

Digital/Analog Megohmmeter Models 1030, 1040 & 1045



The AEMC® Digital/Analog Megohmmeters are innovative in the design of multiple voltage insulation, resistance and continuity meters.

They incorporate the latest measurement technology and are specifically designed to the most recent international insulation and continuity testing standards as well as EN 61010-1, 300V, Cat. II, IEC 61557 environments.

Their rugged construction is unique in megohmmeters. A slip-proof and shock-proof holster is directly over-molded on the high impact polycarbonate case. The overall ergonomic shape fits naturally into

the hand and the two back case ridges facilitate a firm grip on the meter. The case is rated IP44 (Index of Protection).

Digital and analog features are enhanced by a third digital display, which indicates alarm set point or elapsed test time.

These megohmmeters offer many features, such as: automatic detection of potentially dangerous voltages when connecting to a sample on the MΩ ranges (with blocking of any insulation test if $V > 25V$), protection against external voltage surges, enhanced operator safety through automatic discharge of the tested

sample, automatic shutdown to optimize the battery life and large LCD display with easy-to-read symbols and indicators. And, depending on the model: bright blue electroluminescent backlighting, alarm programming for quick tests, lead resistance compensation for accurate continuity measurements, and display of the duration of the measurement for easy DAR and PI measurements.

Features

- True Megohmmeter®
- Test voltage combinations of 250V, 500V and 1000V
- Insulation measurements to 2000M Ω (2G Ω)
- Automatic test inhibition (if live sample >25V)
- Automatic discharge for operator safety
- Multi-line 4000-count backlit digital display with analog bargraph
- Resistance measurements to 400k Ω
- Continuity with 200mA test current
- Timer function for easy DAR and PI (Model 1045)
- Over-molded slip-proof holster for rugged field use
- EN 61010-1-1, 300V Cat. II, IEC 61557 and CE Mark
- Includes a soft carrying case and test leads

Applications

- Motor insulation resistance measurements
- Continuity checks and low resistance measurement
- Test/industrial commercial wiring and motor control centers
- Test motors (AC and DC) and transformers
- Dielectric Absorption Ratio and Polarization Index (PI) measurements
- Cable insulation testing

Input Connections



Model 1030



Models 1040 & 1045



Easy-to-read digital/analog display (backlight on)

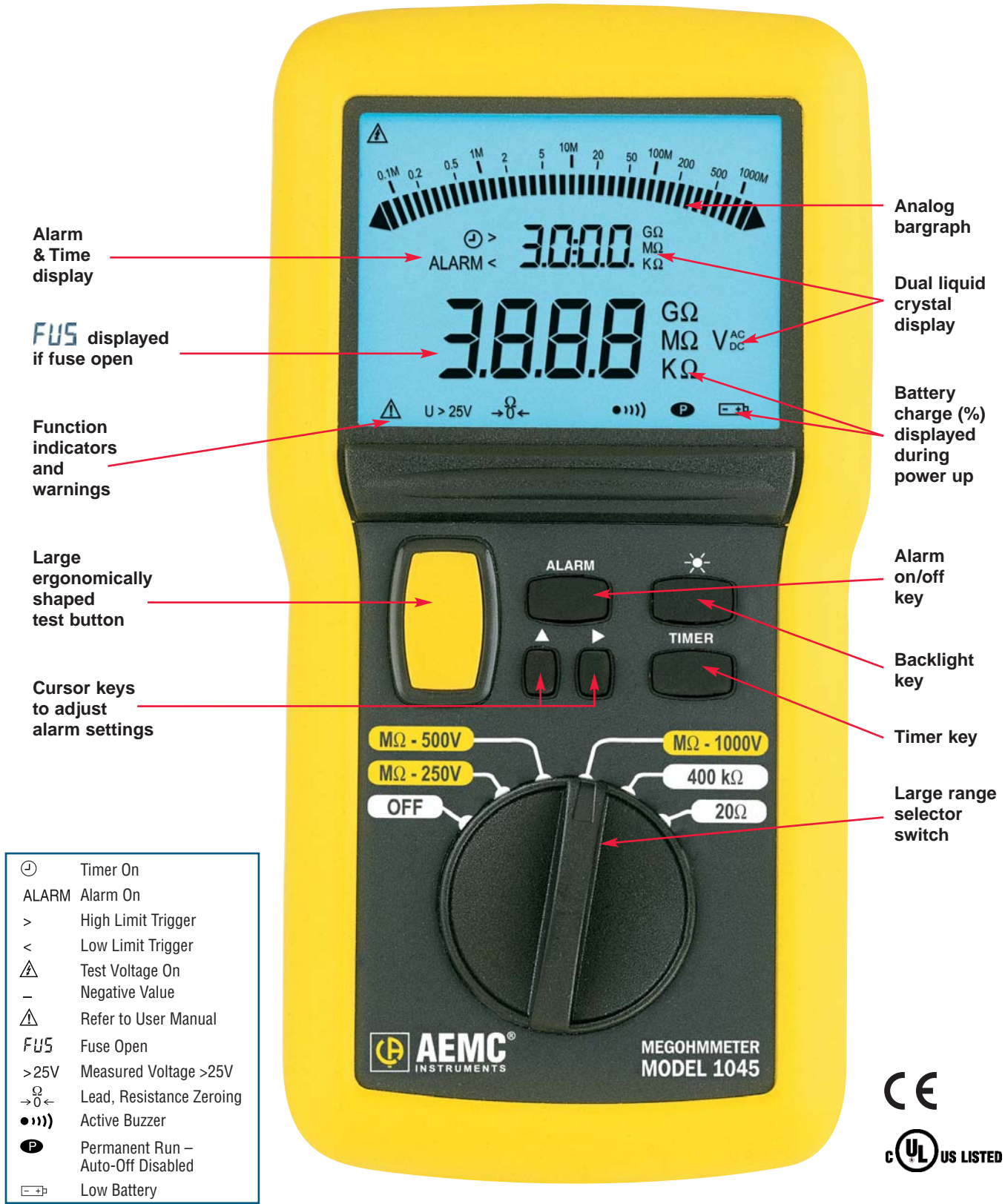


Remote probe used with Model 1045 to initiate a test at the motor. Target light provides good visibility of test area.

Key Components

Straightforward layout & intuitive operation

For motors, cables, switchgear and general applications



Shown at actual size (backlight on)

| | |
|-------|-----------------------------------|
| ⌚ | Timer On |
| ALARM | Alarm On |
| > | High Limit Trigger |
| < | Low Limit Trigger |
| ⚠ | Test Voltage On |
| - | Negative Value |
| ⚠ | Refer to User Manual |
| FUS | Fuse Open |
| >25V | Measured Voltage >25V |
| →0← | Lead, Resistance Zeroing |
| ••••• | Active Buzzer |
| P | Permanent Run – Auto-Off Disabled |
| ⚡ | Low Battery |

| FUNCTION | MODEL 1030 | MODEL 1040 | MODEL 1045 |
|--|------------|------------|------------|
| 250V (0.05 to 2000M Ω) | ✓ | – | ✓ |
| 500V (0.1 to 2000M Ω) | ✓ | ✓ | ✓ |
| 1000V (0.2 to 2000M Ω) | – | ✓ | ✓ |
| Voltage Test/Safety Check (600V _{AC/DC}) | ✓ | ✓ | ✓ |
| Continuity (20 Ω) @200mA | ✓ | ✓ | ✓ |
| Resistance (400k Ω) | – | ✓ | ✓ |
| Lead Compensation (for continuity) | – | ✓ | ✓ |
| Backlight | – | ✓ | ✓ |
| Timer (0 to 15 minutes) | – | – | ✓ |
| Digital Dual Display | ✓ | ✓ | ✓ |
| Analog Bargraph | ✓ | ✓ | ✓ |
| Auto-Off | ✓ | ✓ | ✓ |
| Continuity Buzzer | ✓ | ✓ | ✓ |
| Continuity Buzzer Disable | ✓ | ✓ | ✓ |
| Voltage Detection (>25V) | ✓ | ✓ | ✓ |
| Safety Test Inhibitor | ✓ | ✓ | ✓ |
| Automatic Discharge | ✓ | ✓ | ✓ |
| Low Battery | ✓ | ✓ | ✓ |
| Battery Capacity (%) Indication | ✓ | ✓ | ✓ |
| Auto-Off Disable | – | ✓ | ✓ |

The Models 1030, 1040 and 1045 are general purpose insulation testers designed for both field and shop use. They are ideal for measuring the insulation qualities of motors, transformers and power cables. Test voltages of 250V, 500V or 1000V are selectable depending on model. Measurement of AC and DC voltage, resistance and continuity may also be performed.

Specifications

| MODELS | 1030 | 1040 | 1045 |
|--|---|--|---|
| ELECTRICAL | | | |
| INSULATION TESTS | | | |
| Test Voltage | 250V 500V 1000V | 50k Ω to 2000M Ω (2G Ω) 100k Ω to 2000M Ω (2G Ω) – | – 100k Ω to 2000M Ω (2G Ω) 200k Ω to 2000M Ω (2G Ω) |
| Short Circuit Current | ≤3mA | ≤3mA | ≤3mA |
| Accuracy | <40M Ω >40M Ω | ±3% of Reading ± 5cts ±3% of Reading ± 2cts | ±3% of Reading ± 5cts ±3% of Reading ± 2cts |
| Voltage Test/Safety Check | 0 to 600V _{AC/DC} | 0 to 600V _{AC/DC} | 0 to 600V _{AC/DC} |
| Voltage Warning Indicator | >25V | >25V | >25V |
| Test Inhibition | Yes >25V | Yes >25V | Yes >25V |
| RESISTANCE TESTS (MODELS 1040 & 1045) | | | |
| Measurement Range | – | 0.0 to 400k Ω | 0.0 to 400k Ω |
| Test Voltage | – | 7 to 9V | 7 to 9V |
| Test Current | – | 600 μ A | 600 μ A |
| Accuracy | >4k Ω | – | ±3% of Reading ± 1ct |
| CONTINUITY TESTS | | | |
| Measurement Range | 0.00 to 19.99 Ω | 0.00 to 19.99 Ω | 0.00 to 19.99 Ω |
| Test Current | ≥200mA | ≥200mA | ≥200mA |
| Open Circuit Voltage | 7V ≤ V _{Open} ≤ 9V | 7V | 7V |
| Accuracy | ±3% of Reading ± 1ct | ±3% of Reading ± 1ct | ±3% of Reading ± 1ct |
| DISPLAY | | | |
| Display Size | 2 x 3" (54.3 x 73mm) | | |
| Digital Display | 4000-count | | |
| Analog Bargraph | 34-segments | | |
| Backlight | – | Blue Electroluminescent | |
| GENERAL | | | |
| Power Source | 6 x 1.5V AA (NEDA 15A) Capable of performing >3500 5 sec tests | | |
| Dimensions | 8.30 x 4.25 x 2.36" (211 x 108 x 60mm) | | |
| Weight | 1.81 lbs (830g) | | |
| Temperature Range | Operating: 14° to 131°F (-10° to 55°C); Storage: -40° to 158°F (-40° to 70°C) | | |
| SAFETY | | | |
| Safety Rating | EN 61010-1-1, 300V Cat. II, EN 61557 | | |
| CE Mark | Yes; UL Listed | | |

Accessories



Field Kits
Model 1040 Kit, Catalog #2117.30
Model 1045 Kit, Catalog #2117.31



Hands-Free Carrying Case for use with all models Catalog #2118.99



Field Case for use with all models Catalog #2118.98



Soft Carrying Case included with standard megohmmeter models Catalog #2119.02



Test Leads standard with all models Catalog #2119.01



Remote Test Probe for use with Models 1040 & 1045 Catalog #2118.97

ORDERING INFORMATION

CATALOG NO.

| | |
|--|---------------|
| Megohmmeter Model 1030 (Digital, with Analog Bargraph, 250V, 500V) | Cat. #2116.89 |
| Megohmmeter Model 1040 (Digital, with Analog Bargraph, Alarm, Backlight, 500V, 1000V, 400k, Continuity) | Cat. #2116.92 |
| Megohmmeter Model 1045 (Digital, with Analog Bargraph, Alarm, Timer, Backlight, 250V, 500V, 1000V, 400k, Continuity) | Cat. #2116.93 |
| All models include a soft carrying case, two color-coded leads, black test probe, two alligator clips, batteries and user manual | |
| Megohmmeter Field Kit, Model 1040. | Cat. #2117.30 |
| Megohmmeter Field Kit, Model 1045. | Cat. #2117.31 |
| All field kits include megohmmeter, field case, two color-coded leads, black test probe, two alligator clips, remote test probe, batteries and user manual | |
| Accessories (Optional) | |
| Remote Test Probe (for Models 1040 & 1045) | Cat. #2118.97 |
| Field Case (Waterproof) | Cat. #2118.98 |
| Hands-Free Carrying Case | Cat. #2118.99 |

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