

5000V DIGITAL/ANALOG MEGOHMMETER

Models 5050 & 5060



- ▶ Test voltage combinations of 500V, 1000V, 2500V, 5000V and adjustable from 50 to 5000V
- ▶ Measures insulation resistance from 1k Ω to 10T Ω
- ▶ Automatic calculation of DAR, PI and DD ratios, Capacitance and Leakage Current
- ▶ Automatic discharge and display of discharge voltage
- ▶ Programmable test run times and PI ratio times
- ▶ RS-232 interface with software (Model 5060) for configuration, test control and data reporting
- ▶ Remote operation and storage on PC (Model 5060)
- ▶ EN 61010-1, 1000V, Cat. III, 2500V, Cat. II

FEATURES

- True Megohmmeter®
- Test voltage combinations of 500V, 1000V, 2500V and 5000V
- Insulation measurements from 1k Ω to 10,000G Ω (10T Ω)
- Adjustable and programmable test voltage (50 to 5000V)
- 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, 2500V, Cat. II

Model 5060 includes these additional features:

- RS-232 interface for direct printing of results (serial output)
- 128kB memory for storing extensive field test data
- Remote operation of Megohmmeter from PC
- Includes DataView® software to configure instrument, run tests and generate reports



Model 5060 is also easily configured and run directly from a PC.

The Models 5050 and 5060 are the latest design in 5000V Megohmmeters and are the most innovative products in their class on the market today. The features and functions incorporated in this product family 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 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. They incorporate test inhibit capabilities which will not allow test voltages to be generated if a live sample is detected with voltage greater than 25V. 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. Both models 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 unit 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.

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
- 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 checking insulation resistance on feed cables to a 3-phase motor.



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 both the Models 5050 and 5060.

FUNCTIONAL DISPLAYS



Insulation Resistance Measurement displayed throughout the test



Automatic calculation and display of DAR



Automatic calculation and display of PI Ratio



Automatic calculation and display of DD Ratio on request



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



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	
INSULATION TESTS			
Test Voltage/Range	500V 1000V 2500V 5000V	20k Ω to 2000G Ω (2T Ω) 40k Ω to 4000G Ω (4T Ω) 100k Ω to 10,000G Ω (10T Ω) 200k Ω to 10,000G Ω (10T Ω)	20k Ω to 2000G Ω (2T Ω) 40k Ω to 4000G Ω (4T Ω) 100k Ω to 10,000G Ω (10T Ω) 200k Ω to 10,000G Ω (10T Ω)
User Selectable Test Voltage	Programmable: 50 to 1000V: 10V increments; 1000 to 5000V: 100V increments	Programmable: 50 to 1000V: 10V increments; 1000 to 5000V: 100V increments	
Short Circuit Current	$\leq 3\text{mA}_{dc}$	$\leq 3\text{mA}_{dc}$	
Accuracy	1k Ω to 40G Ω 40G Ω to 10T Ω	$\pm 5\%$ Reading $\pm 3\text{cts}$ $\pm 15\%$ Reading $\pm 10\text{cts}$	$\pm 5\%$ Reading $\pm 3\text{cts}$ $\pm 15\%$ Reading $\pm 10\text{cts}$
DAR (1 min/30 sec)	0.000 to 9.999	0.000 to 9.999	
PI (10 min/1 min & user programmable)	0.000 to 9.999	0.000 to 9.999	
DD (Current after 1 min \div (test voltage x capacitance))	0.01 to 9.999	0.01 to 9.999	
Capacitance Check	0.005 to 4.999 μF	0.005 to 4.999 μF	
Leakage Current Measurement	0.250nA to 3mA	0.250nA to 3mA	
Programmable Run Time R(t)	1 to 60 minutes	1 to 60 minutes	
Smooth Function (user selectable)	Digital filtering stabilizes display readings	Digital filtering stabilizes display readings	
Discharge After Test	Automatic	Automatic	
Discharge Voltage Display	Yes	Yes	
Voltage Test/Safety Check	0 to 1000V _{ac/dc} (16 to 420Hz), 1V Resolution	0 to 1000V _{ac/dc} (16 to 420Hz), 1V Resolution	
Voltage Warning Indicator	Yes >25V	Yes >25V	
Test Inhibition	Yes >25V	Yes >25V	
Guard Terminal	Yes	Yes	
DISPLAY			
Backlight	Blue, Electroluminescent		
Display Size	4 x 2 1/4" (102 x 57mm)		
Digital Display	Two 4000-count displays		
Analog Bargraph	33-segments		
GENERAL			
Power Source	8 x NiMH rechargeable batteries – AC: 85 to 256V _{ac} (50/60Hz)		
Dimensions	10.63 x 9.84 x 7.09" (270 x 250 x 180mm)		
Weight	7.7 lbs (3.5kg)		
Protection Index	IP54 (NEMA 4X)		
OTHER SPECIFICATIONS			
Report Print-out Direct to Printer	No	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	128kB memory with RS-232	
PC Application Software/Report Generation	No	Yes, DataView® Lite (included)	
PC Operation of Megohmmeter	No	Yes	
SAFETY			
Safety Rating	EN 61010-1, 1000V, Cat. III, 2500V, Cat. II		
CE Mark	Yes		

SOFTWARE

DataView® Lite

Data Analysis and Reporting Software for Model 5060

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
- 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

Minimum System Requirements:

- Windows®95/98/2000/ME/XP or Windows®NT 4.0
- 32MB of RAM (128MB recommended)
- 35MB of hard disk space (200MB recommended)
- CD Rom drive

The DataView® Lite 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® Lite is included with the Model 5060

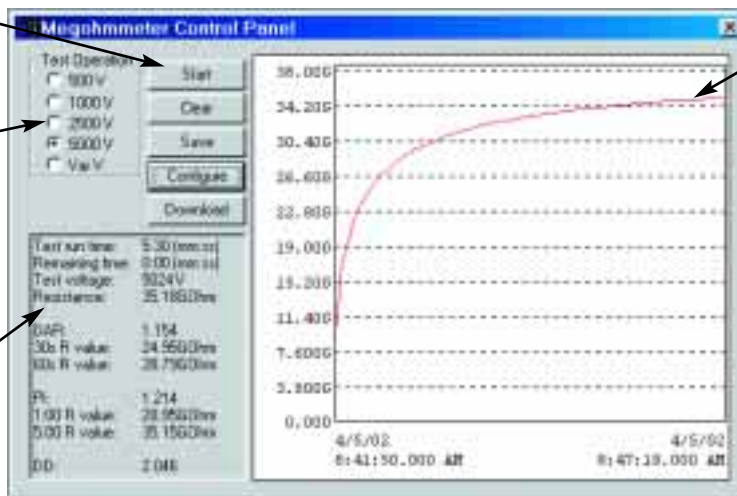


Clear and easy setup of all functions from one dialog box

One button operation starts test and graph results

Test voltage selection

Test result status box displays complete test results in real time

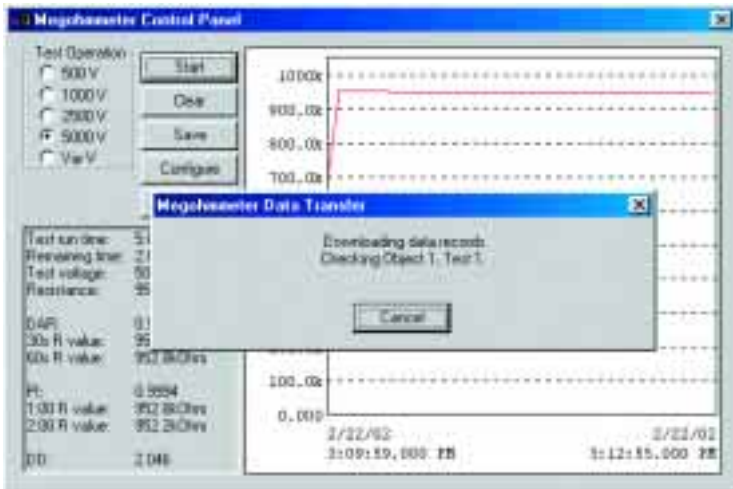
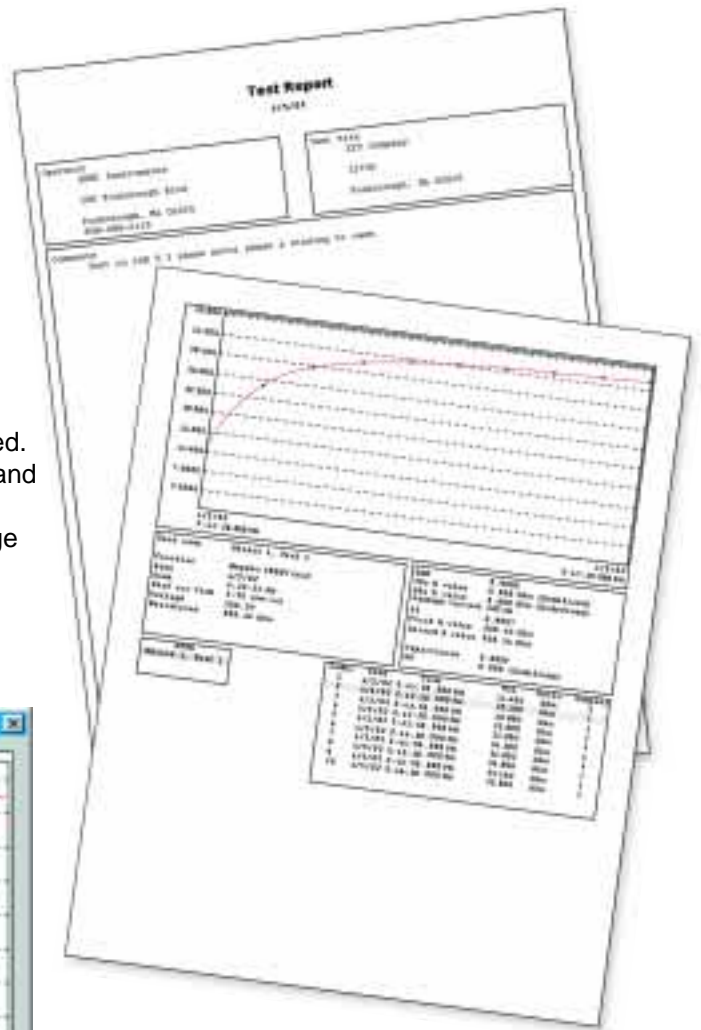


Graphic viewing of insulation resistance during the test run

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.



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

