

# EM5248

## CLAMP-ON GROUND RESISTANCE METER

- ✓ SIMPLE AND FAST CLAMP-ON OPERATION
- ✓ NO AUXILIARY ROADS REQUIRED
- ✓ DIRECT READING OF GROUND LOOP RESISTANCE FROM 0.01  $\Omega$  TO 1200  $\Omega$
- ✓ DIRECT READING OF SMALL LEAKAGE CURRENT FROM 1 mA
- ✓ DIRECT READING OF NEUTRAL CURRENT UP TO 30 Arms
- ✓ JAW DESIGN WITH LARGE 32 mm WINDOW
- ✓ AUTO-POWER-OFF
- ✓ PROGRAMMABLE ALARM FOR QUICK IN-FIELD TESTING
- ✓ BUILT-IN MEMORY FOR UP TO 99 MEASUREMENTS STORAGE
- ✓ CE MARK



The Ground Resistance Tester model **EM-5248**, measure ground rod and small grid resistance through any season, without the use of auxiliary ground rods. Clamp-on ground resistance testers are used in multi-grounded systems without disconnecting the ground under test. The **EM-5248** simply clamp around the ground conductor or rod and measure the resistance to ground.

By performing measurements on intact ground systems, the user also verifies the quality of the grounding connections and bonds. Resistance and continuity of grounding loops around pads and buildings may also be measured.

The **EM-5248** also includes a current measurement function. The probe's high sensitivity enables measurement of leakage current flowing to ground or circulating in ground loops down to 1mA and neutral currents to 30Arms. This feature provides additional information which is becoming vital as distribution ground networks carry higher levels of noise and harmonics which affect power quality.

The equipment offer battery life information at power-up and Auto-Off for power management. Additional features are also displayed on the large LCD to ensure precise measurements. The Buzzer and Auto-Off features may be disabled from the push-buttons at any time.

The **EM-5248** offers an Alarm function and a Memory (logging) function. In the Alarm mode, the probe will audibly and visually indicate if the reading is beyond an input set point. The user may also have the Alarm initiated above or below the set point. This Alarm feature permits quick field checks where only "pass" or "fail" readings will suffice.

The Memory function logs up to 99 measurements (Ohms or Amperes). This enables the user to conduct field surveys, and to retrieve and analyze the readings at a later time. The alarm settings and stored memory information are saved when the ground tester is turned off.

# EM 5248 - TECHNICAL SPECIFICATIONS

Ground Resistance			
Measurement Range	Range	Resolution	Accuracy*
Autoranging 0.01 Ω to 1200 Ω	0.1 to 1.00 Ω	0.01 Ω	± (2% R ± 0.02 Ω)
	1.0 to 50.0 Ω	0.1 Ω	± (1.5% R ± 0.1 Ω)
	50.0 to 100.0 Ω	0.5 Ω	± (2.0% R ± 0.5 Ω)
	100 to 200 Ω	1 Ω	± (3.0% R ± 1 Ω)
	200 to 400 Ω	5 Ω	± (6.0% R ± 5 Ω)
	400 to 600 Ω	10 Ω	± (10% R ± 10 Ω)
	600 to 1200 Ω	50 Ω	Approx. 25% ± 50 Ω

Ground or Leakage Current			
Measurement Range	Range	Resolution	Accuracy*
Autoranging 1 mA to 30.00 Arms	1 to 299 mA	1 mA	±(2.5% R + 2 mA)
	0.300 A to 2.999 A	0.001 A	±(2.5% R + 2 mA)
	3.00 A to 29.99 A	0.01 A	±(2.5% R + 20 mA)

R = Reading

\* Reference conditions:

23°C ± 3K, 50% RH ± 10%, battery at 8V ± 0.2V, external magnetic field < 40A/m, external electrical field < 1V/m, conductor centered, loop resistance noninductive. Accuracy % of Reading, Frequency: 50/60Hz.

## RESISTANCE MEASUREMENT FREQUENCY

2403 Hz.

## VOLTAGE GENERATED INTO THE LOOP

Approx. 60 mVrms.

## ALARM RANGE

0 to 199 Ω.

## RESISTANCE OVERLOAD

OL displayed above 1200 Ω.

## CURRENT MEASUREMENT FREQUENCY

47 to 800 Hz.

## INFLUENCE OF FREQUENCY

Add 7.5% to the reference specification.

## CURRENT OVERLOAD

OL displayed above 29.99 Arms.

## DIMENSIONS

235 x 100 x 55 mm.

## WEIGHT

1 kg.

## CASE MATERIAL

Lexan® 920A (UL94V2) or equivalent.

## JAW COVER MATERIAL

Lexan® with 10% fiberglass charge (UL94V0) or equivalent.

## JAW

Opening: 35 mm, Window diameter: 32 mm.

## OPERATING TEMPERATURE

-10°C to 55°C.

## STORAGE TEMPERATURE

-30°C to 70°C.

## OPERATING HUMIDITY

10 to 90% RH @ -10°C to 40°C, 75% RH @ 55°C.

## POWER SUPPLY

9 V Alkaline (IEC 6LF22 or NEDA 1604A).  
Battery Life: Typical: 8 hours or approx. 1000 measurements of 30 seconds.

## DISPLAY LCD

3 ¾ digit, 44 x 28 mm.

## SAFETY

IEC 1010-2-032 (Class 2), Double Insulation.

## WORKING VOLTAGE

150 V, Cat. III - Pollution Degree 2.  
300 V, Cat. II - Pollution Degree 2.

## ENVIRONMENTAL

IP30 (Protection Index) EN 60529 Ed. 92.  
IK04, EN 50102 Ed. 95.

## VIBRATION TEST

IEC 68-2-6.

## SHOCK TEST

IEC 68-2-27.

## DROP TEST (1m)

IEC 68-2-32.

## MAX A OVERLOAD

100 A continuous, 200 A (< 5 s) 50/60 Hz.  
OL displayed above 29.99 Arms.

## ELECTROMAGNETIC COMPATIBILITY

Emission: EN 50081-1 Ed. 92.  
Immunity: EN 50082-1 Ed. 97.

## ACCESSORIES

- Transportation bag.
- One calibration loop.
- 9 V battery (inside the equipment).
- User guide.

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