

# Multi-Function Ground Resistance Tester Model 6471



Model 6471

AC Current Probes  
Model SR182

## Features

- 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 513Hz for optimum test accuracy in electrically noisy environments
- Selectable test voltage of 16 or 32V up to 250mA of test current
- Auto-off power management
- Automatic recognition of all electrode connections and their resistance value
- Stores up to 512 complete test results in internal memory
- Optically isolated USB communication
- Remote set up and operation of all measurements using DataView® software
- Rechargeable NiMH batteries from wall charger or vehicle power
- Rugged dustproof and rainproof field case – IP54 rated in closed position
- Grounding standards IEC 61557 parts 4 and 5 compliant
- Includes DataView® software for data storage, real-time display, analysis, report generation and system configuration

## Description

The Ground Resistance Tester Model 6471 is a portable measurement instrument designed to measure Ground Resistance with 2 clamps (no auxiliary rods), Bond/Connection Resistance (2-Point and 4-Point Kelvin sensing), Ground Resistance (3-Point or 4-Point), Ground Coupling Resistance, and Selective Ground Resistance, Soil Resistivity (Wenner or Schlumberger method).

The Model 6471 measures from 0.01 to 99.99k $\Omega$  and is auto-ranging, automatically seeking out the optimum measurement range, test frequency and test current.

Easy-to-use – Simply connect the leads, select test mode, press Start and read the results. Up to 512 test results can be stored in internal memory for recall to the display or downloaded to a PC via DataView® software.

The large LCD is easy-to-read and indicates ground electrode resistance, test voltage, current and frequency as well as individual electrode resistance, battery status and more.

The Model 6471 is Cat IV rated to 50V and is over voltage protected to more than 250V<sub>AC</sub> against accidental live connection to live circuits. The voltage is also displayed on screen. In the event of a system fault, the Model 6471 can withstand 250V<sub>AC</sub>.

Additional features of the Model 6471 include manual and automatic test frequency selection from 40 to 513Hz, user selectable 3 or 4-Point Fall of Potential or 4-Point Soil Resistivity test methods and user selectable 2-Wire or 4-Wire Bond Resistance test method.

The Model 6471 is powered by 9.6V, 3.5 Ah NiMH rechargeable batteries. An external recharger powered from 120/230V, 50/60Hz is included and provides for testing while recharging. The Model 6471 can also be vehicle powered from an optional 12V battery adapter. (Cat. #2135.42)

## SPECIFICATIONS

MODEL	6471
<b>ELECTRICAL</b>	
<b>2 Clamp Measurement</b>	
Range	0.01 to 500 $\Omega$
Resolution	0.01 to 1 $\Omega$
Measurement Frequency	Auto: 1367Hz Manual: 128Hz-1367Hz-1611Hz-1758Hz
<b>3-Point Measurement</b>	
Range (Auto-Ranging)	0.09 $\Omega$ to 99.9k $\Omega$
Resolution	0.01 $\Omega$ to 100 $\Omega$
Test Voltage	Nominal 16 or 32VRMS user selectable
Resistance Measurement Frequency	41 to 513Hz automatic or user selectable
Test Current	Up to 250mA
Accuracy	$\pm 2\%$ of Reading + 1ct @ 128Hz
<b>Soil Resistivity 4-Point Measurement</b>	
Test Method	Wenner or Schlumberger selectable with automatic calculation in $\Omega$ -meters, $\Omega$ -cm or $\Omega$ -feet
Range (Auto-Ranging)	0.01 to 99.99k $\Omega$ ; $\rho$ Max: 999k $\Omega$ m
Resolution	0.01 to 100 $\Omega$
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	$\pm 2\%$ of Reading + 1cts
<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 0.01 $\Omega$ to 99.9k $\Omega$ ; 4-Pole 0.001 $\Omega$ to 99.99k $\Omega$
Accuracy	$\pm 2\%$ 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
Communication	Optically Isolated USB
<b>Power Source</b>	
9.6V rechargeable battery pack	
<b>Recharging Source</b>	
110/220 50/60Hz external charger with 18V <sub>DC</sub> , 1.9A output or 12V vehicle power	

## Large Display!

### 4-Point Bond Test



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

### 3-Point Fall-of-Potential Test



The 3-Point Fall-of-Potential test displaying test lead connection, grounding electrode resistance, test voltage and frequency.

### 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.

### Schlumberger Test



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

NOTE: More information for each test is available by scrolling through the displays.

### Wenner Test



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

## Current Probe accessory options (For use in two probe and selective ground testing methods)

AC Current Probe  
Model MN82  
Catalog #2135.71



AC Current Probe  
Model SR182  
Catalog #2135.72



## DataView® Software for Model 6471



DataView® is included with the Model 6471.

- Configure all functions and parameters from your PC
- Display and analyze real-time data on your PC
- Customize views, templates and reports to your exact needs
- Create and store a complete library of configurations that can be uploaded to the Model 6471 as needed
- Zoom in and out and pan through sections of the graph to analyze the data
- Download, display and analyze recorded data
- Print reports using standard or custom templates you design



Includes meter, set of two SR182 current probes, rechargeable NiMH batteries, optical USB cable, power adapter 110/240V with power cord 115V US, two 300 ft color-coded leads on spools (red/blue), two 100 ft color-coded leads (hand-tied, green/black), four T-shaped auxiliary ground electrodes, set of five spaded lugs, one 100 ft AEMC® tape measure, DataView® software, ground tester workbook CD, carrying bag for meter, carrying bag for kit, product warranty and registration card and a user manual.  
Catalog #2135.50

CATALOG NO.	DESCRIPTION
2135.49	Ground Resistance Tester Model 6471 (set of 2 SR182 current probes, 2-Point, 3-Point, 4-Point, Bond Test, Digital, Rechargeable Battery, DataView® software)
2135.50	Ground Resistance Tester Model 6471 Kit – 300 ft (Catalog #2135.49 and Catalog #2135.36)
<b>Accessories (Optional)</b>	
2135.71*	AC Current Probe Model MN82 for use with Model 6471
2135.72*	AC Current Probe Model SR182 for use with Model 6471

\*2 probes required for two clamp testing method.

