

# Digital Ground Resistance Tester Models 4620 & 4630



Digital Ground Resistance Tester Models 4620 and 4630 perform ground resistance and soil resistivity tests. These direct reading testers measure from 0 to 2000 $\Omega$ , 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 LCD (nearly  $\frac{3}{4}$ " high characters) is easy-to-read, and also indicates low battery status, overrange and test lead shorts and lead reversals. 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 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. The test button is also sealed against the elements.

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

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

Both models will perform over 2000 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) method
- Measures ground resistance (2- and 3-Point) Fall-of-Potential method
- Step voltage tests and touch potential measurements
- Auto-Ranging: automatically selects the optimum range
- Designed to reject high levels of noise and interference
- Extremely simple to operate: connect – press – read
- LED on faceplate informs operator of high input noise, high auxiliary rod resistance and fault connections
- Large easy-to-read backlit 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 tests or 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 obscured by confined real estate. Measurements are referenced against a good local ground conductor.



# Specifications

MODELS	4620		4630
<b>ELECTRICAL</b>			
Ranges (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 2000Ω	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 4 to 8 seconds for a stabilized measurement		
Withstanding Voltage	250V <sub>ac</sub> or 100V <sub>dc</sub>		
Power Source	Eight C cell batteries; Alkaline recommended;	120/230V 50/600Hz Rechargeable 9.6V, 3.5 Ah NiMH batteries	
Battery Life	1800 15-second measurements; LO BAT indication on LCD		
Fuse Protection	0.1A, >250V, 0.25 x 1.25"; 30kA Interrupt Capacity		
<b>MECHANICAL</b>			
Display	3 1/2 digit, 0.71" (18mm) high; 2000-counts; electroluminescent blue backlight LCD also indicates overrange, test lead shorts and lead reversals		
Connection	Color-coded terminals accept spade lugs with min. gap of 6mm or standard 4mm banana jacks		
LED Indication	Three LEDs indicate high input noise, high auxiliary rod resistance, open leads, blown fuse		
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		
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, 1 min. between four interconnected measuring terminals and any external metal ground		
Environmental	O-ring sealed against dust and water to IP50 (Protection Index) when case is closed		
<b>SAFETY</b>			
Rating	EN 61010-1, Cat. III, Pollution Degree 2		
CE Mark	Yes		

# Accessories



Ground Resistance Tester Model 4630 Kit includes meter, two 300 ft color-coded leads on spools, two 100 ft color-coded leads, four 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip, carrying bag, one 100 ft tape measure, one AC power cord, ground workbook and user manual



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.



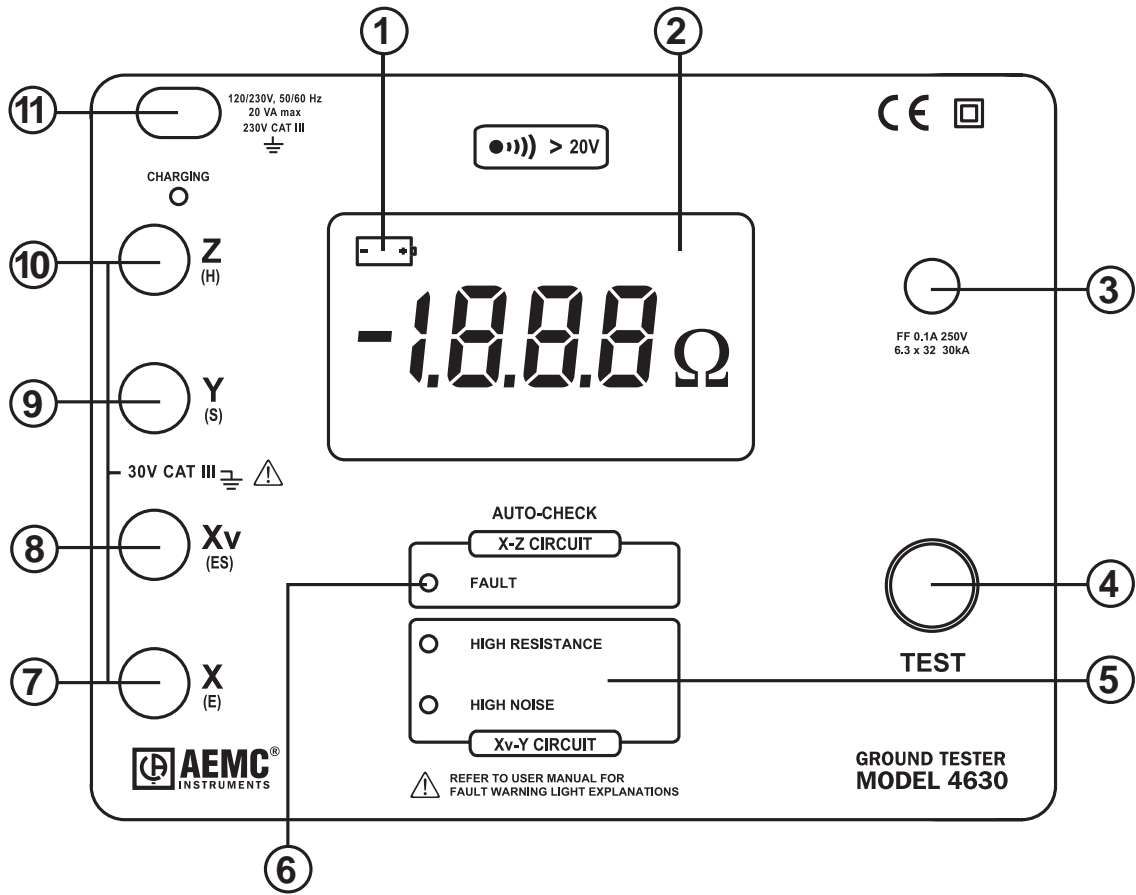
Ground Test Kit – 3-Point (supplemental 4-Point) includes carrying bag, two 100 ft color-coded leads, one 16 ft lead and two 16" auxiliary ground electrodes Catalog #2130.61



Test Kit – 3-Point includes carrying bag, two 150 ft color-coded leads on spools, two 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip and one 100 ft tape measure Catalog #2130.62



Test Kit – 4-Point includes carrying bag, two 300 ft color-coded leads on spools, two 100 ft color-coded leads, four 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip and one 100 ft tape measure Catalog #2130.63



- |                          |                                   |                               |
|--------------------------|-----------------------------------|-------------------------------|
| 1. Low battery indicator | 5. Xv-Y high noise indicator      | 9. Electrode terminal Xv (ES) |
| 2. Display               | 6. Xv-Y high resistance indicator | 10. Electrode terminal Y (S)  |
| 3. Fuse holder           | 7. X-Z fault indicator            | 11. Electrode terminal Z (H)  |
| 4. Test button           | 8. Electrode terminal X (E)       | 12. AC power input            |

## ORDERING INFORMATION

## CATALOG NO.

<b>Ground Resistance Tester Model 4620</b> (4-Point, Digital, Battery Powered).....	<b>Cat. #2130.43</b>
Includes meter, eight C cell batteries and user manual	
<b>Ground Resistance Tester Model 4630</b> (4-Point, Digital, Rechargeable Battery).....	<b>Cat. #2130.44</b>
Includes meter, battery, AC Power cord and user manual	
<b>Ground Resistance Tester Model 4620 Kit</b> (4-Point, Digital, Battery Powered).....	<b>Cat. #2130.45</b>
Includes meter, 8 C cell batteries, two 300 ft color-coded leads on spools, two 100 ft color-coded leads, four 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip, carrying bag, one 100 ft tape measure, ground workbook and user manual	
<b>Ground Resistance Tester Model 4630 Kit</b> (4-Point, Digital, Rechargeable Battery).....	<b>Cat. #2130.46</b>
Includes meter, two 300 ft color-coded leads on spools, two 100 ft color-coded leads, four 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip, carrying bag, one 100 ft tape measure, one AC power cord, ground workbook and user manual	
<b>Accessories (Optional)</b>	
25Ω Calibration Checker (for Model 4620 and Model 4630).....	Cat. #2130.59
Tape Measure (100 ft).....	Cat. #2130.60
Ground Test Kit – 3-Point (supplemental 4-Point).....	Cat. #2130.61
Includes carrying bag, two 100 ft color-coded leads, one 16 ft lead and two 16" auxiliary ground electrodes	
Test Kit – 3-Point.....	Cat. #2130.62
Includes carrying bag, two 150 ft color-coded leads on spools, two 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip and one 100 ft tape measure	
Test Kit –4-Point.....	Cat. #2130.63
Includes carrying bag, two 300 ft color-coded leads on spools, two 100 ft color-coded leads, four 16" auxiliary ground electrodes, one 16 ft lead with Mueller® clip and one 100 ft tape measure	

## Contact Us

### United States & Canada:

Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments  
200 Foxborough Blvd.  
Foxborough, MA 02035 USA  
(508) 698-2115 • Fax (508) 698-2118  
[www.aemc.com](http://www.aemc.com)

**Customer Support – for placing an order, obtaining price & delivery:**  
[customerservice@aemc.com](mailto:customerservice@aemc.com)

**Sales Department – for general sales information:**  
[sales@aemc.com](mailto:sales@aemc.com)

**Repair and Calibration Service – for information on repair & calibration, obtaining a user manual:**  
[repair@aemc.com](mailto:repair@aemc.com)

**Technical and Product Application Support – for technical and application support:**  
[techinfo@aemc.com](mailto:techinfo@aemc.com)

**Webmaster – for information regarding [www.aemc.com](http://www.aemc.com):**  
[webmaster@aemc.com](mailto:webmaster@aemc.com)

### South America, Central America, Mexico, Caribbean, Australia & New Zealand:

Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments  
15 Faraday Drive  
Dover, NH 03820 USA  
(978) 526-7667 • Fax (978) 526-7605  
[export@aemc.com](mailto:export@aemc.com)  
[www.aemc.com](http://www.aemc.com)

### All other countries:

Chauvin Arnoux SCA  
190, rue Championnet  
75876 Paris Cedex 18, France  
33 1 44 85 45 28 • Fax 33 1 46 27 73 89  
[info@chauvin-arnoux.com](mailto:info@chauvin-arnoux.com)  
[www.chauvin-arnoux.com](http://www.chauvin-arnoux.com)