

AEMC® offers a full line of megohmmeters with test voltages from 50 to 5000V, instrument dependent, capable of measuring insulation resistances from 1000Ω to 10TΩ. These rugged, weather resistant meters are accurate, reliable and built to perform. Battery, AC powered and hand-cranked models are available.

## Understanding Insulation Resistance Testing

### Why have an insulation testing program?

A regular program of testing insulation resistance is strongly recommended to prevent electrical shocks, assure safety of personnel and to reduce or eliminate down time. It helps to detect deterioration of insulation in order to schedule repair work such as: vacuum cleaning, steam cleaning, drying and rewinding. It is also helpful when evaluating the quality of the repairs before the equipment is put back into operation.

### What causes insulation failure?

Some of the more common causes of insulation failure include: excessive heat or cold, moisture, dirt, corrosive vapors, oil, vibration, aging and nicked wiring.

### What tests are used to detect insulation deterioration?

There are numerous maintenance tests for assessing insulation quality. The three tests primarily used to test motor, generator and transformer insulation are: polarization index, spot reading and step voltage.

### What equipment is necessary for conducting insulation resistance tests?

- Megohmmeter with a timed test function
- Temperature indicator
- Humidity meter (not necessary if equipment temperature is above the dew point)

## Four questions for selecting the proper megohmmeter

- What is the proper voltage range? (typically 2x equipment operating voltage)
- What is the desired power source? (battery, AC powered, hand-cranked)
- What is the resistance range of interest? (MΩ, GΩ, TΩ)
- What type of display is preferred? Analog (best for trend analysis), or Digital (eliminate guesswork), or both?



Model 1250N performing a hand-cranked 1000V test on a generator.



Model 5070 performing insulation test on a generator.



Range selection is easy to accomplish with the large positive action rotary switch on the front panel.

## Applications

- Motors (AC and DC), transformers, cables, switchgears and electrical wiring installations
- Test industrial commercial wiring and motor control centers
- Acceptance testing and preventive maintenance
- Domestic and industrial contracting
- Dielectric Absorption Ratio (DAR) and Polarization Index (PI) measurements
- Spot reading tests
- High resistance or absorption tests
- Timed resistance measurements
- Low insulation test range for testing old or flooded installations
- Drying out conductors
- Continuity checks
- Cable testing (including telecom)
- Test transformers
- Heaters, relays, circuit breakers

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For full product specifications, data sheets and testing information, please visit the Tech Info link on our website at [www.aemc.com](http://www.aemc.com)

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**50V and 100V Megohmmeters**  
AEMC offers low voltage insulation testers designed for both field and shop use. They are well suited for measuring the qualities of phone cables, data cables and power cables. Measurement of AC and DC voltage, resistance, continuity, cable capacitance, cable length (Model 1039) and AC current can also be performed.

**500V Megohmmeters**  
AEMC offers a complete line of insulation testers designed to test the quality of insulation on equipment powered from sources up to 240V using test voltages up to 500V. Both analog and digital meters are available. AC powered, battery powered and hand-cranked models are available. Measurements can be in the MΩ, GΩ and TΩ range. Most models offer multi-function capability, measuring AC/DC volts, resistance and continuity, as well as insulation resistance.

**1000V Megohmmeters**  
AEMC offers a complete line of insulation testers designed to test the quality of insulation using 1000V test voltage required for testing equipment powered from sources up to 480V<sub>ac</sub>. Both analog and digital meters are available. AC powered, battery powered and hand-cranked models are available. Many models will measure into the GΩ and TΩ range. Most models offer multi-function capability, measuring AC/DC volts, resistance and continuity, as well as insulation resistance. Both hand-held instruments and rugged instruments built into portable cases are available.

**5000V Megohmmeters**  
AEMC offers a complete line of insulation testers designed to test the quality of insulation using 5000V test voltages required for testing large motors, generators, transformers, cables and other large rotating machinery. Both analog and digital meters are available. AC powered and battery powered models are available. Most models will measure into the GΩ and TΩ ranges. All models offer multifunction capability, measuring AC/DC volts, resistance and continuity, as well as insulation resistance. Both hand-held instruments and rugged instruments built into portable cases are available.

**Software**  
Models 1060, 5060 and 5070 are supplied with DataView® software, which provides a convenient way to configure and control Megohmmeter tests from your computer. Through the use of two clear and easy-to-use dialog boxes, all functions of the Models 1060, 5060 and 5070 can be configured and tests can be initiated from the PC. Results can be displayed in real time and stored in your PC. Direct reports can be printed along with the operators comments and analysis.

Note: Product image size not proportionate.



**1000V Digital/Analog Megohmmeter Model 1050**



Test Voltage	50, 100, 250, 500, 1000V
Insulation Range	2KΩ to 4000GΩ (4TΩ)
Other Measurements	DAR, PI & Capacitance
Resistance Range	0.1Ω - 400kΩ
Continuity Range	0.01 - 39.99Ω
Voltage Test	1000V <sub>ac/dc</sub>
Power Source	Eight 1.5V C batteries
Display	Digital/analog bargraph/backlight
Software/RS-232	—
Dimensions	9.45 x 7.28 x 4.33"
Weight	7.5 lbs
Catalog No.	2130.01

**1000V Digital/Analog Megohmmeter Model 1060 with computer interface & control**



Test Voltage	50, 100, 250, 500, 1000V
Insulation Range	2KΩ to 4000GΩ 4TΩ)
Other Measurements	DAR, PI & Capacitance
Resistance Range	0.1Ω - 400kΩ
Continuity Range	0.01 - 39.99Ω
Voltage Test	1000V <sub>ac/dc</sub>
Power Source	NiMH battery or AC
Display	Digital/analog bargraph/backlight
Software/RS-232	DataView®
Dimensions	9.45 x 7.28 x 4.33"
Weight	7.5 lbs
Catalog No.	2130.03

**500V Digital/Analog Megohmmeter Model 1030**



Test Voltage	250, 500V <sub>dc</sub>
Insulation Range	50KΩ to 2000MΩ (2GΩ)
Resistance Range	—
Continuity Range	20Ω
Voltage Measurement	600V <sub>ac/dc</sub>
Power Source	Six 1.5V AA batteries
Display	Digital/analog bargraph
Other	Test inhibition >25V
Dimensions	8.31 x 4.26 x 2.36"
Weight	1.81 lbs
Catalog No.	2116.89

**1000V Digital/Analog Megohmmeter Model 1040**



Test Voltage	500, 1000V <sub>dc</sub>
Insulation Range	100KΩ to 2000MΩ (2GΩ)
Resistance Range	400kΩ
Continuity Range	20Ω
Voltage Measurement	600V <sub>ac/dc</sub>
Power Source	Six 1.5V AA batteries
Display	Digital/analog bargraph/backlight
Other	Alarm set points
Dimensions	8.31 x 4.26 x 2.36"
Weight	1.81 lbs
Catalog No.	2116.92

Model 1040 also available as a kit (2117.30)

**1000V Digital/Analog Megohmmeter Model 1045**



Test Voltage	250, 500, 1000V <sub>dc</sub>
Insulation Range	50KΩ to 2000MΩ (2GΩ)
Resistance Range	400kΩ
Continuity Range	20Ω
Voltage Measurement	600V <sub>ac/dc</sub>
Power Source	Six 1.5V AA batteries
Display	Digital/analog bargraph/backlight
Other	Alarm & timer
Dimensions	8.31 x 4.26 x 2.36"
Weight	1.81 lbs
Catalog No.	2116.93

Model 1045 also available as a kit (2117.31)

**50/100V Multi-Function Telecom Cable Tester Model 1039**



Test Voltage	50, 100V <sub>dc</sub>
Insulation Range	10KΩ to 400MΩ
Resistance Range	40kΩ
Current Range	0 to 399.9mA <sub>ac/dc</sub>
Cable Length/Capacitance	0 to 399.9nF
Voltage Measurement	600V <sub>ac/dc</sub>
Power Source	Six 1.5V AA batteries
Display	Digital/analog bargraph/backlight
Other	Alarm & Δ relative
Dimensions	8.31 x 4.26 x 2.36"
Weight	1.81 lbs
Catalog No.	2116.91

Model 1039 also available as a kit (2115.43)

**500V Multi-Function Field Kits Telecom Cable Tester Model 1035**



Test Voltage	50, 100, 250, 500V <sub>dc</sub>
Insulation Range	10KΩ to 20,000MΩ (20GΩ)
Resistance Range	400kΩ
Continuity Range	—
Voltage Measurement	600V <sub>ac/dc</sub>
Power Source	Six 1.5V AA batteries
Display	Digital/analog bargraph/backlight
Other	Alarm & Δ relative
Dimensions	8.31 x 4.26 x 2.36"
Weight	1.81 lbs
Catalog No.	2116.90

Model 1035 also available as a kit (2115.42)



The hand-held digital/analog megohmmeters and cable testers (Models 1035, 1039, 1040 and 1045) are each available as a field kit. The kits include the meter, waterproof field case, color-coded leads, test probe, alligator clips, remote test probe and user manual. The Model 1039 kit also includes an AC Current Probe.

**5000V Digital/Analog Megohmmeter Model 5050**



Test Voltage	500, 1000, 2500, 5000V
Insulation Range	30KΩ - 10,000GΩ (10TΩ)
Other Measurements	DAR, PI, DD & Capacitance
Dielectric Discharge	9.999
Leakage Current	3mA
Voltage Test	1000V <sub>ac/dc</sub>
Power Source	NiMH batteries or AC
Display	Digital/analog bargraph/backlight
Software/RS-232	—
Dimensions	10.63 x 9.84 x 7.09"
Weight	7.7 lbs
Catalog No.	2130.20

**5000V Digital/Analog Megohmmeter Model 5060 with computer interface & control**



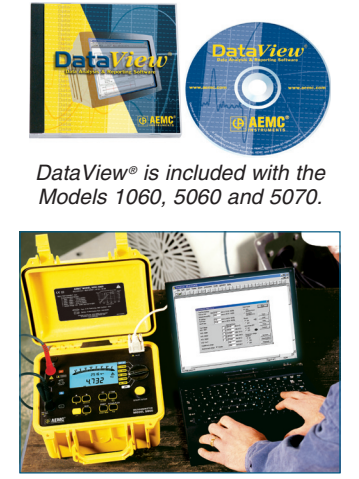
Test Voltage	500, 1000, 2500, 5000V
Insulation Range	30KΩ - 10,000GΩ (10TΩ)
Other Measurements	DAR, PI, DD & Capacitance
Dielectric Discharge	9.999
Leakage Current	3mA
Voltage Test	1000V <sub>ac/dc</sub>
Power Source	NiMH batteries or AC
Display	Digital/analog bargraph/backlight
Software/RS-232	DataView®
Dimensions	10.63 x 9.84 x 7.09"
Weight	7.7 lbs
Catalog No.	2130.21

**5000V Graphical Megohmmeter Model 5070 with computer interface & control**

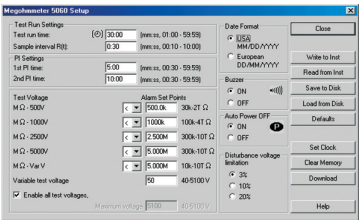


Test Voltage	500, 1000, 2500, 5000V <sub>dc</sub>
Insulation Range	30KΩ to 10,000GΩ (10TΩ)
Other Measurements	DAR, PI, DD, Capacitance, Step Voltage & Temperature Correction
Dielectric Discharge	9.999
Leakage Current	3mA
Voltage Measurement	1000V <sub>ac/dc</sub>
Power Source	NiMH batteries or AC
Display	Graphical; 320 x 240 resolution
Software/RS-232	DataView®
Dimensions	10.63 x 9.84 x 7.09"
Weight	7.7 lbs
Catalog No.	2130.30

**DataView® Data Analysis and Reporting Software**



Models 1060, 5060 and 5070 are also easily configured and run directly from a PC.



Clear and easy setup from one dialog box.

**500V Hand-cranked Megohmmeter Model 1210N**



Test Voltage	500V <sub>dc</sub>
Insulation Range	500KΩ to 200MΩ
Resistance Range	0 - 500kΩ
Continuity Range	100Ω
Voltage Measurement	600V <sub>ac</sub>
Power Source	Hand-cranked
Display	Analog
Test Current	1mA constant current
Other	Sealed aluminum case
Dimensions	4.7 x 4.7 x 5.1"
Weight	3.3 lbs
Catalog No.	1326.01

**1000V Hand-cranked Megohmmeter Model 1250N**



Test Voltage	250, 500, 1000V <sub>dc</sub>
Insulation Range	1MΩ to 5000MΩ
Resistance Range	—
Continuity Range	—
Voltage Measurement	600V <sub>ac</sub>
Power Source	Hand-cranked
Display	Analog
Test Current	—
Other	Sealed aluminum case
Dimensions	4.7 x 4.7 x 5.1"
Weight	3.3 lbs
Catalog No.	1326.02

**500V Megohmmeter Model 1005**



Test Voltage	500V <sub>dc</sub>
Insulation Range	100KΩ to 1000MΩ
Resistance Range	—
Continuity Range	±10Ω
Voltage Measurement	600V <sub>ac</sub>
Power Source	Four 1.5V AA batteries
Display	Analog
Other	Rubber housing
Dimensions	6.6 x 4.2 x 2.2"
Weight	1.45 lbs
Catalog No.	1402.01

**1000V Megohmmeter Model 1015**



Test Voltage	500, 1000V <sub>dc</sub>
Insulation Range	100KΩ to 1000MΩ
Resistance Range	1000Ω
Continuity Range	±10Ω
Voltage Measurement	600V <sub>ac</sub>
Power Source	Four 1.5V AA batteries
Display	Analog
Other	Rubber housing
Dimensions	6.6 x 4.2 x 2.2"
Weight	1.45 lbs
Catalog No.	1403.01

**1000V Digital/Analog Megohmmeter Model 1026**



Test Voltage	250, 500, 1000V <sub>dc</sub>
Insulation Range	1KΩ to 4000MΩ (4GΩ)
Resistance Range	4000Ω
Continuity Range	≤40Ω
Voltage Measurement	600V <sub>ac</sub>
Power Source	Eight 1.5V AA batteries
Display	Digital/Analog
Other	Hold & lock buttons
Dimensions	7.72 x 4.41 x 2.52"
Weight	1.5 lbs
Catalog No.	2117.72