

# Earth Ground Clamp

## HEME GEO 30

- Ground loop resistance – 0.025  $\Omega$  - 1500  $\Omega$ ,
- Ground leakage current – 0.2 mA - 1000 mA,
- Current 0.2 ... 30 A TRMS,
- Continuity loop test - alarm for  $R < 40 \Omega$ ,
- HOLD function to store measurements
- HI / LO Alarm for rapid measurement evaluation
- Recording function for automatic storage of measured values
- Overload protection: 200 A
- Easy handling – professional, large display
- Automatic self calibration
- Carrying case and resistance check loop included

### General

#### Measuring System

The clamp-on ground testing technique used by the **HEME GEO 30** simplifies ground loop testing and enables non intrusive leakage current measurement.

As a complement to common continuity and earth measurements performed with the: **HANDY GEO** and **SATURN GEO** Series, the **HEME GEO 30** clamp-on ground tester offers the advantage of rapid earth testing in a completely safe way similar to the stakeless earth measurement available in the **SATURN GEO X**.

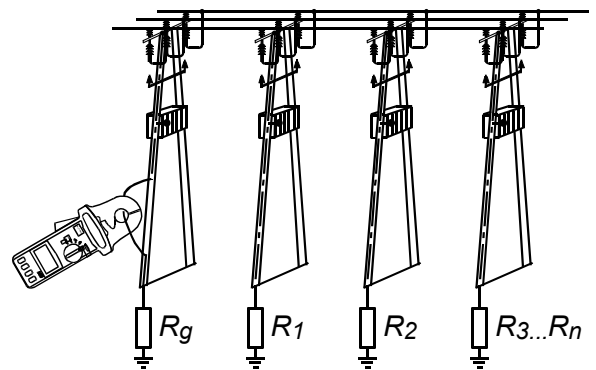
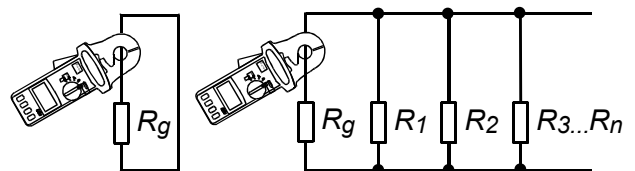
This technique offers time saving and complete safety to the user. In addition the **HEME GEO 30** will indicate and measure current flow from a few  $\mu\text{A}$  up to 30 A. This sensitive TRMS current measurement is especially useful when it comes to measuring leakage currents flowing to earth.

The HI/LO function automatically evaluates the measured value by comparing against upper and lower limits. The record function allows automatic storage of measured values.

The compact and rugged design makes the **HEME GEO 30** easy to use in small places and harsh environments, while the display HOLD and the continuity testing with an audible alarm function ensures convenience in use. The novel technique means that continuity testing can be completed without breaking the circuit.

#### Applications

- Earth resistance of various installations (high voltage pylons, buildings, cell phone substations, RF transmitters etc.)
- Inspection of lightning protection systems
- Leakage current measurement



## General technical datas

### Principle

Operating Error:	Refers to the operating temperature range and is guaranteed for 2 year	
Storage temp. range:	-20 °C ... +60 °C	(-4 °F +140 °F)
Reference temp. range:	+23 °C ± 5 °C	(+73 °F ± 9 °F)
Storage humidity:	< 75 % RH	
Operating humidity:	< 85 % RH	
Display:	9999 digit LC-display with special symbols	
Protection:	IP20 according to IEC 529/EN 60529	
Safety:	300V, CAT III / pollution degree 2 IEC 61010-1	
Weight:	640 g (1.4 lbs)	
Conductor Size:	23 mm (0.9") approx.	
Dimension:	257 mm (L) x 100 mm (W) x 47 mm (H) 10" (L) x 3.9" (W) x 1.9" (H)	

### EMC

Emission:	IEC 1000 4-2, IEC 61326-1 class B	
Immunity:	IEC 61000-4-2, 8 kV (air) criteria A IEC 61000-4-3 3 V/m performance criteria A	

Range Selection:	Auto	
Overload ind.:	"OL" on display	
Measuring time:	0.4 sec	
Measur. frequency:	1.667 kHz	
Auxiliary power:	9 V alkaline (type IEC 6 LR 61)	
Power consumpt.:	40 mA	
Low bat. indication:	Display symbol	

## Ground Loop Resistance (Autorange)

Operating temperature: 0° C ... +50° C (+14° F... +122° F)

Range	Resolution	Operating error <sup>1)</sup>
0.025 - 0.250 Ω	0.002 Ω	±1.5 % rdg ± 0.05 Ω
0.250 - 9.999 Ω	0.02 Ω	±1.5 % rdg ± 0.1 Ω
10.00 - 99.99 Ω	0.04 Ω	±2.0 % rdg ± 0.3 Ω
100.0 - 199.9 Ω	0.4 Ω	±3.0 % rdg ± 1.0 Ω
200.0 - 400.0 Ω	2 Ω	±5.0 % rdg ± 5 Ω
400.0 - 600.0 Ω	5 Ω	±10 % rdg ± 10 Ω
600.0 - 1500 Ω	20 Ω	± 20 %

1) Loop resistance with no inductance, external magnetic field < 50 A/m, external electrical field < 1 V/m, conductor centered.

### Current A~

(Autorange, 50/60 Hz, True RMS, crest factor < 3.0)

Operating temperature: -10° C ... +50° C (+14° F... +122° F)

### Continuity

Beep if resistance < appr. 40 Ω

### Ground/leakage current mA~

(Autorange, 50/60 Hz, True RMS, crest factor < 3.0)

Operating temperature: -10° C ... +50° C (+14° F... +122° F)

Range	Resolution	Operating error
0.200 - 1.000 mA	0.001 mA	±2.5 % rdg ± 0.05 mA
1.00 - 10.00 mA	0.01 mA	±2.5 % rdg ± 0.05 mA
10.0 - 100.0 mA	0.1 mA	±2.0 % rdg ± 0.3 mA
100 - 1000 mA	1 mA	±2.0 % rdg ± 3 mA

Range	Resolution	Operating error
0.20 - 15.00 A	0.01 A	±2.0 % rdg ± 0.03 A
15.00 - 30.00 A	0.01 A	±3.0 % rdg ± 0.03 A

### HI/LO Limit Evaluation

Values from 0 Ω to 1510 Ω may be preset for automatic comparison. If the measured value is outside of the limit an audible and visual signal is given.

### Recording

Measured values can be saved or logged with a defined time interval from 1 to 255 s. Recorded values may then be recalled on the display of the instrument.

## Scope of delivery

### Ground Loop Tester

#### HEME GEO 30

1 Battery 9 V alkaline (type IEC 6LR61, installed)  
1 Resistance test/check loop  
1 Operating instructions  
English/German/French/Spanish/Italian  
1 Professional robust carrying case

SE 8130 Z



Distributor:

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