

DIGITAL GROUND RESISTANCE TESTER

Models 4620 & 4630



- ▶ Measures soil resistivity (4-Point)
- ▶ Measures ground resistance (2- and 3-Point) Fall-of-Potential method
- ▶ Step voltage tests and touch potential measurements
- ▶ Auto-Ranging: automatically selects the optimum test current and resistance range
- ▶ Designed to reject high levels of noise and interference
- ▶ Extremely simple to operate: connect – press – read
- ▶ Battery powered (Model 4620)
- ▶ AC powered with rechargeable NiMH batteries (Model 4630)
- ▶ Rugged dustproof and rainproof field case
- ▶ May also be used for continuity tests on bonding



Model 4630 performing a 3-Point ground resistance test on an individual rod.

Digital Ground Resistance Tester Models 4620 and 4630 perform both ground resistance and soil resistivity tests. These testers measure from 0 to 2000Ω, and are auto-ranging, so they automatically seek out the optimum measurement range. Easy-to-use: simply connect the leads, press-to-measure and read the results.

The large LCDs (nearly 3/4" high characters) are easy-to-read, and also indicate low battery status, overrange, test lead shorts and lead reversals. The display is back-lit (electroluminescent blue) for easy readings in all lighting conditions. Three LED indicators on the front panel continuously warn the user of measurement problems to ensure accurate and reliable tests.

The Models 4620 and 4630 are fuse protected up to >250VAC against accidental connection to live circuits. In the event of a system fault, they can withstand 250VAC with spikes of up to 3000VAC or 1000VDC.

The heavy-duty field case is sealed against dust and water when closed. The meter itself is self-contained within an inner case providing additional environmental and insulation protection (double wall construction). The test button is also sealed against the elements.

The Model 4620 is powered by eight Alkaline C cell batteries.

The Model 4630 is powered by a 9.6V, 3.5 Ah NiMH rechargeable battery pack. A built-in recharge circuit, powered from 120/230V 50/60Hz line, also provides for testing while recharging.

Both models will perform over 2000 for the 15-second tests between recharging (Model 4630) or battery replacement (Model 4620).

The Ground Resistance Tester Models 4620 and 4630 are rugged, easy-to-use instruments ideal for maintenance crews performing numerous tests. Both models exceed mechanical and safety specifications for shock, vibration and drop tests called out in IEC standards. They are designed to reject high levels of interference, so they can be used under difficult conditions, such as high stray currents that normally affect accuracy.

FEATURES

- ▶ Measures soil resistivity (4-Point)
- ▶ Measures ground resistance (2- and 3-Point) Fall-of-Potential method
- ▶ Step voltage tests and touch potential measurements
- ▶ Auto-Ranging: automatically selects the optimum resistance range
- ▶ Designed to reject high levels of noise and interference
- ▶ Extremely simple to operate: connect – press – read
- ▶ LEDs on faceplate informs operator of high input noise, high auxiliary rod resistance and fault connections
- ▶ Large easy-to-read back-lit display
- ▶ Battery powered (Model 4620)
- ▶ AC powered with rechargeable NiMH batteries (Model 4630)
- ▶ Rugged dustproof and rainproof field case
- ▶ Can also be used for continuity tests on bonding
- ▶ Color-coded terminals

APPLICATIONS

- ▶ **Three-Point measurements of resistance to ground of ground rods and grids.** Three-Point measurements are generally used when the electrode or grid can be easily disconnected, if corrosion is suspected, or in circumstances where ground faults are unlikely to occur.
- ▶ **Four-Point soil resistivity measurements.** Locating areas of lowest soil resistivity is essential for achieving an economical grounding installation.
- ▶ **Touch potential measurements, an alternative to 3-Point tests in evaluating electrical safety.** This test is recommended when the ground cannot be disconnected, where ground faults are highly likely to occur, or when the "footprint" of grounded equipment (the outline of the part of equipment in contact with the earth) is comparable to the size of the ground to be tested.
- ▶ **Two-Point tests for continuity tests on bonding or on pre-established grounds.** This test is commonly performed in urban environments where proper auxiliary electrode placement may be impossible due to confined real estate. Measurements are referenced against a good local grounded circuit.

SPECIFICATIONS

MODELS	4620		4630
ELECTRICAL			
Range (Auto-Ranging 0 to 2000Ω)	20Ω	200Ω	2000Ω
Measurement	0.00 to 19.99Ω	20.0 to 199.9Ω	200 to 1999Ω
Resolution	10mΩ	100mΩ	1Ω
Open Voltage	≤42V peak	≤42V peak	≤42V peak
Resistance Measurement Frequency	128Hz square wave	128Hz square wave	128Hz square wave
Test Current	10mA	1mA	0.1mA
Accuracy	±2% of Reading ± 1ct	±2% of Reading ± 1ct	±2% of Reading ± 3cts
Auxiliary Electrode Influence Max Res. in Current Circuit Max Res. in Voltage Circuit	3kΩ 50kΩ	30kΩ 50kΩ	50kΩ 50kΩ
Interference	Rejects high levels of interference voltage (DC, 50 to 60Hz, harmonics): DC voltage in series with X: 20V; AC voltage in series with Y: 13V peak; AC voltage in series with Z: 32V peak		
Response Time	Approximately four to eight seconds for a stabilized measurement		
Withstanding Voltage	250Vac or 100Vdc		
Power Source	Eight C cell batteries; Alkaline recommended	120/230V 50/60Hz Rechargeable 9.6V, 3.5 Ah NiMH battery pack	
Battery Life	>2000 15-second measurements; LO BAT indication on LCD		
Fuse Protection	0.1A, >250V, 0.25 x 1.25"; 30kA Interrupt Capacity		
MECHANICAL			
Connection	Color-coded terminals accept spade lugs with min. gap of 6mm or standard 4mm banana jacks		
Dimensions	10.8 x 9.7 x 5.0" (273 x 247 x 127mm)		
Weight	6.28 lbs (2.85kg)	7.38 lbs (3.35kg)	
Case	Heavy duty o-ring sealed field case		
Mechanical Shock	IEC 68-2-27		
Vibration Test	IEC 68-2-6		
Drop Test	IEC 68-2-32		
Dielectric Test	3kV, 50/60Hz		
Index of Protection	O-ring sealed against dust and water to IP50 when case is closed		
DISPLAY			
Display Type	3½ digit, 0.71" (18mm) high; 2000-counts; electroluminescent blue backlight LCD also indicates overrange, test lead shorts and lead reversals		
LED Indication	Three LEDs indicate high input noise, high auxiliary rod resistance, open leads, blown fuse		
ENVIRONMENTAL			
Operating Temperature	14° to 131°F (-10° to 55°C), 20 to 90% RH		
Storage Temperature	-40° to 158°F (-40° to 70°C), 10 to 90% RH with batteries removed		
SAFETY			
Safety Rating	EN 61010-1, Cat. III, Pollution Degree 2		
Double Insulation <input type="checkbox"/>	Yes		
CE Mark	Yes		

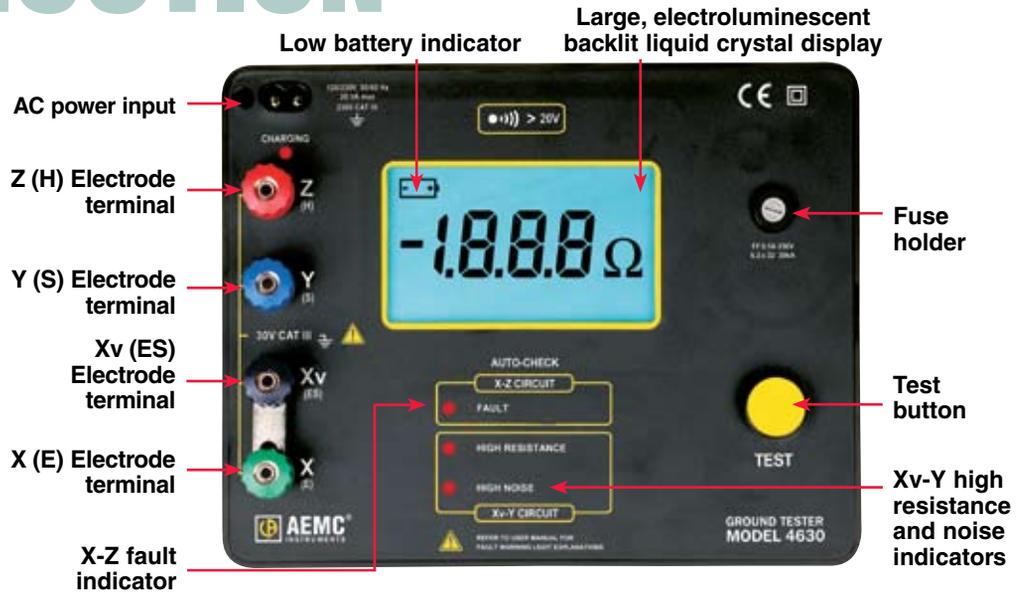


Model 4630 testing ground rod of a pad-mount transformer.

CONSTRUCTION



The Models 4620 and 4630 are built into a double case. This extra rugged construction provides double insulation, maximum field durability and ease of serviceability.



Test Kit for 3-Point testing includes two 150 ft color-coded leads on spools (red and blue), one 30 ft lead (green), two 14.5" T-shaped auxiliary ground electrodes, one set of five spaded lugs, 100 ft tape measurer and carrying bag.

Catalog #2135.35



Test Kit for 4-Point testing includes two 300 ft color-coded leads on spools (red and blue), two 100 ft color-coded leads (green and black), four 14.5" T-shaped auxiliary ground electrodes, one set of five spaded lugs, 100 ft tape measurer and carrying bag.

Catalog #2135.36



Test Kit for 4-Point testing includes two 500 ft color-coded leads on spools (red and blue), two 100 ft color-coded leads (green and black), one 30 ft lead (green), four 14.5" T-shaped auxiliary ground electrodes, one set of five spaded lugs, 100 ft tape measurer and carrying bag.

Catalog #2135.37

ORDERING INFORMATION

CATALOG NO.

Ground Resistance Tester Model 4620 (4-Point, Digital, Battery Powered)	Cat. #2130.43
Includes meter, eight C cell batteries and user manual	
Ground Resistance Tester Model 4630 (4-Point, Digital, Rechargeable Battery)	Cat. #2130.44
Includes meter, battery, AC Power cord and user manual	
Ground Resistance Tester Model 4620 Kit – 150 ft (Model 4620 and Catalog #2135.35)	Cat. #2135.19
Ground Resistance Tester Model 4620 Kit – 300 ft (Model 4620 and Catalog #2135.36)	Cat. #2135.20
Ground Resistance Tester Model 4620 Kit – 500 ft (Model 4620 and Catalog #2135.37)	Cat. #2135.21
Ground Resistance Tester Model 4630 Kit – 150 ft (Model 4630 and Catalog #2135.35)	Cat. #2135.22
Ground Resistance Tester Model 4630 Kit – 300 ft (Model 4630 and Catalog #2135.36)	Cat. #2135.23
Ground Resistance Tester Model Kit – 500 ft (Model 4630 and Catalog #2135.37)	Cat. #2135.24
Accessories (Optional)	
25Ω Calibration Checker (for Model 4620 and Model 4630)	Cat. #2130.59
Tape Measure (100 ft)	Cat. #2130.60
Test Kit for 3-point testing	Cat. #2135.35
Test Kit for 4-point testing	Cat. #2135.36
Test Kit for 4-point testing	Cat. #2135.37
Test Kit for 3-point testing (supplimental 4-point testing)	Cat. #2135.38
Ground Rod - set of 2, 14.5" T Shaped Auxiliary Ground Electrodes	Cat. #2135.39

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