5000V Digital/Analog Megohmmeter Models 5050 & 5060

The Models 5050 and 5060, the latest design in 5000V Megohmmeters, are the most innovative product in their class on the market today. The features and functions incorporated in these products are the results of many years of analyzing how megohmmeters are used in everyday applications. The most advanced technology available has been applied to automate and facilitate the testing process for these applications.

Many features incorporated in the Models 5050 and 5060 (not found in any other megohmmeter on the market today) include automatic calculation and presentation of the Dielectric Absorption Ratio (DAR), Polarization Index (PI) and Dielectric Discharge (DD). The PI ratio times are also user defined. These new advanced megohmmeters display the test voltage, insulation resistance and the leakage current during and after the test. Capacitance of the sample and discharge voltage present at the test leads is displayed at the conclusion of the test.

The Models 5050 and 5060 are designed with the highest level of safety features built in. Both units are packaged in a rugged insulated case. The Models 5050 and 5060 incorporate test inhibit capabilities which will not allow test voltages to be generated if a live sample is detected. The test terminals are recessed to ensure operating safety. The test leads, rated for 5000V for both testing and measurement, are the only truly safety approved 5000V leads on the market today. The Models 5050 and 5060 can be operated from an internal rechargeable battery system or from AC line power.

The Model 5060 offers additional functionality in that an RS-232 port provides the ability to configure the units from a PC and run the test from the PC. Automatic documentation of test conditions and test results eliminates the need for writing down information. Test reports can be generated directly from the instrument to a printer or through the PC using the DataView® graphing and analysis software provided.

The list of features, functions and benefits goes on and on. If you are looking for a truly advanced 5000V Megohmmeter, the AEMC Models 5050 and 5060 are the best in class and available at an affordable price.

Features

- True Megohmmeter®
- Test voltage combinations of 500V, 1000V, 2500V and 5000V
- Insulation measurements from 30kΩ to 10,000GΩ (10TΩ)
- Selectable and programmable test voltage (40 to 5100V)
- Automatic calculation of DAR, PI and DD ratios
- 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 >25V)
- Automatic discharge and display of discharge voltage
- Large dual-display with time, voltage and measurements shown
- Bright blue electroluminescent backlight
- Programmable test voltage lock-out
- Programmable alarm setting
- Auto power-down when not in use
- AC or DC powered with rechargeable NiMH batteries
- Rugged, weatherproof field case
- Designed and built to IEC safety standards
- EN 61010-1, 1000V Cat. III
- Double Insulation
- CE Mark

Model 5060 includes these additional features:

- RS-232 interface for direct printing of results (serial or parallel output)
- 128kB memory for storing extensive field test data
- Configure instrument and run tests from a PC
- Includes DataView® software for data storage, real time display, analysis and report generation

Applications

- Test insulation on cables, transformers, motors, generators, insulators and wiring installations
- High resistance or absorption tests
- Spot reading tests
- Timed resistance measurements
- Dielectric Absorption Ratio (DAR) and Polarization Index (PI) tests
- Multi-layer insulation testing (Dielectric Discharge)
- Test old or water damaged installations over long time runs
- Motor insulation resistance measurements
- Computer controlled production line testing
- Predictive maintenance by storing results in PC for trend analysis
- User selectable voltage testing to provide application specific testing

Model 5060 performing insulation test on a generator.

Insulation can be subject to slow, gradual degradation over long periods of time, as well as sudden damage. The effects of moisture, dirt, corrosion, chemical penetration and even vibration can cause degradation of insulation. The effects of this degradation can easily be documented by using the automatic Polarization Index test feature standard on all models. Comparing the results over time will provide valuable information for preventative maintenance measures.

Key Functions – Models 5050 & 5060

Smooth Function – This function is very useful when the readings on the display are unstable and hard to read. It applies a digital filter to the displayed readings to smooth out the presentation. It does not effect the measurement or recording of data.

Alarm Function – Allows for the setting of a low limit resistance value for each test voltage, below which a buzzer will sound alerting you to a problem condition.

Selectable Voltage – Provides the flexibility to program an exact voltage for a specific test to any voltage from 40 to 5100V in 10V increments. The Model 5070 also allows for storage of three different voltage selections.

Test Voltage Lock-out – Gives the flexibility to limit the maximum output test voltage to any value from 40 to 5100V to protect delicate equipment from accidental exposure to excessive test voltages.

Timer Function – Program a test run time from one minute to 50 hours.

Model 5060 checking insulation resistance on feed cables to a three-phase motor.

Key Functions – Model 5060

Record Function – provides the option to automatically store the data from a timed test at programmable intervals or to store the results of the test manually at the push of a button at the end of the test.

Print Function – Provides a direct print out to a printer of test results in a predefined format.

Functional Displays

Insulation Resistance Measurement displayed throughout the test. Time or test voltage can be displayed at the press of a button.

Automatic calculation and display of DAR ratio.

Automatic calculation and display of PI Ratio.

Automatic calculation and display of DD Ratio on request the conclusion of the test.

Capacitance Measurement from 1nF to 50µF displayed at the conclusion of each test.

Leakage Current Measurement from 1pA to 3000µA displayed during the test .

User selectable Test Voltage programming from 40 to 5100V.

Memory Function for Data Storage up to 99 objects (files), each containing up to 99 test results; the maximum number of records stored is 1500.

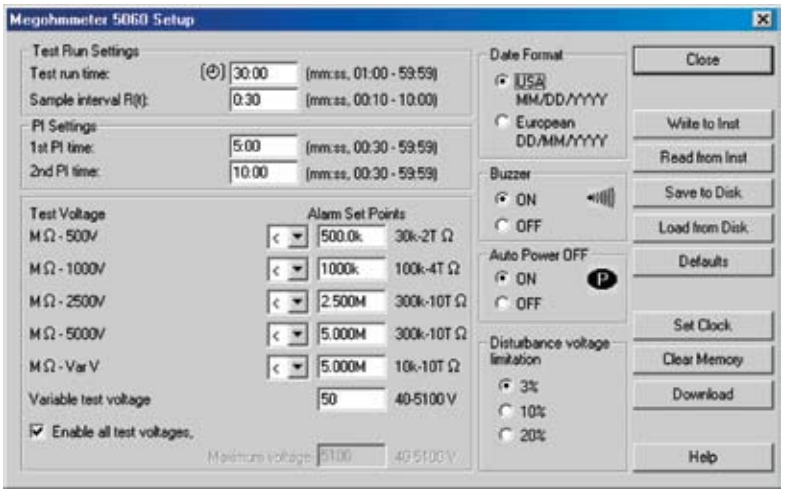
Specifications

MODELS		5050	5060
ELECTRICAL			
Insulation Tests			
Test Voltage/Range	500V 1000V 2500V 5000V	30kΩ to 2000GΩ (2TΩ) 100kΩ to 4000GΩ (4TΩ) 100kΩ to 10,000GΩ (10TΩ) 300kΩ to 10,000GΩ (10TΩ)	30kΩ to 2000GΩ (2TΩ) 100kΩ to 4000GΩ (4TΩ) 100kΩ to 10,000GΩ (10TΩ) 300kΩ to 10,000GΩ (10TΩ)
Automatic Voltage		Programmable: 40 to 1000V: 10V increments 1000 to 5100V: 100V increments	Programmable: 40 to 1000V: 10V increments 1000 to 5100V: 100V increments
Short Circuit Current		<1.6mA ± 5%	<1.6mA ± 5%
Accuracy	1kΩ to 40GΩ 40GΩ to 10TΩ	±5% of Reading ± 3cts ±15% of Reading ± 10cts	±5% of Reading ± 3cts ±15% of Reading ± 10cts
DAR (1 min/30 sec)		0.02 to 50.00	0.02 to 50.00
PI (10 min/1 min & user programmable)		0.02 to 50.00	0.02 to 50.00
DD $\left(\frac{\text{Current after 1 min}}{\text{test voltage x capacitance}}\right)$		0.02 to 50.00	0.02 to 50.00
Capacitance Check		0.005 to 49.99µF Max resolution 1nF	0.005 to 49.99µF Max resolution 1nF
Leakage Current Measurement		0.00nA to 3mA Max resolution 1pA	0.00nA to 3mA Max resolution 1pA
Programmable Run Time R(t)		1 to 60 minutes	1 to 60 minutes
Smooth Function (user selectable)		Digital filtering stabilized display readings	Digital filtering stabilized display readings
Discharge After Test		Automatic	Automatic
Discharge Voltage Display		Yes	Yes
Voltage Test/Safety Check		0 to 1000VAC/DC (16 to 420Hz), 1V Resolution	0 to 1000VAC/DC (16 to 420Hz), 1V Resolution
Voltage Warning Indicator		Yes >25V	Yes >25V
Test Inhibition[1]		Yes >25V	Yes >25V
Guard Terminal		Yes – adjustable from 25 to 1000V depending on test voltage range in use	Yes – adjustable from 25 to 1000V depending on test voltage range in use
Power Source		Eight NiMH rechargeable batteries Line power: 85 to 256VAC (50/60Hz)	
MECHANICAL			
Dimensions		10.63 x 9.84 x 7.09" (270 x 250 x 180mm)	
Weight		9.5 lbs (4.3kg)	
Protection Index		IP53	
DISPLAY			
Backlight		Blue electroluminescent	
Display Size		4 x 2.25" (102 x 57mm)	
Display		Digital: Two 4000-count displays Analog bargraph: 33-segments	
COMMUNICATION			
Report Print Out Direct to Printer		No	Yes: preset format
Storage of Readings over Time R(t)		4kB memory	128kB memory
Programmable Reading Intervals		5 sec to 15 min	5 sec to 15 min
Test Voltage Display		Yes	Yes
Elapsed Test Time Display		Yes	Yes
Real Time/Date Display		No	Yes
Test Voltage Lock-out		User programmed	User programmed
Storage of Test Results		20 Readings	Stores over 1500 test results
Communication Port		–	RS-232
PC Software/Report Generation		No	Yes DataView® (included)
PC Operation of Megohmmeter		No	Yes
SAFETY			
Safety Rating		EN 61010-1, 1000V Cat. III	
Double Insulation ☐		Yes	
CE Mark		Yes	

[1] *Inhibit voltage is selectable at 3, 10 or 20% of test voltage*

DataView® Software for Model 5060

Model 5060 easily configures and runs right from a PC.



Clear and easy setup of all functions from one dialog box

Features

Configure all functions of the Megohmmeter Model 5060

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
- Display DAR, PI and DD ratios
- Plot graphs of manual and timed tests
- Include your analysis in the comments section with the report
- Store a library of setups for different applications
- Certification of results through report generation

Minimum Computer Requirements

- Windows® 2000/XP/Vista
- 128MB of RAM for Windows® 2000 (256MB recommended)

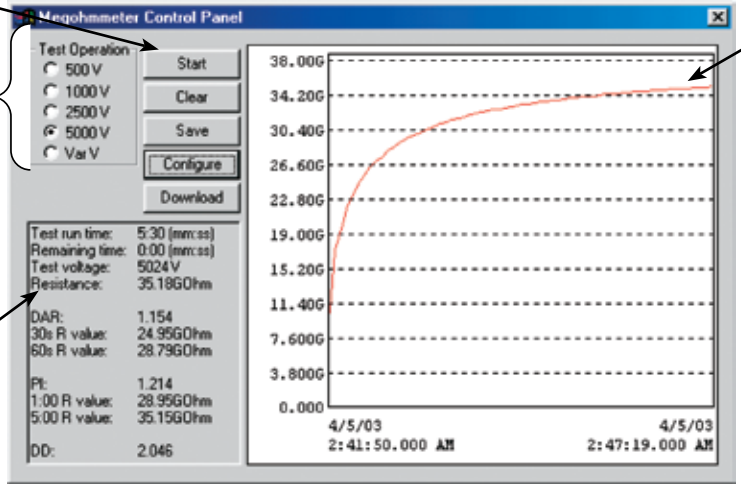
  256MB of RAM for Windows® XP

  512MB of RAM for Windows® Vista
- 80MB of hard disk space (200MB recommended)
- CD-ROM Drive

One button operation starts test and graph results

Test voltage selection

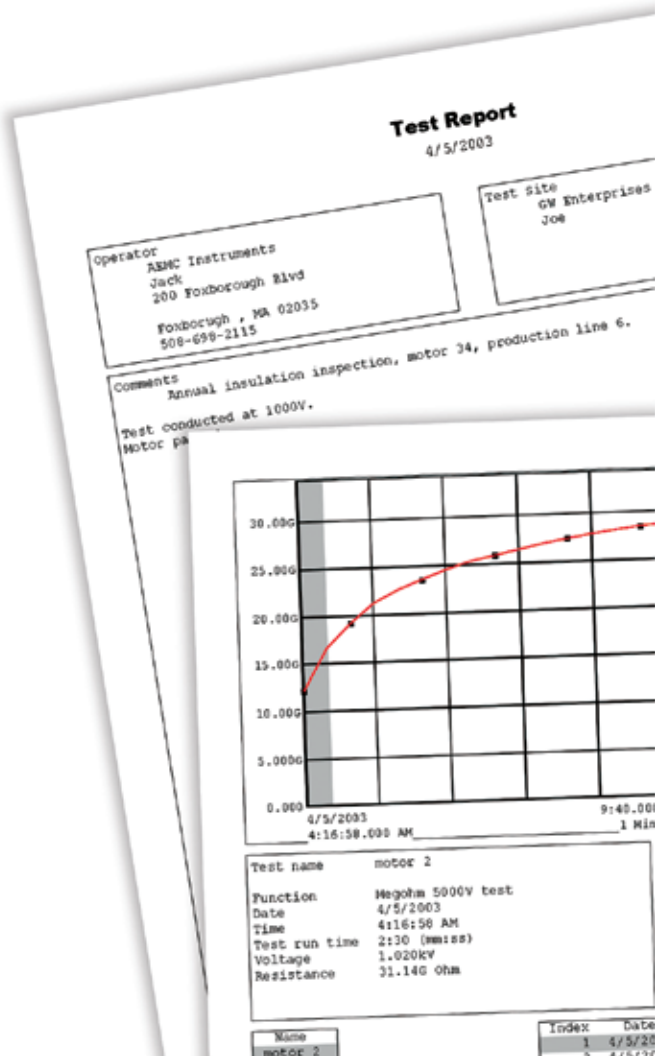
Test result status box displays complete test results in real time

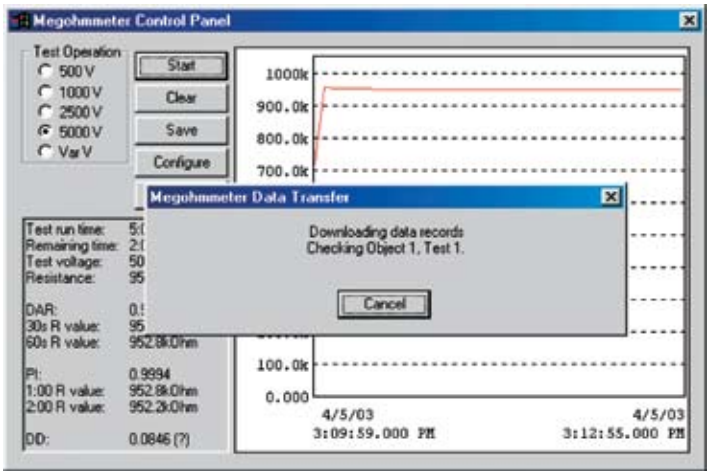


Graphic viewing of insulation resistance during the test run

Run test and display results from one dialog box.

Reports may be displayed on your 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 in at time of storage will also be included.

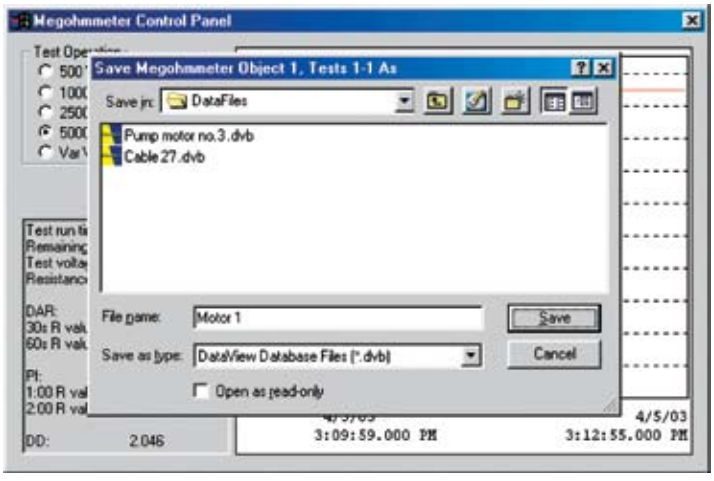




A simple press of the download button from either the setup or run dialog boxes will show all test results stored in the Model 5060.

The DataView® software 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 Model 5060 can be configured and tests can be initiated. Results can be displayed in real time and stored in your PC. Reports may be printed along with the operator's comments and analysis.

DataView® is included with the Model 5060



Each test will be stored as its own file and may be given its own unique file name.

Accessories

Models 5050 and 5060 include soft accessory bag with one red, one blue and one black lead with integral 5kV rated hippo clips, one jumper lead for use with guard terminal, rechargeable battery, US 120V power cord and user manual.

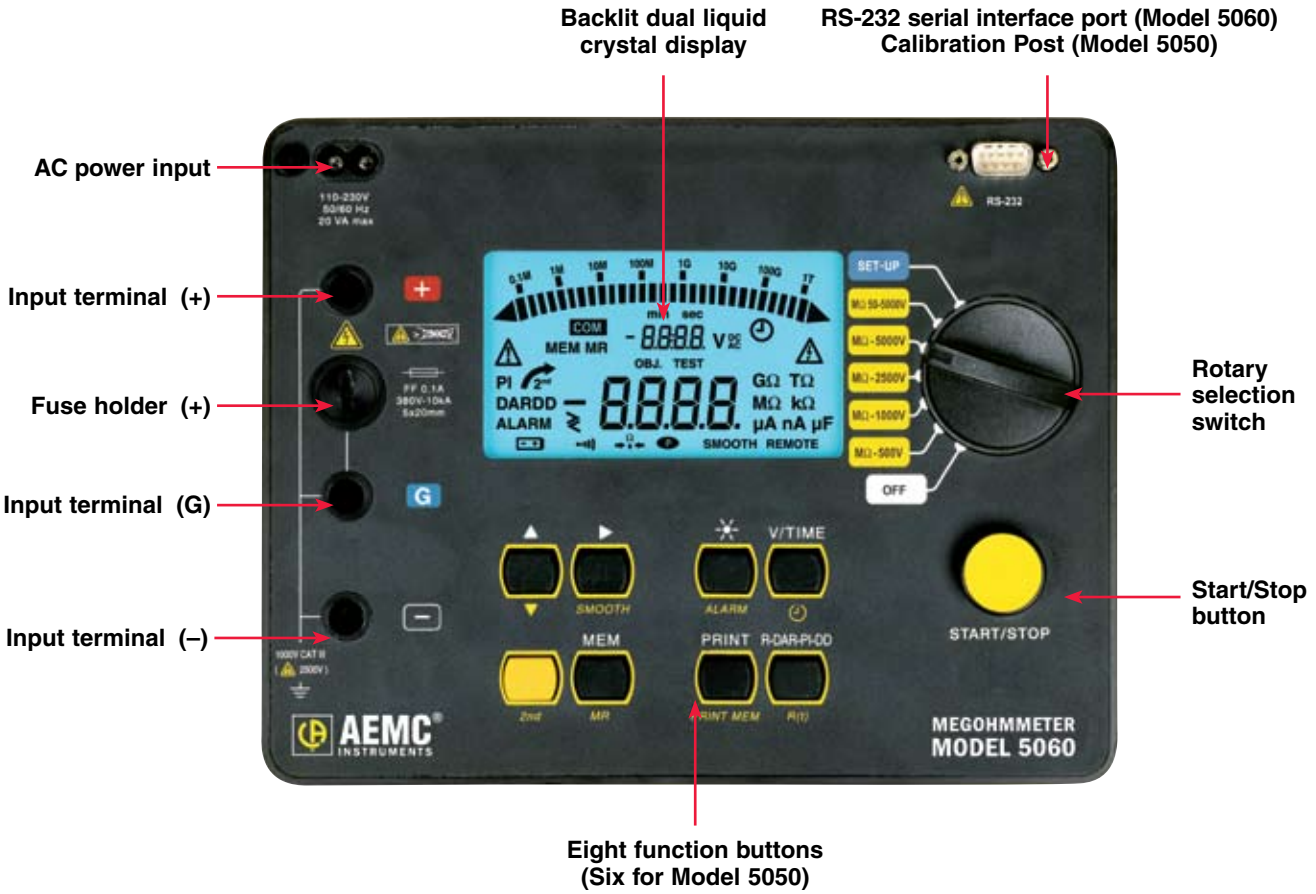
Optional 5000V Lead set
Catalog #2119.76

Cable, PC RS-232, DB9 F/F 6 ft null modem cable for Model 5060 (included)
Catalog #2119.45

Cable, PC RS-232, DB9 F/F 6 ft (for serial printer)
Catalog #2119.46

DataView® for
Model 5060 (included)

Construction



ORDERING INFORMATION	CATALOG NO.
Megohmmeter Model 5050 (Digital, with Analog Bargraph, Backlight, Alarm, Timer, 500V, 1000V, 2500V, 5000V, Auto DAR/PI/DD) Includes soft accessory bag, one red, one blue and one black lead with integral 5000V rated hippo clips, one jumper lead for use with guard terminal, rechargeable battery pack, US120V power cord and user manual	**Cat. #2130.20**
Megohmmeter Model 5060 (Digital, with Analog Bargraph, Backlight, Alarm, Timer, 500V, 1000V, 2500V, 5000V, Auto DAR/PI/DD, RS-232 w/DataView® software) Includes soft accessory bag, one red, one blue and one black lead with integral 5000V rated hippo clips, one jumper lead for use with guard terminal, one 6 ft RS-232 DB9/DB25 F/F to DB9/DB25 F/F Cable, rechargeable battery pack, DataView® software, US 120V power cord and user manual	**Cat. #2130.21**
Accessories (Optional)	
Cable, PC RS-232. DB9 F/F 6 ft Null Modem Cable	Cat. #2119.45
Cable, PC RS-232. DB9 F/F 6 ft (for serial printer)	Cat. #2119.46
Leads, set of three, 10 ft color-coded rated at 5000V max (one red, one blue and one black lead: one red, one blue and one black alligator clip)	Cat. #2119.76
Leads, set of three, 10 ft color-coded (one red, one blue and one black lead with integral 5000V rated hippo clips - jumper not included)	Cat. #2119.85
Leads, set of three, 25 ft color-coded rated at 5000Vmax (one red, one blue and one black lead with integral 5000V rated hippo clips - jumper not included)	Cat. #2119.86
Leads, set of three, 45 ft color-coded rated at 5000Vmax (one red, one blue and one black lead with integral 5000V rated hippo clips - jumper not included)	Cat. #2119.87

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CHAUVIN ARNOUX GROUP

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