAC/400 AAC
- Large inside jaw diameter allows use on large or multiple conductors
- Works with single-, dual- and three-phase systems
- Connect directly to DMMs on mV or VAC range



CATALOG NO.	DESCRIPTION
2125.52	Leakage Current Probe Model 2620 (4 A, 1 V/A & 400 A, 1 mV/A output)

AEMC®
INSTRUMENTS
CHAUVIN ARNOUX GROUP

We are committed to environmental responsibility.
Our product designs and production are based
on establishing a balance between environmental,
economic, and social conditions in future societies.
We are the brand you can trust!

THE SMART CHOICE

FOR ELECTRICAL TEST & MEASUREMENT INSTRUMENTS

MEGOHMMETERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE MEGOHMMETERS

MODELS 1060, 5060, 5070, 6526, 6534, 6550 & 6555

Print reports of all test results / Select test voltage and run tests from your PC with a simple click and execute process / Capture and display data in real-time / Retrieve data from the instrument's memory

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MEGOHMMETERS
500 V & 1000 V HAND-CRANKED

MODEL 6503

Designed for acceptance testing and preventive maintenance of wiring, cables, switchgear and motors

Ideal for use in areas affected by floods

SPECIFICATIONS

MODEL	6503
INSULATION TESTS	
Test Ranges*	
250 V	(1 to 500) MΩ
500 V	(1 to 500) MΩ
1000 V	(10 to 5000) MΩ (5 GΩ)
Short Circuit Current	5 mA (max)
Voltage Measurement/ Safety Check	(0 to 600) VAC
Accuracy (MΩ)	± 2.5 % of Full Scale Length
Automatic Discharge	8 s/µF
Charge Time	
250 V	0.2 s/µF
500 V	0.5 s/µF
1000 V	0.5 s/µF
RESISTANCE TESTS	
Measurement Range	–
Test Current	–
Accuracy	–
CONTINUITY TESTS	
Measurement Range	–
Test Current	–
Accuracy	–
SAFETY	
Safety Rating	EN 61010-1, 600 V CAT II, 300 V CAT III

*DC test voltage generated in full across the entire measurement range.
Consult factory for NIST Calibration prices

FEATURES

- True Megohmmeter®
- No batteries or power needed to operate
- Test voltages of (250, 500, and 1000) V
- Insulation measurements to 5000 MΩ
- LED indicates constant voltage output and proper cranked speed controlled by voltage regulator
- Automatic discharge when measurement is finished
- Auto-Ranging – dual scale operation for better sensitivity and easier readings
- Compact self-contained package; folded crank
- Voltage displayed prior to, during and at the end of test
- Large direct reading scale

PRODUCT INCLUDES

MODEL 6503
Soft carrying case, (3) color-coded (red/black/blue) leads and alligator clips, black test probe and a user manual.

CATALOG NO.	DESCRIPTION
2126.52	Megohmmeter Model 6503 (Hand-cranked, 250 V, 500 V, 1000 V)

MODEL 6527

Insulation tester with DMM functions specially designed for testing wiring, small motors and other equipment

SPECIFICATIONS

MODEL	6527			
Range	4 MΩ	40 MΩ	400 MΩ	4000 MΩ (4G Ω)
INSULATION TESTS (250 V)				
Resolution	0.001 MΩ	0.01 MΩ	0.1 MΩ	1 MΩ
Accuracy	±2 % of Reading ±10 cts		±3 % of Reading ±5 cts	±4 % of Reading ±5 cts
Test Current	1 mA test current into a 250 kΩ load			
INSULATION TESTS (500 V)				
Resolution	0.001 MΩ	0.01 MΩ	0.1 MΩ	1 MΩ
Accuracy	±2 % of Reading ±10 cts		±2 % of Reading ±5 cts	±4 % of Reading ±5 cts
Test Current	1 mA test current into a 500 kΩ load			
INSULATION TESTS (1000 V)				
Resolution	0.001 MΩ	0.01 MΩ	0.1 MΩ	1 MΩ
Accuracy	±3 % of Reading ±10 cts	±2 % of Reading ±10 cts	±2 % of Reading ± 5 cts	±4 % of Reading ±5 cts
Test Current	1 mA test current into a 1 MΩ load			
VOLTMETER RANGES (250 V, 500 V, & 1000 V)				
V AC/DC	600 V		1000 V	
Resolution	1 V			
Accuracy **DC** **AC**	±0.8 % of Reading ±3 cts ±1.2 % of Reading ±10 cts			
Input Impedence **DC** **AC**	10 MΩ 10 MΩ (40/400) Hz			
RESISTANCE TESTS - OHMMETER				
Range	(0 to 400) kΩ			
Resolution	0.1 kΩ			
Accuracy	±1.2 % of Reading ±3 cts			
CONTINUITY TESTS				
Range	(0 to 400) Ω			
Resolution	0.01 Ω		0.1 Ω	
Accuracy	1.2 % ±3 cts			
Test Current	> 200 mA (0.2/2) Ω			
Test Lead Compensation	Yes: Dedicated push-button			
Beeper	Yes: < 35 Ω ±3 Ω			
ELECTRICAL				
Power Supply	(6) 1.5 V AA batteries – Alkaline recommended (included)			
SAFETY				
Safety Rating **IP Protection**	EN 61557, 600V Cat. IV IP51			

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

Soft carrying case, set of (2) 5 ft color-coded test leads with alligator clips, (1) black test probe and user manual.

FEATURES

- True Megohmmeter®
- Insulation test voltage selections of (250, 500, and 1000) V
- Measure insulation to 4000 MΩ (4 GΩ)
- TEST LOCK feature for time sensitive measurements up to 15 minutes
- Auto discharge after insulation test
- AC/DC voltmeter to 600 VAC/ 1000 VDC
- Ohmmeter to 400 kΩ
- Continuity meter with > 200 mA test current
- Test lead resistance compensation for accurate low resistance measurements
- Auto HOLD function to “freeze” readings
- Large and bright dual display with blue backlight
- Auto Power OFF feature
- Ergonomic over-molded case with back-stand

CATALOG NO.	DESCRIPTION
2126.53	Megohmmeter Model 6527 (Digital 250 V, 500 V, 1000 V, Continuity, 400 kΩ, V)

MEGOHMMETERS
1000 V DIGITAL & MULTI-FUNCTION HANDHELD

MODEL 6529

Insulation tester ideal for maintenance and repair operations on electrical equipment such as motors, cables, and more.

SPECIFICATIONS

US Design Patent US D890,617 S

MODEL	6529
AC/DC VOLTAGE MEASUREMENT	
Range	700 VAC, 700 VAC+DC
Accuracy DC AC+DC	 ± (1 % R + 1 ct) ± (1.2 % R + 1 ct)
Resolution	1 V
Frequency Range	DC & (30 to 440) Hz
Input Impedance	25 MΩ
INSULATION MEASUREMENT	
Test Voltage/Resistance Range 50 V 100 V 250 V 500 V 1000 V	 (0.010 to 420.0) MΩ (0.020 to 420.0) MΩ (0.050 to 4200) MΩ (0.100 to 4200) MΩ 0.20 MΩ to 11.00 GΩ
Measurement Accuracy 40 Ω/40 MΩ/400 MΩ 4.2 GΩ 11 GΩ	 ± (1.5 % R + 10 ct) ± (4 % R + 10 ct) ± (10 % R + 10 ct) (1000 V range)
CONTINUITY MEASUREMENT	
Range	(0 to 40) Ω (200 mA test current ≤ 2 Ω)
Accuracy	1.2 % R +3 ct
Resolution Max	0.01 Ω
Leads Compensation	Up to 5 Ω
Threshold	Audible signal triggered, Selectable ≤ 1 Ω or 2 Ω
RESISTANCE MEASUREMENT	
Range	(0 to 420) kΩ (Auto ranging)
Accuracy	± (1.2 R + 3 ct)
Resolution Max	0.1 Ω
DMR Mode	Compares successive measurements to a reference value with alarm indication and red backlit display if deviation changes by the programmed %. The difference between the new reading and the reference measurement, along with the % deviation is displayed.
GENERAL	
Time Test	10 s to 39.59 min selectable
Display	LCD with backlight
Power Supply	(6) AA alkaline batteries (NEDA 15 A or IEC LR6)
Battery Life (5 s ON, 25 s OFF)	> 2000 measurement in MΩ, > 300 h in VAC/DC, > 6000 measurement in Continuity Test
Dimensions	(8.54 x 3.54 x 2.44) in (217 x 90 x 62) mm
Weight	1.68 lb (762 g)
Operating Temperature	(14 to 122) °F (-10 to 50) °C, 90 % RH
SAFETY	
Safety Rating	IEC / EN 61010-1, 600 V CAT IV, CE mark

Consult factory for NIST Calibration prices

PRODUCTS INCLUDE

Includes soft carrying case, set of (2) 5 ft color-coded (red/black) silicone leads and alligator clips, (2) color-coded (red/black) test probes (Rated 1000 V CAT IV, UL V2), (6) 1.5 V AA batteries and user manual.

600V CAT IV SAFETY RATING — IP 40 with leads connected

FEATURES

- Selectable test voltages (50, 100, 250 , 500 and 1000) V
- Basic DMM functions; Volts, Continuity, Resistance
- DAR and PI ratio test functions
- Dual line display to view the insulation value and real-time test voltage simultaneously in an easy-to-read format
- DMR mode - relative resistance comparison to a reference value
- 2-color backlighting easily shows alarm conditions
- Shockproof sheath for excellent handling
- Automatic power-off function to optimize the battery life
- Programmable alarm thresholds

ACCESSORIES/REPLACEMENTS

Catalog #2138.54
Continuity probe

Catalog #2119.02
Soft carrying pouch

Catalog #2971.04
Fuse – Set of (2) FF, 200 mA, 1000 V, 10 kA, (6 x 32) mm

Catalog #5000.94
Lead – Set of (2) 5 ft color-coded (red/black) silicone leads with 4 mm straight/right angle banana plugs (Rated 1000 V CAT IV, UL)

Catalog #5000.97/#5000.98
Black/red test probe (1000 V CAT IV, 15 A, UL V2)

Cat #5000.99/#5100.00
Clip – Safety alligator (black/red) (1000 V CAT IV, 15 A, UL V2)

CATALOG NO.	DESCRIPTION
2126.55	Megohmmeter Model 6529 (Digital, 50 V, 100 V, 250 V, 500 V, 1 kV, 420 k-Ohm, Continuity, Alarm, Timer & PI/DAR)

MEGOHMMETERS
DIGITAL/ANALOG & MULTI-FUNCTION HANDHELD

6522 6526

MODELS 6522, 6526, 6534 & 6536

6522 & 6526 - ideal for testing cables, small motors, pumps, transformers and industrial equipment

6534 - ideal for insulation measurements on communication cables, Ethernet cables and other low voltage DC wiring

6536 - ideal for special applications in the aerospace and defense sectors and for ESD testing where specific test voltages are required

6534

6536

SPECIFICATIONS

MODELS	6522	6526	6534	6536
INSULATION TESTS				
Test Voltages	(250, 500, and 1000) V	(50, 100, 250, 500, and 1000) V	(10, 25, 100, 250, and 500) V	Variable (10 to 100) V (1 V steps)
Insulation Resistance	40 GΩ (40,000 MΩ)	200 GΩ (200,000 MΩ)	50 GΩ (50,000 MΩ)	20 GΩ (20,000 MΩ)
PI/DAR Ratios	No	Yes	No	
Test Lock	Yes			
Timer	(0 to 40) min			
Auto Discharge	Yes			
Automatic Test Inhibit	> 25 V			
DMM FUNCTIONS				
Voltage	700 VAC/DC			
Resistance	–	1000 kΩ		
Continuity	10 Ω	10 Ω, 100 Ω		
Test Current	200 mA			
Capacitance Measurement	–	0.1 n to 10 µF	–	
Frequency	–	(15.3 to 800) Hz	–	
GENERAL FUNCTIONS				
Alarm / Δ Rel	No/No	Yes / Yes		
Auto Power OFF	Yes			
Data Hold				
Test Lead Compensation				
Remote Probe	Yes (optional)			
Memory	–	1300 measurements		–
Bluetooth	–	2.1 Class II		–
DataView® Software	–	Included		–
Display Type	Digital w/Analog Bargraph			
Display Counts	4000			
Backlight	Yes			
Power Supply	(6) AA Alkaline			
Magnetic Mount	Yes			
SAFETY				
Safety Rating	600 V CAT IV			

Consult factory for NIST Calibration prices

AUTOMATIC REPORT GENERATION

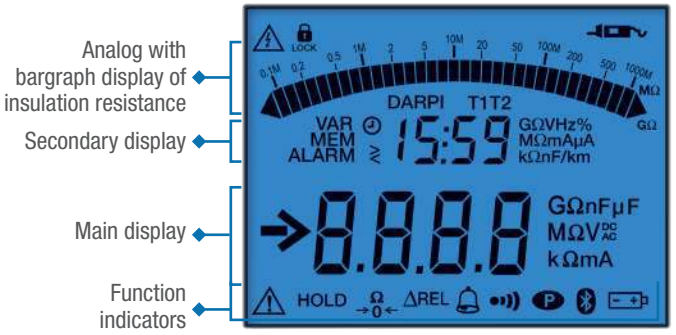
DataView®

6526 & 6534 (only)

CATALOG NO.	DESCRIPTION
2155.51	Megohmmeter Model 6522 (Digital w/Analog Bargraph, 250 V, 500 V, 1000 V, Continuity, V)
2155.53	Megohmmeter Model 6526 (Digital w/Analog Bargraph, Alarm, 50 V, 100 V, 250 V, 500 V, 1000 V, Ohm, Continuity, V, kΩ, Capacitance, Memory, Bluetooth w/DataView® software)
2155.55	Megohmmeter Model 6534 (Digital w/Analog Bargraph, Alarm, 10 V, 25 V, 100 V, 250 V, 500 V, Ohm, Continuity, V, kΩ, Memory, Bluetooth w/DataView® software)
2155.56	Megohmmeter Model 6536 (Digital w/Analog Bargraph, Alarm, Variable (10 to 100) V, Ohm, Continuity, V, kΩ)
2155.57	Megohmmeter Model 6536 ESD Floor Kit (Meter, set of (2) 5 lb weights and carrying case)

MEGOHMMETERS
DIGITAL/ANALOG & MULTI-FUNCTION HANDHELD
MODELS 6522, 6526, 6534 & 6536

FRONT PANEL & FUNCTIONAL DISPLAYS



PRODUCT INCLUDES

6522

Soft carrying case, (2) 5 ft color-coded (red/black) leads, (2) color-coded (red/black) alligator clips, (1) black test probe, (6) AA batteries and user manual.

6526

Soft carrying case, (2) 5 ft color-coded (red/black) leads, (2) color-coded (red/black) alligator clips, (1) black test probe, (6) AA batteries, quick start guide, USB stick with DataView® software and user manual.

6534

Soft carrying case, (2) 5 ft color-coded (red/black) leads, (2) color-coded (red/black) alligator clips, (1) black test probe, (2) color-coded (red/black) grip probes, (6) AA batteries, quick start guide, USB stick with DataView® software and user manual.

6536

Soft carrying case, (2) 5 ft color-coded (red/black) leads, (2) color-coded (red/black) alligator clips, (1) black test probe, (2) color-coded (red/black) grip probes, (6) AA batteries, and user manual.

6536 ESD FLOOR KIT

Field case, (2) 5 ft color-coded (red/black) leads, (2) color-coded (red/black) alligator clips, (1) black test probe, (2) color-coded (red/black) grip probes, (2) 5 lb weights with conductive rubber bottom pad, (2) 4 mm non-insulated adapters, (6) AA batteries, and user manual.

SHOWN: 6526

SAFETY 600V CAT IV RATING · IP 54 · CE · ETL US · AUTOMATIC REPORT GENERATION

DataView®
6526, 6532 & 6534

FEATURES*

- True Megohmmeter®
- Test voltage from (10 to 1000) V
- Insulation resistance up to 200 GΩ
- Manual, Lock, Timer modes & PI/DAR Ratio calculations
- Alarms with Green/Red Pass/Fail indicator light
- 200 mA/20 mA continuity with active protection without fuses
- Measurement of V (TRMS & DC), F, Ω, kΩ, Hz, C
- ΔRel mode for comparison measurements
- Configurable alarms
- Data retrieval
- Automatic discharge after test
- Automatic test inhibit if device under test is energized > 25 V

**** Features are model dependent. Bluetooth on selected models.***

MEGOHMMETERS
1000 V DIGITAL/ANALOG

MODEL 1060
Test insulation on cables, transformers, motors and wiring installations

SPECIFICATIONS

MODEL	1060
INSULATION TESTS	
Test Voltage	
50 V	2 kΩ to 200 GΩ
100 V	4 kΩ to 400 GΩ
250 V	10 kΩ to 1000 GΩ (1 TΩ)
500 V	20 kΩ to 2000 GΩ (2 TΩ)
1000 V	40 kΩ to 4000 GΩ (4 TΩ)
Accuracy	
2 kΩ to 40 GΩ	± 5 % of Reading ± 3 cts
40 GΩ to 4 TΩ	± 15 % of Reading ± 10 cts
Voltage Test/Safety Check	(0 to 1000) VAC/DC
Voltage Warning Indicator	> 25 V
Test Inhibition	Yes > 25 V
Smooth Function	Yes
RESISTANCE TESTS	
Measurement Range	0.01 Ω to 400 kΩ
Test Voltage	12.4 VDC max
Test Current	< 6 mADC
Accuracy > 4 kΩ	± 3 % of Reading ± 3 cts
CONTINUITY TESTS	
Measurement Range	(0.01 to 39.99) Ω
Test Current	≥ 200 mA from (0.01 to 20.00) Ω
Accuracy	± 3 % of Reading ± 4 cts
COMMUNICATION	
Memory of Reading over Time R(t)	Yes (128 kB memory)
Memory of Test Results in Files	128 kB memory with RS-232 to USB adapter (included)
PC Software/Report Generation	DataView® (included)
ELECTRICAL	
Power Supply	9.6 V NiMH Battery Pack (included) (85 to 256) V ((50/60) Hz)
SAFETY	
Safety Rating	EN 61010-1, 600 V CAT III, EN 61557

Consult factory for NIST Calibration prices

FEATURES
- True Megohmmeter®
- Test voltage selections of (50, 100, 250, 500 and 1000) V
- Insulation measurements to 4000 GΩ (4 TΩ)
- Direct measurement of DAR and PI values
- Direct measurement of sample capacitance
- Display of test voltage and run time
- Programmable test run times and PI times
- Smooth and Alarm functions
- Automatic test inhibition (if live sample > 25 V)
- Automatic discharge and display of discharge voltage
- Large dual display with time, voltage and measurement
- Bright blue electroluminescent backlight
- Auto Power OFF when not in use
- Remote operation with optional test probe
- Rugged, dual wall, water-resistant field case with detachable lead/accessory pouch

PRODUCT INCLUDES
Detachable accessory pouch, (2) 5 ft color-coded (red/blue) leads, (1) black shielded lead, (3) color-coded (red/black/blue) alligator clips, (1) black test probe, (1) RS-232 DB9 F/F 6 ft null model cable, (1) RS-232 to USB adapter, US 115 V power cord, rechargeable NiMH battery, spare fuses, and a USB drive with DataView® software and user manual.

ACCESSORIES
CATALOG #2155.75
Megohmmeter test probe
(600 V CAT IV)

CATALOG NO.	DESCRIPTION
2130.03	Megohmmeter Model 1060 (Digital, with Analog Bargraph, Backlight, Alarm, Timer, 50 V, 100 V, 250 V, 500 V, 1000 V, Auto DAR/PI, Resistance, Continuity, DataView® software, 128 kB Memory)

MEGOHMMETERS
5000 V DIGITAL/ANALOG

MODEL 6505

Contributes to the safety of electrical installations and equipment

SPECIFICATIONS

MODEL	6505
INSULATION TESTS	
Test Voltage/Range **500 V** **1000 V** **2500 V** **5000 V**	 10 kΩ to 2000 GΩ (2 TΩ) 10 kΩ to 4000 GΩ (4 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ)
User Programmable Test	(40 to 1000) V: 10 V increments (1000 to 5100) V: 100 V increments
Short Circuit Current	< 1.6 mA ± 5 %
Accuracy **10 kΩ to 399.9 GΩ** **400 GΩ to 10 TΩ**	 ± 5 % of Reading ± 3 cts ± 15 % of Reading ± 10 cts
DAR (1 min / 30 s)	0.02 to 50.00
PI (10 min / 1 min & User Programmable)	0.02 to 50.00
Capacitance Measurement	(0.001 to 49.99) µF; Max resolution 1 nF
Leakage Current Measurement	0.00 nA to 3 mA; Max resolution 1 pA
Programmable PI Ratio Times	(1 to 60) min
Discharge After Test	Yes, automatic
Discharge Voltage Display	Yes
Voltage Test / Safety Check	2500 VAC / 4000 VDC (16 to 42) Hz / 1 V Resolution
Voltage Warning Indicator	Yes > 25 V
Test Inhibition	> 40 % of test voltage
Guard Terminal	Yes
ELECTRICAL	
Power Supply	(1) 9.6 V NiMH battery pack (included); Line power: (85 to 256) VAC (50/60) Hz
SAFETY	
Safety Rating	EN 61010-1, 1000 V CAT III

Consult factory for NIST Calibration prices

FEATURES

- True Megohmmeter®
- Simple operation
- Test voltage selections of (500, 1000, 2500 and 5000) V
- Insulation measurements from 10 kΩ to 10,000 GΩ (10 TΩ)
- Adjustable and programmable test voltage (40 to 5100) V
- Automatic calculation of DAR and PI values
- Direct measurement and display of capacitance and leakage current
- Display resistance, test voltage and run time
- Programmable PI ratio times
- Automatic test inhibition (if live sample > 40 % of test voltage)
- Automatic discharge and display of discharge voltage
- Large backlight LCD dual-display with time, voltage and measurements shown
- Rugged, dual wall, water-resistant field case
- Designed and built to IEC safety standards

ACCESSORIES/REPLACEMENTS

CATALOG #2133.73 Extra Large Tool Bag

CATALOG #2960.21 9.6 V rechargeable NiMH battery pack

CATALOG #2151.30 Lead – Replacement set of (3), 10 ft (5 kV) color-coded safety with clips (Jumper lead not included).

CATALOG #2151.31 Lead – Replacement 1 ft jumper lead (blue)

CATALOG #2151.32 Lead – Set of (3), 25 ft (5 kV) safety with clips

CATALOG #2119.84 Fuse – Set of (3), 0.1 A, 380 V, 5 x 20, 10 kA

CATALOG #5000.14 Power Cord 115 V US Plug

PRODUCT INCLUDES

Extra large classic tool bag, set of (3) 10 ft color-coded (red/black/blue) leads with clips (5000 V) (red/black/blue), (1) blue guard terminal jumper lead, fuse 0.1 A 380 V, rechargeable battery pack (installed), US 115 V power cord, and user manual.

CATALOG NO.	DESCRIPTION
2130.18	Megohmmeter Model 6505 (Digital, with Analog Bargraph, Backlight, 500 V, 1000 V, 2500 V, 5000 V, Auto DAR/PI)

MEGOHMMETERS
5000 V DIGITAL/ANALOG

MODELS 5050 & 5060

Designed with the highest level of built-in safety features

5050 5060

5060 only

SPECIFICATIONS

MODELS		5050	5060
INSULATION TESTS			
Test Voltage	**500 V** **1000 V** **2500 V** **5000 V**	10 kΩ to 2000 GΩ (2 TΩ) 10 kΩ to 4000 GΩ (4 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ)	
User Selectable Test Voltage		Programmable: (40 to 1000) V: 10 V increments; (1000 to 5100) V: 100 V increments	
Accuracy	**10 kΩ to 399.9 GΩ** **400 GΩ to 10 TΩ**	± 5 % of Reading ± 3 cts ± 15 % of Reading ± 10 cts	
Voltage Test/Safety Check		2500 VAC/4000 VDC	
Voltage Warning Indicator		Yes > 25 V	
Test Inhibition		Yes – selectable at (3, 10, or 20) % of test voltage	
Smooth Function (user selectable)		Digital filtering stabilizes display readings	
COMMUNICATION			
Storage of Readings over Time R(t)		4 kB memory	128 kB memory
Storage of Test Results		20 readings	1500 readings
Communication Port		–	Serial and RS-232 to USB adapter (included)
PC Software/Report Generation		–	DataView® (included)
ELECTRICAL			
Power Supply		(1) 9.6 V NiMH battery pack (included) Line power: (85 to 256) V (50/60) Hz	
SAFETY			
Safety Rating		EN 61010-1, 600 V, CAT III 1000 V	

Consult factory for NIST Calibration prices

ACCESSORIES/REPLACEMENTS

CATALOG #2119.45 PC RS-232 DB9 F/F 6 ft Null Modem Cable *(5060 & 5070)*
CATALOG #2119.84 Fuse, set of (3), 0.1 A, 380 V, 5 x 20, .10 kA
CATALOG #2133.73 Extra Large Classic Tool Bag (18 x 9 x 12) in
CATALOG #2135.43 Inverter – 12 VDC to 120 VAC 200 Watt for Vehicle use
CATALOG #2136.80 Cable – 10 ft USB Cable
CATALOG #2140.46 Cable - 5 ft USB A-B Cable
CATALOG #2151.30 Lead – Replacement set of (3), 10 ft (5 kV) color-coded safety with clips (Jumper lead not included)
CATALOG #2151.31 Lead – Replacement 1 ft jumper lead (blue)
CATALOG #2151.32 Lead – Set of (3), 25 ft (5 kV) safety with clips
CATALOG #2960.21 Battery – Rechargeable 9.6 V
CATALOG #5000.60 Adapter RS-232 to USB 2.0 *(5060 & 5070)*
CATALOG #5000.14 US 115 V Power Cord
USB THUMB DRIVE Supplied with DataView® software and user manual *(5060 & 5070)*

FEATURES

- True Megohmmeter®
- Test voltage selections of (500, 1000, 2500, and 5000) V
- Variable test voltage from (50 to 5100) V (model 5060)
- Wide measurement range up to 10 TΩ
- Automatic discharge at the completion of the test
- Measure AC voltage up to 4000 V
- Automatic test inhibit if live voltage detected above a set value
- Programmable alarms for all functions
- Automatic calculation of DAR, PI and DD ratios
- Large, backlit LCD screen with digital display and bargraph
- Measures capacitance up to 49.99 µf
- Stores up to 1500 measurements (model 5060)
- Includes DataView® software for data retrieval, real-time display, analysis and report generation

PRODUCT INCLUDES

5050, 5060 & 5070

Extra large classic tool bag, set of (3) 10 ft (5 kV) safety leads (red/black/blue) with clips, one guard terminal jumper lead (blue), US 115 V power cord, rechargeable battery pack, and user manual (5050)

CATALOG NO.	DESCRIPTION
2130.20	Megohmmeter Model 5050 (Digital, Analog Bargraph, Backlight, Alarm, Timer, 500 V, 1000 V, 2500 V, 5000 V, Auto DAR/PI/DD)
2130.21	Megohmmeter Model 5060 (Digital, Analog Bargraph, Backlight, Alarm, Timer, 500 V, 1000 V, 2500 V, 5000 V, Auto DAR/PI/DD, USB w/DataView® Software)

MEGOHMMETERS
5000 V GRAPHICAL

MODEL 5070

Offers real-time graphic plot of measurements and digital presentation of test results

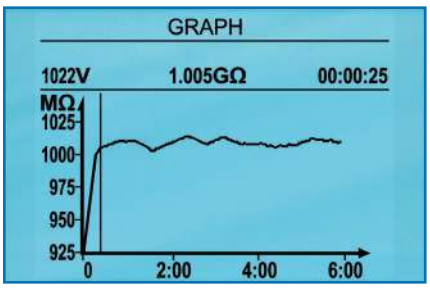
SPECIFICATIONS

MODEL	5070
INSULATION TESTS	
Test Voltage **500 V** **1000 V** **2500 V** **5000 V**	 10 kΩ to 2000 GΩ (2 TΩ) 10 kΩ to 4000 GΩ (4 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ)
User Selectable Test Voltage	Programmable: (40 to 1000) V: 10 V increments; (1000 to 5100) V: 100 V increments
Automatic Step Voltage	Programmable step voltage and duration up to five steps. Three profiles can be stored.
Accuracy **10 kΩ to 99.9 GΩ** **400 GΩ to 10 TΩ**	 ± 5 % of Reading ± 3 cts ± 15 % of Reading ± 10 cts
Voltage Test/Safety Check	2500 VAC/4000 VDC
Voltage Warning Indicator	Yes > 25 V
Test Inhibition	Yes — selectable at (3, 10, or 20) % of test voltage
Smooth Function (user selectable)	Digital filtering stabilizes display readings
COMMUNICATION	
Storage of Readings Over Time R(t)	128 kB memory
Storage of Test Results	Stores over 1500 test results
Communication Port	Serial and RS-232 to USB adapter (included)
PC Software/ Report Generation	DataView® (included)
ELECTRICAL	
Power Supply	(1) 9.6 V NiMH battery pack (included) Line power: (85 to 256) V (50/60) Hz
SAFETY	
Safety Rating	EN 61010-1, 1000 V CAT III

Consult factory for NIST Calibration prices

FEATURES

- True Megohmmeter®
- Test voltage selections of (500, 1000, 2500, and 5000) V
- Insulation measurements from 10 kΩ to 10,000 GΩ (10 TΩ)
- Selectable and programmable test voltage (40 to 5100) V
- Automatic calculation of DAR, PI and DD ratios
- Calculations of Step Voltage through front panel
- Direct measurement and display of capacitance and leakage current
- Display resistance, test voltage and run time
- Programmable test run times and PI ratio times
- Smooth and Alarm functions
- Automatic test inhibition (if live sample > (3, 10, or 20) % of test voltage)
- Automatic discharge and display of discharge voltage
- Graphic and digital display of test voltage, resistance and more
- Bright blue electroluminescent backlight
- Programmable temperature compensation
- Programmable test voltage lock-out
- Programmable alarm setting
- Auto Power OFF when not in use
- AC or DC powered with rechargeable NiMH battery pack - run while charging
- Rugged, water-resistant field case
- Includes DataView® software for data retrieval, real-time display, analysis and report generation



With the push of a button: Insulation Resistance measurement is graphically displayed at the completion of the test.

ACCESSORIES/REPLACEMENTS

CATALOG #2119.45 PC RS-232 DB9 F/F 6 ft Null Modem Cable *(5060 & 5070)*

CATALOG #2119.84 Fuse, Set of (3), 0.1 A, 380 V, (5 x 20) mm, .10 kA

CATALOG #2140.46 Cable - 5 ft USB A-B Cable

CATALOG #2133.73 Extra large classic tool bag (18 x 9 x 12) in

CATALOG #2135.43 Inverter – 12 VDC to 120 VAC 200 Watt for Vehicle use

CATALOG #2136.80 Cable – 10 ft USB Cable

CATALOG #2151.30 Lead – Replacement set of (3), 10 ft (5 kV) color-coded safety with clips (Jumper lead not included)

CATALOG #2151.31 Lead – Replacement 1 ft jumper lead (blue)

CATALOG #2151.32 Lead – Set of (3), 25 ft (5 kV) safety with clips

CATALOG #2960.21 Battery – Rechargeable 9.6 V

CATALOG #5000.14 US 115 V Power Cord

CATALOG NO.	DESCRIPTION
2130.30	Megohmmeter Model 5070 (Graphical, Analog Bargraph, Backlight, Alarm, Timer, 500 V, 1000 V, 2500 V, 5000 V, Step V, Auto DAR/PI/DD, USB with DataView® software)

MEGOHMMETERS
10,000 V / 15,000 V DIGITAL

MODELS 6550 & 6555

Expert tools for testing insulation safely and accurately

Ideal for use on rotating machinery, transformers and cables operating at higher voltages

SPECIFICATIONS

MODELS	6550	6555
INSULATION TESTS		
Test Voltage **500 V** **1000 V** **2500 V** **5000 V** **10,000 V**	10 kΩ to 2000 GΩ (2 TΩ) 10 kΩ to 4000 GΩ (4 TΩ) 10 kΩ to 10,000 GΩ (10 TΩ) 10 kΩ to 15,000 GΩ (15 TΩ) 10 kΩ to 25,000 GΩ (25 TΩ)	
15,000 V	—	10 kΩ to 30,000 GΩ (30 TΩ)
Fixed Test Voltages	(500, 1000, 2500, 5000, and 10,000) V	(500, 1000, 2500, 5000, 10,000, and 15,000) V
Variable Voltages	Variable: (40 to10) KV with three user programmable voltage schemes	Variable: (40 to 15) KV with three user programmable voltage schemes
Ramp Mode	Programmable ramps: start voltage/end voltage/duration	
Ramp Configuration Range	(40 to 1100) V / (500 to 10,000) V	(40 to 1100) V / (500 to 15,000) V
Step Mode	Up to 10 steps (voltage and duration configurable for each step)	
Voltage Test/Safety Test	2500 VAC to 4000 VDC	
Capacitance Measurement	(0.005 to 19.99) µF	
Leakage Current Measurement	(0 to 10) mA	
Discharge After Test	Yes/Automatic	
Additional Test Stop Modes **I-Limit** **Early-Break** **Timer**	Programmable: (0.2 to 5) mA di/dt Up to 99 m 59 s	
Burn Mode	Constant testing	
Ratio Calculation	PI, DAR, DD	
Calculation of R at ref. T°	Yes	
Measurement Display Filter	3 filters with 3 possible time-constants	
Graphs on Display	R(t)+V(t); I(t); I(V)	
Storage	256 registers, stores 80,000 points: R, V, I and date	
Communication	USB optically-isolated port	
Power Supply	NiMH rechargeable batteries, (2) 9.6 V 4 A·h battery packs charging by external voltage: (90 to 260) V; (50/60) Hz	
Battery Charging	Battery charging allowed while performing insulation measurements	
Dimensions/Weight	(13.39 x 11.81 x 7.87) in (340 x 300 x 200) mm / approx. 13.7 lb (6.2 kg)	
SAFETY		
Safety Rating	1000 V CAT IV; IEC61010-1 and IEC 61557	
EMC/Mechanical Protection/Altitude	EN 61326-1/IP54/2000 m	

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

Small classic tool bag, set of (3) 10 ft color-coded (red/blue/black) safety leads with clips (3000 V CAT III), (1) 15 kV jumper lead (blue), optical USB cable, 115 V US power cord, 9.6 V rechargeable NiMH batteries, and a USB drive with DataView® software and user manual.

CATALOG NO.	DESCRIPTION
2130.31	Megohmmeter Model 6550 (Graphical, Analog Bargraph, Backlight, Alarm, Timer, 500 V, 1000 V, 2500 V, 5000 V, 10 kV, Ramp, StepV, Variable, Auto DAR/PI/DD, USB, w/DataView® Software)
2130.32	Megohmmeter Model 6555 (Graphical, Analog Bargraph, Backlight, Alarm, Timer, 500 V, 1000 V, 2500 V, 5000 V, 10 kV, 15 kV, Ramp, StepV, Variable, Auto DAR/PI/DD, DataView® software)

FEATURES

- True Megohmmeter®
- Fixed or programmable test voltage from 40 V to 10 kV/15 kV
- Wide measurement range from 10 kΩ to 25 TΩ/30 TΩ
- 5 mA short circuit current
- Step and Ramp voltage testing
- Automatic calculation of DAR / PI / DD /ΔR (ppm/V) ratios
- Large, backlit graphical LCD screen with digital display, bargraph and R(t)+V(t), I(t) and I(V) graphs
- Multiple test modes: voltage ramp and step with “Burn-In”, “Early-Break” and “I-Limit” modes
- Three filter settings to optimize measurement stability
- Calculation of R at a reference temperature
- Storage of 80,000 measurements
- Includes DataView® software for data retrieval, real-time display, analysis and report generation
- Optically-isolated USB communication for transfer onto PC and report generation with DataView® software

ACCESSORIES/REPLACEMENTS

CATALOG #2133.72 Small classic tool bag
CATALOG #2135.41 Optical USB cable
CATALOG #2140.19 (1) 9.6 V NiMH battery *(two required)*
CATALOG #2151.36 Lead – Set of (3) color-coded (red/black/blue) 10 ft safety leads w/clips (15 kV)
CATALOG #2151.37 Lead – 1.5 ft blue jumper lead (15 kV)
CATALOG #2151.38 Lead – Set of (3), 25 ft, 15 kV color-coded (red/blue/black) safety leads w/clips
CATALOG #5000.32 Power cord - 240 V EU

MEGOHMMETERS
SELECTION CHART

AEMC MODEL NUMBER	AEMC CATALOG NUMBER	TEST VOLTAGE	INSULATION RANGE	RESISTANCE RANGE	CONTINUITY RANGE	CAPACITANCE RANGE	VOLTAGE DETECTION	POWER SOURCE	DISPLAY	DATAVIEW® SOFTWARE
6503	2126.52	250 V 500 V 1000 V	(1 to 500) MΩ (1 to 500) MΩ (10 to 5000) MΩ	–			600 VAC	Hand-cranked	Analog	No
6522	2155.51	250 V 500 V 1000 V	50 kΩ to 10 GΩ 100 kΩ to 20 GΩ 200 kΩ to 40 GΩ	–	10 Ω	–	700 VAC/DC	(6) AA Alkaline Batteries	Digital/ Analog	No
6527	2126.53	250 V 500 V 1000 V	1 kΩ to 4 GΩ 1 kΩ to 4 GΩ 1 kΩ to 4 GΩ	400 kΩ	400 Ω	—	600 VAC 1000 VDC	(6) AA Alkaline Batteries	Digital/ Analog	No
6529	2126.55	50 V 100 V 250 V 500 V 1000 V	(0.010 to 420) MΩ (0.020 to 420) MΩ (0.050 to 420) MΩ (0.100 to 4200) MΩ 0.20 MΩ to 11 GΩ	(0 to 420) kΩ	(0 to 40) Ω (200 mA test current ≤ 2 Ω)	–	700 VAC 700 VAC/DC	(6) AA Alkaline Batteries	Digital	No
6526	2155.53	50 V 100 V 250 V 500 V 1000 V	10 kΩ to 10 GΩ 20 kΩ to 20 GΩ 50 kΩ to 50 GΩ 100 kΩ to 100 GΩ 200 kΩ to 200 GΩ	1000 kΩ	10 Ω, 100 Ω	0.1 n to 10 µF	700 VAC/DC	(6) AA Alkaline Batteries	Digital/ Analog	Yes
6534	2155.55	10 V 25 V 100 V 250 V 500 V	2 kΩ to 1 GΩ 5 kΩ to 2 GΩ 10 kΩ to 10 GΩ 50 kΩ to 25 GΩ 100 kΩ to 50 GΩ	1000 kΩ	10 Ω, 100 Ω	–	700 VAC/DC	(6) AA Alkaline Batteries	Digital/ Analog	Yes
6536	2155.56	10 V 100 V (variable in 1 V steps)	2 kΩ to 20 GΩ	1000 kΩ	10 Ω, 100 Ω	–	700 VAC/DC	(6) AA Alkaline Batteries	Digital/ Analog	No
6536 ESD Floor Kit	2155.57									
1060	2130.03	50 V 100 V 250 V 500 V 1000 V	2 kΩ to 200 GΩ 4 kΩ to 400 GΩ 10 kΩ to 1 TΩ 20 kΩ to 2 TΩ 40 kΩ to 4 TΩ	400 kΩ	40 Ω	(0.005 to 4.999) µF	1000 VAC/DC	Rechargeable NiMH Battery	Digital/ Analog	Yes
6505	2130.18	500 V 1000 V 2500 V 5000 V	10 kΩ to 2 TΩ 10 kΩ to 4 TΩ 10 kΩ to 10 TΩ 10 kΩ to 10 TΩ	–		(0.001 to 49.99) µF	2500 VAC 4000 VDC	Rechargeable NiMH Battery	Digital/ Analog	No
5050	2130.20	500 V 1000 V 2500 V 5000 V	10 kΩ to 2 TΩ 10 kΩ to 4 TΩ 10 kΩ to 10 TΩ 10 kΩ to 10 TΩ	–		(0.001 to 49.99) µF	2500 VAC 4000 VDC	Rechargeable NiMH Battery	Digital/ Analog	No
5060	2130.21	500 V 1000 V 2500 V 5000 V	10 kΩ to 2 TΩ 10 kΩ to 4 TΩ 10 kΩ to 10 TΩ 10 kΩ to 10 TΩ	–		(0.001 to 49.99) µF	2500 VAC 4000 VDC	Rechargeable NiMH Battery	Digital/ Analog	Yes
5070	2130.30	500 V 1000 V 2500 V 5000 V	10 kΩ to 2 TΩ 10 kΩ to 4 TΩ 10 kΩ to 10 TΩ 10 kΩ to 10 TΩ	–		(0.001 to 49.99)µF	2500 VAC 4000 VDC	Rechargeable NiMH Battery	Graphic/ Digital	Yes
6550	2130.31	500 V 1000 V 2500 V 5000 V 10,000 V	10 kΩ to 2000 GΩ 10 kΩ to 4000 GΩ 10 kΩ to 10,000 GΩ 10 kΩ to 15,000 GΩ 10 kΩ to 25,000 GΩ	–		(0.001 to 19.99) µF	2500 VAC 4000 VDC	Rechargeable NiMH Battery	Digital/ Analog	Yes
6555	2130.32	500 V 1000 V 2500 V 5000 V 10,000 V 15,000 V	10 kΩ to 2000 GΩ 10 kΩ to 4000 GΩ 10 kΩ to 10,000 GΩ 10 kΩ to 15,000 GΩ 10 kΩ to 25,000 GΩ 10 kΩ to 30,000 GΩ	–		(0.001 to 19.99) µF	2500 VAC 4000 VDC	Rechargeable NiMH Battery	Digital/ Analog	Yes

Consult factory for NIST Calibration prices

MICRO-OHMMETERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE MICRO-OHMMETER

MODELS 6240, 6255 & 6292

Customize views and templates / Configure test options / Display and print reports of all test results / Retrieve data from the instrument's memory

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MICRO-OHMMETERS
10 A

MODEL 6240

Auto calculates resistance from 5 µΩ to 400 Ω with resolutions down to 1 µΩ

SPECIFICATIONS

MODEL	6240					
Range	(5.0 to 3999) µΩ	(4.0 to 39.99) mΩ	(40.0 to 399.9) mΩ	(400 to 3999) mΩ	(4.0 to 39.99) Ω	(40.0 to 399.9) Ω
Accuracy	± 0.25 % of Reading ± 2 cts					
Resolution	1 µΩ	10 µΩ	100 µΩ	1 mΩ	10 mΩ	100 mΩ
Test Current	10.2 A ± 2 %	1.02 A ± 2 %		102 mA ± 2 %	10.2 mA ± 2 %	
Max. Inductive Load	0.5 H					
Memory	Stores up to 99 test results					
Power Supply	Rechargeable 6 V, 8.5 A·h NiMH battery pack (included)					

Consult factory for NIST Calibration prices

IP 64 cover closed IP 53 cover open

FEATURES

- Reliable low resistance measurements from 5 µΩ to 400 Ω
- Four-terminal Kelvin resistance measurement eliminates test lead resistance
- 10 A test current up to 4000 µΩ
- ± 0.25 % basic accuracy
- 1 µΩ resolution
- Direct reading, easy to operate
- Six selectable resistance ranges
- Reverse polarity button
- Overload and input fuse protection
- Manufactured to international safety and environmental standards
- Automatic decimal point and zeroing
- Large terminals accept banana plugs and spaded lugs
- Rechargeable NiMH battery with internal charger (110/220 V). Can be charged during operation
- Large multifunctional backlit display
- Includes power cord and isolated USB cable
- Includes DataView® software for data retrieval, real-time display, analysis and report generation

ACCESSORIES/REPLACEMENTS

CATALOG #1017.84 (Replacement)
Kelvin Clips 10 ft (10 A - Hippo)
CATALOG #2118.70
Kelvin Clips 20 ft (10 A - Hippo)

CATALOG #2118.73 (Replacement)
Kelvin Probes 10 ft (1 A, Spring Loaded)
CATALOG #2118.74
Kelvin Probes 20 ft (1 A, Spring Loaded)

CATALOG #2118.84
Kelvin Probes Pistol Grip 10 ft (25 A, Spring Loaded)
CATALOG #2118.85
Kelvin Probes Pistol Grip 20 ft (25 A, Spring Loaded)

CATALOG #2118.77
Kelvin Probes 10 ft (10 A, Spring Loaded)
CATALOG #2118.78
Kelvin Probes 20 ft (10 A, Spring Loaded)

CATALOG #2118.79
Kelvin Clips 10 ft (1-10 A)
Replacement for Cat. #2118.71
CATALOG #2118.80
Kelvin Clips 20 ft (1-10 A)
Replacement for Cat. #2118.72

PRODUCT INCLUDES

Extra large tool bag, set of (2) 10 ft Kelvin clips (10 A - Hippo), set of (2) 10 ft Kelvin probes (1 A - Spring Loaded), optical USB cable, US 115 V power cord, (2) spare fuses (12.5 A), NiMH 6 V rechargeable battery pack*, and USB drive with DataView® software and user manual.

*Can be charged during operation

CATALOG NO.	DESCRIPTION
2129.80	Micro-Ohmmeter Model 6240 (10 A, Instantaneous, Continuous, Multiple Test, includes 10 ft Kelvin Clips (10 A - Hippo-Cat #1017.84), 10 ft Kelvin Probes (1 A Spring Loaded, Cat #2118.73) and DataView® Software)

MICRO-OHMMETERS
10 A

MODEL 6255

Accurate results within 0.05 %

Provides extended test time at 10 Amps without overheating

DataView®

SAFETY 50V CAT III RATING

IP 64 cover closed

IP 53 cover open

CE

SPECIFICATIONS

MODEL	6255						
Range	5.0000 mΩ	25.000 mΩ	250.00 mΩ	2500.0 mΩ	25.000 Ω	250.00 Ω	2500.0 Ω
Accuracy	± 0.15 % of Reading +1.0 µΩ	± 0.05 % of Reading + 3 µΩ	± 0.05 % of Reading + 30 µΩ	± 0.05 % of Reading + 0.3 mΩ	± 0.05 % of Reading + 3 mΩ	± 0.05 % of Reading + 30 mΩ	± 0.05 % of Reading + 300 mΩ
Resolution	0.1 µΩ	1 µΩ	10 µΩ	0.1 mΩ	1 mΩ	10 mΩ	100 mΩ
Test Current	10 A			1 A	100 mA	10 mA	1 mA
Measurement Mode	Selectable: Inductive (continuous test), Resistive (instantaneous test) or Auto (multiple tests)						
Metal Type Alpha	Selectable: copper, aluminum or other metal Programmable from 000.00 to 99.99						
Alarms	Two – programmable set points from (0.0 to 2500.0) Ω						
Memory	Stores up to 1500 test results; data in memory can be reviewed on the instrument display, on a PC or via direct printout						
Power Supply	Rechargeable 6 V, 8.5 A·h NiMH battery pack (included)						
Battery Life	Approximately 5000 10 A tests						

Consult factory for NIST Calibration prices

FEATURES

- Measure from 1 µΩ (0.1 µΩ resolution) to 2500.0 Ω
- Test current selection of (1, 10, and 100) mA, and (1 and 10) A
- RTD temperature probe to check tested sample (optional)
- Selectable metal types
- Automatic and manual temperature correction
- Two programmable alarm set points
- Stores up to 1500 test results
- Selectable inductive or resistive test modes
- Automatic multiple test mode (multiple tests without pressing the test button)
- Large multi-line electroluminescent display
- Local or remote test setup and control
- Internal rechargeable batteries conduct up to 5000 – 10 A tests
- Rugged, double insulated watertight case
- Includes FREE DataView® software for data retrieval, real-time display, analysis and report generation

ACCESSORIES/REPLACEMENTS

CATALOG #1017.84 Kelvin Clips 10 ft (10 A - Hippo)

CATALOG #2118.70 Kelvin Clips 20 ft (10 A - Hippo)

CATALOG #2118.73
Kelvin Probes 10 ft (1 A, Spring Loaded)

CATALOG #2118.74
Kelvin Probes 20 ft (1 A, Spring Loaded)

CATALOG #2118.84
Kelvin Probes Pistol Grip 10 ft (25 A, Spring Loaded)

CATALOG #2118.85
Kelvin Probes Pistol Grip 20 ft (25 A, Spring Loaded)

CATALOG #2118.77
Kelvin Probes 10 ft (10 A, Spring Loaded)

CATALOG #2118.78
Kelvin Probes 20 ft (10 A, Spring Loaded)

CATALOG #2118.79
Kelvin Clips 10 ft (1-10 A) / Replacement for Cat. #2118.71

CATALOG #2118.80
Kelvin Clips 20 ft (1-10 A) / Replacement for Cat. #2118.72

CATALOG #2119.45
Cable, PC RS-232, DB9 F/F 6 ft Null Modem Cable

CATALOG #2129.95
RTD Temperature Probe (plug into faceplate for ambient temperature)

CATALOG #2129.96
RTD Temperature Probe with 7 ft extension cable

PRODUCT INCLUDES

Extra large tool bag, set of (2) 10 ft Kelvin Clips (10 A - Hippo), set of (2) 10 ft Kelvin Probes (1 A - Spring Loaded), RS-232 DB9 F/F 6 ft null modem cable, RS-232 to USB adapter, US 115 V power cord, NiMH rechargeable 6 V battery pack (installed in meter), quick start guide and a USB drive with DataView® software and user manual.

SHOWN: CAT. #2129.84

CATALOG NO.	DESCRIPTION
2129.84	Micro-Ohmmeter Model 6255 (10 A, Instantaneous, Continuous, Multiple Test, Manual/Auto Temperature Compensation; includes 10 ft Kelvin Clips (10 A-Hippo, Cat #1017.84), 10 ft Kelvin Probes (1 A Spring Loaded, Cat #2118.73) and DataView® Software)

MICRO-OHMMETERS
200 A

Case color may vary

MODEL 6292

Programmable test currents and test duration with data storage and report generation using included application software

Includes both sides grounded test feature

SAFETY 300V CAT II RATING

IP 54 cover closed

SPECIFICATIONS

MODEL	6292
Electrical	
Test Current Range	Adjustable from (5 to 200) A (True DC)
Resistance Range	0.1 µΩ to 2 mΩ (2 to 200) mΩ 200 mΩ to 1 Ω
Accuracy	± 1 % of reading from 50 µΩ to 1 Ω
Resolution **0.1 µΩ to 2 mΩ** **2 mΩ to 200 mΩ** **200 mΩ to 1 Ω**	 0.1 µΩ (5 to 200) A 10 µΩ (25 A @ 200 mΩ) 1 mΩ (5 A @ 1 Ω)
Output Voltage	100 VAC: 4.2 V @ 200 A 220 VAC: 8.6 V @ 200 A
Max. Load Resistance	100 VAC: 20 mΩ @ 200 A 220 VAC: 42 mΩ @ 200 A
Measurement Method	Four-terminal, Kelvin-type
Adjustable Test Time	5 to 120 s or unlimited
Memory	Stores up to 8000 measurements
Power Supply	(100 to 240) VAC, (50/60) Hz

Consult factory for NIST Calibration prices

FEATURES

- Adjustable test currents from (5 to 200) A
- Programmable test duration from (5 to 120) seconds
- BSG Ground Test with optional current probe
- Incorporates True DC high output with minimum, near zero, ripple lower than 2 % of full range
- Accurately measures low contact resistance with test currents up to 200 A
- Measures resistances from 0.1 µΩ to 1 Ω
- Low resolution of 0.1 µΩ
- Cooling system to improve the number of sequential tests that can be performed
- Backlit display
- Measures objects with both sides grounded
- Stores up to 8000 test results
- Direct printout of measurement results using DataView® software and a PC
- Rugged and water-resistant case

ACCESSORIES/REPLACEMENTS

CATALOG #2129.86
Current Probe MR6292

CATALOG #2129.72
Lead - Set of (2) 25 ft Kelvin clips (200 A - Hippo)

CATALOG #2129.73
Lead - Set of (2) 50 ft Kelvin clips (200 A - Hippo)

CATALOG #2129.88
Lead - 10 ft Earth/Ground (Green) with attached Clamp

CATALOG #5000.40
110 V US Power Cord

PROBE MR6292

PRODUCT INCLUDES

Extra large tool bag, set of (2) 25 ft Kelvin clips (200 A - Hippo), (1) ground lead (green) with clamp, 5 ft USB cable, 110 V US power cord, printed quick start guide and a USB thumb drive with DataView® software and user manual.

FRONT PANEL DISPLAY

CATALOG NO.	DESCRIPTION
2129.83	Micro-Ohmmeter Model 6292 (200 A, 120 V/230 V, DataView® Software)

OSCILLOSCOPES

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

OSCILLOSCOPES
HANDSCOPE

MODEL OX 5042B

3-in-1 Instrument: Oscilloscope, Multimeter and Power Harmonic Analyzer with two fully isolated channels; fits into one hand

SPECIFICATIONS

INTERFACE	
Display	3.5 in color TFT LCD screen; Resolution (320 x 240) pixels – LED backlighting
Commands	Direct adjustments on front panel & on-screen menus via browser (principal & secondary without "hidden menus")
Display Mode	2500 real acquisition points on screen
Display of Curves on Screen	2 curves + 2 references + memory trace or mathematical calculation
Integrated Interactive Help Function	14 complete languages, menus and online help
OSCILLOSCOPE MODE	
Vertical Deflection	
Bandwidth	40 MHz
Bandwidth Limiter	1.5 MHz, 5 kHz
Number of Channels	2 fully isolated channels
Input Impedance	1 MΩ ± 0.5 %, approx. 17 pF
Maximum Input Voltage	600 V – Derating -20 dB per decade from 100 kHz
Vertical Sensitivity	5 mV to 200 V/div
Horizontal Deflection	
Sweep Speed	25 ns/div to 200 s/div – Roll Mode from 100 ms to 200 s/div
Horizontal Zoom	Zoom factor: x1, x2, x5
Triggering	
Mode	Automatic, triggered, one-shot & triggered roll
Type	Edge, pulse width (20 ns – 20 s)
Coupling	AC or DC (depending on the coupling of the triggering channel) HF, LF or noise rejection
Sensitive	≤ 1.2 divisions p-p up to 40 MHz
Digital Memory	
Maximum Sampling Rate	2 Gs/s in ETS mode – 50 MS/s in one-shot mode on each channel
Vertical Resolution	9 bits
Memory Depth	2500 points per channel
User Storage	2 MB for storing files: trace (.trc), text (.txt), configuration (.cfg), image files (.bmp)
GLITCH Mode	Duration ≥ 20 ns – 1250 min / max pairs
Display Modes	Envelope, Averaging (factors 2 to 64) and XY (vector)
Other Functions	
Math Functions	Channel inversion, addition, subtraction, multiplication and division (adjustable scaling)
Cursor Measurement	2 cursors: V, T, dV, dt simultaneously – 4-digit display resolution
Automatic Measurement	18 time or level measurements and phase measurement
Multimode Mode	
General Specifications	2 channels, 8000-count display + min / max bargraph – Graphic recording of 2700 measurements (5 min to 1 mos)
Operating Modes	Absolute or relative display (absolute, deviation, ref, ref %) – Monitoring (instantaneous, min, max, avg)
AC, DC & AC+DC Voltages	Ranges from 600 mV to 600 Vrms, 800 mV to 800 VDC – accuracy for VDC ± 1 % reading +20 D –50 kHz bandwidth
Resistance	Range from 80 Ω to 32 MΩ - accuracy ± 2 % reading + 10 D –10 ms quick continuity test
Capacitance	Ranges from 5 nF to 5 mF – basic accuracy ± 2 % reading + 10 D
Other Measurements	Frequency, rotation speed, 3.3 V diode test, temperature measurement (with K-type thermocouple or infrared probe)
POWER	
Measurements	Single-phase and balanced three-phase active power values (with or without neutral), simultaneous display of current
Harmonic Analyzer Mode	
Multi-Channel Analysis	2 channels, 31 orders, fundamental frequency from (40 to 450) Hz
Simultaneous Measurements	Total VRMS, THD and selected order (% fundamental, phase, frequency, Vrms)
GENERAL	
Screenshots	Up to 100 files in standard .bmp format, viewable on the instrument
PC Communication	Isolated optical USB interface SX-Metro PC application software (included)
Power Supply	6 LR6 or (6) AA NiMH batteries – Battery life up to 8 h 30 min Universal line adapter isolated from the channels – Quick charging in 2 h 30 min
Safety/EMC	Safety according to IEC61010-1 600 V CAT III / EMC according to EN61000-3 & EN61326-1

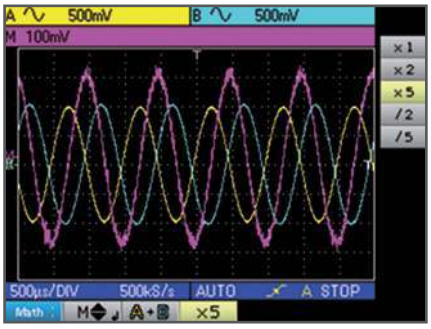
600V CAT III SAFETY RATING · IP 54 · CE

3 YEAR WARRANTY

Consult factory for NIST Calibration prices

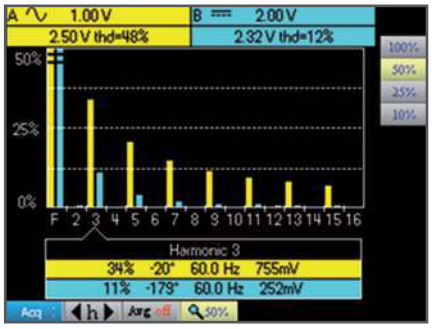
FUNCTIONAL DISPLAYS

HIGH PERFORMANCE



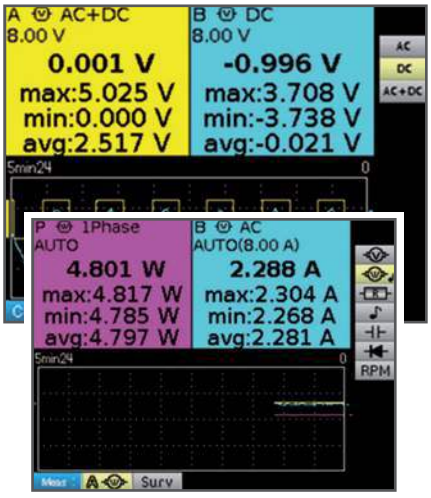
Automatically displays measurements for both isolated channels from your choice of 19 measurement types

HARMONIC ANALYZER



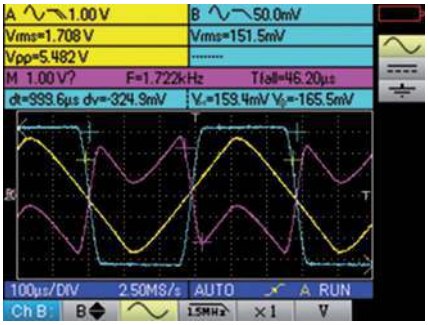
Measures two channels of individual harmonic content up to the 31st harmonic

TWO INDEPENDENT 8000-COUNT TRMS DIGITAL MULTIMETERS



Instantly displays measurements in multimeter mode at the press of a button

STORAGE COMMUNICATION & PC SOFTWARE



View real-time measurements on your PC, configure the Handscope, export data to spreadsheet using the SX-Metro included software

FEATURES

- Two fully isolated channels
- Three instruments in one
  - 40 MHz Oscilloscope
  - Double 8000-count TRMS Multimeter / Power Analyzer
  - Harmonic Analyzer
- 3.5 in color LCD screen LED backlighting technology
- Integrated interactive multilingual help function
- 2 MB recording data
- Store graphic recordings of 2700 measurements (5 min to 1 mos)
- Communication via isolated USB SCPI protocol

PRODUCT INCLUDES

2150.21

Meter, small classic tool bag, US wall plug, USB cable, set of (2) 10 ft color-coded (red/black) leads, set of (2) color-coded (red/black) alligator clips, set of (2) color-coded (red/black) probes, BNC adapter, (2) probes 10:1 600 V BNC male, (6) 1.2 V NiMH rechargeable batteries, printed quick start guide, and a USB drive with software and user manual.

2150.22

Meter, field case, US wall plug, USB cable, set of (2) 10 ft color-coded (red/black) leads, set of (2) color-coded (red/black) alligator clips, set of (2) color-coded (red/black) probes, BNC adapter, (1) probe 10:1 600 V BNC male, (1) AC current probe Model MN251T, MiniFlex® Sensor 3000-24-1-1, (6) 1.2 V NiMH rechargeable batteries, printed quick start guide, and a USB drive with software and user manual.

2150.23

Meter, field case, US wall plug, USB cable, set of (2) 10 ft color-coded (red/black) leads, set of (2) color-coded (red/black) alligator clips, set of (2) color-coded (red/black) probes, BNC adapter, (1) probe 10:1 600 V BNC male, (1) AC current probe Model MN379T, MiniFlex® Sensor 3000-24-1-1, (6) 1.2 V NiMH rechargeable batteries, printed quick start guide, and a USB drive with software and user manual.

SHOWN: CATALOG #2150.22

CATALOG NO.	DESCRIPTION
2150.21	Handheld Portable Oscilloscope Model OX 5042B
2150.22	Handheld Portable Oscilloscope Model OX 5042B w / MN251T & MF 3000-24-1-1 (BNC Output)
2150.23	Handheld Portable Oscilloscope Model OX 5042B w / MN379T & MF 3000-24-1-1 (BNC Output; Low AC current measurement)

MODELS MN251T & MN379T

SPECIFICATIONS

	MN251T	MN379T
ELECTRICAL		
Nominal Range	200 A	5 A / 100 A
Measurement Range	(0.5 to 240) A	(0.005 to 6) A; (0.1 to 120) A
Accuracy	3 % of Reading @ 5 A; 1 % of Reading @ 200 A	1 % of Reading @ 5 A; 1 % of Reading @ 100 A
Phase Shift	≤ 2.5 ° @ 20 A / ≤ 2.5 ° @ 100 A	≤ 4 ° @ 5 A / ≤ 2.2 @ 100 A
Overload	240 A for 10 min ON, 30 min OFF	
Frequency Range	(40 to 10) kHz	
Limit Operating Conditions	200 A permanently to 1 kHz; Derating above 3 kHz: 200 A x (1/0.333 F), F in kHz	
Working/Common Mode Voltage	600 Vrms	
Output Termination	10 ft (~3 m) BNC Lead	
Output Signal	1 mV/AAC (200 mV @ 200 A)	200 mV/AAC (1 V @ 5 A) & 10 mV/AAC (1 V @ 100 A)
MECHANICAL		
Operating Temperature	(14 to 131) °F (-10 to 55) °C	
Storage Temperature	(-40 to 158) °F (-40 to 70) °C	
Operating Relative Humidity	(10 to 35) °C (50 to 95) °F 85 % RH (without roll-off above 35 °C (95 °F))	
Jaw Opening	0.83 in (21 mm)	
Maximum Conductor Size	0.78 in (20 mm)	
Dimensions	(5.47 x 2.00 x 1.18) in (139 x 51 x 30) mm	
Weight	6.5 oz (184 g)	
Polycarbonate Material	Polycarbonate with fiberglass charge, UL94 V0	
SAFETY		
Safety Rating	EN 61010-2-32	

Consult factory for NIST Calibration prices

MINIFLEX® 3000-24-1-1

SPECIFICATIONS

	3000-24-1-1	
ELECTRICAL		
Range	(5 to 3000) A	
Signal Output	1 mV/A	
Frequency Range	10 Hz to 20 kHz with current derating	
Influence Of Conductor Positioning	1.5 % typical, 3 % max	
Influence Of Conductor Positioning In Sensor Against Handle	4 % typical, 6 % max	
External Conductor Influence	(35 to 40) dB on contact	
Power Supply	9 V Alkaline battery (included)	
MECHANICAL		
Sensor Diameter	Ø 0.2 (5 mm)	
Sensor Length	14 in (~355 mm)	24 in (~609 mm)
Max Conductor Size	3.93 in (~100 mm)	7.6 in (~190 mm)
Connection Cable Length	10 ft (~3.04 M)	
Drop Test	Per IEC 68-2-32	
Vibration	Per IEC 68-2-6	
Mechanical Shock	Per IEC 68-2-27	
Weatherproofing	IP50	
ENVIRONMENTAL		
Operating Temperature Range	(14 to 131) °F (-10 to 55) °C	
Storage Temperature Range	(-40 to 158) °F (-40 to 70) °C	
Altitude	Operating: (0 to 6560) ft (2000 m), working voltage derating above; Non-operating: (0 to 39,370) ft (12,000 m)	
SAFETY		
Safety Rating	EN 61010, 1000 V CAT III; 600 V CAT IV	

Consult factory for NIST Calibration prices

CATALOG #2132.59
Range (0.05 to 240) A

CATALOG #2153.02
Range (0.005 to 120) A

FEATURES

- Small, compact size
- True RMS measurements
- Large jaw opening accommodates conductor sizes up to 250 MCM
- 10 foot leads make measurements in hard to reach areas possible
- 40 Hz to 10 kHz response

3000-24-1-1 only

CATALOG #2132.63 (24 IN)

FEATURES

- True RMS Measurements
- 24 in (~60 cm) sensor optional
- 10 ft (~3 m) leads makes measurement in hard to reach areas possible
- Measurement range of (0.5 to 3000) Arms
- Accuracy ± 1 % of Reading ± 0.25 A
- No core saturation or damage if measured circuit is overloaded
- 20 kHz frequency response
- Low phase shift for power measurements
- Insensitive to DC: measures only the AC component on DC+AC signals
- Excellent linearity
- 9 V Alkaline battery typically offers 150 h of continuous operation

OSCILLOSCOPES
OX 9000 SERIES

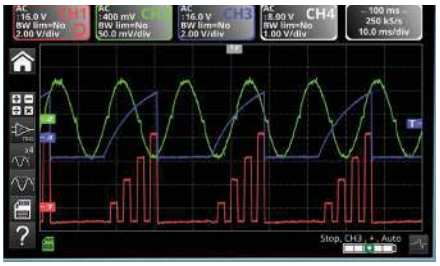
OX 9104

OX 9062

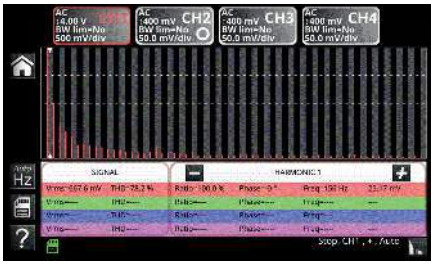
MODELS OX 9062, OX 9102, OX 9104 & OX 9304

Ergonomic, hand-held oscilloscope with 100 MHz bandwidth and 4 models: oscilloscope, multimeter, analyzer and recorder

OSCILLOSCOPE

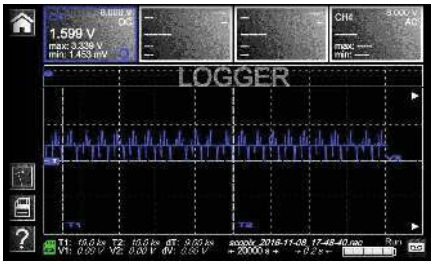


HARMONICS



MULTIMETER - DISPLAYS UP TO 4 CHANNELS SIMULTANEOUSLY

MEASUREMENT BETWEEN H AND V CURSORS: T1, T2, DT, 1/DT, V1, V2, DV, PH



FEATURES

- Wider bandwidth up to 300 MHz (model dependent)
- Advanced triggering and recording options
- Increased storage capacity, and more!
- 12-bit resolution
- 2.5 Gs/s

PRODUCT INCLUDES

Scope in carrying case with shoulder strap, set of (2) 5 ft color-coded leads, alligator clips and test probes (4 mm diameter), 10 ft USB cable, µSD memory card, 1-PROBIX Banana Plug (4 mm) adapter, (1) stylus pen, LI-ION 5.8 A·h battery pack, PA40W-2 power adapter with 110 V power cord. Additional accessories (model dependent).

ACCESSORIES/REPLACEMENTS

5000.17 Set of 5 stylus pens

CATALOG NO.	DESCRIPTION
2150.31	Handheld Portable Oscilloscope Model OX 9062 IV 60 MHz (2-Channel, 60 MHz) — **SPECIAL ORDER ONLY**
2150.32	Handheld Portable Oscilloscope Model OX 9102 IV 100 MHz (2-Channel, 100 MHz) — **SPECIAL ORDER ONLY**
2150.33	Handheld Portable Oscilloscope Model OX 9104 IV 100 MHz (4-Channel, 100 MHz)
2150.34	Handheld Portable Oscilloscope Model OX 9304 IV 300 MHz (4-Channel, 300 MHz)

ERGONOMICS

Designed to simplify use with one button access to most functions

In a housing tailor-made to be as compact as possible, the mechanical design makes it possible to integrate the hardware components in a small size with the keypad benefits from new technology developed in the automotive industry.

ISOLATED CHANNELS

Each channel is isolated from each other and from ground (earth) rated at 600 V CAT III.

CHANNEL AND PARAMETER IDENTIFICATION

Each channel and related parameters are identified with identical color against a black background for simpler, quicker viewing.

EASY ACCESS VIA TOUCH SCREEN

Intuitive icons are provided to facilitate their use, even with gloves on.

ADJUSTABLE STRAP

This helps to optimize operation of the oscilloscope in your hand or on your shoulder when working in the field.

A stand is also available to vary the orientation of the oscilloscope when it is placed on a bench. The oscilloscope can be safely left unattended using the Kensington locking system.

NEW KEYPAD DESIGN FOR OPTIMUM USER COMFORT

Configuration and measurement displays are simple to access from the front panel in one of these 5 specific areas: Utilities (brightness, full screen, screenshot), Measurements, Vertical, Horizontal, Trigger.

LINE POWER AND LI-ION BATTERY CHARGING PORT

Port on left side.

APPLICATIONS
Ideal for electronic and industrial maintenance

IP54

Housing protected against dust and water spray.

7-INCH WVGA WIDE COLOR TFT TOUCH SCREEN

Makes it easy to view and read the measurements clearly. It also provides a screen resolution of (800 x 480) dpi with manual or automatic brightness.

TOUCH-SCREEN STYLUS STORAGE

Among the essential tools available, the stylus is equipped with a hook for the addition of a cord to make it captive, as required. One end is slightly flattened to prevent rolling when placed on a table or bench.

AUTOSET BUTTON

Quickly and effortlessly adjusts the horizontal and vertical; sensitivity and scales to provide the best resolution.

DIRECT SETTING AND SETUP BUTTONS

COMMUNICATION INTERFACES

These are isolated from one another and from the measurement channels. A dedicated compartment on the right side protected by a flexible cover contains all the different communication interface ports:

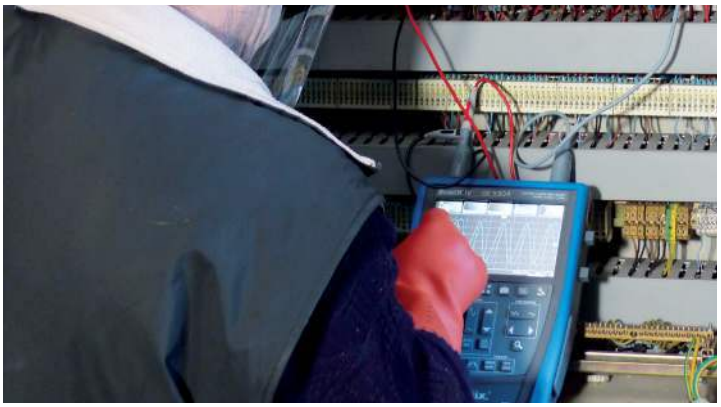
- USB host for communication with a PC
- Wired RJ45 or WiFi for communication with a PC or printing via a network printer
- µSD card for data storage with quick transfer and for upgrading of the instrument's firmware

DIRECT ACCESS ZOOM BUTTON

Activates/deactivates the horizontal Zoom function

ELECTRONIC MAINTENANCE
The OX 9304 model is ideal for electronics with its 300 MHz bandwidth, (4) 600 V CAT III isolated channels, advanced trigger functions, integrated FFT function, complex mathematical calculations on the curves, automatic measurements on 4 channels and the built-in WEB server.

INDUSTRIAL MAINTENANCE
The OX 9304's large 7-inch screen, 300 MHz bandwidth, (4) 600 V CAT III isolated channels and Harmonic Analyzer and Multimeter modes make it ideal for industrial maintenance applications.



OSCILLOSCOPES
OX 9000 SERIES

TECHNICAL SPECIFICATIONS	OX 9062	OX 9102	OX 9104	OX 9304
HUMAN-MACHINE INTERFACE				
Type of Display	7 in WVGA color TFT LCD touch screen, (800 x 480) dpi – LED backlighting (adjustable standby mode)			
Different Display Mode	2,500 real acquisition points on screen - vectors with interpolation			
Display of Curves on Screen	4 curves + 4 references – split screen & full screen modes			
Screen Commands	Touch screen – icons and graphical commands – customizable channel colors			
Choice of Language	15 complete languages, menus and online help			
OSCILLOSCOPE MODE				
Vertical Deflection				
Bandwidth	60 MHz	100 MHz	100 MHz	300 MHz
	15 MHz, 1.5 MHz or 5 kHz bandwidth limiter			
Number of Channels	2 isolated channels		4 isolated channels	
Input Impedance	1 MΩ ± 0.5 %, approx. 12 pF			
Maximum Input Voltage	600 V CAT III (1,000 V per Probix) – from (50 to 400) Hz – Probix safety connectors			
Vertical Sensitivity	16 ranges from 2.5 mV to 200 V/div and up to 156 µV/div in vertical zoom mode (12-bit converter) – Accuracy ± 2 %			
Vertical Zoom	'One click Winzoom' mode (12-bit converter and direct graphical zoom on screen) – x 16 max.			
Probe Factor (non-Probix)	1 / 10 / 100 / 1,000 or any scaling – definition of measurement unit			
Horizontal Deflection				
Sweep Speed	35 ranges from 1 ns/div to 200 s/div., accuracy ± [50 ppm + 500 ps] – Roll mode from 100 ms to 200 s/div			
Horizontal Zoom	'One click Winzoom' system (direct graphical zoom on screen) x 1 to x 5 or x 100 – storage 100 kpts/channel			
Triggering				
Mode	On all the channels: automatic, triggered, one-shot, auto level 50 %			
Type	Edge, pulse width (16 ns-20 s), Delay (48 ns to 20 s), Counting (3 to 16,384) events. Continuous adjustment of trigger position.			
Coupling	AC, DC GND, HFR, LFR, noise – Level and Hold-off adjustable from 64 ns to 15 s			
Sensitivity	≤ 1.2 division p-p up to 300 MHz			
Digital Storage				
Maximum Sampling Rate	2.5 Gs/s in one-shot mode on each channel (100 Gs/s max. in ETS mode)			
Vertical Resolution	12 bits (vertical resolution 0.025 %)			
Memory Depth	100 kpts per channel and file viewer in the manager			
User Storage / File Management	Internal = 1 GB to store the files: trace, text, configuration, math functions, system memory / PDF print files, PNG image files + high-capacity removable µSD card: SD 2 GB, SDHC (4 to 32) GB and SDXC > 32 GB			
GLITCH Mode	Duration ≤ 2 ns – 500,000 min/max pairs			
Display Modes	Envelope, vector, accumulation-, averaging (factors 2 to 64) – XY (vector) and Y(f) = FFT			
Other Functions				
AUTOSET	Complete in under 5 s, with recognition of the channels – Frequency > 30 Hz			
FFT Analyzer & MATH Functions	2,500-point FFT (Lin or Log) with measurement cursors – Functions +, -, x / and mathematical function editor			
Cursors	2 or 3 cursors: simultaneous V and T with AUTO measurement: T1, T2, Dt, 1/Dt, dBV, Ph			
Automatic Measurements	Simultaneously with waveform, 20 automatic measurements per channel and on the 4 channels simultaneously with scroll			
MULTIMETER MODE				
General Specifications	2 or 4 channels – 8,000 cts min/max/frequency/relative – TRMS – Time/date-stamped graphical recording in logger mode			
AC, DC and AC + DC Voltages	600 mV to 600 VRMS, 800 mV to 800 VDC – VDC accuracy +/- (0.5 % + 25 D) – 200 kHz bandwidth			
Resistance	80 Ω to 32 MΩ – accuracy 0.5 %R+ 25 D – quick continuity test < 10 ms			
Other Measurements	Temperature (HX0035 = KTC, HX0036 = Pt100) / Capacitance 5 nF to 5 mF / Frequency 200 kHz / Diode test 3.3 V			
Single and Three-Phase Power	Active, Reactive and Apparent power values plus Power Factor simultaneously with the U & I measurements			
Harmonic Analyzer Mode				
Multi-channel Analysis	2 or 4 (depending on model), 63 orders, fundamental frequency (40 to 450) Hz in auto or manual mode			
Simultaneous Measurements	Total Vrms, THD and selected order (% fundamental, phase, frequency, Vrms)			
Logger Mode				
Acquisition	Duration: 20,000 s – Interval: 0.2 s – Files: 100,000 measurements			
GENERAL				
Configuration Memories	Not limited according to device - variable file sizes			
Printing	Network printing via Ethernet/Wifi in .png format			
PC Communication – Software	Ethernet (100 baseT), Wi-Fi-USB (device, 12 Mbps) – ScopeNet application software for PC			
Software	PC: Ethernet and USB, ScopeNet (remote control, data recovery, cursors and automatic measurements) Android™ tablet – ScopeAdmin Fleet Administration utility			
Mains Power Supply	Li-ion rechargeable battery (6,900 mA·h-40 W·h) – Battery life of up to 8 h – Adjustable standby mode Adapter / 2-hour fast charger, universal (98 to 264) V / (50/60) Hz)			
Safety / EMC / IP Protection	Safety as per IEC 61010-2-30, 600 V CAT III, 1000 V CAT II / EMC as per EN61326-1 / IP54 protection			
Mechanical Specifications	(11.52 x 8.29 x 2.60) in (293 x 211 x 66) mm / 4.6 lbs (2.1 kg) with batteries			

POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS

MODELS PEL 52, 102, 103 & 105, POWERPAD® III 8333, 8336, 8436, POWERPAD® IV 8345

Configure functions and parameters from your PC / Customize views, templates and reports / Create and store a complete library of configurations and test options / Display waveforms, trend graphs, harmonic spectrums, text summaries, transients, event logs and stored alarms / Display and print reports of all test results / Retrieve data from the instrument's memory

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

PowerPad® IV Model 8345

NEW

The PowerPad® moves up a grade - Class A!

POWERPAD IV Class A

WARRANTY 3 YEARS WARRANTY * UPON REGISTERING

AUTOMATIC REPORT GENERATION

DataView®

SD™ ETHERNET WEB SERVER

SAFETY 1000V CAT IV RATING IP 54 CE True InRush® Trms

SPECIFICATIONS

MODEL	8345
ELECTRICAL	
Inputs	5 x voltage / 4 x current, isolated
Voltage	(5 to 1,000) VAC and VDC
Harmonics Mode	DC to 63rd order
Interharmonics Mode	0 to 62nd order
Inrush & Transient Capture (number)	No maximum (limited by SD card)
Shockwaves (Fast transient)	Up to 12 kV sampled every 500 ns
Flicker (Pst)	< 0.1
Voltage Unbalance (u0,u2)	(0.5 to 5) % (absolute); ± 0.15 % (absolute)
Trend Recording	> 900 parameters 3 d with a sampling period of 200 ms 15 d with a sampling period of 1 s 45 d with a sampling period of 3 s
Sampling Rate	Voltage 400 kSps / Current 200 kSps / Surge 2 MSps
Alarm Mode (types / number)	52 / 20,000 with Email notifications
Real-time / Power / Energy / Unbalance Modes	Yes / Yes / Yes / Composite
Screenshots	No maximum (limited by SD card)
Power Supply	Power from phase from (100 to 1000) V AC/DC with external supply block (included)
Carrier Current Detection	Yes
Battery Life	Cartridge Li-ion – 5800 A·h battery pack (included) ≤ 6 h w/ display ON; ≤ 10 h w/ display OFF
MECHANICAL	
Data Storage	16 GB SD-Card (included) for snapshot, transients, alarms and trend recording
Display	7 in color LCD touch screen: 800 x 480 (WVGA)
Clock / GPS	Yes, built-in
Operating Temperature	(32 to 104) °F (0 to 40) °C
Communication	USB, Ethernet, Wi-Fi, Web server, IRD server, USB stick port (Type A)
Dimensions	(7.87 x 11.22 x 2.17) in (200 x 285 x 55) mm
Weight (meter only)	4.19 lb (1.9 kg)
COMPLIANCE & STANDARDS	
Safety	IEC 61010 1000 V CAT IV
Environmental	IEC 61557-12 & IEC 62586
Measurement Standard	IEC 61000-4-30 (Ed 3) Class A (Full)
EN50160 Monitoring Mode	With PAT3 software
Warranty	*3 y (*registration must be done within 30 d of the date of purchase*)

Consult factory for NIST Calibration prices

PRODUCT INCLUDES

CAT. # 2136.35 - POWERPAD IV MODEL 8345 (NO PROBES)

CAT. # 2136.36 - POWERPAD IV MODEL 8345 (WITH (4) MINIFLEX® MA194-24-BK FLEXIBLE CURRENT SENSORS)

Extra large tool bag, internal carrying pouch, hand strap, USB cable, (5) 10 ft black voltage leads with alligator clips, (12) color-coded input ID markers, power adapter (PA32ER) with US power cord, (2) 6 ft stackable leads, (2) 10 ft black voltage leads with alligator clips for power adapter PA32ER, (1) power plug adaptor for PA32ER, 5.8 A·h Li-ion battery pack, quick start guide, and a USB stick with DataView® software and user manual.

(4) MINIFLEX® MA194-24-BK FLEXIBLE CURRENT SENSORS (WITH CAT.# 2136.36)

CE

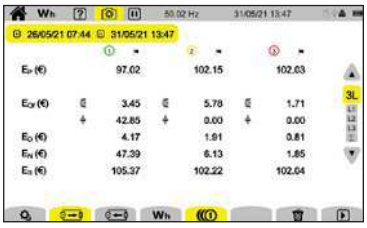
CATALOG NO.	DESCRIPTION
2136.35	PowerPad® IV Model 8345 (no probes)
2136.36	PowerPad® IV Model 8345 w/4 194-24-BK MiniFlex® Sensors

FEATURES

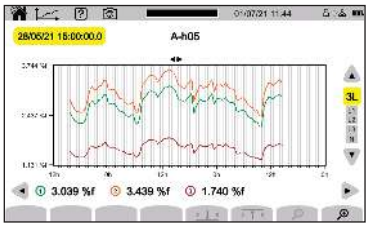
- Full compliance with IEC 61000-4-30 ed. 3.0 Class A functions
- Voltage quality diagnostics
- Real-time display of color waveforms (5 voltage/4 current) from 1 cycle to 10/12 cycles
- Calculation of unbalance (current and voltage)
- Automatic recognition of different current sensors
- Capture shockwaves up to 12 kV with a resoluton of 500 ns
- Trend recording period from 200 ms to 2 h
- RMS and Peak InRush for up to 30 min
- Display of phasor diagrams
- Waveforms at 512 samples per cycle, with Min/Max 2.5 µs
- True InRush capabilities to study loads during setup
- Parameterization with software for True RMS single-, two- and three-phase measurements at 512 samples/cycle, plus DC
- Records and stores hundreds of parameters in memory every 10/12 periods
- Measurements and recordings accessible on 7 inch color trouch screen display
- True RMS voltage and current measurement
- Measurements on all installation types: three-phase, Aron connection, etc.
- Electrical network monitoring with setting of alarms
- Fast transient events are captured and stored in memory
- Communication options: Webserver, Wi-Fi, Ethernet and USB
- Power W, VA and var (P, N, Q1, S and D) measurements
- Measurement of energy values (total and per phase) with energy valuation
- PF, DPF, CF and THD calculations and measurements
- Calculation so P_{st} & P_{lt} flicker and sliding P_{st}
- Harmonics (amplitude/phase shift) from DC to the 63rd order
- Inter-harmonic subgroups from 0 to the 62nd order
- Calculations of K factor & FHL
- 2 carrier current frequencies monitored

Large Functional Displays

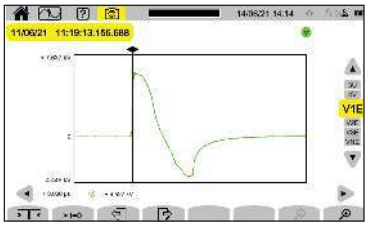
ENERGY EVALUATION



TREND

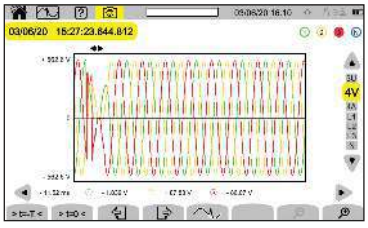


SHOCKWAVES

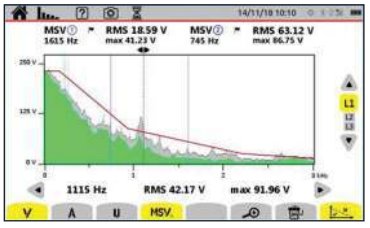


ALARMS

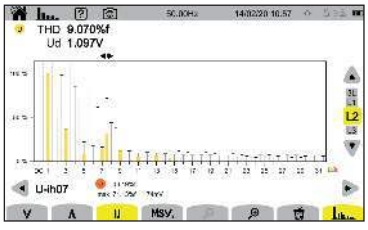
TRANSIENTS



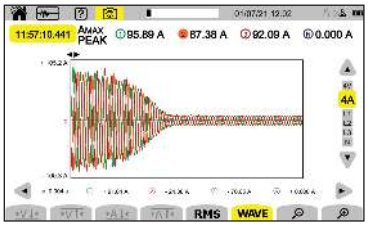
CARRIER CURRENT



INTERHARMONICS (HARMONIC MODE)



TRUE INRUSH®



Includes FREE DataView® software for configuring, data retrieval, real-time display, analysis and report generation

ACCESSORIES/REPLACEMENTS

CATALOG #2140.28 AC/DC Current Probe Model MR193-BK
CATALOG #2140.32 AC Current Probe Model MN93-BK
CATALOG #2140.33 AC Current Probe Model SR193-BK
CATALOG #2140.34 AmpFlex® Sensor 24 in Model 193-24-BK
CATALOG #2140.35 AmpFlex® Sensor 36 in Model 193-36-BK
CATALOG #2140.36 AC Current Probe Model MN193-BK
CATALOG #2140.48 MiniFlex® Sensor 10 in Model MA193-10-BK
CATALOG #2140.50 MiniFlex® Sensor 14 in Model MA193-14-BK
CATALOG #5100.16 Magnetic Hook
CATALOG #2133.76 Carrying Bag
CATALOG #2140.43 Lead - Set of 5, 10 ft (3M) Black Leads w/5 Black Alligator Clips (Leads rated 600 V CAT IV 10 A, Clips rated 1000 V CAT IV 15 A, UL)
CATALOG #2140.44 (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)
CATALOG #2140.46 Cable - Replacement 5 ft USB Cable
CATALOG #2140.80 Sensor - MiniFlex® Sensor Model MA194-24-BK
CATALOG #2960.47 Battery - Replacement 5.8 A·h 61.9 W·h Li-ion Battery Pack
CATALOG #5100.14 Adapter - Replacement Power Plug Adapter for PA32ER
CATALOG #5100.15 Adapter - Replacement 1000 V PA32ER Power Supply

POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS

THREE-PHASE POWER QUALITY ANALYZERS

3 YEARS WARRANTY * UPON REGISTERING

POWERPAD® III MODELS 8333 & 8336

SD card for trend recordings and data storage, extensive memory for high snapshot quantity, captured transients/inrush and alarm events

8333 8336

SPECIFICATIONS

MODELS	8333	8336
Input Terminals	4 voltage / 3 current	5 voltage / 4 current
Inputs	3 voltage / 3 current	4 voltage / 4 current
Voltage (TRMS AC+DC)	(2 to 1000) V	
Voltage Ratio	up to 500 kV	
Current (TRMS AC+DC)	MN93: 500 mA to 200 AAC; MN193: (0.005 to 100) AAC SR193 Clamp: (1 to 1000) AAC AmpFlex® or MA193 Clamps: 100 mA to 10000 AAC MR193 Clamp: (1 to 1000) AAC/1300 ADC SL261 Clamp: 50 mA to 100 AAC/DC Current Ratio: up to 60 kA	
Frequency (Hz)	(40 to 69) Hz	
Distribution Systems	1P 2W, 1P 3W, 2P 2W, 2P 3W, 2P 4W, 3P 3W, 3P, 4W, Split-Phase 2W & 3W and Aron meters	1P 2W, 1P 3W, 2P 2W,2 P 3W, 2P 4W, 3P 3W, 3P, 4W and 3P 5W, 2 ½ Element and Aron meters
Power Values	W, VA, var, VAD, PF, DPF, cos φ, tan φ	
Energy Values	Wh, varh, VAh, VADh	
Harmonics	1st to 50th, Direction, Sequence; THD: 0 to 50, phase	
Transients	up to 51	up to 210
Flicker (Pst/Plt)	Yes/No	Yes/Yes
Unbalance	Yes	
Recording	Yes	
Alarm Mode	10 types; 4000 recorded	40 types; 16,000 recorded
Peak	Yes	
Phasor Display	Automatic	
Display	Color ¼ VGA TFT screen (320 x 240) diagonal 5.82 in (148 mm)	
Snapshots	12	50
Languages	> 27	
Communication Interface	USB	
MECHANICAL		
Battery Life	≤ 10 h, ≥ 15 h in Record mode	
Power Supply	9.6 V NiMH rechargeable battery pack (included) External AC supply: (110/230) VAC ±10 % (50/60) Hz	
Dimensions / Weight	(9.8 x 7.8 x 2.6) in (249 x 198 x 66) mm / 4.3 lb (1.95 kg)	
SAFETY		
Safety Rating / IP	IEC 61010, 1000 V CAT III; 600 V CAT IV / IP53	

Consult factory for NIST Calibration prices

KIT OPTIONS

8333

AS ABOVE WITH AMPFLEX® 193 FLEXIBLE CURRENT PROBE (10 kA) CATALOG # 2136.11
24 IN, RATED 600 V CAT IV

OR

AS ABOVE, MN193 CURRENT PROBE (5/100 A) CATALOG # 2136.12
Rated 600 V CAT III

8336

AS ABOVE WITH AMPFLEX® 193 FLEXIBLE CURRENT PROBE (10 kA) CATALOG # 2136.31
24 IN, Rated 600 V CAT IV

OR

AS ABOVE, MN193 CURRENT PROBE (5/100 A) CATALOG # 2136.32
Rated 600 V CAT III

PRODUCT INCLUDES

CAT. # 2136.10 MODEL 8333 (NO PROBES)

Extra large carrying bag, soft carrying pouch, (4) 10 ft black voltage leads with alligator clips, 5 ft USB cable, (12) color-coded input ID markers, 110/240 V power adapter with US power cord, 9.6 V NiMH battery, SD card, printed quick start guide and USB drive with DataView® software and user manual.

CAT. # 2136.30 MODEL 8336 (NO PROBES)

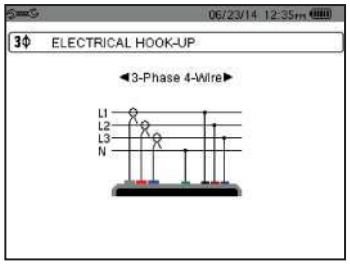
Extra large carrying bag, soft carrying pouch, (5) 10 ft black voltage leads with alligator clips, 5 ft USB cable, (12) color-coded input ID markers, 110/240 V power adapter with US power cord, SD card, 9.6 V NiMH battery, printed quick start guide, and USB drive with DataView® software and user manual.

**** 3 YEAR WARRANTY ONLY APPLIES WHEN METER IS REGISTERED WITHIN 30 DAYS OF PURCHASE***

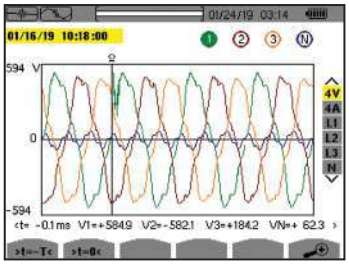
Captures and Records Transients, Events & Waveforms Simultaneously!

MODELS 8333 & 8336
Large Functional Displays

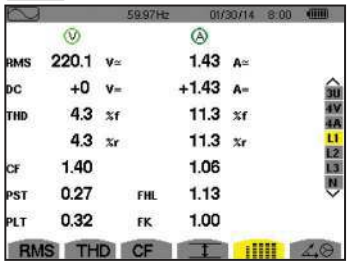
CONFIGURATION



TRANSIENT MODE

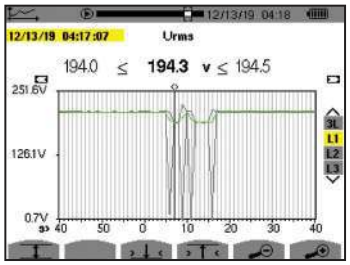


POWER AND ENERGY MODE

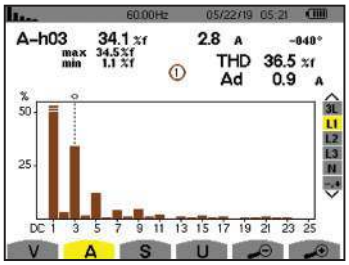


PHASOR DIAGRAM

RECORDING MODE



HARMONICS MODE



FEATURES

- True RMS single-, two- and three-phase measurements at 256 samples/cycle, plus DC
- Real-time color waveforms
- Easy-to-use on-screen setup
- Automatic current probe recognition and scaling
- True RMS voltage and current measurement
- Measures DC volts, amps and power
- Displays and captures voltage, current and power harmonics to 50th order, including direction, in real-time
- Captures transients down to 1/256th of a cycle
- Stores comprehensive data base of logged data
- Phasor diagram display
- kVA, kvar and kW per phase and total
- kVAh, kvarh and kWh per phase and total
- Neutral current calculated and displayed for three-phase
- Transformer Factor K display (8333, 8336)
- Power Factor, displacement PF display
- Captures up to 210 transients (8336)
- Short term (8333) and Long term (8336) flicker display
- Phase unbalance (current and voltage)
- Harmonic Distortion (total and individual) from 1st to 50th
- Alarms, surges and sags
- Screen snapshot function captures waveforms or other information on the display
- Includes FREE DataView® software for configuring, data retrieval, real-time display, analysis and report generation

ACCESSORIES/REPLACEMENTS

CATALOG #2133.73 Extra Large Classic Tool Bag (18 x 9 x 12) in
CATALOG #2140.28 AC/DC Current Probe Model MR193-BK
CATALOG #2140.32 AC Current Probe Model MN93-BK
CATALOG #2140.33 AC Current Probe Model SR193-BK
CATALOG #2140.34 AmpFlex® Sensor 24 in Model 193-24-BK
CATALOG #2140.35 AmpFlex® Sensor 36 in Model 193-36-BK
CATALOG #2140.36 AC Current Probe Model MN193-BK
CATALOG #2140.40 BNC Adapter for AC/DC Current Probe Model SL261 and models for use with 8220, 8333, 8335, 8336, 8435, 8436 & PEL Series
CATALOG #2140.44 (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)
CATALOG #2140.48 MiniFlex® Sensor 10 in Model MA193-10-BK
CATALOG #2140.50 MiniFlex® Sensor 14 in Model MA193-14-BK
CATALOG #2140.80 MiniFlex® Sensor 24 in Model MA194-24-BK
CATALOG #2140.77 Phase Power Adapter (8333 & 8336)

CATALOG NO.	DESCRIPTION
2136.10	PowerPad® III Model 8333 (no probes)
2136.11	PowerPad® III Model 8333 w/3 193-24-BK Sensors
2136.12	PowerPad® III Model 8333 w/3 MN193-BK Probes
2136.30	PowerPad® III Model 8336 (no probes)
2136.31	PowerPad® III Model 8336 w/4 193-24-BK Sensors
2136.32	PowerPad® III Model 8336 w/4 MN193-BK Probes

POWERPAD® III MODEL 8436

Supplied with an 8 GB SD card for storing up to 2 GB trend recordings

(4) current and (5) voltage input terminals

cover closed

SPECIFICATIONS

MODEL	8436
ELECTRICAL	
Sampling Frequency	256 samples/cycle
Data Storage	SD card for trend recording; Additional separate 12.5 MB partitioned memory for snapshots, transient / Inrush & alarms
Voltage (TRMS)	Phase-to-Phase: 2000 V Phase-to-Neutral: 1000 V Voltage Ratio: up to 500 kV
Current (TRMS)	MN Clamp: (0 to 6) A/120 A or (0 to 240) A SR Clamp: (0 to 1200) A MR Clamp: (0 to 1000) AAC, (0 to 1400) ADC MiniFlex®: (10 to 3000) A AmpFlex®: (10 to 10) kA(1) SL261 Clamp: 50 mA to 100 AAC/DC J93: (50 to 3500) AAC/DC Current Ratio: 10 mA to 60 kA
Frequency (Hz)	(40 to 69) Hz
Other Measurements	kW, kvar, kVA, PF, DPF, kWh, kvarh, kVAh, Factor K, Flicker
Harmonics	1st to 50th, Direction, Sequence
Power Supply	9.6 V NiMH rechargeable battery pack (included) (110 to 1000) V DC to 400 Hz
Battery Life	≤ 10 h with display on; ≥ 15 h with display off (record mode)
MECHANICAL	
Communication Port	Optically isolated USB
Display	¼ VGA (320 x 240) color LCD display with adjustable brightness & contrast
Dimensions	(10.6 x 9.8 x 7.1) in (270 x 249 x 180) mm
Weight	8.2 lb (3.7 kg) with batteries
SAFETY	
Safety Rating	EN 61010, 600 V CAT IV(2), 1000 V CAT III

(1) Crest factor at 6500=1

Consult factory for NIST Calibration prices

(2) When used with SR193 or AmpFlex® probes
600 V CAT III with MN193 or MR193 probes

PRODUCT INCLUDES

8436 KIT CATALOG #2136.44

Extra large tool bag, accessory pouch, 5 ft USB cable, (5) 10 ft black voltage leads with alligator clips, 110 V US power cord, line power cord 110-1000 V DC to 400 Hz, (12) color-coded input ID markers, (4) water-tight AmpFlex® 196A-24-BK sensors (*2136.44 only*), 9.6 V NiMH battery, SD card, printed quick start guide, high-voltage warning card, and a USB drive with DataView® software and user manual.

FEATURES

- Measurement of TRMS voltages up to 1000 Vrms AC/DC for two-, three-, four- or five-wire systems
- Measurement of TRMS currents up to 10,000 Arms (sensor dependent)
- 65 µs sample rate
- Direct measurement of neutral current and voltage
- Record and display trend data as fast as once per second for one month for up to 25 variables
- Transient detection on all V and I inputs (up to 210)
- Selectable PT and CT ratios
- Inrush current measurement
- Calculation of Crest Factors for V and A
- Calculation of Factor K for transformers
- Calculation of short and long term flicker and three-phase voltage unbalance
- Measures harmonics (referenced to the fundamental or RMS value) for voltage, current or power, up to 50th harmonic
- Displays of harmonic sequencing and direction and calculation of overall harmonics
- Real-time display of phasor diagrams including values and phase angles
- Measurement of active, reactive and apparent power per phase and their respective sum total
- Calculation of power factor, displacement power factor and tangent factor
- Recording, time stamping and characterization of disturbance (swells, sags and interruptions, exceedance of power and harmonic thresholds)
- 2 GB Trend Recording memory; Alarm, Snapshot and Transient/Inrush memories are separate
- Measurement of energy kVAh, kvarh & kWh
- The Max and Min RMS measurements are calculated every half-period
- Includes DataView® software for configuring, real-time display, analysis and report generation

**** 3 YEAR WARRANTY ONLY APPLIES WHEN METER IS REGISTERED WITHIN 30 DAYS OF PURCHASE***

MODEL 8436

Large Color Functional Displays

INSTALLATION OF THE LEADS AND CURRENT SENSORS

Color-coded ID markers are supplied with the PowerPad® III to identify the leads and input terminals.

The voltage and current inputs, as well as the power cord connection are constructed with screw on, watertight connectors rated to IP67.

LEAD & ALLIGATOR CLIP
Catalog #2140.73

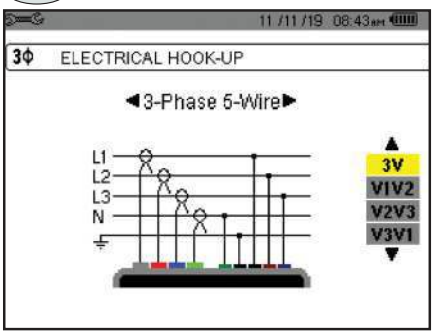
POWER CORD
Catalog #5000.63

AMPFLEX® SENSORS
Catalog #2140.75
(Included with Cat. #2136.44 only)

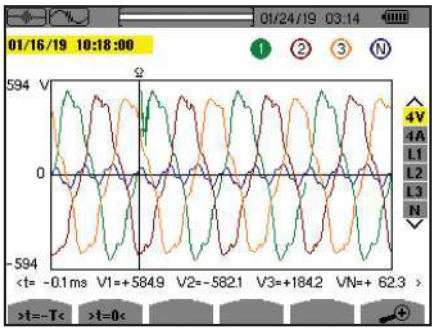
LINE POWER ADAPTER
Catalog #5000.89

POLE MOUNTING KIT
Catalog #2137.82
Set of (2) with hardware

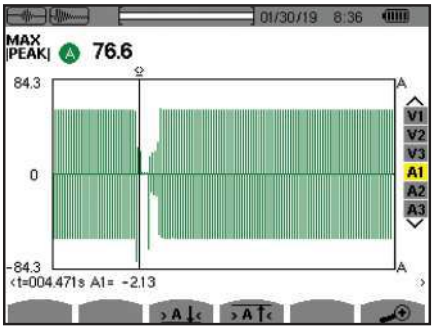
CONFIGURATION



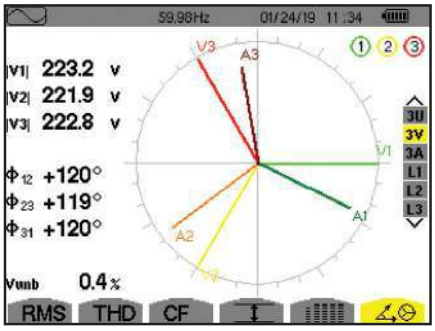
TRANSIENT MODE



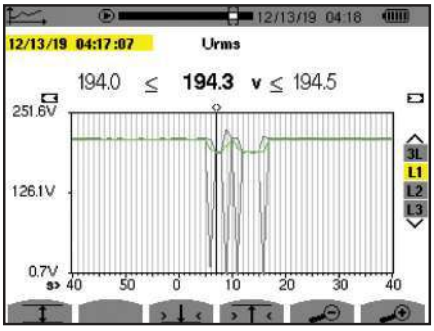
INRUSH PEAK



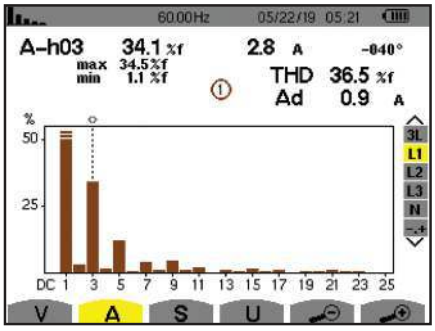
PHASOR DIAGRAM



TREND ANALYSIS



HARMONICS MODE



ACCESSORIES/REPLACEMENTS

CATALOG #2133.73 Extra Large Classic Tool Bag (18 x 9 x 12) in
CATALOG #2137.82 Pole Mounting Kit
CATALOG #2140.19 Replacement - 9.6 V NiMH Rechargeable Battery
CATALOG #2140.45 Set of (12) color-coded Input ID Markers
CATALOG #2140.73 (1) 10 ft (3 M) Black Lead (Waterproof cap) (Rated 1000 V CAT IV) and (1) Black Alligator Clip (Rated 1000 V CAT IV, 15 A, UL)
CATALOG #2140.75 AmpFlex® Sensor 24 in Model 196A-24-BK *(waterproof - IP67)*
CATALOG #2140.79 MiniFlex® Sensor 14 in Model MA196-14-BK *(waterproof - IP67)*
CATALOG #5000.43 Probe - Set of (2) Color-coded (Red/Black) Magnetize Voltage Probes (Rated 600 V CAT IV, 1000 V CAT III)
CATALOG #5000.63 Power Cord 110 V for use only with Models 8435 and 8436
CATALOG #5000.77 Cable Reeling Box
CATALOG #5000.89 Line Power Adapter 110-1000 V DC to 400 Hz (Replacement - for use only with Model 8436)

CATALOG NO.	DESCRIPTION
2136.43	PowerPad® III Model 8436 (No Sensors - Waterproof IP67)
2136.44	PowerPad® III Model 8436 w/4 196A-24-BK (AmpFlex®- Waterproof IP67)

NEW

MODEL PEL 52

Time/date stamped electrical measuring instrument to understand and improve electrical consumption

Coming Later this Year!

SPECIFICATIONS

MODEL	PEL 52		
GENERAL			
Inputs	2V / 2I		
Types of installations	Single phase, split phase or 2 single-phase channels		
Recording / Data Storage Rate	Unlimited duration (4 GB max recording size) / 1 s to 1 h (Min/Avg/Max)		
Network Frequency	(45 to 65) Hz		
Voltage	(10 to 600) V		
ELECTRICAL			
VOLTAGE	**RANGE**	**RESOLUTION**	**ACCURACY**
Vrms	(10 to 660) V P to N	0.1 V	± 0.2 % Reading ± 0.2 V
Urms	(20 to 1200) V P to P	0.1 V	± 0.2 % Reading ± 0.4 V
CURRENT MEASUREMENT @ (50 and 60) HZ	**RANGE**	**RESOLUTION**	**ACCURACY**
Amps (1 V nominal) (excluding clamp accuracy)	Probe dependent (0.2 % < I < 120 % Inom)	Probe dependent	± 0.2 % Reading ± 0.02 Inom
POWER	**RANGE**	**RESOLUTION**	**ACCURACY**
Watts P-Q-S (W-var-VA)	V = (100 to 660) V I = (5 to 120) % Inom	Probe dependent	± 0.3 % R ± 0.003 % Pnom ± 1 % R ± 0.01 % Qnom ± 0.3 % R ± 0.003 % Snom
Power Factor	-1 to 1	0.001	±0.02 %
Cos φ (DPF)	-1 to 1	0.001	±0.05 %
ENERGY	**RANGE**	**RESOLUTION**	**ACCURACY**
Ep-Eq-Es (Wh, varh, VAh)	V = (100 to 660) V I = (5 to 120) % Inom	0.001 and ±0.02%	±0.5 % Reading ±2.5 % Reading ±0.5 % Reading
MECHANICAL			
Communication	Wi-Fi (access point and hot spot)		
Data Storage	8 GB SD-Card (included); expandable to 32 GB		
Dimension	(7.08 x 3.46 x 1.45) in (180 x 88 x 37) mm		
Weight	14.10 oz (400 g)		
Case	Compact and rugged, shock and vibration IEC 61010		
Display Type	LCD with blue backlight		
Real-Time Clock	Time and date stamp for Trend mode		
Power Supply	From phase 1 (90 to 660) V battery backup when power OFF		
Battery Life	3 h without Wi-Fi, 1 h typical with Wi-Fi enabled		
ENVIRONMENTAL			
Operating Temperature / Relative Humidity	(-4 to 122) °F (-20 to 50) °C / (10 to 85) % RH		
Storage Temperature	(-40° to 158) °F (-40 to 70) °C / (0 to 95) % RH w/out battery		
SAFETY			
Electro-Magnetic-Compatibility (EMC)	EN 61326-1 for emission and immunity		
Safety Rating / CE Rating	IEC/EN 61010-2-30 (600 V CAT III) / Yes		
IP Rating	IP54 per IEC 60529		

* Minimum and maximum values are current probe dependent.
Consult factory for NIST Calibration prices

WEB SERVER

SAFETY 600V CAT III RATING

IP 54

Pending

DataView®

PRODUCT INCLUDES

CATALOG #2137.69 (WITH PROBES)
Soft carrying bag, (2) MiniFlex® MA193-10-BK sensors, (3) black test leads and alligator clips, 110 V US power Cord, (1) adapter for power cord, 8 GB SD card, USB SD card reader, (2) AAA rechargeable batteries, quick start guide, and USB drive with DataView® software and user manual.

CATALOG #2137.71 (NO PROBES)
Soft carrying bag, (3) black test leads and alligator clips, 110 V US power Cord, (1) adapter for power cord, 8 GB SD card, USB SD card reader, (2) AAA rechargeable batteries, quick start guide, and USB drive with DataView® software and user manual.

CATALOG NO.	DESCRIPTION
2137.69	Power & Energy Logger Model PEL 52 (w/LCD, w/2 MA193-10-BK sensors)
2137.71	Power & Energy Logger Model PEL 52 (w/LCD, no sensors)

FEATURES

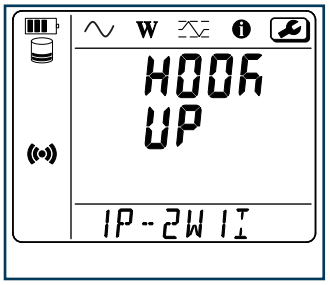
- Low cost, simple-to-use, portable, single- and dual- (split-phase) power & energy data logger
- Wide backlit LCD display
- Install without cutting off the electrical network being monitored
- Vital energy data is easily measured, recorded and analyzed
- TRMS voltage and current measurement up to 600 V
- Powered via the measuring phase
- Measurement of the AC phase currents (I1, I2) *(dependent on sensor)*
- RMS AC measurements (50 Hz and 60 Hz), aggregation every second without missing measurements
- Easy to use, automatic recognition of current sensors
- W, VA and var (P, Q, S, N and D) power measurements
- Calculation of the Cos φ and Power Factor (DPF)
- Aggregation measurements over a period from 1 minute to 1 hour
- Storage of the 1 s and aggregated measurements on SD/SDHC card; data can be read directly on a PC
- Remote connectivity via IRD server
- Integrated web server for for remote viewing *(Android™, iOS, Windows, etc.)*
- Wi-Fi offers accessibility to diagnose problems in real-time and/or multi-station operation.
- Data saved on SD card for easier transport
- Includes FREE DataView® software for configuring, data retrieval, real-time measurement display, data analysis and report generation
- Compact casing with built-in magnets to facilitate mounting for easier implementation in electrical cabinets 2-year warranty
- ECO-DESIGN - environmental aspects considered during product development to make the lowest possible environmental impact throughout the product life cycle

APPLICATIONS

- Load surveys - Find out how much energy each item of equipment consumes operating at its min/max power level.
- Energy analysis - Estimate energy consumption before and after the improvements.
- Energy surveys - The measurements for energy surveys must be performed at several locations on the evaluation site. Starting with the main power, compare the power and energy measurements on the electricity meter and bills. Sub metering can then be performed on downstream of the installation.

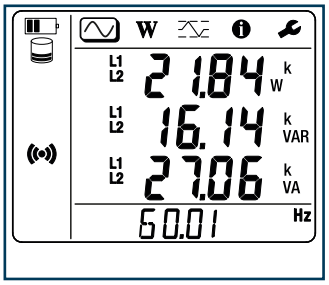
Large Functional Displays

INFORMATION MODE



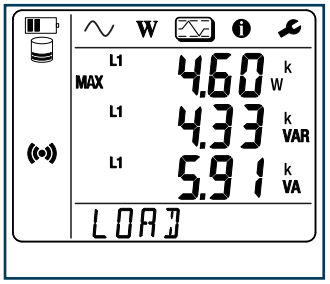
Hook up, Wi-Fi, aggregation period, can be configured from the front panel of the PEL 52.
Current ratios and number of turns need to be configured via the PEL Transer software based on the current sensor type.

MEASUREMENT MODE (2P-3W2I)



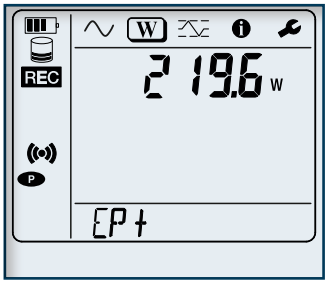
Real-time updates are displayed for voltage (V), current A) active power (P), reactive power (Q), apparent power (S), frequency (Hz), power factor (PF).

MAX MODE (1P-2W1I)



Max aggregated values of measurements and energy.

ENERGY MODE



Active energy (Wh), reactive energy (varh), apparent energy (VAh). The energies displayed are the total energies, of the source or of the load.
(The "h" symbol is not displayed on the screen. You will see W, VA, var for Wh, VAh and varh. Downloaded recordings will show the "h")

ACCESSORIES/REPLACEMENTS

CATALOG #2140.32 AC Current Probe Model MN93-BK
CATALOG #2140.33 AC Current Probe Model SR193-BK
CATALOG #2140.34 AmpFlex® Sensor 24 in Model 193-24-BK
CATALOG #2140.35 AmpFlex® Sensor 36 in Model 193-36-BK
CATALOG #2140.36 AC Current Probe Model MN193-BK
CATALOG #2140.48 MiniFlex® Sensor 10 in Model MA193-10-BK
CATALOG #2140.50 MiniFlex® Sensor 14 in Model MA193-14-BK
CATALOG #2140.80 MiniFlex® Sensor 24 in Model MA194-24-BK
CATALOG #2140.44 (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)
CATALOG #2140.45 Set of (12), color-coded Input ID Markers
CATALOG #5000.43 Magnetized Voltage Probe Set of (2) color-coded (Red/Black) magnetized voltage probes (Rated 600 V CAT IV, 1000 V CAT III)

MODEL PEL 102

Monitor your energy usage and costs locally or from anywhere in the world!

FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Designed to work in 1000 V CAT III and 600 V CAT IV environments and fits in many distribution panels
- Power measurements: kVA, kW and kvar
- Energy measurements: kVAh, kWh (source, load) and kvarh (quadrant indication)
- Updated features in DataView® software for configuring real-time communication with a PC and report generation with pre-defined or user defined templates
- 8 GB SD card supplied, can be upgraded up to 32 GB
- USB, LAN, Ethernet and Bluetooth (Class 1 wireless communication, up to 300 ft away)
- Satisfies the monitoring requirements of NEC Code 220.87
- Power adapter allows the PEL 102 to be powered from a phase measurement input
- Provides all the necessary functions for power and energy data logging for 50 Hz, 60 Hz, 400 Hz and DC distribution systems
- Automatic recognition of the connected current sensors/probes
- Magnetic case – can be mounted inside power panels

ACCESSORIES

CATALOG #2137.98
Adapter - 600 V CAT III Power Adapter for use with Models PEL 102 & PEL 103
***ADAPTER SOLD SEPARATELY**

SEE PAGE 120 & 121 FOR MORE OPTIONAL ACCESSORIES

PRODUCT INCLUDES

PEL 102 KIT
CATALOG #2137.51 (SHOWN)

Small classic tool bag, (3) MiniFlex® MA193-10-BK sensors, 5 ft USB cable, (4) black test leads and alligator clips, 5 ft 115 V power cord, (12) color-coded ID markers, safety and compliance sheets, 8 GB SD card with USB-SD card reader, printed quick start guide, and USB drive with DataView® software and user manual.

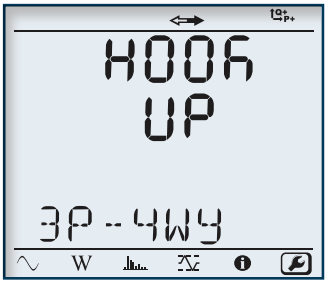
ANDROID™ APP AVAILABLE FOR PEL 102, 103 & 105!

- Configure measurements and recordings
- Display data in real-time
- For use on devices with an Android™ platform
- ***NEW*** software sensors providing all comprehensive and instantaneous motors electrical parameters such as rotation speed, efficiency and torque

CATALOG NO.	DESCRIPTION
2137.51	Power & Energy Logger Model PEL 102 (No LCD, w/3 MA193-10-BK Sensors)
2137.61	Power & Energy Logger Model PEL 102 (No LCD, No Sensors)

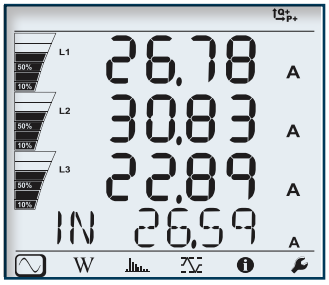
MODEL PEL 103
Large Functional Displays

INFORMATION MODE



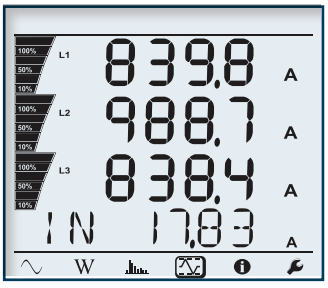
Hook up, voltage and current ratios and aggregation period can be configured from the front panel of the PEL 103

MEASUREMENT MODE



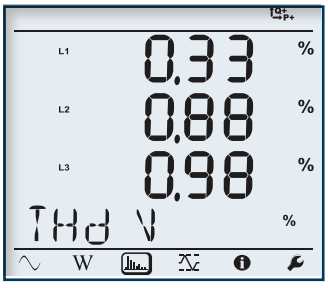
Real-time updates are displayed for voltage, current, power, frequency, power factor and tangent

MAX MODE



Max values for voltage, current (including neutral current), power and harmonics

HARMONIC MODE



Total Harmonic Distortion (THD) can be displayed by phase or phase to phase. Neutral current THD can also be displayed.

DataView®

PRODUCT INCLUDES

PEL 103 KIT (W/LCD)
CATALOG #2137.52 (SHOWN)
Small classic tool bag, (3) MiniFlex® MA193-10-BK sensors, 5 ft USB cable, (4) black test leads and alligator clips, power cord, (12) color-coded ID markers, safety data sheet, compliance sheet, 8 GB SD card with USB-SD card reader, printed quick start user guide, and USB drive with DataView® software and user manual.

ACCESSORIES

CATALOG #2137.98
Adapter - 600 V CAT III Power Adapter for use with Models PEL 102 & PEL 103
***ADAPTER SOLD SEPARATELY**

SEE PAGES 120 & 121 FOR MORE OPTIONAL ACCESSORIES

FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Designed to work in 1000 V CAT III and 600 V CAT IV environments and fits in many distribution panels
- Power measurements: kVA, kW and kvar
- Energy measurements: kVAh, kWh (source, load) and kvarh (quadrant indication)
- Updated features in DataView® software for configuring real-time communication with a PC and report generation with pre-defined or user defined templates
- 8 GB SD card supplied, can be upgraded up to 32 GB
- USB, LAN, Ethernet and Bluetooth (Class 1 wireless communication, up to 300 ft away)
- Satisfies the monitoring requirements of NEC Code 220.87
- PEL 103 can be configured from front panel, DataView® control panel or the FREE Android™ application
- Provides all the necessary functions for power and energy data logging for 50 Hz, 60 Hz, 400 Hz and DC distribution systems
- Automatic recognition of the connected current sensors and probes
- Magnetic case – can be mounted inside power panel
- Supports 17 network configurations

CATALOG NO.	DESCRIPTION
2137.52	Power & Energy Logger Model PEL 103 (w/LCD, w/3 MA193-10-BK Sensors)
2137.62	Power & Energy Logger Model PEL 103 (w/LCD, No Sensors)

MODEL PEL 105

Three-Phase Power and Energy Logger

Watertight...great for outdoor use!

FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Designed to work in 1000 V CAT III and 600 V CAT IV environments
- Supports 17 different network connections
- Power measurements: kVA, kW and kvar
- Energy measurements: kVAh, kWh (source, load) and kvarh (four quadrant indication)
- Includes DataView® software for configuring, real-time display, analysis and report generation
- 8 GB SD card supplied, can be upgraded up to 32 GB
- USB, LAN, Ethernet, Wi-Fi and Bluetooth communication (Class 1 wireless communication, up to 300 ft away)
- Satisfies the monitoring requirements of NEC Code 220.87
- PEL 105 can be configured from front panel, DataView® control panel or the FREE Android™ application
- Provides all the necessary functions for power and energy data logging for 50 Hz, 60 Hz, 400 Hz and DC distribution systems
- Automatic recognition of the connected current sensors and probes
- Powers directly from phase input
- Pole mountable

ACCESSORIES

POLE MOUNTING KIT
CATALOG # 2137.82
Set of (2) with hardware

SEE PAGES 120 & 121 FOR MORE OPTIONAL ACCESSORIES

cover open

cover closed

PRODUCT INCLUDES

PEL 105 KIT
CATALOG #2137.59 (SHOWN)
Large classic tool bag, accessory pouch, (5) 10 ft black voltage leads (watertight cap) with alligator clips, (4) water-tight AmpFlex® 196A-24-BK sensors (*Cat.# 2137.59 only*), (12) color-coded input ID markers, 5 ft USB cable, power adapter 110 V/240 V with US power cord, 9.6 V NiMH battery, 8 GB SD card, USB SD card reader, printed quick start guide, high-voltage waning card, and a USB drive with DataView® software and user manual.

CATALOG NO.	DESCRIPTION
2137.57	Power & Energy Logger Model PEL 105 (No sensors, Waterproof IP67, DataView® Software)
2137.59	Power & Energy Logger Model PEL 105 w/4 196A-24-BK (Waterproof IP67, DataView® Software)

SPECIFICATIONS

MODELS	PEL 102, PEL 103 & PEL 105		
GENERAL			
Sampling Frequency	128 samples per cycle; (50/60) Hz (16 samples/cycle 400 Hz)		
Data Storage Rate	1 per second (200 ms also available on PEL 105)		
Demand Period Storage Rate	User selectable (1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60 min)		
Recorded Parameters (Single- and Poly-Phase)	V, I, W, VA, var, PF, Tan, Wh, VAh, varh, THD (V and I), Individual harmonics (from 1 through 50 per phase); Crest Factor (CF), Cos f / DPF		
Event Log	Tracks and records status changes and error messages along with recorded data		
Front Panel Indicator LEDs	Bluetooth active, recording in progress, phase connection reversal, overload, battery charging and SD card status		
Storage Capacity	8 GB SD card included / SD cards up to 32 GB formatted FAT32 are supported		
INPUTS Voltage	PEL 102/103: 3 input channels / PEL 105: 4 input channels via 4 mm safety banana jacks		
Current	PEL 102/103: 3 input channels PEL 105: 4 input channels via custom 4 pin jacks that accept AEMC® Instruments probes and sensors		
ELECTRICAL			
VOLTAGE MEASUREMENT	RANGE	RESOLUTION*	ACCURACY*
(50/60) Hz	(42.5 to 69) Hz	–	± 0.1 Hz
Single-Phase RMS Voltages	(10 to 1000) Vrms	0.1 V	± 0.2 % Reading ± 0.2 V
Phase-to-Phase RMS Voltages	(17 to 1700) Vrms	(0.1 to 1) V	± 0.2 % Reading ± 0.4 V
400 Hz	(340 to 460) Hz	–	
Single-Phase RMS Voltages	(10 to 600) Vrms	0.1 V	± 1 % Reading ± 1 V
Phase-to-Phase RMS Voltages	(17 to 1200) Vrms	(0.1 to 1) V	± 1 % Reading ± 1 V
DC	(100 to 1000) V	0.1 V	± 1 % Reading ± 3 V (typical)
PT Ratios	Programmable from (50 to 650,000) V	–	(0.01 to 0.1) V
CURRENT MEASUREMENT	A193 A*** (PEL 102/103)	196 A*** (PEL 105)	–
Nominal range for current probes supplied with kit. (See chart on Pages 32 and 33 for other probes)	200 mA to 10,000 A		–
CT Ratios	Programmable from 1:1 to 25,000:1 (probe dependent)		
POWER MEASUREMENTS	RANGE	RESOLUTION*	ACCURACY*
Active Power (P)*	(-2 to 2) GW	0.001 W	± 0.5 % Reading ± 0.005 % Pnom
Reactive Power (Q)*	(-2 to 2) Gvar	0.001 var	± 1 % Reading ± 0.01 % Qnom
Apparent Power (S)*	(0 to 2) GVA	0.001 VA	± 0.5 % Reading ± 0.005 % Snom
Power Factor	-1 to 1	0.001	± 0.05
Tangent φ (active/reactive power ratio)	-3.2 to 3.2	0.001	± 0.02
ENERGY MEASUREMENTS	RANGE	RESOLUTION*	ACCURACY*
Active Energy (EP)	4 EWh	1 Wh	± 0.5 % Reading
Reactive Energy (EQ)	4 Evarh	1 varh	± 2 % Reading
Apparent Energy (ES)	4 EVAh	1 VAh	± 0.5 % Reading
THD	± 655 %		
Individual Harmonics	1 to 50 displayed in percentage; 1 to 7 at 400 Hz		
External Supply	110/250 V (10 %) @ (50/60) Hz; 400 Hz		
Power From Phase Measurement	PEL 102/103: Requires optional 600 V Power Adapter / PEL 105: Internal up to 1000 VAC		
Back-Up Power Supply/Charge Time	Rechargeable 8.4 V NiMH battery pack / Approximately 5 hr		
Battery Life	30 min minimum, 60 min typical		
MECHANICAL			
Communication	USB 2.0, Ethernet (RJ45), Wireless Bluetooth Class 1 **/ Wi-Fi (PEL 105)		
Dimension/Weight	PEL 102/103: (10.08 x 4.92 x 1.46) in (256 x 125 x 37) mm / 2.20 lb (1 kg) PEL (105: 9.8 x 7.8 x 2.6) in (249 x 198 x 66) mm / 8.8 lb (4 kg)		
Case	Double insulated, rubber over-molded, polycarbonate UL94 V1 rated		
Display Type for Models PEL 103 & 105	(2.63 x 2.16) in (67 x 55) mm, four line, monochrome, backlit LCD with adjustable brightness and contrast		
ENVIRONMENTAL / SAFETY			
Operating Temperature/Relative Humidity	PEL 102/103/105: (32 to 108.5) °F (0 to 42.5) °C / up to 85 % RH		
Storage Temperature	(-4 to 122) °F (-20 to 50) °C with batteries; (-4 to 158) °F (-20 to 70) °C without batteries		
Safety Rating/CE Rating	PEL 102/103: Complies with IEC 61010-1, and IEC 61010-2-030 for 1000 V CAT III / 600 V CAT IV 1000 V CAT IV (PEL 105), Pollution Degree 2 / Yes		
Ingress Protection	PEL 102/103: IP54 non operating / PEL 105: IP67 with cover closed		

Consult factory for NIST Calibration prices

* Maximum value is current probe dependent.

** Computers with Class II Bluetooth will restrict range to 40 ft; Computers without Bluetooth will require a Class I or Class II Bluetooth radio adapter.

*** Maximum current reduced by a factor of 2 for 400 Hz fundamental frequency.

SENSOR TYPE	CURRENT RANGE	ACCURACY (TYPICAL)	TYPICAL ERROR ON Φ AT (50/60) HZ	MAX CONDUCTOR SIZE	USED WITH MODEL	CATALOG NUMBER
MiniFlex® MA193-BK* & MiniFlex® MA194-BK*  **10, 14 or 24 in sensor**	100 mA to 12,000 A_{AC}[1]	± 1 %	0 °	2.75 in (70 mm) (10 in sensor)	PEL 102 PEL 103 PEL 105 8333 8336 8436 8345	2140.48 (10 in sensor)
				3.94 in (100 mm) (14 in sensor)		2140.50 (14 in sensor)
				7.64 in (194 mm) (24 in sensor)		2140.80 (24 in sensor)
MR193-BK  **Battery operated**	(1 to 1000) A_{AC} (1 to 1300) A_{DC}	± 2.5 %	-0.80 °	1.6 in (41 mm)	PEL 102 PEL 103 PEL 105 8333 8336 8436 8345	2140.28
SR193-BK 	(1 to 1200) A_{AC}	± 0.3 %	0.2 °	2.05 in (52 mm)	PEL 102 PEL 103 PEL 105 8333 8336 8436 8345	2140.33
AmpFlex® 193-BK*  **24 in or 36 in sensor**	100 mA to 12,000 A_{AC}[1]	± 1 %	0 °	7.64 in (194 mm) (24 in sensor)	PEL 102 PEL 103 PEL 105 8333 8336 8436 8345	2140.34 (24 in sensor)
				11.46 in (291 mm) (36 in sensor)		2140.35 (36 in sensor)
MiniFlex® 196-BK*  **Waterproof, IP67 14 in or 24 in sensor**	100 mA to 12,000 A_{AC}[1]	± 1 %	0 °	3.9 in (99 mm) (14 in sensor)	PEL 105 8436	2140.79 (14 in sensor)
				7.64 in (194 mm) (24 in sensor)		2140.75 (24 in sensor)

*Maximum current reduced by a factor of 2 for 400 Hz fundamental frequency.
All current sensors can be used with Models PEL 105, 8435 and 8436. However, only the MA196-14-BK and 196A-24-BK flexible sensors are waterproof.
(1) Current range may be limited by sensor size or meter type.
Consult factory for NIST Calibration prices

SENSOR TYPE	CURRENT RANGE		ACCURACY (TYPICAL)	TYPICAL ERROR ON Φ AT (50/60) HZ	MAX CONDUCTOR SIZE	USED WITH MODEL	LIMITED RANGE IF USED WITH MODEL	CATALOG NUMBER
MN93-BK 	(0.5 to 240) AAC		± 1 %	0.8 °	0.78 in (20 mm)	PEL 102 PEL 103 PEL 105 8333 8336 8345	N/A	2140.32
MN193-BK 	100 A	200 mA to 120 AAC	± 1 %	0.75 °	0.78 in (20 mm)	PEL 102 PEL 103 PEL 105 8333 8336 8345	N/A	2140.36
	5 A	5 mA to 6 AAC	± 1 %	1.7 °				
SL261 	100 A	(5 to 100) AAC/DC	± 4 %	± 0.5 °	0.46 in (12 mm)	PEL 102 PEL 103 PEL 105 8333 8336 8345	N/A	1201.51
	10 A	50 mA to 10 AAC/DC	± 3 %	± 1 °				

All current sensors can be used with models PEL 105 and 8436. However, only the MA196-14-BK and 196 A-24-BK flexible sensors are waterproof.
Consult factory for NIST Calibration prices

ACCESSORIES/REPLACEMENTS

CATALOG #1201.51
AC/DC Current Probe
Model SL261 (BNC)

CATALOG #2140.40
BNC Adapter for AC/DC Current Probe
Model SL261

CATALOG #2140.77
Phase Power Adapter for use with
PowerPad Models 8333 & 8336

CATALOG #2137.98
600 V CAT III Power Adapter for use
with Models PEL 102 and PEL 103 only

CATALOG #2140.28
AC/DC Current Probe
Model MR193-BK

CATALOG #2140.32
AC Current Probe
Model MN93-BK

CATALOG #2140.33
AC Current Probe
Model SR193-BK

ACCESSORIES/REPLACEMENTS

CATALOG #2140.34
AmpFlex® Sensor 24 in
Model 193-24-BK

CATALOG #2140.35
AmpFlex® Sensor 36 in
Model 193-36-BK

CATALOG #2140.36
AC Current Probe
Model MN193-BK

CATALOG #2140.48
MiniFlex® Sensor 10 in Model MA193-10-BK

CATALOG #2140.50
MiniFlex® Sensor 14 in Model MA193-14-BK

CATALOG #2140.80
MiniFlex® Sensor 24 in Model MA194-24-BK

CATALOG #2140.75
AmpFlex® Sensor 24 in (Waterproof - IP67)
Model 196A-24-BK

CATALOG #2140.79
MiniFlex® Sensor 14 in Waterproof - IP67)
Model MA196-14-BK

POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS
SELECTION CHART

AEMC MODEL NUMBER	AEMC CATALOG NUMBER	INPUT TERMINALS	CHANNELS	RMS VOLTAGE MAX PHASE-TO-NEUTRAL	RMS VOLTAGE MAX PHASE-TO-PHASE	PEAK VOLTAGE MAX PHASE-TO-NEUTRAL	PEAK VOLTAGE MAX PHASE-TO-PHASE	DC VOLTAGE MAX	AC CURRENT MAX (PROBE DEPENDENT)	DC CURRENT MAX (PROBE DEPENDENT)	RATIOS VOLT	RATIOS AMPERE
8333	2136.10	4 V/3 I	3 V/4 I	1000 Vrms	2000 Vrms	1414 Vpk	2828 Vpk	1200 VDC	10,000 AAC	5000 ADC	Yes	Yes
8336	2136.30	5 V/4 I	4 V/4 I	1000 Vrms	2000 Vrms	1414 Vpk	2828 Vpk	1200 VDC	10,000 AAC	5000 ADC	Yes	Yes
8345	2136.35	5 V/4 I	4 V/4 I	1000 Vrms	2000 Vrms	1414 Vpk	2828 Vpk	1200 VDC	10,000 AAC	5000 ADC	Yes	Yes
8436	2136.43	5 V/4 I	4 V/4 I	1000 Vrms	2000 Vrms	1414 Vpk	2828 Vpk	1200 VDC	10,000 AAC	5000 ADC	Yes	Yes
PEL 52	2137.71	2 V/2 I	2 V/2 I	660 Vrms	1200 Vrms	–	–	–	3600 AAC	–	No	Yes
PEL 102	2137.51	4 V/3 I	3 V/3 I	1000 Vrms	1700 Vrms	1414 Vpk	2400 Vpk	1000 VDC	10,000 AAC	5000 ADC	Yes	Yes
PEL 103	2137.52	4 V/3 I	3 V/3 I	1000 Vrms	1700 Vrms	1414 Vpk	2400 Vpk	1000 VDC	10,000 AAC	5000 ADC	Yes	Yes
PEL 105	2137.57	5 V/4 I	4 V/4 I	1000 Vrms		1414 Vpk	2400 Vpk	1000 VDC	10,000 AAC	5000 ADC	Yes	Yes

AEMC MODEL NUMBER	AEMC CATALOG NUMBER	DISTRIBUTION SYSTEMS	PHASE ROTATION	WAVEFORM MODE	TRANSIENT MODE	TRUE INRUSH MODE/TYPE/ DURATION	ALARM MODE	SNAPSHOT MODE	HARMONIC MODE/ INTERHARMONIC MODE	TYPE LCD	POWER SOURCE
8333	2136.10	1 P-2 W, 2 P-3 W, 3 P-3 W, 3 P-4 W	Yes			No	10 types/ up to 2 active/ 4662 recorded	Yes (12)	Yes / No	TFT - 5.7 in diagonal 320 x 240 resolution	External adapter with internal NiMH battery pack
8336	2136.30	1 P-2 W, 1 P-3 W, 2 P-2 W, 2 P-3 W, 2 P-4 W, 3 P-3 W, 3 P-4 W, 3 P-5 W	Yes			Yes (RMS+PEAK & RMS) up to 1 & 10 min	40 types/ up to 7 active/ 16,362 recorded	Yes (50)	Yes / No	TFT - 5.7 in diagonal 320 x 240 resolution	External adapter with internal NiMH battery pack
8345	2136.35	1 P-2 W, 1 P-3 W, 2 P-2 W, 2 P-3 W, 2 P-4 W, 3 P-3 W, 3 P-4 W, 3 P-5 W	Yes			Yes (RMS+PEAK & RMS) up to 10 & 30 min	40 types/ 20,000 w/ email notificatoins	Yes (no limit with SD card)	DC to 63rd order; < 3 % Udin / 0 to 62nd order; < 0.5 % Udin	7 in color LCD touch screen: 800 x 480 (WVGA)	External adapter with Li-ion battery pack
8436	2136.43	1 P-2 W, 1 P-3 W, 2 P-2 W, 2 P-3 W, 2 P-4 W, 3 P-3 W, 3 P-4 W, 3 P-5 W	Yes			Yes (RMS+PEAK & RMS) up to 1 & 10 min	40 types/ up to 7 active/ 16,362 recorded	Yes (50)	Yes / No	TFT - 5.7 in diagonal 320 x 240 resolution	Line Power with internal NiMH battery pack
PEL 52	2137.71	1 P-2 W, 2 P-3 W, 1 P-3 W	Yes	No					No / No	Monochrome LCD	Power phase input with internal NiMH battery pack
PEL 102	2137.51	1 P-2 W, 1 P-3 W, 3 P-3 W D2, 3 P-3 W 02, 3 P-3 W Y2, 3 P-3 W D3, 3 P-3 W 03, 3 P-3 W Y, 3P-3 W DB, 3 P-4 W Y, 3 P-4 W YB, 3 P-4 W Y2 1/2, 3 P-4 W D, 3 P-4 WOD, DC-2 W DC-3 W, DC-4 W	Yes	No					Yes / No	None	Line Power with internal NiMH battery pack
PEL 103	2137.52		Yes	No					Yes / No	Monochrome LCD	
PEL 105	2137.57		Yes	No					Yes / No	Monochrome LCD	Power phase input or external adapter with internal NiMH battery pack

TEST AND MEASUREMENT (LAB) INSTRUMENTS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE INSTALLATION TESTERS

MODELS CA 6116N & CA 6117

Print reports of all test results / Set instrument parameters and measurement settings on your PC and transfer to the instrument / Retrieve data from the instrument's memory

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MODEL AX503

Rugged and accurate power supplies can handle a direct short without causing damage

SPECIFICATIONS

MODEL	AX503
Number of Outputs	3
VOLTAGE	
Output 1 & 2	(0 to 30) VDC
Output 3 (No display)	(2.7 to 5.5) VDC
Display Resolution	100 mV
Basic Accuracy	± 0.5 % of Reading ± 1 ct
Residual Ripple	± 1 mVrms
LINE REGULATION	
± 10 % Line Voltage	± 0.03 % of Reading ± 2 mV
LOAD REGULATION	
(0 to 2.5) A	± 0.02 % of Reading ± 5 mV
(0 to 5) A	± 0.2 % Reading ± 10 mV
CURRENT	
Output 1 & 2	(0 to 2.5) A
Output 3	5 A max (no adjustment)
Resolution	10 mA
Basic Accuracy	± 0.5 % of Reading ± 1 ct
Limit Indicator	LED, Outputs 1, 2 and 3
Short-Circuit Protection	Electronic current limitation with voltage shutdown
Overheating Protection	Thermal protection
OUTPUT COUPLING	
Tracking	Output 1: Leader/Output 2: Follower Proportional Follower Tracking (0 to 100 % of Leader)
Series Mode	(0 to 60) VDC/(0 to 2.5) A
Parallel Mode	(0 to 30) VDC/(0 to 5) A
Power Supply	110 V, (50/60) Hz (220 V optional)

Consult factory for NIST Calibration prices

FEATURES

- Dual (0 to 30) VDC / (0 to 2.5) A outputs
- 5.5 V / 5 A output
- Series and parallel operation permit (0 to 60) V or (0 to 5) A output
- Low noise (< 1 mV ripple) and stable linear technology for clean output
- High efficiency toroidal transformers: no fan and low electromagnetic emissions
- Active protection against overloads, short circuits and overheating
- Unique variable tracking mode for leader/follower operation: follower or leader track proportionally to the original setting
- Simultaneous display of voltage and current
- Highly visible green (V) and red (A) LED displays

ACCESSORIES/REPLACEMENTS

CATALOG #2117.78

Lead set includes (2) color-coded (red/black) safety leads, (2) color-coded (red/black) alligator clips (1) ground lead (green), and (2) color-coded (red/black) grip probes

MODEL BR07

Bench top decade box that stands up to the task!

SPECIFICATIONS

TYPES	MULTIPLYING FACTOR IN Ω						
	1	10	100	1 k	10 k	100 k	1 M
Accuracy	1 % ± 10 mΩ						
Max Current mADC	700 mA	200 mA	70 mA	20 mA	7 mA	1 mA	0.1 mA

Consult factory for NIST Calibration prices

For more product specifications visit: www.aemc.com/products/decade-boxes/

BR07

ACCESSORIES/REPLACEMENTS

CATALOG #2131.35

Replacement, 6 ft safety lead, 4 mm female to female for Decade Boxes

FEATURES

RESISTANCE DECADE BOX BR07

- Resistance box: 7 decades covering a range from 1 Ω to 11.11111 MΩ
- 11-position switches
- Output via 4 mm safety banana jacks
- Accuracy: 1 % ± 10 mΩ on all ranges

CATALOG NO.	DESCRIPTION
2130.07	DC Power Supply Model AX503 (Triple outputs, two (0 to 2.5) A; (0 to 30) VDC; (2.7 to 5.5) VDC)
2131.25	Resistance Decade Box Model BR07 (x1 Ω, x10 Ω, x100 Ω, x1 kΩ, x10 kΩ, x100 kΩ, x1 MΩ, 1 %)

MODELS CA 6116N & CA 6117

Safety for your electrical installations and high performance with these unique instruments

SPECIFICATIONS

MODELS	CA 6116N	CA 6117
CONTINUITY/RESISTANCE		
I Rated/Range/Resolution	I > 200 mA / 39.99 Ω / 0.01 Ω / ± (1.5 % of measurement + 2 cts); 12 mA / 39.99 Ω & 399.9 Ω / 0.01 & 0.1 Ω / ± (1.5 % of measurement + 5 cts) with beep	
Range/Resolution/Accuracy	4 kΩ / 1 Ω / ± (1.5 % of measurement + 5 cts); (40 to 400 kΩ) / (10 to 100 Ω) / ± (1.5 % of measurement + 2 cts)	
INSULATION		
Rated Voltage	50 VDC,100 VDC, 250 VDC, 500 VDC, 1000 VDC	
Range/Resolution/Accuracy	0.01 MΩ to 2 GΩ / 10 kΩ to 1 MΩ / ± (5 % of measurement + 3 cts)	
Short-Circuit Current	≤ 3 mA	
GROUND RESISTANCE		
3-Point Range/Resolution/Accuracy	(0.50 to 40) Ω / 0.01 Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 2 cts); (15 to 40) kΩ / 10 Ω / ± (10 % of measurement + 2 cts)	
Ufk	Complies with SEV 3569	
1-Point Selective Range/Resolution/Accuracy	(0.20 to 39.99) Ω to (40 to 399.9) Ω / (0.01 to 0.1) Ω / ± (10 % of measurement + 10 cts) (ISel via clamp)	
LOOP IMPEDANCE (Zs (L-PE) & Zi (L-N or L-L)) / 1-POINT LIVE GROUND		
Live Ground Installation Voltage/Frequency	(90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz	
HIGH-CURRENT MODE WITH TRIP Zs (L-PE) & Zi (L-N or L-L)		
Range/Resolution/Accuracy	Max. test current: 7.5 A (0.050) (0.100 to 0.5) Ω / 0.001 Ω / ± (10 % of measurement + 20 cts); (0.5 to 3.999) Ω / 0.001 Ω / ± (5 % of measurement + 20 cts); (3.999 to 39.99) Ω / 0.01 Ω / ± (5 % of measurement + 2 cts); (39.99 to 399.99) Ω / 0.1 Ω / ± (5 % of measurement + 2 cts)	
No TRIP Mode (Zs (L-PE) only)	Test current: (6, 9, or 12) mA (as required) (0.20 to 0.99) Ω / 0.01 Ω / ± (15 % of measurement + 10 cts) (1.00 to 1.99) Ω / 0.01 Ω / ± (15 % of measurement + 3 cts) (2.00 to 39.99) Ω / 0.01 Ω / ± (10 % of measurement + 3 cts) (40.00 to 399.9) Ω / 0.1 Ω / ± (5 % of measurement + 2 cts) (400 to 3999) Ω / 1 Ω / ± (5 % of measurement + 2 cts)	
Calculation of Ik Short-Circuit Current PFC (Zs), I Sc PSCC (Zi)	Fault current and short-circuit current: 0.1 A to 20 kA	
Integrated Fuse Table	–	Yes
Voltage Drop ΔV % (Zi)	–	(-40 to 40) %
Others	Measurement of the resistive and inductive components of the Zs and Zi impedances	
AC & A-TYPE RCDs		
Installation Voltage/Frequency	(90 to 500) V / (15.8 to 17.5) Hz and (45 to 65) Hz	
IΔn	(10/30/100/300/500/650/1000) mA (90 to 280) V or variable – (10/30/100/300/500) mA (280 to 550) V or variable Ramp and pulse test	
No TRIP Test	at ½ IΔn – Duration: 1000 or 2000 ms	
Ramp Mode	0.2 to 0.5 x IΔn (Uf) / 0.3 x IΔn to 1.06 x IΔn in increments of 3.3 % x IΔn	
TRIP TIME MEASUREMENT		
Range/Resolution/Accuracy	(0.50 to 40) Ω / 0.01 Ω / ± (2 % of measurement + 10 cts); 40 Ω to 15 kΩ / (0.1 to 1) Ω / ± (2 % of measurement + 2 cts); (15 to 40) kΩ / 10 Ω / ± (10 % of measurement + 2 cts)	
B-TYPE RCDs		
Installation Voltage/Frequency	–	(90 to 275) V / (15.8 to 17.5) Hz and (45 to 65) Hz
IΔn: Ramp/Pulse 2 x IΔn Pulse 4 x IΔn	–	(10/30/100/300/500) mA and (10/30/100) mA with pulse 4 IΔn Duration: 150 ms with 4 x IΔn or 300 ms with 2 x IΔn
Test in Ramp Mode	–	0.2 x IΔn to 2.2 x IΔn
TRIP Test: 2 x IΔn & 4 x IΔn	–	IΔN ≤ 200 mA: 2.2 x 2 x IΔn IΔN > 200 mA: 1.1 x 2 x IΔn IΔN ≤ 100 mA: 2.2 x 4 x IΔn

Specifications continued on next page.

SPECIFICATIONS - CONTINUED

MODELS	CA 6116N	CA 6117
OTHER MEASUREMENTS		
Current by Clamps C177	5.0 mA to 199.9 A	
Current by Clamp MN77	(1 mA*) 5.0 mA to 19.99 A	
Voltage	(0 to 550) VAC/DC and (15.8 to 500) Hz	
Frequency	(10 to 500) Hz	
Phase Rotation	(20 to 500) VAC	
Active Power	(0 to 110) kW single-phase – (0 to 330) kW three-phase Simultaneous display of voltage and current waveforms	
Harmonics	Voltage and current/up to 50th order / THD-F / THD-R	
GENERAL SPECIFICATIONS		
Display	Large 5.7 in backlit graphic color, LCD screen, 320 x 240 points	
Storage/Communication	Via USB for data transfer and report creation	
Power Supply (rechargeable battery)	Li-ion 10.8 V rated 5.8 A·h	
Battery Life	Up to 30 h	
Dimensions/Weight	(11.02 x 7.48 x 5.04) in (280 x 190 x 128) mm / 4.85 lb (2.2 kg)	
SAFETY		
Safety Rating	IEC 61010 -1/600 V CAT III & 300 V CAT IV/IEC 61557	
Ingress Protection	IP53 / IK04	
EMC	IEC 61326-1	

*If a voltage is connected to the instrument

FEATURES

- Testing according to the international standards: IEC 60364-6, NF C 15-100, VDE 100, XP C 16-600, etc.
- Simple, reliable connection supported by contextual help for each function, including all the connection diagrams
- Suitable for all neutral systems (TT, TN, IT)
- Type-B RCD testing available (Model CA 6117)
- Li-ion battery for a longer battery life
- Measurements: voltage, current via clamp, power, waveforms and harmonics
- Measurement of voltage drop for correct sizing of conductor diameters
- Loop measurement with 1 mΩ resolution
- 3-level storage
- Includes DataView® analysis software for programming, downloading, storing and report generation of test data
- Integrated fuse table for quick reading of the results on the instrument

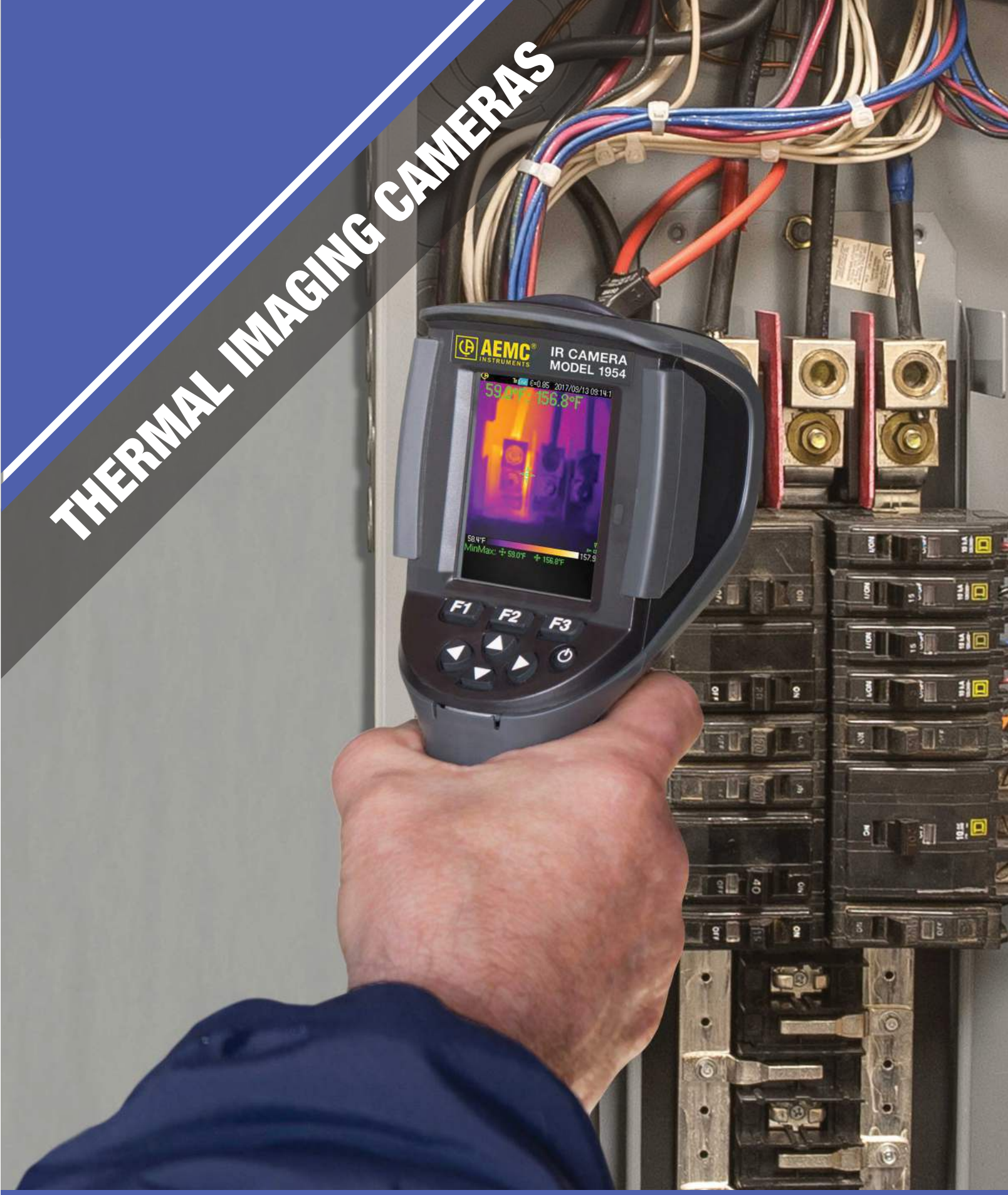
PRODUCT INCLUDES

Carrying bag, US power cord and charger, Li-ion battery pack, USB A/B cable, set of (3) 3-prong color-coded (red, blue, green) safety voltage leads, set of (3) color-coded (red, blue, green) test probes, set of (3) color-coded (red/blue/green) alligator clips, set of (2) color-coded (red/black) safety leads 4 mm straight plug, 3-prong US measurement cord, remote test probe, wrist strap, hands-free strap, multilingual safety card, and a USB drive with DataView® software and user manual.

SPECIAL ORDERS ONLY

CATALOG NO.	DESCRIPTION
2138.06	Multi-Function Installation Tester Model CA 6116N (US) (includes DataView® Software) - SPECIAL ORDER ONLY
2138.07	Multi-Function Installation Tester Model CA 6117 (US) (includes DataView® Software) - SPECIAL ORDER ONLY
2138.10	Multi-Function Installation Tester Model CA 6116N Kit (US) (includes C177A, DataView® Software) - SPECIAL ORDER ONLY
2138.11	Multi-Function Installation Tester Model CA 6117 Kit (US) (includes C177A, DataView® Software) - SPECIAL ORDER ONLY

THERMAL IMAGING CAMERAS



SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

MODEL 1954

Versatile tool for performing infrared thermography

Indispensable means for ensuring safety in industrial application

THERMO RESOLUTION
(120 X 160) Pixels

SPECIFICATIONS

MODEL	1954
IR DETECTOR	
Type	UFPA microbolometer
Spectral Range	8~14 µm
Resolution	(120 x 160) pixels
IMAGING PERFORMANCE	
NETD	80 mK @ 86 °F (30 °C)
Frequency	9 Hz
Field of View	28 ° x 38 °
IFOV (spatial resolution)	4.1 mrad
Minimal Focal Distance	0.98 ft (0.3 m), fixed focus
FOCUSING	
Adjustment	Fixed
VISUAL IMAGE	
Resolution	(480 x 640) pixels
Minimal Focal Distance	2 in (5 cm), fixed focus
PRESENTATION OF IMAGES	
Images Displayed	Infrared image, visual image with automatic parallax compensation. Merging of both images is possible with included PC software
LCD Screen	2.8 in (7.1 cm)
Display Colors	Pseudo-colors, multiple palettes
LASER POINTER	
Type	Class 2 645-655 nm power: 1 mW
FUNCTIONS	
Image Freezing	Animated or fixed image
Data Storage	2 GB Micro SD card included (approx. 4,000 images) Replaceable with up to 32 GB SD card
MEASUREMENT	
Temperature Range	(-4 to 482) °F (-20° to 250) °C
Accuracy	± 3.6 °F (± 2 °C) or ± 2 % of reading
ANALYSIS FUNCTIONS	
Measurement Tools	Manual cursor, automatic detection, min/max/avg on adjustable area, temperature profile, and isotherm
Adjustment	Automatic or manual adjustment palette min-max
Parameter Settings	Emissivity, environmental temperature, distance, and relative humidity
Isotherm Display	Color display of a temperature range adjustable by the user
Voice Recordings	via Bluetooth headset (included)
ENVIRONMENTAL	
Operating Temperature	(-4 to 122) °F (-15 to 50) °C; 95 % RH
Storage Temperature	(-40 to 158) °F (-40 to 70) °C
Humidity	(10 to 95) %
Drop Resistance	6 ft (2 m) on all sides
Impact Resistance	25 G
Vibration Resistance	2 G
GENERAL	
Start Up	Less than 10 seconds
Power Supply	(4) AA NiMH rechargeable batteries with external charger included
Laser/Output/Wavelength	Class 2 / < 1 mW / 645-655 nm
Tripod Mounting	1/4 in insert on camera (tripod not included)
Battery Life	9 h typical (7 h minimum)
Dimensions/Weight	(8.86 x 4.92 x 3.27) in (225 x 125 x 83) mm / 24.7 oz (700 g) with rechargeable batteries
Bluetooth Communication	407, 607 clamps, DMMs MTX 3292B-BT and MTX 3293B-BT and logger models 1110, 1200 and 1800 Series
Safety Rating	EN 61326-1: 2006, EN 61010-1 Ed.02

Consult factory for NIST Calibration prices

FEATURES

- Focus-free with 28 ° x 38 ° field of view
- Automatic brightness control
- Exceptionally long battery life
- Quick startup in less than 10 seconds
- User configurable emissivity table
- User configurable cursor and trigger functions
- User selectable color palette
- Captures thermal and real image simultaneously
- Verbally record your comments directly to the image using included Bluetooth headset
- Wirelessly connect to AEMC® Instruments Clamp-on Meters, Multimeters, and Environmental Meters and record their measurements simultaneously with your thermograms
- Comprehensive CAmReport® software included that offers all the necessary functions for reliable analysis of the measurement results and report generation

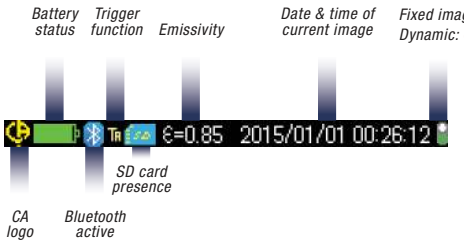
ACCESSORIES/REPLACEMENTS

CATALOG #2121.60
Carrying case with foam insert

CATALOG #2126.49
USB cable Type A to 5-pin Mini-B

DISPLAY & MENU CONTENTS

STATUS BAR



MENU

Selectable using navigation keys

CONTEXTUAL HELP

This display area updates based on the menu item selected

FUNCTION KEYS

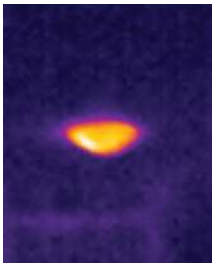
Linked to selected menu choice or camera image

A comprehensive set of easy access menus are available on screen. You can use the function and navigation keys to easily configure the camera for your specific needs. Trigger functions can be programmed, color palettes can be selected, cursor tools can be configured as well as environmental conditions including ambient temperature and humidity, distance and emissivity.

SELECTABLE CURSOR TOOLS

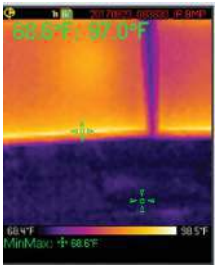
User programmable cursors provide a comprehensive set of options for evaluating thermal profiles

NONE



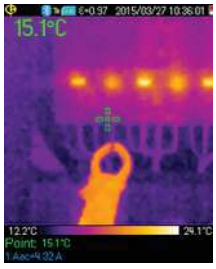
No cursor display, temperature evaluation is determined by color palette only.

MIN/MAX



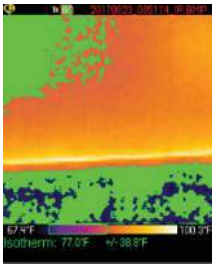
Automatically displays the cold and hot spot values at the Min and Max cursor positions.

POINT



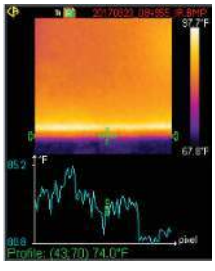
Displays the value at the cursor. Cursor is movable using the navigation keys.

ISOTHERM



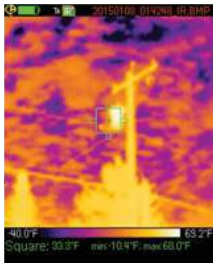
Displays points that fall in the same temperature range in the same color. User picks green, red or brown as the display color and defines the range and tolerance.

PROFILE



Displays the temperature profile of a horizontal line defined by the cursor. Cursor can be moved along the line to get an individual temperature.

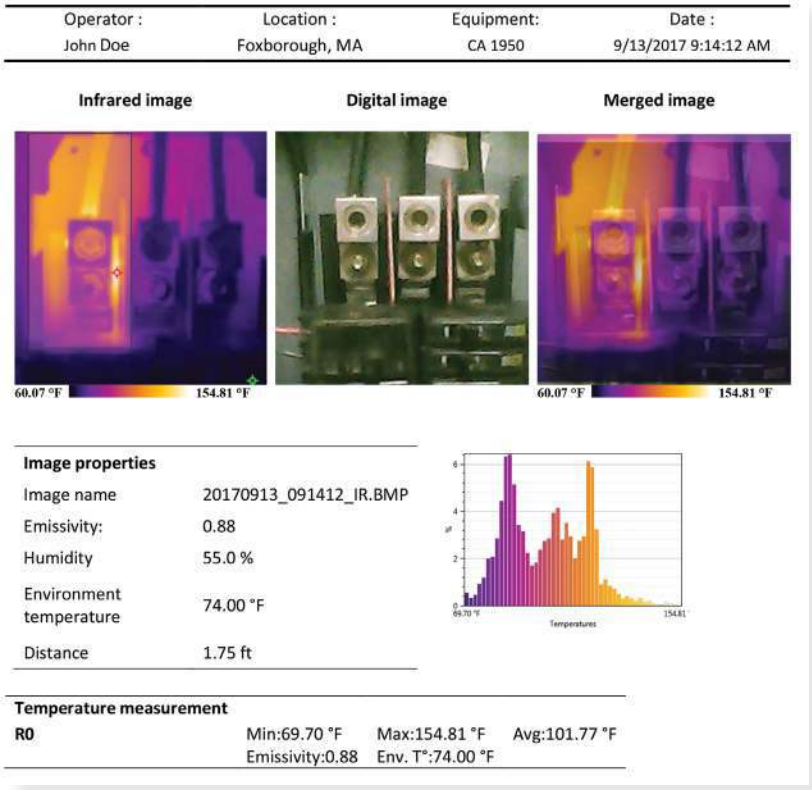
SQUARE



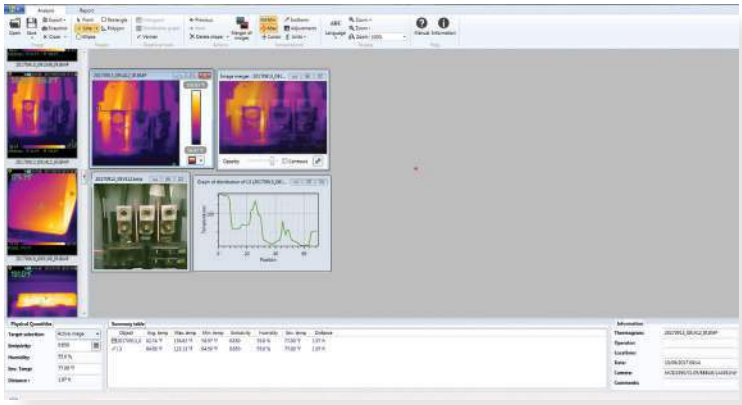
Displays the Min/Max and mean values within the box. Box size and location is user adjustable.

CAmReport® SOFTWARE FOR ANALYZING THERMOGRAMS

This comprehensive software offers all the necessary functions for effective analysis of the measurement results and report generation



Report creation is automatic, using one of three available templates.
Reports can be exported in Word or PDF format making it simple to print and/or archive them.



Typical analysis tab screen

FEATURES

- Transfer measurements from your camera to the software by USB cable, or transportable SD card
- Drag-and-drop measurement images from the storage directory to the analysis window in the software
- Includes thermal and real images automatically
- Superimpose thermal images over real images for better visual analytical results
- Locate Min/Max and mean temperatures of the image or an area of the image
- User selectable color palette from seven different types
- Summary table automatically displays environmental parameters and statistical results of the measurement
- Include dictated audio comments into the report with the Bluetooth headset
- Includes multiple analytical tools for assessing thermal images
- Manually enter measurement analysis findings, site characteristics and operator information to your report
- Add graphics such as logos to your reports
- Correct the measurement results using built-in or user configured emissivity tables
- Include multiple measurements in any report
- Save reports as a Word or PDF document

PRODUCT INCLUDES

Carrying case, USB cable, external battery charger, (4) NiMH rechargeable batteries, micro SD card with adapter, Bluetooth headset, printed quick start guide, and a USB drive with CAmReport software, and user and software manuals.

CATALOG NO.	DESCRIPTION
2121.41	Thermal Imaging IR Camera Model 1954 (Resolution 120 x 160)

TRANSFORMER RATIOMETERS

AUTOMATIC REPORT GENERATION

DataView®
DATA ANALYSIS AND REPORTING SOFTWARE

! SEE PAGE 133 FOR MORE INFO ON DATAVIEW® SOFTWARE

CONFIGURE TRANSFORMER RATIOMETERS

DTR® MODEL 8510

Display and analyze data on your PC computer / Configure functions and parameters from your PC / Customize views, templates, and reports to your exact needs / Create and store a complete library of configurations that can be uploaded to the instrument / Print reports using standard or custom templates

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

DTR® MODEL 8510

Designed for on-site testing of power, potential and current transformers

SPECIFICATIONS

MODEL	DTR® 8510
VT/PT Ratio Range	Auto-Ranging 0.8000:1 to 8000:1
CT Ratio Range	Auto-Ranging 0.8000 to 1000.0
Accuracy*	Ratio 0.8000 to 9.9999 ± 0.2 % of Reading Ratio 10.000 to 999.99 ± 0.1 % of Reading Ratio 1000.0 to 4999.9 ± 0.2 % of Reading Ratio 5000.0 to 8000.0 ± 0.25 % of Reading
Excitation Signal	VT/PT Mode: 32 Vrms maximum CT Mode: (0 to 1) A, (0.1 to 4.5) Vrms
Excitation Current Display	Range: (0 to 1000) mA; Accuracy: ± 2 % of Reading ± 2 mA
Excitation Frequency	70 Hz
Measurement Method	In accordance with ANSI/IEEE C57.12.90™-2006
Display	LCD 16 character, 2 line, large format, LED backlight, day/night visible
Languages Supported	English, Spanish, French, Italian, German, Portuguese
Communication	Optically isolated USB 2.0
Data Storage	Stores up to 10,000 complete measurements
Power Supply	(2) rechargeable 12 V NiMH batteries *(included)*
External Charger	(90/240) V, (50/60) Hz (smart charger)
Battery Life	Up to 10 h continuous operation; May not be used while recharging; Low battery LED/LCD indication
Charging Time	< 4 h
SAFETY	
Safety Rating / IP	EN 61010-1; 50 V CAT IV / IP54 (cover closed)

Reference Condition: *(23 ± 5) °C, (50 to 70) % RH, full battery charge, no external fields or noise.

Consult factory for NIST Calibration prices

DataView®

50V CAT IV RATING

IP 54

cover closed

FEATURES

- Measures power transformers, VT/PTs and current transformer CT turns ratios
- Displays turn ratio, excitation current, winding polarity and % deviation from the nameplate values
- Universal voltage (90/240) V supply, (50/60) Hz via external smart/fast battery charger; completely charge in less than 4 hours
- Two internal NiMH batteries provide up to 10 hours of continuous operation
- Tests performed by exciting the primary and reading the secondary – provides safer conditions for the operator
- Display warns of incorrect lead connection, reverse polarity, open and short circuits
- Easy connection and test setup; no calibration or balancing required
- Large dual display with adjustable contrast ensures clearer visibility in any lighting environment day or night
- Low battery indicator
- Stores up to 10,000 test results in internal memory
- USB port facilitates configuring the instrument and downloading test results
- Includes DataView® analysis software for programming, downloading, storing and report generation of test data

PRODUCT INCLUDES

Soft carrying case, set of (2) 15 ft black leads, set of (2) color-coded (red/black) alligator clips, 10 ft USB cable, external battery charger (90-264 VAC, (50/60) Hz), NiMH batteries (installed), 115 V power cord, and USB drive with DataView® software and user manual.

ACCESSORIES/REPLACEMENTS

CATALOG #2136.76
Set of (2) leads, 30 ft for DTR®

CATALOG #2136.77
Set of (2) leads, 15 ft for DTR® (Replacement)

CATALOG NO.	DESCRIPTION
2136.50	Digital Transformer Ratiometer DTR® Model 8510 (110 V/220 V)

DATAVIEW® DATA ANALYSIS & REPORTING SOFTWARE

- LOCAL & REMOTE COMMUNICATIONS
- CONFIGURE
- DOWNLOAD AND STORE RECORDED DATA
- ANALYZE
- ANNOTATE
- CREATE STANDARD AND CUSTOM REPORTS

The DataView® software platform designed and developed by AEMC® Instruments, is a comprehensive and powerful analytical and reporting tool used in conjunction with our broad line of electrical test instruments. Our goal in developing this unique software package was to make available one application compatible with any of our instruments that requires software, making it easier for the end-user who operates different AEMC® Instruments products. In this way, learning and using the software does not change with the instrument in use.

We also implemented it in such a way that it will be backward compatible with older instruments even as new versions are released and new innovative instruments are supported. Plus, we supply it free with each instrument purchased, and upgrades when released are always free.

INSTRUMENTS EQUIPPED WITH DATAVIEW® SOFTWARE:

CLAMP-ON METERS
MODELS 407, 607

DATA LOGGERS
MODELS L261, L562, DL913, DL914 & L452

ENVIRONMENTAL INSTRUMENTS
MODELS 1110, 1246, 1821, 1822, 1823 & 1510

GROUND TESTERS
MODELS 6417, 6471 & 6472

MEGOHMMETERS
MODELS 1060, 5060, 5070, 6526, 6534, 6550, 6555, CA 6116 & CA 6117

MICRO-OHMMETERS
MODELS 6240, 6255 & 6292

POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS
MODELS PEL 52, 102, 103, 105, 8333, 8336, 8345 & 8436

TRANSFORMER RATIOMETER
MODEL 8510

SEE WEBSITE FOR PRICING AND AVAILABILITY: WWW.AEMC.COM

DataView®

DATAVIEW® DATA ANALYSIS AND REPORTING SOFTWARE

DataView® automatically recognizes a device when it is connected to a PC and starts the corresponding menu providing direct access to a device's recorded data. An end-user can access predefined reports with full safety compliance to current standards for quick editing. They can also define and save their own configured reports, views, etc. as well as the instrument according to their needs saving significant time in the field.

STANDARD DATAVIEW® FUNCTIONS

For All Applicable Instruments:

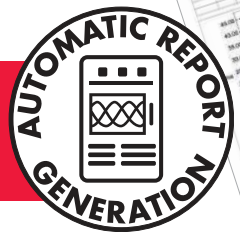
- Capture, display and analyze real-time data on your PC
- Easily configure all functions and parameters specific to each instrument from your PC
- Create and store a complete library of configurations that can be uploaded to a device as needed
- Create custom views, templates, and reports to your exact needs
- Zoom in and out and pan through sections of graphs to analyze the data
- View measurements in real-time (model specific), download, display and analyze recorded and stored data
- Display waveforms, trend graphs, harmonic spectrums, text summaries, transients, event logs and stored alarms
- Print all test result reports using our standard report templates or your custom templates
- Free updates available from the help menu on your instrument or on our website: **www.aemc.com/resources**

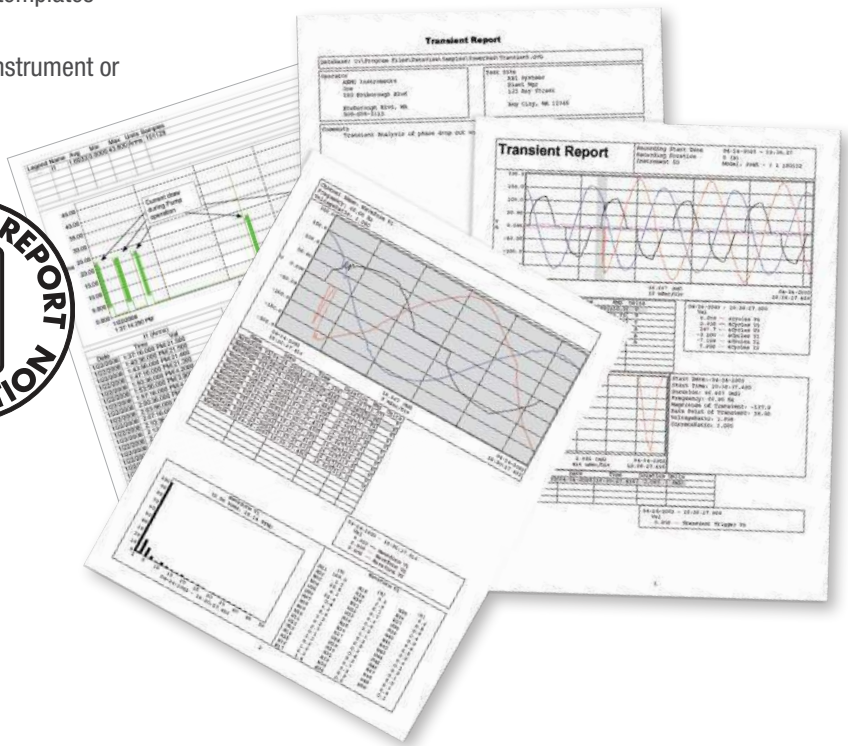
ADDITIONAL DATAVIEW® FUNCTIONS

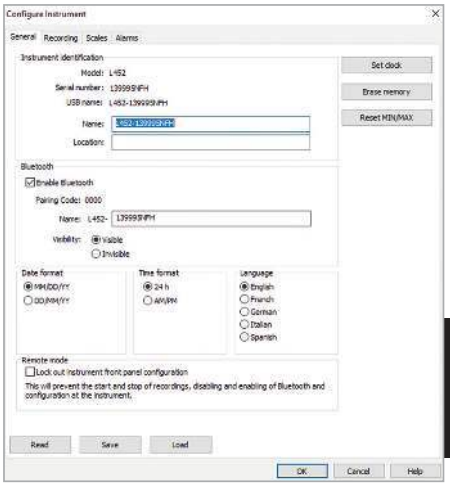
For Meghommeters:

- Select test voltage and run tests from your computer with a simple click and execute process
- Retrieve data from the instruments' memory for:
  - Over 1500 insulation resistance measurements
  - Over 4000 resistance measurements
- Display DAR and PI ratios
- Plot graphs of manual and timed tests
- Include your analysis comments section with the report
- Store a library of setups for different applications
- Certification of results through report generation

AUTOMATIC REPORT GENERATION
Easily create reports from an instrument with the click of a button.







Reports can be displayed on a PC and printed. Each report includes all test results in a tabular and graphic format, as well as operator and test site information. Comments typed by the operator will also be included.

INSTRUMENTS SUPPORTED BY DATAVIEW®

- Power Quality/Energy, Analyzers, Meters & Loggers
- Ground Resistance Testers
- Insulation Resistance Testers
- Low Resistance Micro-Ohmmeters
- Transformer Ratiometers
- Data Loggers
- Environmental Loggers
- Clamp-on Meters
- Installation Testers

COMMUNICATION

- USB
- Wi-Fi
- Bluetooth
- Ethernet

LOCAL & REMOTE REAL-TIME MONITORING

- Single Instrument
- Multiple Instruments

DATA ANALYSIS

- Zoom in and out to identify important data points
- Annotation and labeling of data points
- Tracking Min, Max, Peak and Average values
- Object linking and embedding

INSTRUMENT CONFIGURATION

- User defined
- Load from stored configurations
- Save new configurations

DATA RETRIEVAL AND STORAGE

- Direct connect to the instrument
- Transfer from SD card
- Over the internet
- From local area network

REPORT GENERATION

- Predefined report templates
- Customizable report templates
- Data Export to other formats (Excel, .csv)
- Creation of PDF files

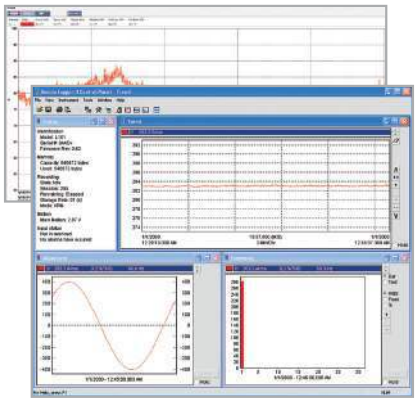
DataView®

DATAVIEW® DATA ANALYSIS AND REPORTING SOFTWARE

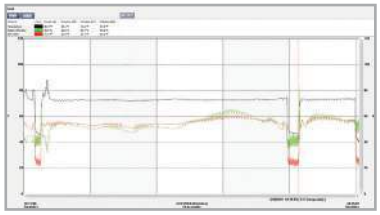
TYPICAL DATAVIEW® DIGITAL AND GRAPHIC DISPLAYS

CLEAR AND SIMPLE SETUP OF ALL FUNCTIONS AND SETTINGS FROM ONE TABBED DIALOG BOX

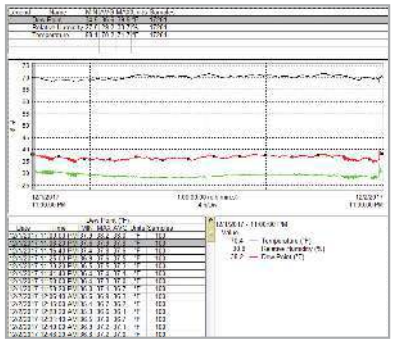
DATA LOGGERS



ENVIRONMENTAL



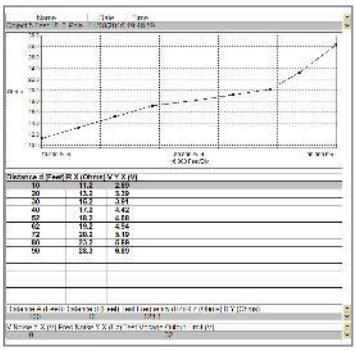
Recorded data displays recorded measurements vs. time as well as min, max, and average measurements for the recording. A movable cursor lets you see values at the cursor location.



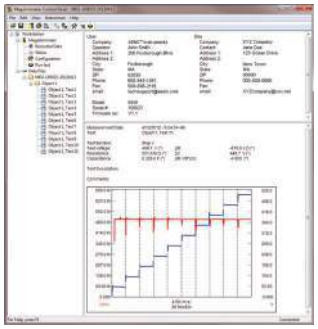
A typical report will include a plot of the data as well as a listing of the measurements

A report cover sheet provides information about the operator, test site and a comment section to type in the test results and recommendations.

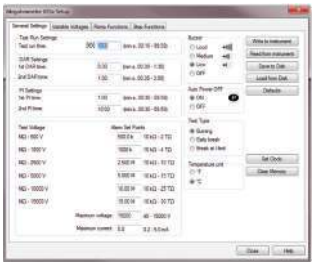
GROUND TESTERS



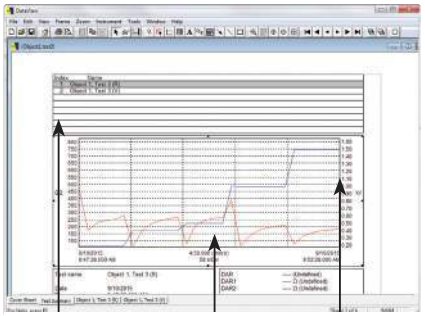
MEGOHMMETERS



All stored test results presented on screen



Clear and straightforward set up of parameters



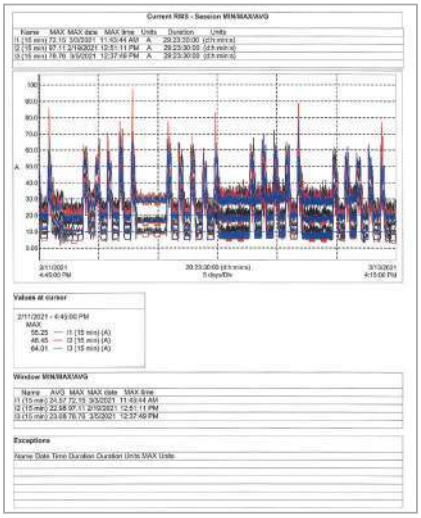
Run test and display text and graphical results from one dialog box. Model 5070 also displays step voltage.

Test result status box displays complete test results in real-time

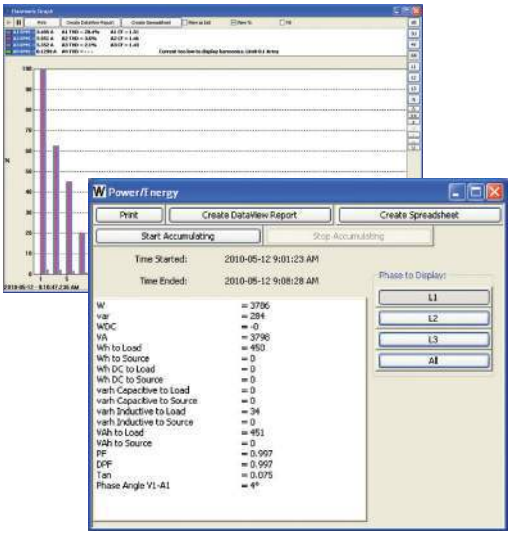
Step voltage during the test run

Insulation resistance with temperature compensation

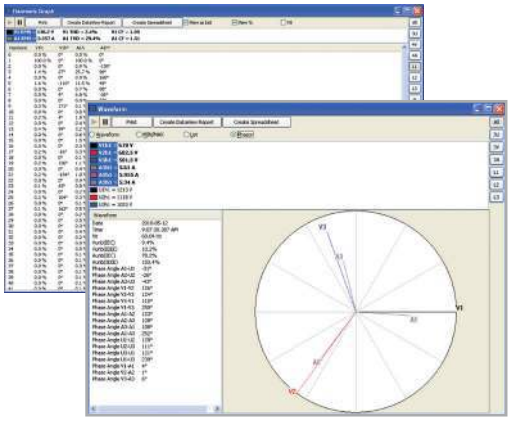
POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS



Display report waveforms by phase, parameter or total



Display harmonics in a text table from harmonic 0 (DC) through the 50th

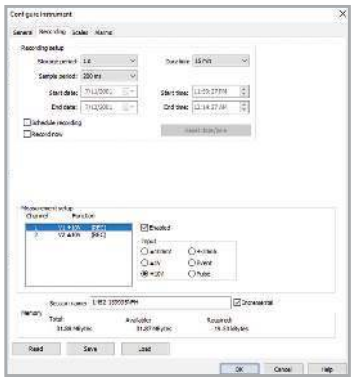


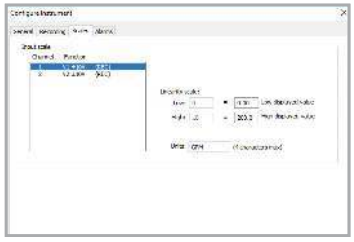
Display real-time phasor diagrams with phase angles

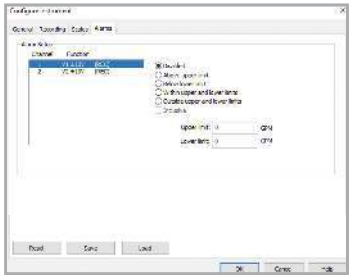
TYPICAL DATAVIEW® FUNCTIONAL DISPLAYS

CLEAR AND SIMPLE SETUP OF ALL FUNCTIONS AND SETTINGS FROM ONE TABBED DIALOG BOX

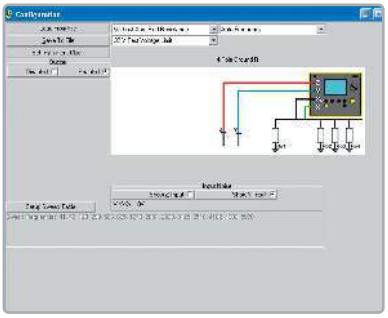
DATA LOGGERS





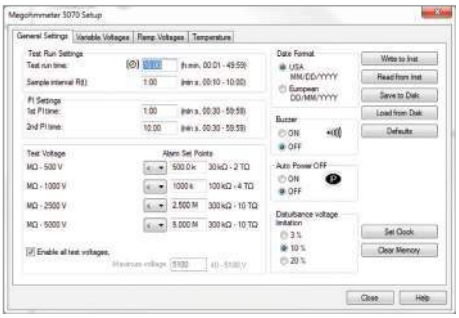


GROUND TESTERS



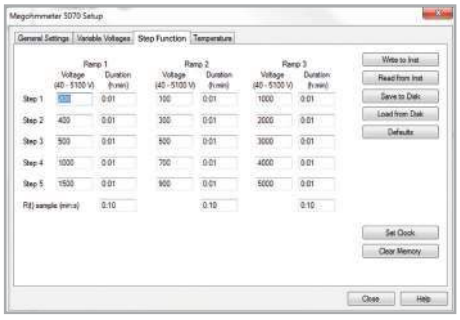
Configure and control ground resistance tests from your computer through the use of clear and easy-to-use tabbed dialog boxes. All Ground Tester functions can be configured and tests can be initiated with graphical illustration of the proper connections

MEGOHMMETERS



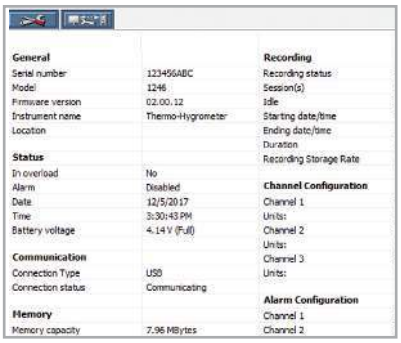
Tabbed dialog boxes allow for clear and easy setup of all functions of the Megohmmeters, including setup for variable voltage and alarm set points, as well as step voltage tests and temperature compensation

Variable Voltage selections from (40 to 5100) V and can also be programmed along with alarm set points (model dependent)



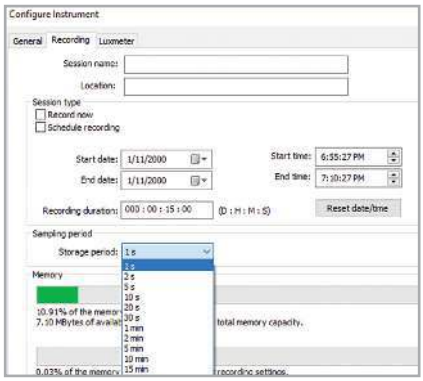
Model 5070 includes Step Function which allows programming of three different ramp test profiles, each containing up to five voltage steps between (40 to 5100) V and time per step of up to 10 hours

ENVIRONMENTAL



General		**Recording**
Serial number	123456ABC	Recording status
Model	1246	Session(s)
Firmware version	02.00.12	Idle
Instrument name	Thermo-Hygrometer	Starting date/time
Location		Ending date/time
		Duration
Status		Recording Storage Rate
In overload	No	
Alarm	Disabled	**Channel Configuration**
Date	12/5/2017	Channel 1
Time	3:30:43 PM	Units:
Battery voltage	4.14 V (Full)	Channel 2
		Units:
Communication		Channel 3
Connection Type	USB	Units:
Connection status	Communicating	
		Alarm Configuration
Memory		Channel 1
Memory capacity	7.96 MBytes	Channel 2

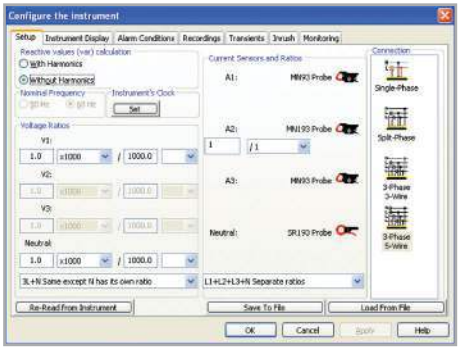
Typical status screen showing the current state of the instrument



The recording configuration screen provides the ability to assign a name & location to the recording session, set the retrieval rate, and schedule when recordings will start and stop. It also displays memory usage

Other screens allow for the selection of measurement units, alarm set points, and other user selectable parameters.

POWER QUALITY / ENERGY ANALYZERS, METERS & LOGGERS



Configure alarms, inrush and transient capture, network configuration, recording storage rate and length and more.

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UNDERSTANDING GROUND RESISTANCE TESTING

For field engineers, technicians, utility engineers, supervisors, electricians and inspectors interested in testing and grounding systems.

KEY TOPICS INCLUDE

- Soil resistivity
- Bond resistance
- Ground resistance
  - 3 and 4 Point Fall-of-Potential testing
  - Clamp-on testing
  - Alternate test methods
- NEC 250 requirements, NFPA 780 Lightning Protection Standards and IEEE Green Book standards discussed in depth
- Continuity testing in common ground systems required by multiple standards
- Create plots and reports

UNDERSTANDING INSULATION RESISTANCE TESTING

For technicians, supervisors, electricians, plant maintenance personnel and inspectors interested in insulation resistance testing on motors, cables, transformers and other electrical equipment.

KEY TOPICS INCLUDE

- Insulation test theory
- Insulation testing on motors, cables, and transformers
- Spot testing
- Timed testing
- DAR (Dielectric Absorption Ratio), PI (Polarization Index), DD (Dielectric Discharge)
- Temperature correction
- Report generation

UNDERSTANDING POWER QUALITY

For engineers, technicians, supervisors, electricians, plant maintenance personnel and inspectors interested in monitoring, recording and analyzing power quality and energy monitoring.

KEY TOPICS INCLUDE

- Symptoms and problems associated with poor Power Quality
- Measuring common voltage disturbances and transients
- Harmonic Analysis - causes and how to measure harmonics
- Bonding issues and their relationship with Power Quality
- Power Factor - measuring and understanding its importance to power quality.
- IEEE Emerald Book standards discussed in depth

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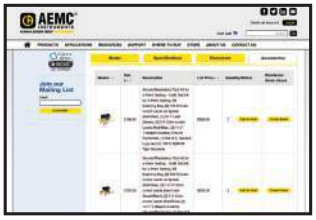

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ANALYZER, METER AND DATA LOGGER

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MODEL PEL 52
POWER/ENERGY QUALITY ANALYZER
METER AND DATA LOGGER

PAGES 114-115

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