



EARTH RESISTANCE AND STEP/CONTACT VOLTAGE TESTERS



EARTH RESISTANCE AND STEP/CONTACT VOLTAGE MEASURING DEVICES



GEO416



M71



T2000 - T2100



HT2055

MAIN MEASUREMENTS

MAIN MEASUREMENTS	EARTH RESISTANCE			STEP/CONTACT VOLTAGE
	GEO416	M71	T2000 - T2100	HT2055
TRMS	•	•	•	•
Measuring range	50KΩ	50KΩ	1KΩ	200Ω
Insulation with voltage 50, 100, 250, 500, 1000VDC	-	-	-	-
Earth resistance by 2 and 3-wire method	•	•	-	•
Ground resistivity by 4-wire method	•	-	-	•
Compensation of disturbance voltages	•	•	-	•
Compensation of test cables	•	•	-	•
Direct measurement on earth probes without any cable interruption	-	-	•	-
Measurement of leakage current on earth systems	-	-	• Only for T2000	-
Measurement of step/contact voltage	-	-	-	•

ADDITIONAL CHARACTERISTICS

ADDITIONAL CHARACTERISTICS	GEO416	M71	T2000 - T2100	HT2055
Measurement category	CAT III 240V	CAT III 240V	CAT III 150V	CAT IV 50V
Detection of disturbance currents on measurement	•	•	-	•
LCD display	•	•	•	•
Backlight	•	-	•	•
AutoPowerOFF	•	•	•	•
Help on line on the display	•	-	-	•
Internal memory	•	-	•	•
Optical/USB serial port for PC connection	•	-	-	• RS-232/USB
USB port for device data download	-	-	• Only for T2100*	-
Size (LxWxH) (mm)	225x165x75	240x100x45	293x90x66	230x115x103
Weight in kg (batteries included)	1,0	0,6	1,3	30,8
Reference standard for safety	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1	IEC/EN61010-1
Order code	HV000416	HV000071	HP002000 (T2000) HP002100 (T2100)	HN002055

* Compatible with Macrotest G1, G2 and G3.



ORDER CODE **HV000416**

GEO416

DEVICE FOR MEASURING EARTH RESISTANCE
AND GROUND RESISTIVITY

GEO416 has been developed to measure **earth resistance with 2 wires, 3 wires and 4 wires** by **voltammetric method** and ground resistivity. These values are extremely important while designing earth systems. The 2-wire method, by taking advantage of appropriate external masses as a reference (metal surfaces, tubes, neutral conductor, etc.), is particularly useful in domestic environments where, because of logistic problems, it is not possible to use the 3-wire method.

The device allows carrying out **measurements with a wide measuring range (up to 50kOhm)** with an efficient internal compensation of the disturbance effects found on the installations. GEO416 is provided with an **internal memory for saving measurements** and with an **optical/USB interface for transferring** measured data onto the PC.



ORDER CODE **HV000071**

M71

DEVICE FOR MEASURING
EARTH RESISTANCE



M71 has been developed to measure **earth resistance with 2 wires and 3 wires** by **voltammetric method** in compliance with standard IEC/EN61557-1.

This device allows carrying out measurements with a **wide measuring range (50kΩ)** and an efficient internal automatic compensation of the disturbance effects found on the installations, and it is provided with an **ergonomic design** with electronic function selector for **quickly** carrying out the tests.

The 2-wire method allows carrying out earth measurement by taking advantage of appropriate external masses as a reference (metal surfaces, tubes, neutral conductor, etc.), which is particularly useful in domestic environments where, because of logistic problems, it is not possible to use the 3-wire method.

Functions and characteristics

- Earth measurement with 2 and 3 terminals
- Ground resistivity by 4-wire method
- Measuring range: 0.01Ω - 50kΩ
- Compensation of disturbance voltages
- Compensation of test cables
- Context help on the display
- Storage of results
- Interface: optical/USB for PC connection
- **Safety: IEC/EN61010-1**
- **Measurement category: CAT III 265V**
- **Power supply with batteries type AA: 4x1.5V**
- **Size (LxWxH): 222x162x57mm**
- **Weight (batteries included): 1 kg**

Included accessories

KITERRNE	Set of 4 cables + 4 metal probes
COC4-UK	Set of 4 alligator clips
BORSA2000	Soft carrying bag
	User Manual
	ISO9000 calibration certificate

Optional accessories

TOPVIEW2006	Windows software for PC + optical/USB cable
1066-IECN	Connector for cable extension 4mm
SP-0400	Set of straps for slinging the instrument over one's shoulder
VA500	Rigid transport case for device and accessories
YABAT0003000	1.2V NIMH AA rechargeable battery, 6 pieces
YABAT0004001	Battery charger for 6 AA/AAA batteries

Functions

- Earth measurement with 2 terminals
- Earth measurement with 3 terminals
- Measuring range: 0.01Ω -50kΩ
- Compensation of disturbance voltages
- Compensation of test cables

Main features

Power supply:	batteries type AA 4x1.5V
Display:	LCD display
Pollution level:	2
Safety:	IEC/EN61010-1
Measurement category:	CAT III 240V
Size (LxWxH):	240x100x45mm
Weight (batteries included):	630g

Included accessories

KIT0071	Set of 3 cables + 3 alligator clips + 2 metal probes
SP-6085	Soft carrying bag
	User manual on CD-ROM
	Quick user guide
	ISO9000 calibration certificate

Optional accessories

1066-IECN	Connector for cable extension 4mm
-----------	-----------------------------------



ORDER CODE HP002000 | HP002100

T2000 | T2100

CLAMP METERS FOR MEASURING
EARTH RESISTANCE WITH STAKELESS
TESTING METHOD AND LEAKAGE CURRENT
UP TO 20A AC

T2000 e T2100 are professional voltammetric clamps **spe-**
cially developed to evaluate resistance of earth rods **with no need to disconnect any part of the system.** The
inner part of the device is made of 2 jaws, one for current
reading and the other for voltage generation. The voltage
jaws generate a potential (E) on the loop during resistance (R)
measurement. A current (I) is consequently generated on the
loop and is measured by the current jaws. Based on the value
of parameters E and I, the instrument displays the resistance
R value calculated as their ratio. The value measured by the
device can be used in case the single rods do not influence
each other. T2000 also measures **AC current up to 20A** and
leakage current with resolution 0.05mA.

This devices comply with standard IEC/EN61010-1 in **CAT III**
150V and they are the ideal solution for measurements to be
carried out both in domestic and in industrial
environments.

Functions

- Earth resistance with stakeless testing method
- Measurement of leakage current on earth systems (**only T2000**)
- Setting of alarm thresholds on measurements
- Storage of measurement results
- Detection of disturbance currents on measurement
- Data HOLD, Backlight, Auto Power OFF
- Maximum diameter for clamp 32mm
- Serial interface RS-232 for connection to devices of **MacrotestG series (only T2100)**

Main features

Power supply:	batteries type AA 4x1.5V
Memory:	99 locations
Display:	LCD 4-digit display + decimal point, backlight
Pollution level:	2
Safety:	IEC/EN61010-1-2-032
Measurement category:	CAT III 150V
Size (LxWxH):	293x90x66mm
Weight (batteries included):	1320g

Technical Specifications

Resistance measurement

- Measuring range Ω : 0.010 ÷ 1000
- Resolution Ω : 0.001 ÷ 20
- Basic accuracy Ω : $\pm (1\% \text{reading} + 0.01)$

TRMS current measurement (**only T2000**)

- Measuring range: 0.00mA ÷ 20A
- Resolution: 0.05mA ÷ 0.01A
- Basic accuracy: $\pm (2.5\% \text{reading} + 1 \text{mA})$

Included accessories

	Resistive test loop
	Batteries
	User Manual
	ISO9000 calibration certificate
C2100	Connection cable Hypertac / Jack 3,5mm RS-232 (only T2100)
	Rigid Carrying case





ORDER CODE **HN002055**

HT2055

METER FOR STEP/CONTACT
VOLTAGE UP TO 50A

HT2055 consists in a **power unit** and a **voltmetric unit**, necessary for carrying out step and contact voltage measurements in **industrial installations** (such as TN systems, transformer cabinets) with a **rated test current up to 50A**. The two units, **synchronized** in time and current are capable of providing the correct value of step and contact voltages consistently with the real current values measured by the power unit, also taking into consideration the disturbance effects found on the measured circuit. It is also capable of measuring **earth resistance and ground resistivity by the classical voltammetric method**.

These measurements can be saved in the **internal memory** of the voltmetric unit and downloaded onto the PC through the provided Windows software.



Remote unit



Soft carrying bag
for remote unit and accessories



Cable 10mm² with cable winder
and alligator clip, 50m



Red measuring cable,
50m



Black measuring cable, 3m,
with industrial plugs, 2 pieces

- Measurement of step/contact voltage with separate units
- Synchronization of units for correct measurements
- Test current selectable up to 50A
- LCD display on both units

- Earth resistance measurement
- Compensation function of disturbance effects
- Internal memory for measured data saving
- USB and RS-232 ports for communication between unit and PC

Characteristics

Power unit

- Power supply: 110/230V AC, 50/60Hz
- Output power: 900VA
- Output current: max 55A
- Test frequency: 55Hz
- Voltage measurement: 0.1 ÷ 999V
- Resolution: 0.1 ÷ 1V
- Basic accuracy: ±2%reading
- Display: LCD 240x128 dots + backlight
- Memory: 2000 locations
- Communication interface: RS-232
- Measurement category: CAT III 300V
- Protection: fuse T 6.3A/250V
- Pollution level: 2
- Mechanical protection: IP40 (closed case)
- Size (LxWxH): 335x335x160mm
- Weight: 28kg

Voltmetric unit

- Voltage measurement: 0.1 ÷ 999V
- Resolution: 0.1 ÷ 1V
- Resistance measurement: 0.001 ÷ 99.99Ω
- Resolution: 0.01Ω
- Basic accuracy: ±2%reading
- Input impedance: Selectable 1kΩ/1MΩ
- Display: LCD 240x128 dots + backlight
- Memory: 2000 locations
- Communication interface: RS-232/USB
- Power supply: 6x1.2V rechargeable batteries type AA
- Pollution level: 2
- Mechanical protection: IP40
- Size (LxWxH): 230x115x103mm
- Weight: 1.3kg

Included accessories

	Power supply cable of power unit
PC55SND	Metal plate (200x100mm), 2 pieces
	Current metal probe
	Voltage metal probe
PC55REL	Cable 10mm ² with winder and alligator clip, 50m
	Cable 10mm ² with alligator clip, 10m
PC55MBK	Black measuring cable, 3m, with industrial plugs, 2 pcs.
PC55GRE	Green measuring cable, 10m
PC55BLK	Black measuring cable, 1.5m
PC55RED	Red measuring cable, 50m
PC55MRE	Red connection cable with alligator clip, 1m
5004-IECN	Alligator clip, 4 pieces
	Cable RS-232
C2007	USB cable
	Soft transport bag, 2 pieces
	Strap for slinging the device over one's shoulder
	6 x 1.2V rechargeable batteries NiMH type AA
	External power supply
TERAVIEW	Windows software on CD-ROM
	User manual and ISO9000 calibration certificate

Optional accessories

PC55MBK	Black measuring cable, 3m, with industrial plugs, 2 pcs. For further information on optional accessories, please contact HT.
---------	--