MEGOHMMETERS

For all of your Insulation Testing needs...

An array of Megohmmeters to choose from

AEMC® offers a full line of megohmmeters with test voltages from 10V to 15kV, (model dependent), capable of measuring insulation resistances from 1000Ω to 29TΩ . These rugged, weather resistant meters are accurate, reliable and built to perform. Battery, AC powered and hand-cranked models are available.

Our products are backed by over 130 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

Technical Hotline: (800) 343-1391

www.aemc.com

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

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 personal safety 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 or testing newly installed conductors. 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: overloading conductors, 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 motors, generator and transformer insulation are: polarization index, spot reading and step voltage.

Model 6555 performing an insulation test.

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 up to 1000V and equal to the operating voltages above 1000V

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 gives exact reading and shows trend

APPLICATIONS

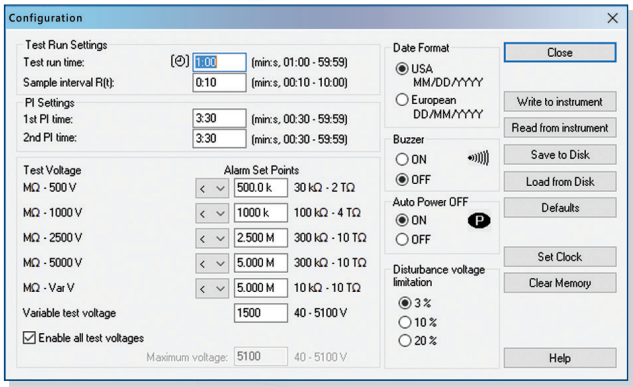
- Motors (AC and DC), transformers, cables, switchgears and electrical wiring installations
- Test industrial commercial wiring and motor control centers
- Acceptance testing and preventive maintenance
- Domestic and industrial contracting
- Dielectric Absorption Ratio (DAR) and Polarization Index (PI) 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

DataView®

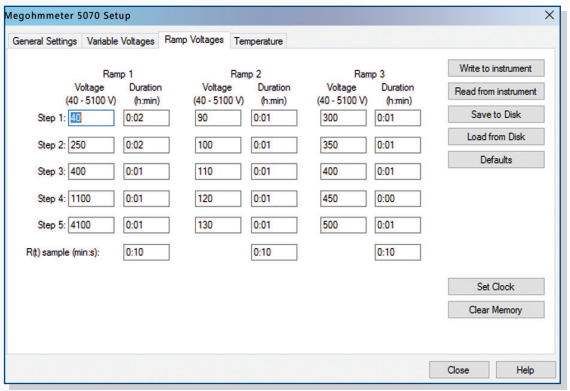
Data Analysis & Reporting Software for Megohmmeters

Configure All Functions of: Models 1060, 5060, 5070, 6526, 6532, 6534, 6550 & 6555

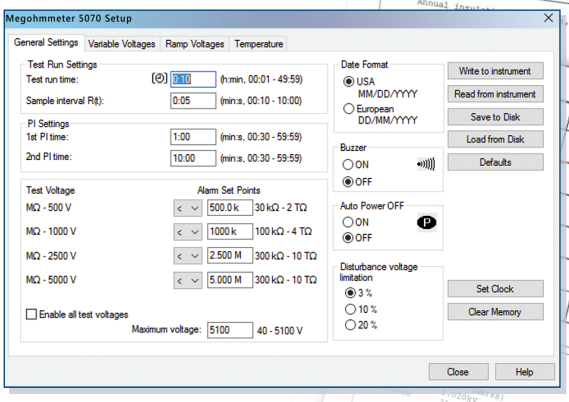
- Print reports of all test results
- Select test voltage and run tests from your computer with a simple click and execute process
- Capture and display data in real-time
- Retrieve data from the instrument's memory:
  - Over 1500 insulation resistance measurements (model dependent)
  - Over 4000 resistance 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
- Free updates are available on our website **www.aemc.com**



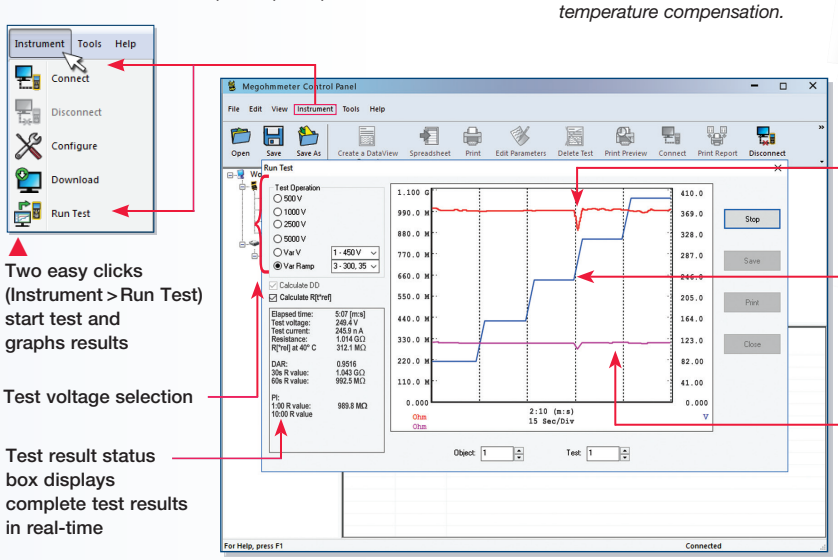
Clear and easy setup from one dialog box for Model 5060.



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



Four tabbed dialog boxes allow for clear and easy setup of all functions of the Model 5070, including setup for variable voltage and alarm set points, as well as step voltage tests and temperature compensation.



Two easy clicks (Instrument > Run Test) start test and graphs results

Test voltage selection

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

Insulation resistance during the test run

Step voltage during the test run

Insulation resistance with temperature compensation

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

MEGOHMMETER SELECTION GUIDE

10V & 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 ESD Floor Testing. Measurement of AC and DC voltage, resistance, continuity, cable capacitance, cable length 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 480VAC). Both analog and digital meters are available. AC powered, battery powered and hand-cranked models are available. Many models can 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 large rotating machinery. AC powered and battery powered models are available. All models can measure into the GΩ and TΩ ranges. All models offer multifunction capability, measuring AC/DC volts, resistance and continuity, as well as insulation resistance.

10kV & 15kV Megohmmeters

AEMC® offers a complete line of safe and accurate insulation testers that are ideal for use on rotating equipment and machinery operating at 10kV or higher. They are the only fully automated 10,000V and 15,000V graphical insulation testers. They provide insulation measurements up to 29,000GΩ (29TΩ). Test results include DAR, PI, DD, ΔR, Capacitance, Leakage Current, as well as programmable temperature correction of resistance readings.

Expert tools for testing

10kV & 15kV

Digital Megohmmeters

High-end portable instruments for measuring a variety of electrical insulation resistance values.

The **Megohmmeter Models 6550 and 6555** are the right tools for testing insulation safely and accurately, and are ideal for use on rotating equipment and machinery operating at 10kV or higher. They are fully automated 10,000V and 15,000V graphical insulation testers. They provide insulation measurements up to 29,000GΩ (29TΩ, model dependent). Test results include DAR, PI, DD, ΔR, Capacitance, Leakage Current, as well as programmable temperature correction of resistance readings.

The **Models 6550 & 6555** also offer the ability to program up to three step voltage profiles (from 40 to 10,000 or 15,000V, model dependent), each containing up to ten steps. They also include three ramp profiles and three programmable test voltages in addition to the standard fixed voltages of 500, 1000, 2500, 5000, 10,000 and 15,000V. These units have a USB interface and a data storage function, which permits storage of test results in files specific to the device under test. The included DataView® software configures and runs tests directly from a PC and creates data analysis reports.

SAFETY 1000V CAT IV RATING · IP 53 · CE

Note: 1000V, 5000V, 10kV & 15kV megohmmeters offer memory storage and PC connection for report generation (model dependent).

MODEL	6550
Test Voltage	500V, 1000V, 2500V, 5000V, 10,000V
Insulation Range	10kΩ to 25,000GΩ
Other Measurements	Auto DAR, PI, DD, ΔR (ppm/V) ratios
Leakage Current	0 to 8mA
Voltage Test	40 to 10kV
Other	Ramp and Voltage Test, Capacitance Measurement, Programmable Current Tests, Ramp & Step Test and Burn Test
Power Source	NiMH rechargeable batteries
Display	Digital / Analog
Communication	DataView® software/USB optically-isolated port
Dimensions	13.39 x 11.81 x 7.87"
Weight	Approx. 13.7lb (6.2kg)
Catalog No.	2130.31

MODEL	6555
Test Voltage	500V, 1000V, 2500V, 5000V, 10,000V, 15,000V
Insulation Range	10kΩ to 29,000GΩ (29TΩ)
Other Measurements	Auto DAR, PI, DD, ΔR (ppm/V) ratios
Leakage Current	0 to 8mA
Voltage Test	40 to 15kV
Other	Ramp and Voltage Test, Capacitance Measurement, Programmable Current Tests, Ramp & Step Test and Burn Test
Power Source	NiMH rechargeable batteries
Display	Digital / Analog
Communication	DataView® software / USB optically-isolated port
Dimensions	13.39 x 11.81 x 7.87"
Weight	Approx. 13.7lb (6.2kg)
Catalog No.	2130.32

▶PRODUCT INCLUDES

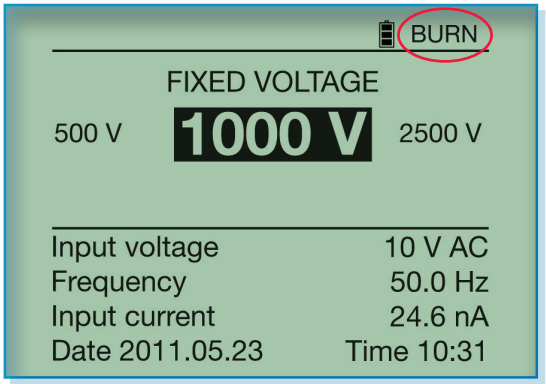
Small classic tool bag, set of color-coded (red/blue/black) 9 ft (15kV) integral leads and alligator clips (1000V CAT IV), one 15kV jumper lead (blue), set of two color-coded test probes (red/black-1000V CAT IV), optical USB cable, 115V US power cord, 9.6V rechargeable NiMH batteries.

▶USB Stick

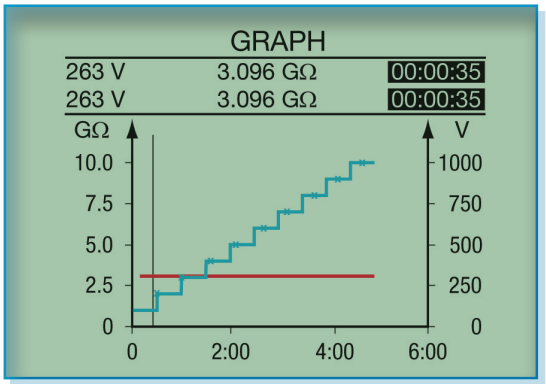
Quick start user guide, and USB stick supplied with DataView® software and user manual.

Multiple Voltage Ramp & Step Test Modes

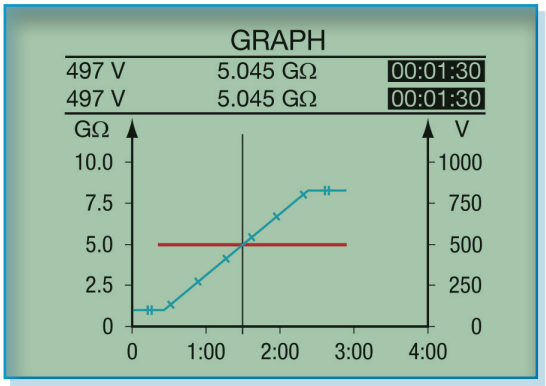
"Burn-In" Test Mode



Voltage Step Test Mode



Voltage Ramp Test Mode



1000V Model 1015

Test Voltage	500, 1000VDC
Insulation Range	100kΩ to 1000MΩ
Resistance Range	1000Ω
Continuity Range	±10Ω
Voltage Measurement	600VAC
Power Source	Eight 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**

500V & 1000V Hand-Cranked Models 6501 & 6503

MODELS	**6501**	**6503**
Test Voltage	500VDC	250, 500, 1000VDC
Insulation Range	500kΩ to 200MΩ	1 to 5000MΩ
Resistance Range	0 to 500kΩ	—
Continuity Range	100Ω	—
Voltage Measurement	600VAC	
Power Source	Hand-cranked	
Display	Analog	
Test Current	1mA constant current	—
Other	ABS plastic with overmolded protection	
Dimensions	4.7 x 4.4 x 5.3" with lid	
Weight	3.3 lbs	
Catalog No.	**2126.51**	**2126.52**

1000V Digital Model 6527

Test Voltage	250, 500, 1000VDC
Insulation Range	1kΩ to 4000MΩ (4GΩ)
Resistance Range	400kΩ
Continuity Range	400Ω
Voltage Measurement	600V (AC);1000V (DC)
Power Source	Six 1.5V AA batteries
Display	Digital dual display with backlight
Other	Hold, Test Time & Lock functions
Dimensions	7.9 x 3.6 x 2.0"
Weight	1.5 lbs
Catalog No.	**2126.53**

For Electrostatic Discharge Testing Model 6536

Test Voltage	Adjustable 10 - 100VDC
Insulation Range	20GΩ
Resistance Range	1000kΩ
Continuity Range	10Ω, 100Ω
Voltage Measurement	700VAC/DC
Power Source	Six AA batteries
Display	Digital/Analog, bargraph, backlight
Other	Alarm, ΔREL
Dimensions	8.30 x 4.25 x 2.36"
Weight	1.87 lbs
Catalog No.	**2155.56**
Catalog No. Model 6536 ESD Floor Test Kit	**2155.57**

1000V Digital/Analog Models 1050 & 1060

MODELS	**1050**	**1060**
Test Voltage	50, 100, 250, 500, 1000VDC	
Insulation Range	2kΩ to 4000GΩ (4TΩ)	
Other Measurement	DAR, PI, Capacitance	
Resistance Range	0.01Ω to 400kΩ	
Continuity Range	0.01 to 39.99Ω	
Voltage Measurement	1000VAC/DC	
Memory (Readings)	20	128kb
Power Source	Eight 1.5V C cell batteries	9.6V NiMH battery pack
Display	Digital/Analog, bargraph, backlight	
Communication	—	DataView® software RS-232 to USB adapter
Dimensions	9.45 x 7.28 x 4.33"	
Weight	7.5 lbs	
Catalog No.	**2130.01**	**2130.03**

5000V Digital/Analog Model 6505

Test Voltage	500, 1000, 2500, 5000VDC
Insulation Range	10kΩ to 10TΩ
Other Measurement	DAR, PI, Capacitance
Leakage Current	1pA to 3mA
Voltage Measurement	1 to 2500VAC/4000VDC
Power Source	9.6V NiMH battery pack
Display	Digital/Analog
Communication	—
Dimensions	10.63 x 9.84 x 7.09"
Weight	9.5 lbs
Catalog No.	**2130.18**

For Testing Motors, Pumps & Transformers Models 6522, 6524 & 6526

6526 only

MODELS	6522	6524	6526
Test Voltage	250, 500, 1000VDC	50, 100, 250, 500, 1000VDC	
Insulation Range	40GΩ	200GΩ	
Resistance Range	—	1000kΩ	
Continuity Range	10Ω	10Ω, 100Ω	
Voltage Measurement	700VAC/DC		
Memory (Measurements)		300	1300
Power Source	Six AA batteries		
Display	Digital/Analog, bargraph		
Other	Lead Compensation	ΔREL	Pass/Fail LED
Dimensions	8.30 x 4.25 x 2.36"		
Weight	1.87 lbs		
Catalog No.	2155.51	2155.52	2155.53

For Insulation Measurements on Communication & Data Cables Model 6532

Test Voltage	50, 100V
Insulation Range	20GΩ
Resistance Range	1000kΩ
Continuity Range	10Ω, 100Ω
Voltage Measurement	700VAC/DC
Memory (Measurements)	1300
Power Source	Six AA batteries
Display	Digital/Analog, bargraph
Other	Lead Compensation, Alarms
Dimensions	8.30 x 4.25 x 2.36"
Weight	1.87 lbs
Catalog No.	2155.54

Insulation Measurements for Electrical Components Model 6534

Test Voltage	10, 25, 100, 250, 500VDC
Insulation Range	50GΩ
Resistance Range	1000kΩ
Continuity Range	10Ω, 100Ω
Voltage Measurement	700VAC/DC
Memory (Measurements)	1300
Power Source	Six AA batteries
Display	Digital/Analog, bargraph
Other	ΔREL, Lead Compensation
Dimensions	8.30 x 4.25 x 2.36"
Weight	1.87 lbs
Catalog No.	2155.55

5000V Digital/Analog Model 5050

Test Voltage	500, 1000, 2500, 5000VDC
Insulation Range	10kΩ to 10TΩ
Other Measurement	DAR, PI, DD, Capacitance
Dielectric Discharge	0.02 to 50.00
Leakage Current	3mA
Voltage Measurement	1 to 2500VAC/4000VDC
Memory (Readings)	20
Power Source	9.6V NiMH battery pack
Display	Digital/Analog, bargraph, backlight
Communication	—
Dimensions	10.63 x 9.84 x 7.09"
Weight	9.5 lbs
Catalog No.	2130.20

5000V Digital/Analog Model 5060

Test Voltage	500, 1000, 2500, 5000VDC
Insulation Range	10kΩ to 10TΩ
Other Measurement	DAR, PI, DD, Capacitance
Dielectric Discharge	0.02 to 50.00
Leakage Current	3mA
Voltage Measurement	1 to 2500VAC/4000VDC
Memory (Readings)	1500
Power Source	9.6V NiMH battery pack
Display	10Ω, 100Ω backlight
Communication	DataView® software / 128kB memory with RS-232 to USB adapter
Dimensions	10.63 x 9.84 x 7.09"
Weight	9.5 lbs
Catalog No.	2130.21

5000V Graphical Model 5070

Test Voltage	500, 1000, 2500, 5000VDC
Insulation Range	10kΩ to 10TΩ
Other Measurement	DAR, PI, DD, Capacitance, Step Voltage & Temperature Correction
Dielectric Discharge	0.02 to 50.00
Leakage Current	3mA
Voltage Measurement	1 to 2500VAC/4000VDC
Memory (Readings)	1500
Power Source	9.6V NiMH battery pack
Display	Graphical 300 x 240 resolution
Communication	DataView® software/ 128kB memory with RS-232 to USB adapter
Dimensions	10.63 x 9.84 x 7.09"
Weight	9.5 lbs
Catalog No.	2130.30

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

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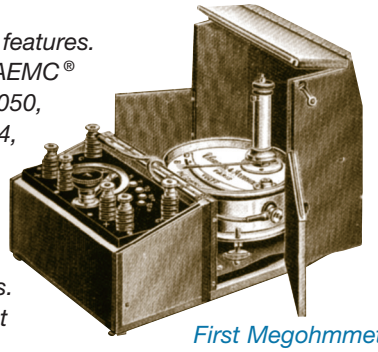
Since its creation in 1893, Chauvin Arnoux® has continued to successfully innovate and develop new products in response to customer needs and applications. Over the years, Chauvin Arnoux® has developed extensive expertise and knowledge in many product lines, including: current probes, multimeters (the first multimeter patented in 1937!), ground testers, insulation testers, environmental testers and many others in the portable test instrument realm.

One product line that stands out is Insulation Testers/Megohmmeters.

Our megohmmeter line finds its roots in the early 1900s. Limited technology was available, so a galvanometer and a decade resistance box combined with a DC power source was used to make one of the first megohmmeters. Years later, hand-cranked technology, first using a generator, provided the test voltage. Today, similar technology is used in the Models 6501 and 6w503 hand-cranked magnetizer, but a regulated alternator provides rectified test voltage and a sealed case protects the meter from the environment. Electronics set in the 1950s and 60s gave birth to electronic megohmmeters with electronic amplifiers. Eventually, digital displays came to the scene, though analog meters remained due to customer habits and preference.

Today, megohmmeters are digital and incorporate many intelligent features. Timers, alarms and variable test voltages are becoming common. AEMC® introduced a unique line of professional megohmmeters (Models 1050, 1060, 5050, 5060, 5070, 6505, 6527, 6522, 6524, 6526, 6532, 6534, 6536,6550 & 6555) with added features, such as: memory; automated tests and results (internal calculations of DAR, PI and other measurements); graphical displays; PC control; and, report compliant software. Market feedback has been very positive and the megohmmeters are setting new industry standards. All AEMC® manufactured megohmmeters are designed to the latest international safety and testing standards, and are CE marked.

Model 6555
Introduced in 2012



First Megohmmeter
Introduced in 1909

Family of Products

To learn more, visit www.aemc.com

Call the AEMC® Instruments Technical Assistance Hotline for immediate consultation with an applications engineer: (800) 343-1391

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