

# Clamp-On Ground Tester

Models 6416 & 6417

**Provides an extra level of safety with new Ground Voltage indication feature**

- ▶ Simple and fast clamp-on operation - no leads, no auxiliary rods or spacing requirements
- ▶ Selectable test frequency
- ▶ Differentiates between loop and ground resistance measurements
- ▶ Android™ application provides configuration real-time data review, geolocation and e-mailing of test results
- ▶ Automatic Hold function
- ▶ Displays stored measurements visible in direct sunlight and in dark areas
- ▶ Storage of measurements ( $\Omega$ , A, V,  $\mu$ H, alarms, test frequency with time-stamping)



*Our products are backed by over 125 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.*

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# Test multi-grounded systems without disconnecting the ground system under test!

The **Ground Resistance Tester Models 6416 and 6417** measure ground rod and grid resistance without the use of auxiliary rods. Clamp-on ground resistance testers can be used in multi-grounded systems without disconnecting the ground system under test or de-energizing them. Models 6416 and 6417 simply clamp around the ground conductor or rod and measure the resistance to ground. By performing measurements on intact ground systems, the user also verifies the quality of the grounding connections and bonds. Resistance and continuity of grounding loops around pads and buildings may also be measured.

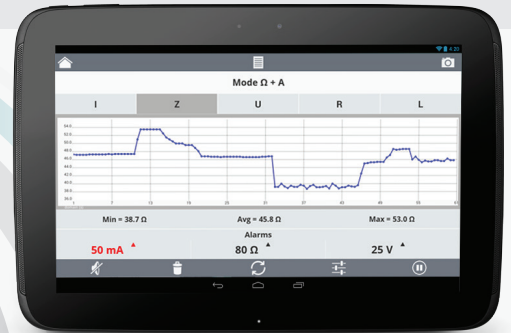
Two new features unique to AEMC® are test frequency selection and ground voltage indication. The ability to select the test frequency provides more accurate results in inductive environments. The inductance can also be measured and displayed. Displaying voltage derived from current and resistance measurements provides an extra level of safety for the user, indicating a potential dangerous touch condition. Both models include a current measurement function. The probe's high sensitivity enables measurement of leakage current flowing to ground or circulating in ground loops from 0.2mA to 40A and resistances from 0.01 to 1500Ω.

Both models offer battery life information at power-up and Auto-Off for power management. Additional features are also displayed on the large OLED display to ensure precise measurements. The Buzzer and Auto Power Off features may be disabled from the push-buttons at any time.

Both offer an alarm function and a data storage function. In the Alarm mode, the probe will audibly and visually indicate if the reading is beyond the user programmed set point. The user may have the alarm activate above or below the set point. This alarm feature permits quick field checks where only "pass" or "fail" readings are required.

The data storage function enables the user to conduct field surveys, and to retrieve and analyze the readings at a later time. The alarm settings and stored data are saved when the ground tester is turned off. When using the FREE DataView® software, the 6417 provides Bluetooth transmission to a PC for analysis and report generation.

## Now a simple solution to read your measurements



## Results, on the Go!



**Model 6417** is available with an Android™ application for easy configuration, downloading, displaying of real-time data, printing and e-mailing test results from your mobile device.

With its mobile GPS capability, users are now able to easily locate the site associated with the measurements.



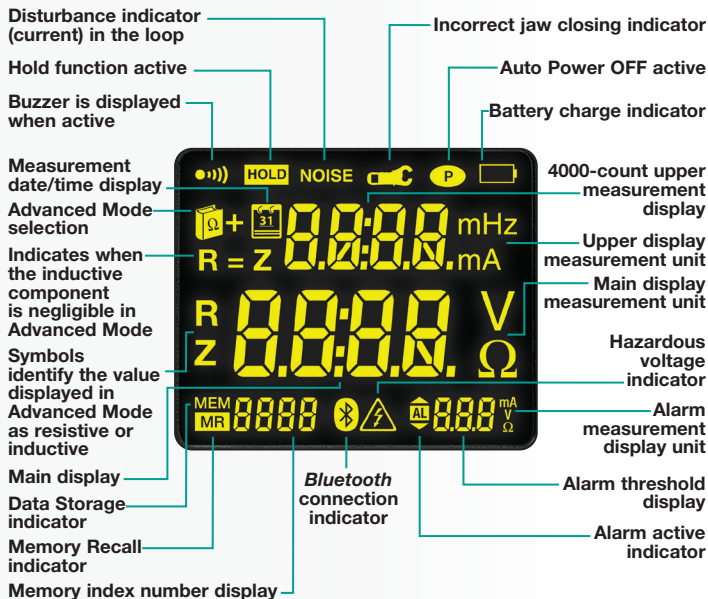
\*Model 6417 only

# SPECIFICATIONS

# Models 6416 & 6417

## FEATURES

- ▶ Ground voltage is displayed to alert user to potential unsafe conditions
- ▶ Large multi-function, bright yellow organic display (OLED) usable in all lighting conditions
- ▶ Display in Standard mode (1 screen) or Advanced mode (3 screens)
- ▶ Selectable test frequency improves accuracy in inductive environments
- ▶ Differentiates between loop and ground resistance measurements
- ▶ Data storage ( $\Omega$  and/or A, with time-stamping)  
Model 6416: stores up to 300 measurements  
Model 6417: stores up to 2000 measurements
- ▶ Displays stored measurements on the OLED display or by Bluetooth to a PC or the Android based mobile application. (Model 6417)
- ▶ Easy clamp opening by a force compensation trigger system
- ▶ Large jaw design, 1.38" (35mm) accommodating up to 1000kcmil cables
- ▶ Alarm function with adjustable set point and buzzer for quick field checks
- ▶ Rugged Lexan® head and body construction resists breakage
- ▶ Alarm settings and stored memory information saved during shutdown
- ▶ NOISE icon and buzzer alert user to presence of dangerous voltage and current levels
- ▶ Automatic Hold of measurement when jaw is opened



ELECTRICAL			
Ground Resistance	Measurement Range	Resolution	Accuracy (% of Reading)
Auto-Ranging 0.01 to 1500 $\Omega$	0.010 to 0.099 $\Omega$	0.001 $\Omega$	$\pm 1.5\% \pm 0.01\Omega$
	0.10 to 0.99 $\Omega$	0.01 $\Omega$	$\pm 1.5\% \pm 0.01\Omega$
	1.0 to 49.9 $\Omega$	0.1 $\Omega$	$\pm 1.5\% \pm 0.1\Omega$
	50.0 to 99.5 $\Omega$	0.5 $\Omega$	$\pm 2\% \pm 0.5\Omega$
	100 to 199 $\Omega$	1 $\Omega$	$\pm 3\% \pm 1\Omega$
	200 to 395 $\Omega$	5 $\Omega$	$\pm 5\% \pm 5\Omega$
	400 to 590 $\Omega$	10 $\Omega$	$\pm 10\% \pm 10\Omega$
	600 to 1150 $\Omega$	50 $\Omega$	20% approx
Current Measurement Auto-Ranging 0.2mA to 40A	1200 to 1500 $\Omega$	50 $\Omega$	25% approx
	0.200 to 0.999mA	1 $\mu$ A	$\pm 2\% \pm 50\mu$ A
	1.000 to 2.990mA 3.00 to 9.99mA	10 $\mu$ A	$\pm 2\% \pm 50\mu$ A
	10.00 to 29.90mA 30.0 to 99.9mA	100 $\mu$ A	$\pm 2\% \pm 100\mu$ A
Selectible Measurement Frequency	100.0 to 299.0mA 0.300 to 0.990A	1mA	$\pm 2\% \pm 1$ mA
	1.000 to 2.990A 3.00 to 39.99A	10mA	$\pm 2\% \pm 10$ mA
Current Measurement Frequency	50, 60, 128 or 2083Hz		
Ground Voltage Display	47 to 800Hz		
Inductance Measurement	0.1 to 75.0V <sub>AC</sub>		
Power Source	10 to 500 $\mu$ H		
Data Storage	4x1.5V LR6 (AA) Alkaline batteries or 4 NiMH batteries; Battery life: 12 hours, or 14,400 30-second measurements approx		
Communication	Model 6416: 300 measurements; Model 6417: 2000 measurements		
	Bluetooth Class 2 - communicates up to 30 ft (Model 6417)		
MECHANICAL			
Dimensions	2.16 x 3.74 x 10.31" (55 x 95 x 262mm)		
Weight	2.06 lbs (935g) approx. with batteries		
Jaw Opening	1.38" (35mm) max		
Display	Multi-function, bright yellow organic display (OLED)		
ENVIRONMENTAL			
Operating Temperature	-4° to 131°F (-20° to 55°C)		
Operating Humidity	10% to 90% RH		
SAFETY			
Safety Rating	EN 61010-1 (Ed. 2 of 2001); 600V CAT IV		

## PRODUCT INCLUDES



Model 6416 includes a hard carrying case, calibration loop, four 1.5V AA batteries and a user manual.

Model 6417 also includes a Bluetooth USB adapter, quick start guide, and a USB stick with DataView® software and user manual.



## ORDERING INFORMATION

- Ground Resistance Tester Model 6416 (Clamp-On, Alarm, Memory)
- Ground Resistance Tester Model 6417 (Clamp-On, Bluetooth, Alarm, Memory, DataView® software)

## CATALOG NO.

- Cat. #2141.01
- Cat. #2141.02



**United States & Canada**

**Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments**

15 Faraday Drive  
Dover, NH 03820 USA  
Tel (508) 698-2115  
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**Customer Support**  
Place orders, obtain prices  
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**Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments**  
15 Faraday Drive  
Dover, NH 03820 USA  
**export@aemc.com**

**Australia & New Zealand**

**Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments**  
15 Faraday Drive  
Dover, NH 03820 USA  
**export@aemc.com**

**All other countries**  
**Chauvin Arnoux<sup>®</sup>**  
190, rue Championnet  
75876 Paris Cedex 18, France  
Tel 33 1 44 85 45 28  
Fax 33 1 46 27 73 89  
**info@chauvin-arnoux.com**  
**www.chauvin-arnoux.com**

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**VOLUME 21**

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AEMC<sup>®</sup> Instruments • 15 Faraday Dr. • Dover, NH 03820 USA • (800) 343-1391 • Fax (603) 742-2346 • E-mail: [sales@aemc.com](mailto:sales@aemc.com)  
Export Department: +1 (603) 749-6434 x520 • Fax +1 (603) 740-7550 • E-mail: [export@aemc.com](mailto:export@aemc.com)

950.BR-6416-6417\_0222 • Printed in the USA

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