

M71 - GEO416

INSTRUMENTS FOR MEASURING EARTH RESISTANCE AND GROUND RESISTIVITY

Models M71 and GEO416 are innovative instruments for measuring ground resistance with 2-wire and 3-wire methods and ground resistivity (only GEO416) with 4-wire method in compliance with reference standards. The instruments allow carrying out measurements with a wide measuring range (50k Ω) and an efficient internal compensation of the disturbance effects present on systems. Model GEO416, differently from model M71, allows storing each measurement result in its own internal memory and to download the saved data with the aid of the dedicated software.

FUNCTIONS	M71	GEO416
2-wire earth measurement	•	•
3-wire earth measurement	•	•
Measuring range	0.01 Ω -50k Ω	0.01 Ω -50k Ω
4-wire method ground resistivity		•
Compensation of disturbance voltages	•	•
Compensation of test cables	•	•
Storage of results		•
Optical/USB interface for connection to PC		•
Safety	EN61010-1	EN61010-1
Measurement category	CAT III 240V	CAT III 265V
Power supply	4x1.5V bat.type AA	6x1.5V bat.type AA
Dimensions (LxWxH)	240x100x45	222x162x57
Weight (batteries included)	630g	1kg

ACCESSORIES	Code
Standard	
Set of 3 cables + 3 alligator clips 2 metal probes (only M71)	KIT0071
Set of 4 cables + 4 metal probes (only GEO416)	KITERRNE
Set of 4 alligator clips (only GEO416)	COC4-UK
Carrying bag (only M71)	SP-6085
Carrying bag (only GEO416)	BORSA2000N
ISO9000 calibration certificate	
User manual on CD-ROM (only M71)	
Quick reference guide (only M71)	
Optional	
PC Windows software + optical / USB cable (only GEO416)	TOPVIEW2006



M71
HV000071



GEO416
HV000416





1. ELECTRICAL SPECIFICATIONS (*)

Accuracy in indicated as \pm (% of reading + number of digits) at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$; <60%HR

Earth Resistance 3-wire and 2-wire systems

Range (Ω)	Resolution (Ω)	Accuracy
0.01 ÷ 19.99	0.01	$\pm(2.5\%rdg + 2dgt)$
20.0 ÷ 199.9	0.1	
200 ÷ 1999	1	
2.00 ÷ 19.99k	0.01k	
20.0 ÷ 49.9k	0.1k	

Test current: $\leq 12\text{mAAC}$
 Open circuit voltage: $\leq 25\text{V ACTRMS}$
 Test frequency: $77.5\text{Hz} \pm 1\text{Hz}$
 Rprobes: $\leq 50\text{k}\Omega$

Earth Resistivity ρ with 4-wire method

Range (Ωm)	Resolution (Ωm)	Accuracy
0.06 ÷ 19.99	0.01	$\pm(2.5\%rdg + 2dgt)$
20.0 ÷ 199.9	0.1	
200 ÷ 1999	1	
2.00 ÷ 19.99k	0.01k	
20.0 ÷ 199.9k	0.1k	
0.20 ÷ 3.15M	0.01M	

Test current: $\leq 12\text{mAAC}$
 Open circuit voltage: $\leq 25\text{V ACTRMS}$
 Test frequency: $77.5\text{Hz} \pm 1\text{Hz}$
 Probe distance range: $1 \div 10\text{m}$
 Rprobes: $\leq 50\text{k}\Omega$

Noise Voltages

Range (V)	Resolution (V)	Accuracy
460	1	$\pm(2.0\%rdg + 2dgt)$




2. GENERAL SPECIFICATIONS

DISPLAY, MEMORY, SERIAL INTERFACE:

Features:	Custom LCD with backlight
Visible area:	73x65 mm
Memory:	999 locations
Serial interface:	RS-232 /USB

POWER SUPPLY:

Batteries:	6 batteries 1.5V type LR6-AA-AM3-MN 1500
Low batteries indications:	"  " symbol at display
Batteries life:	about 500 test

MECHANICAL FEATURES:

Dimensions:	222 (W) x 162(L) x 57(D) mm
Weight (included batteries):	about 1kg

WORKING ENVIRONMENTAL CONDITIONS:

Reference temperature:	23°C ± 5°C
Working temperature:	0° ÷ 40°C
Allowed relative humidity:	<80%HR
Storage temperature:	-10 ÷ 60°C
Storage humidity:	<80%HR

GENERAL REFERENCE STANDARDS:

Safety of measuring instruments:	IEC / EN61010-1
Safety of accessories:	IEC / EN61010-031
Product type standard:	IEC / EN61557-1, IEC / EN61557-5
Insulation:	double insulation
Pollution degree:	2
Overvoltage category:	CAT III 240V to ground, 415V between inputs
Max altitude:	2000m
EMC:	EN61326-1(1998) + A1(1999)

This instrument complies with the requirements of the European Low Voltage Directives 2006/95/CEE (LVD) and EMC 2004/108/CE