

# GROUND RESISTANCE TESTERS



# GROUND RESISTANCE TESTERS

## DIGITAL TESTER

### MODELS 4620 & 4630

Both models will perform over 2000 measurements for the 15 second tests between recharging or battery replacement



cover closed

cover open

### FEATURES

- Ground Integrity® Measurement
- 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 and test current
- Designed to reject high levels of noise and interference
- Extremely simple to operate: connect - press - hold - 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 battery pack (Model 4630)
- Rugged dustproof and watertight field case
- Color-coded terminals

### SPECIFICATIONS

MODELS	4620		4630
ELECTRICAL			
Range	20Ω	200Ω	2000Ω
Measurement Range	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	±5% of Reading ±3cts
Auxiliary Electrode Influence			
Max Res. in Current Circuit	3kΩ	30kΩ	50kΩ
Max Res. in Voltage Circuit	50kΩ	50kΩ	50kΩ
Response Time	Approximately four to eight seconds for a stabilized measurement		
Withstanding Voltage	250Vac or 100Vdc		
Power Source	Eight C cell batteries (included); Alkaline recommended		120/230V 50/60Hz Rechargeable 9.6V, 3.5 Ah NiMH battery pack (included)
Battery Life	>2000 15-second measurements; LO BAT indication on LCD		
Fuse Protection	0.1A, >250V, 0.25 x 1.25"; 30kA Interrupt Capacity		



### PRODUCT INCLUDES

Soft carrying case, batteries (4620 is C-cell & 4630 is rechargeable) and user manual

Model 4630 Kit - 500 ft. shown

PLEASE REFER TO PAGE 81 FOR TEST KIT DESCRIPTIONS

CATALOG NO.	DESCRIPTION
2130.43	Ground Resistance Tester Model 4620 (Digital, 4-Point, Battery Powered)
2130.44	Ground Resistance Tester Model 4630 (Digital, 4-Point, Rechargeable Battery)
2135.19	Ground Resistance Tester Model 4620 Kit - 150ft (Model 4620 and Catalog #2135.35)
2135.20	Ground Resistance Tester Model 4620 Kit - 300ft (Model 4620 and Catalog #2135.36)
2135.21	Ground Resistance Tester Model 4620 Kit - 500ft (Model 4620 and Catalog #2135.37)
2135.22	Ground Resistance Tester Model 4630 Kit - 150ft (Model 4630 and Catalog #2135.35)
2135.23	Ground Resistance Tester Model 4630 Kit - 300ft (Model 4630 and Catalog #2135.36)
2135.24	Ground Resistance Tester Model 4630 Kit - 500ft (Model 4630 and Catalog #2135.37)
2130.60	Tape Measure (100 ft)
2135.35	Test Kit for 3-Point Testing - 150ft (see page 70 for descriptions)
2135.36	Test Kit for 4-Point Testing - 300ft (see page 70 for descriptions)
2135.37	Test Kit for 4-Point Testing - 500ft (see page 70 for descriptions)
2135.38	Ground Test Kit for 3-Point Testing (Supplemental for 4-Point testing - includes two 100ft color-coded leads, one 30ft lead (green), two 14.5" T-shaped auxiliary ground electrodes and soft carrying bag)
2130.59	Calibration Checker - 25Ω for Models 3640, 4500, 4610, 4620 and 4630

# GROUND RESISTANCE TESTERS

## CLAMP-ON



### MODELS 6416 & 6417

Provides high safety level with new ground voltage indication feature

## SPECIFICATIONS

MODELS	6416 & 6417		
ELECTRICAL			
Ground Resistance	Measurement Range	Resolution	Accuracy (% of Reading)
Auto-Ranging 0.01 to 1499Ω	0.010 to 0.099Ω	0.001Ω	±1.5% ±0.01Ω
	0.10 to 0.99Ω	0.01Ω	±1.5% ±0.02Ω
	1.0 to 49.9Ω	0.1Ω	±1.5% ±0.1Ω
	50.0 to 99.5Ω	0.5Ω	±2% ±0.5Ω
	100 to 199Ω	1Ω	±3% ±1Ω
	200 to 395Ω	5Ω	±5% ±5Ω
	400 to 590Ω	10Ω	±10% ±10Ω
	600 to 1150Ω	50Ω	20% approx
	1200 to 1500Ω	50Ω	25% approx
Current Measurement	0.200 to 0.999mA	1μA	±2% ±50μA
Auto-Ranging 1mA to 40A	1.000 to 2.990mA 3.00 to 9.99mA	10μA	±2% ±50μA
	10.00 to 29.90mA 30.0 to 99.9mA	100μA	±2% ±100μA
	100.0 to 299.0mA 0.300 to 0.990A	1mA	±2% ±1mA
	1.000 to 2.990A 3.00 to 39.99A	10mA	±2% ±10mA
Selectable Measurement Frequency	50, 60, 128 or 2083Hz		
Current Measurement Frequency	47 to 800Hz		
Inductance Measurement	10 to 100μH; 100 to 500μH		
Current Overload	OL displayed above 39.99Arms		
Communication	Bluetooth connection (Model 6417 only)		
Power Source	4x1.5V LR6 (AA) Alkaline batteries or 4 NiMH batteries; Battery life: 12 hours, or 1440 30-second measurements approx.		



\*Model 6417 only

## FEATURES

- Ground Integrity® Measurement
- Ground voltage indication (warns of possible unsafe conditions)
- Large multi-function bright yellow organic LED display (OLED)
- Selectable test frequency (improves accuracy in inductive environments)
- Clamping diameter of 1.37" (35mm) with large jaw design
- Storage of measurements (Ω and/or A, with time-stamping)
- Model 6416: up to 300 measurements stored
- Model 6417: up to 2000 measurements stored
- View stored measurements on the OLED display or via Bluetooth (Class 2 - communicates up to 30ft) to a PC or the Android™ based mobile application (Model 6417)
- Auto Power OFF function
- Alarm function with adjustable set point and buzzer for quick field checks for volts, amps and ohms
- Rugged Lexan® head and body construction resists breakage
- Alarm settings and stored memory information saved during shutdown
- Includes DataView® software for data retrieval, real-time display, analysis, report generation and system configuration (Model 6417)
- Noise icon and buzzer alert user to presence of dangerous voltage and current levels
- Designed to EN 61010-1, 600V CAT IV safety standards

## PRODUCT INCLUDES

### MODEL 6416

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

### MODEL 6417

also includes a Bluetooth USB adapter, quick start guide, and a USB drive with DataView® software, ground workbook and user manual.



CATALOG NO.	DESCRIPTION
2141.01	Ground Resistance Tester Model 6416 (Clamp-On, Alarm, Memory)
2141.02	Ground Resistance Tester Model 6417 (Clamp-On, Bluetooth, Alarm, Memory)

# GROUND RESISTANCE TESTERS

## CLAMP-ON

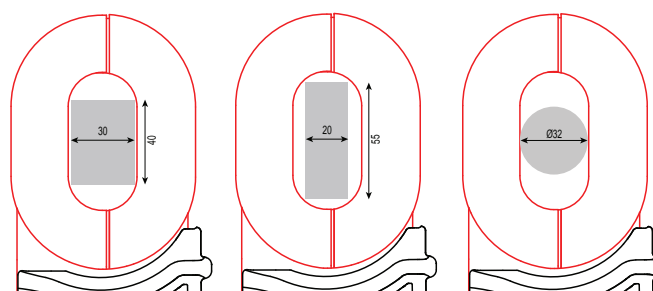
### MODEL 6418

Designed for measuring ground impedance on ground rods and bus bars



### SPECIFICATIONS

MODEL	6418		
ELECTRICAL			
Ground Resistance	Measurement Range	Resolution	Accuracy (% of Reading)
Auto Ranging	0.010 to 0.099Ω	0.001Ω	±1.5% ±0.01Ω
	0.10 to 0.99Ω	0.01Ω	±1.5% ±0.02Ω
	1.0 to 49.9Ω	0.1Ω	±1.5% ±0.1Ω
	50.0 to 149Ω	1Ω	±2.5% ±2Ω
	150 to 245Ω	5Ω	±5% ±10Ω
	250 to 440Ω	10Ω	±10% ±20Ω
	450 to 640Ω	10Ω	±15% ±20Ω
	650 to 1200Ω	50Ω	±20% Reading +100Ω
Measurement Frequency	2083Hz		
Current Measurement	0.50 to 9.950mA	50μA	±2% +200μA
Auto Ranging 1mA to 40A	10.00 to 99.90mA	100μA	±2% +100μA
	100.0 to 299.0mA	1mA	±2% ±1mA
	0.300 to 2.990A	10mA	±2% ±10mA
	3.000 to 20.00A	100mA	±2% ±100mA
Current Measurement Frequency	47 to 800Hz		
Current Overload	OL displayed above 19.99Arms		
Power Source	4x1.5V LR6 (AA) Alkaline batteries or 4 NiMH batteries; Battery life: 12 hours, or 1440 30-second measurements approx.		



CLAMPING CHARACTERISTICS

### FEATURES

- Ground Integrity® Measurement
- Large multi-function bright yellow organic LED display (OLED) 48 x 39mm
- Clamping diameter accommodates both cable and bus bar
- Storage of measurements (Ω and/or A, with time-stamping)
- Up to 300 measurements stored
- View stored measurements on the OLED display
- Auto Power OFF function
- Auto Hold
- Alarm function with adjustable set point and buzzer for quick field checks for amps and ohms
- 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 current levels
- Designed to EN 61010-1, 100V CAT IV 150V CAT III safety standards
- Automatic calibration of the jaw gap at power-up

### PRODUCT INCLUDES

#### MODEL 6418

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



#### CATALOG NO.

#### DESCRIPTION

2141.03 Ground Resistance Tester Model 6418 (Clamp-On, Alarm, Memory, Oblong Jaws)

# GROUND RESISTANCE TESTERS

## CLAMP-ON

### Functional Displays



#### MEASUREMENT RESULTS



Displays the leakage current and loop impedance at the test frequency

#### MEMORY RECALL MODE



Measurement storage date-time screen

#### ALARM



Indicates voltage/current alarm threshold along with the direction of impedance

#### LOOP DETECTION



Detects and displays possible false readings associated with metal loops

#### GROUND VOLTAGE



Indicates voltage potential at the point of measurement

#### IMPEDANCE OVER RANGE



Indicates that the impedance is greater than 1500Ω



# GROUND RESISTANCE TESTERS

## MULTI-FUNCTION

### MODEL 6471

Test ground resistance without the need of auxiliary rods or with the 3- and 4- Point methods



### SPECIFICATIONS

<b>MODEL</b>	<b>6471</b>
<b>ELECTRICAL</b>	
<b>2 Clamp Measurement</b>	
Range	0.10 to 500Ω
Resolution	0.01 to 1Ω
Measurement Frequency	Auto: 1611Hz Manual: 128Hz-1367Hz-1611Hz-1758Hz
<b>3-Point Measurement</b>	
Range (Auto-Ranging)	0.09Ω to 99.9kΩ
Resolution	0.01Ω to 100Ω
Test Voltage	Nominal 16 or 32Vrms user selectable
Resistance Measurement Frequency	41 to 513Hz automatic or user selectable
Test Current	Up to 250mA
Accuracy	±2% of Reading + 1ct @ 128Hz
<b>Soil Resistivity 4-Point Measurement</b>	
Test Method	Wenner or Schlumberger selectable with automatic calculation in Ω-meters
Range (Auto-Ranging)	0.01 to 99.99kΩ; max: 999kΩm
Resolution	0.001 to 10Ω
Test Voltage	16 or 32V user selectable
Frequency	From 41 to 128Hz selectable
<b>External Voltage Measurement</b>	
Range (Auto-Ranging)	0.1 to 65.0V <sub>AC/DC</sub> – DC to 440Hz
Accuracy	±2% of Reading + 1ct
<b>Resistance Measurement (Bond Testing)</b>	
Measurement Type	2-Pole (with lead resistance compensation) or 4-Pole (Kelvin sensing) user selectable
Range (Auto-Ranging)	2-Pole 0.02 to 99.99kΩ; 4-Pole 0.02 to 99.99kΩ
Accuracy	±2% of Reading + 2cts
Test Voltage	16V <sub>DC</sub> (+, - or auto polarity)
Test Current	Up to 250mA max
<b>Data Storage</b>	
Memory Capacity	512 test results (64KB)
Communication	Optically Isolated USB
Power Source	9.6V rechargeable battery pack (included)
Recharging Source	110/220V, 50/60Hz external charger with 18V <sub>DC</sub> , 1.9A output



The Model 6471 provides a fast and easy way to measure the value of the earth/ground using the 2 Clamp method (no auxiliary rods needed).



### KIT SHOWN 300FT KIT: CATALOG #2135.50

Includes meter, carrying bag for meter, carrying bag for kit, two 300ft color-coded leads on spools (red/blue), two 5ft color-coded leads (red/blue), two 100ft color-coded leads (hand-tied, green/black), two SR182 current probes, rechargeable NiMH batteries, optical USB cable, power adapter 110/240V with power cord 115V US, four T-shaped auxiliary ground electrodes, set of five spaded lugs, one 100ft tape measure, and USB drive supplied with DataView® software, ground tester workbook and user manual.

### PRODUCT INCLUDES

#### 2135.48

Meter, carrying bag, 110/240V power adapter with US power cord, optical USB cable, rechargeable NiMH battery, DataView® software, ground tester workbook and user manual.

#### 2135.49

Meter, carrying bag, set of two SR182 current probes, 110/240V power adapter with US power cord, optical USB cable, rechargeable NiMH battery, DataView® software, ground tester workbook and user manual.

### ACCESSORIES



**MN82 CURRENT PROBE**  
(2mA to 10Arms)  
Catalog #2135.71  
(optional)



**SR182 CURRENT PROBE**  
(0.5MA TO 40ARMS)  
Catalog #2135.72 (optional)



**REEL CADDY**  
Catalog #2135.85  
(optional) Set of two, for use with ground kit spools

# GROUND RESISTANCE TESTERS

## MULTI-FUNCTION

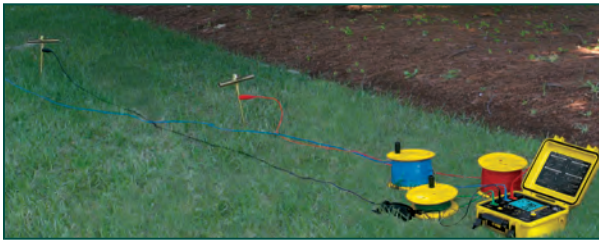


**MODEL 6472**

Used under difficult conditions such as the presence of high stray currents that normally affect accuracy



cover closed



The Model 6472 provides an automated way to measure the value of the earth/ground using the Fall-of-Potential method and storing measurements.

## TEST KITS

### 6472 METER

300ft Kit: Catalog #2135.53

500ft Kit: Catalog #2135.54 (shown)

Refer to page 40 for  
Model 6472 Kit descriptions  
Catalog #2135.35, #2135.36 & #2135.37



## ACCESSORIES

### MN82 CURRENT PROBE (2MA TO 10ARMS)

Catalog #2135.71 (optional)



### SR182 CURRENT PROBE (0.5MA TO 40ARMS)

Catalog #2135.72 (optional)



### REEL CADDY

Catalog #2135.85 (optional)

Set of two, for use with  
ground kit spools



## SPECIFICATIONS

MODEL	6472
<b>ELECTRICAL</b>	
<b>3-Point Measurement</b>	
Range (Auto-Ranging)	0.09Ω to 99.9kΩ
Resolution	0.01 to 100Ω
Test Voltage	Nominal 10, 16, 32 or 60Vrms user selectable
Resistance Measurement Frequency	41 to 5078Hz automatic or user selectable
Test Current	Up to 250mA
Accuracy	±2% of Reading + 1ct @ 128Hz
<b>2 Clamp Measurement</b>	
Range	0.1 to 500Ω
Resolution	0.01 to 1Ω
Measurement Frequency	Auto: 1611Hz Manual: 128Hz-1367Hz-1611Hz-1758Hz
<b>Soil Resistivity 4-Point Measurement</b>	
Test Method	Wenner or Schlumberger selectable with automatic calculation of test results in Ω-meters
Range (Auto-Ranging)	0.01 to 99.99kΩ; P max: 999kΩm
Resolution	0.01 to 100Ω
Test Voltage	16 or 32V user selectable
Frequency	From 41 to 128Hz selectable
<b>External Voltage Measurement</b>	
Range (Auto-Ranging)	0.1 to 65.0VAC/DC - DC to 440Hz
Accuracy	±2% of Reading + 1ct
<b>Resistance Measurement (Bond Testing)</b>	
Measurement Type	2-Pole (with lead resistance compensation) or 4-Pole (Kelvin sensing) user selectable
Range (Auto-Ranging)	2-Pole 0.02Ω to 99.99kΩ; 4-Pole 0.02Ω to 99.99kΩ
Accuracy	±2% of Reading + 2cts
Test Voltage	16Vdc (+, - or auto polarity)
Test Current	Up to 250mA max
<b>Data Storage</b>	
Memory Capacity	512 test results (64KB)
Power Source	9.6V rechargeable battery pack (included)
Recharging Source	110/220V, 50/60Hz external charger with 18Vdc, 1.9A output

## PRODUCT INCLUDES

Meter, carrying bag, 110/240V power adapter with US power cord, optical USB cable, rechargeable NiMH battery pack, DataView® software, ground tester workbook and user manual.

# GROUND RESISTANCE TESTERS

## MULTI-FUNCTION

### Large Functional Displays

#### FEATURES

Ground Integrity® Measurement

Ground Resistance testing using the 2 clamp method (no auxiliary rods needed)

2- and 4-Point Bond Resistance/Continuity measurement (DC Resistance) with automatic polarity reversal

3-Point Fall-of-Potential measurement with manual or automatic frequency selection

4-Point Soil Resistivity measurement with automatic calculation of Rho ( $\rho$ ) and user selection of the Wenner or Schlumberger test method

3-Point Earth Coupling measurement

Manual and Automatic frequency scan from 41 to 5078 Hz for optimum test accuracy in electrically noisy environments

Selectable test voltage of 16 or 32V up to 250mA of test current

Auto Power OFF feature

Automatic recognition of all electrode connections and their resistance value

Stores up to 512 complete test results in internal memory

Display with automatic backlight when entering a function

Optically isolated USB communication cable included

Rechargeable NiMH batteries from wall charger or vehicle power

Rugged dustproof and water-resistant field case – IP53 rated in closed position

Grounding standards IEC 61557 parts 4 and 5 compliant

Includes DataView® software for set up, data retrieval, real-time display, analysis, report generation and system configuration

Can also be used for continuity tests on bonding

#### 4-POINT BOND TEST



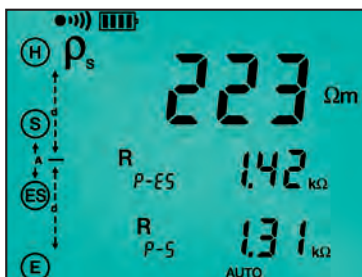
The 4-Point Bond test shows lead connections, bond resistance test results, test voltage and current.

#### 3-POINT FALL-OF-POTENTIAL TEST



The 3-Point Fall-of-Potential test displays test lead connection, grounding rod resistance and test electrode resistances.

#### SCHLUMBERGER TEST



The Schlumberger test displays test lead connection, soil resistivity ( $\rho$ ) test results and electrode spacing.

#### TWO CLAMP TEST



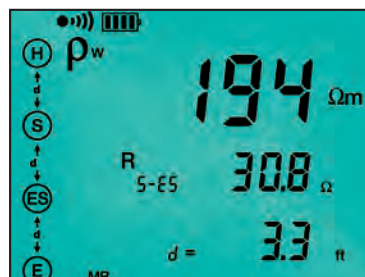
The 2 Clamp method displays clamp connection resistance, test current and frequency.

#### DATA STORAGE



Memory Recall displays test results stored at a specific memory location.

#### WENNER TEST



The Wenner test displays test lead connection, soil resistivity ( $\rho$ ) test results, electrode spacing and resistance.

CATALOG NO.	DESCRIPTION
2135.48	Ground Resistance Tester Model 6471 (2-Point, 3-Point, 4-Point, Bond Test, Digital, Rechargeable Battery, DataView® software) <b>SR182 probes not included</b>
2135.49	Ground Resistance Tester Model 6471 (set of two SR182 current probes, 2-Point, 3-Point, 4-Point, Bond Test, Digital, Rechargeable Battery, DataView® software)
2135.50	Ground Resistance Tester Model 6471 Kit – 300ft (Catalog #2135.49 and Catalog #2135.36)
2135.51	Ground Resistance Tester Model 6472 (2-Point, 3-Point, 4-Point, Bond Test, Digital, Rechargeable Battery, DataView® software)
2135.53	Ground Resistance Tester Model 6472 Kit – 300ft (Model 6472 and Catalog #2135.36)
2135.54	Ground Resistance Tester Model 6472 Kit – 500ft (Model 6472 and Catalog #2135.37)
2135.60	Ground Resistance Tester Model 6471 Kit – 300ft (Catalog #2135.48 and Catalog #2135.36) w/o SR
2135.61	Ground Resistance Tester Model 6471 Kit – 500ft (Catalog #2135.48 and Catalog #2135.37) w/o SR
2135.71*	AC Current Probe Model MN82 for use with Model 6471 and 6472
2135.72*	AC Current Probe Model SR182 for use with Model 6471 and 6472
2135.85	Caddy – Set of 2, Reel Caddy for use w/ Ground Kit Spools

\*2 probes required for two clamp testing method.



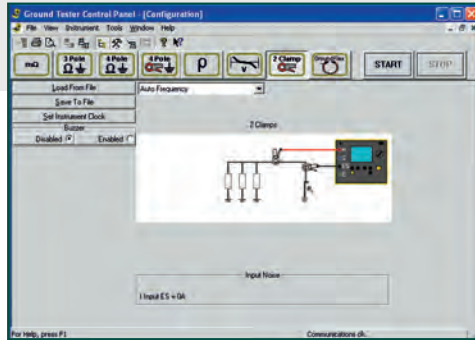
# GROUND RESISTANCE TESTERS

## MULTI-FUNCTION

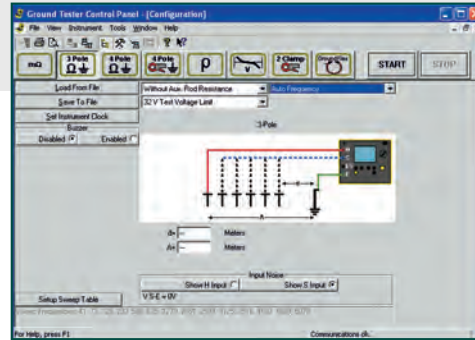
### GROUND TESTERS MODELS 6471 & 6472

#### Typical DataView® Functional Displays

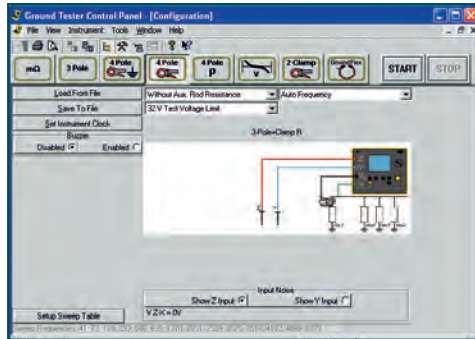
##### 2 CLAMP METHOD SETUP



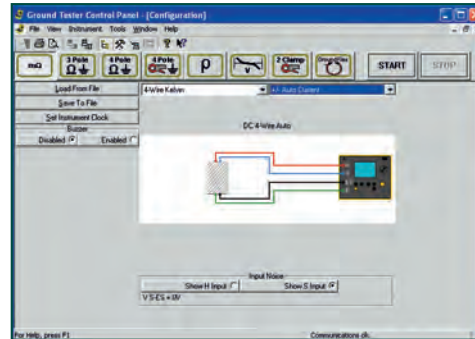
##### FALL-OF-POTENTIAL, STEP-TOUCH POTENTIAL



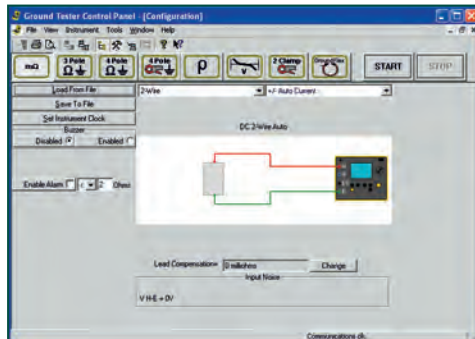
##### SELECTIVE 3-POINT TESTING OF MULTIPLE RODS



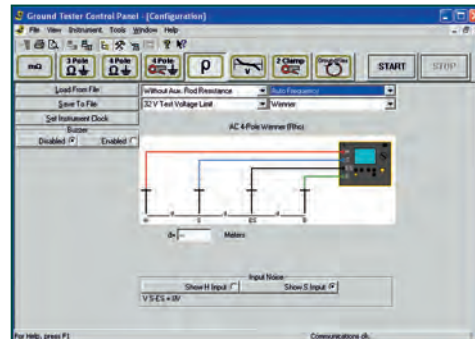
##### 4-POINT BONDING FOR VERY LOW RESISTANCE



##### BONDING



##### SOIL RESISTIVITY



## OPTIONAL KITS

### 150FT KIT

Catalog #2135.35  
Test Kit for 3-Point testing includes carrying bag, two 150ft color-coded leads on spools (red/blue), two 5ft color-coded leads (red/blue), one 30ft lead (green), two 14.5" T-shaped auxiliary ground electrodes, one set of five spaded lugs and 100ft tape measure.



### 300FT KIT

Catalog #2135.36  
Test Kit for 4-Point testing includes carrying bag, two 300ft color-coded leads on spools (red/blue), two 5ft color-coded leads (red/blue), two 100ft color-coded leads (green and black), four 14.5" T-shaped auxiliary ground electrodes, one set of five spaded lugs and 100ft tape measure.



### 500FT KIT

Catalog #2135.37  
Test Kit for 4-Point testing includes carrying bag, two 500ft color-coded leads on spools (red/blue), two 5ft color-coded leads (red/blue), two 100ft color-coded leads (green and black), one 30ft lead (green), four 14.5" T-shaped auxiliary ground electrodes, one set of five spaded lugs and 100ft tape measure.



# GROUND RESISTANCE TESTERS

## MULTI-FUNCTION

### GROUNDFLEX® FIELD KIT

Test active tower grounds safely without de-energizing or disconnecting any cables. Unique in the industry!



cover closed



### SPECIFICATIONS

MODELS	6472 & 6474						
ELECTRICAL	3-POINT METHOD	4-POINT SELECTIVE METHOD	GROUND MEASUREMENT WITH 2 CLAMPS	SOIL RESISTIVITY	GROUND POTENTIAL MEASUREMENT	DC RESISTANCE MEASUREMENT	MEASUREMENTS WITH 6474
Range (Auto-Ranging)	0.01W to 99.9kW	0.001 to 99.99W	0.01 to 500W	0.01W to 99.9kW	0.01mV to 65.00V	0.001W to 99.9kW	0.001W to 99.9kW
Resolution	0.01 to 100W	0.001 to 10W	0.01 to 1W	0.01 to 100W	0.01 to 10mV	2 wires: 0.01 to 100W 4 wires: 0.001 to 10W	0.001 to 10W
Accuracy	±(2% + 1 count)	±(2% + 1 count)	±(10% + 1 count)	±(2% + 1 count)	±(5% + 1 count)	±(2% + 2 counts)	±(5% + 1 count)
No-Load Voltage	10, 16, 32 or 60Vrms	10, 16, 32 or 60Vrms	10, 16, 32 or 60Vrms	10, 16, 32 or 60Vrms	10, 16, 32 or 60Vrms	±16Vdc	10, 16, 32 or 60Vrms
Measurement Frequency	41 to 5078Hz	41 to 5078Hz	Auto: 1611Hz Manual: 128Hz, 1367Hz, 1611Hz, 1758Hz	41 to 128Hz	41 to 128Hz	DC	41 to 5078Hz
Coupling Measurement	Yes	-	-	-	-	-	-
Auxiliary Rod Resistance Measurement	0.1W to 100kW	0.01W to 100kW	-	-	-	-	0.01W to 100kW
Voltage Interference	Maximum 60Vpeak						
Soil Resistivity	-	-	-	Wenner and Schlumberger	-	-	-
Type of Measurement	3 wires	4 wires	-	4 wires	3 wires	2 wires or 4 wires	-
Measurement Current	-	-	-	-	-	> 200mA DC	-
MECHANICAL							
Memory/Communication	512-record memory / optical link / USB						
Dimensions/Weight	10.7 x 9.84 x 5.04" (272 x 250 x 128mm) / Model 6472: 7.05lbs (3.2kg) / Model 6474: 5.07lbs (2.3kg)						
Protection Safety	IP53 (cover closed)						
Electrical Safety	50V CAT IV, complies with IEC 61326-1 / IEC 61010 / IEC 61557-1-4-5						

#### GROUNDFLEX® FIELD KIT MODEL 6474

Includes Groundflex® Adapter Model 6474, four Groundflex® sensors (5m) with twelve color-coded rings, connection lead, two extension leads on H reel (black/green) with color-coded alligator clips, one extra black and green alligator clip, six BNC extension leads, calibration loop, three C-clamps, carrying case with wheels and handle for meters, one inverter 12Vdc to 120Vac 200 watt (vehicle use) and user manual. Catalog #2136.03 (includes Cat. #2135.54)

Shown: Model 6474 Kit



#### INCLUDED IN KIT:

##### GROUND TESTER MODEL 6472 KIT-500FT

Includes meter, rechargeable NiMH batteries, optical USB cable, power adapter 110/240V with power cord 115V US, two 500ft color-coded leads on spools (red/blue), two 100ft color-coded leads (hand-tied, green/black), one 30ft lead (green), four T-shaped auxiliary ground electrodes, one 100ft AEMC® tape measure, DataView® software, ground tester workbook and user manual on USB drive, carrying bag for meter and carrying bag for kit. Catalog #2135.54

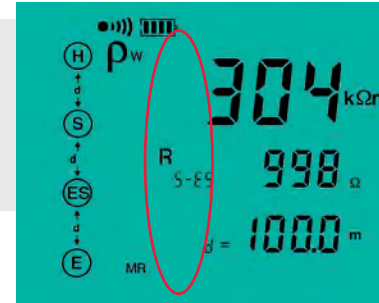


# GROUND RESISTANCE TESTERS

## MULTI-FUNCTION

### AUTOMATIC RECOGNITION AND DISPLAY OF INPUT CONNECTIONS TO MATCH TEST

The connections are displayed and flash if incorrect or absent for the test selected.



## FEATURES

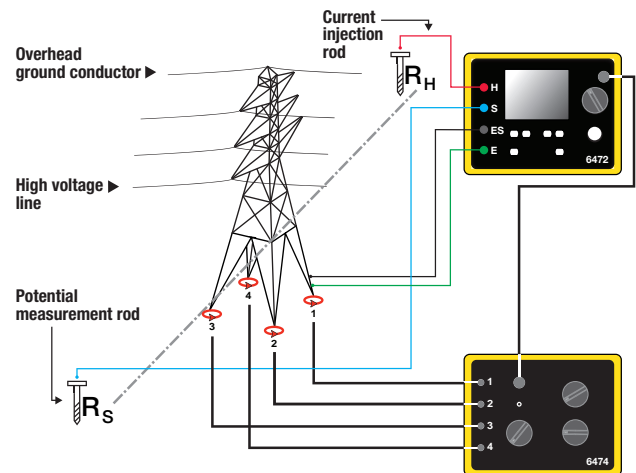
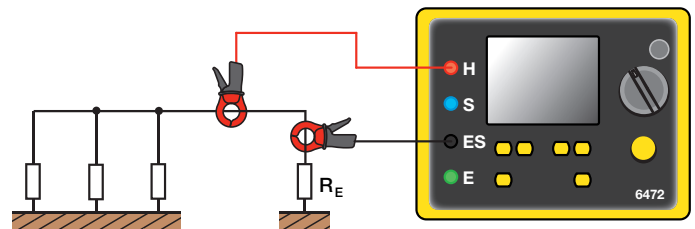
- Ground Integrity® Measurement
- 3- and 4-Point Fall-of-Potential measurement with manual or automatic frequency selection
- 4-Point soil resistivity measurement with automatic calculation of Rho ( $\rho$ ) and user selection of the Wenner or Schlumberger test method
- 2- and 4-Wire DC resistance measurement (Bond testing) with automatic polarity reversal
- 3-Point Earth coupling measurement
- Automatic frequency scan from 40 to 5078Hz for optimum test accuracy in electrically noisy environments
- Selectable test voltage limit of 16 or 32V with up to 250mA of test current
- Automatic recognition of all electrode connections and measurement of their resistance value
- Determines bonding condition of overhead ground conductors
- Auto Power OFF management
- Optically isolated USB communication
- Remote set up and operation of all measurements using DataView® software supplied
- Automatic report generation
- Rechargeable NiMH batteries from wall charger or vehicle power
- Rugged dustproof and water-resistant field case — IP53 rated in closed position
- IEC 61557 parts 4 and 5 compliant
- Includes DataView® software for data retrieval, real-time display, analysis, report generation and system configuration

### GROUND MEASUREMENT ON TOWERS WITH GROUND CABLE

High-voltage lines are usually equipped with a ground cable to allow lightning to discharge to ground via the tower. As all the towers are all connected to this conductor, all the tower's resistances are in parallel. This means it is impossible to measure tower resistance using traditional 3-Point methods unless the ground cable is disconnected, which is a dangerous and time-consuming operation.

### GROUND RESISTANCE MEASUREMENT USING 2 CLAMPS

For systems with parallel ground connections, the Model 6472 is capable of accurately measuring a ground resistance using clamps only. This method involves placing 2 clamps around the ground conductor to be tested and connecting them each to the instrument. One clamp injects a known signal (32V/1367Hz) while the other clamp measures the current circulating in the loop. This method saves considerable time when ground testing because it is no longer necessary to set up auxiliary rods or to disconnect the ground connector.



4 AmpFlex® channels connected

CATALOG NO.	DESCRIPTION
2136.03	Groundflex® Field Kit Model 6474 (Includes Cat. #2135.54)
2136.05	Groundflex® Adapter Model 6474 w/{1} 10m Groundflex® Sensor (Includes Cat. #2135.54)

# GROUND RESISTANCE TESTERS

## SELECTION CHART

AEMC MODEL NUMBER	AEMC CATALOG NUMBER	RESISTANCE RANGE	POWER SOURCE	2 POINT TEST	3 POINT TEST	4 POINT/ SELECTIVE	SOIL RESISTIVITY TEST	EARTH COUPLING	2 CLAMP	BONDING	DISPLAY	VOLTAGE INDICATION	INDUCTANCE INDICATION	SWEEP FREQUENCY
6416	2141.01	0.01 to 1500Ω	Battery	Clamp-On Ground Resistance Tester w/Alarm & Memory				—	—	✓**	Digital	Voltage Displayed (noise icon, buzzer)	✓	—
6417	2141.02	0.01 to 1500Ω	Battery	Clamp-On Ground Resistance Tester w/Alarm, Memory & Bluetooth communication				—	—	✓**	Digital	Voltage Displayed (noise icon, buzzer)	✓	—
Groundflex® Field Kit Model 6474	2136.03	0.001Ω to 99.99kΩ	Rechargeable Battery	—	✓	✓	✓	✓	—	✓	Digital	Value Displayed	—	✓
6471 (SR182 probes not included)	2135.48	0.01 to 99.99kΩ	Rechargeable Battery											
6471	2135.49			✓	✓	✓	✓	✓	✓	✓	Digital	Value Displayed	—	—
6471 Kit 300FT	2135.50													
6472	2135.51	0.01 to 99.99kΩ	Rechargeable Battery											
6472 Kit 300FT	2135.53			✓	✓	✓	✓	✓	✓	✓	Digital	Value Displayed	—	✓
6472 Kit 500FT	2135.54													
4620	2130.43	0.0 to 1999Ω	Battery	✓	✓	—	✓	—	—	—	Digital	LED/Buzzer	—	—
4620 Kit 150FT	2135.19						✓*							
4620 Kit 300FT	2135.20	0.0 to 2000Ω	Battery	✓	✓	—	✓	—	—	—	Digital	LED/Buzzer	—	—
4620 Kit 500FT	2135.21	0.0 to 1999Ω												
4630	2130.44	0.0 to 1999Ω	Rechargeable Battery	✓	✓	—	✓	—	—	—	Digital	LED/Buzzer	—	—
4630 Kit 150FT	2135.22						✓*							
4630 Kit 300FT	2135.23													
4630 Kit 500FT	2135.24						✓							

\* Performing soil resistivity tests with this kit requires two additional auxiliary electrodes not supplied in the 150ft kit and one additional test lead.

\*\* Clamp-on Ground Resistance Tester can measure system continuity inclusive of all bonding points.