



## EMR-20C and EMR-21C E-Field Measurement Systems

- ◆ 100 kHz to 3 GHz
- ◆ 0.6 to 800 V/m (-20C)
- ◆ 0.2 to 320 V/m (-21C)
- ◆ Completely Automatic Zeroing
- ◆ Easy-to-Use Design
- ◆ Lightweight and Rugged
- ◆ Cost Effective
- ◆ Isotropic Detection
- ◆ 24 Month Calibration Interval

### Description

The EMR-20C and -21C are complete systems that consist of a meter and probe, along with a charging system for the NiCad batteries.

The EMR-20C and EMR-21C are supplied with a calibrated Type 8 probe that provides coverage for many industrial systems operating at 915 and 2450 MHz, as well as measuring extremely low field levels. Users appreciate the wide measurement range and extreme ruggedness of this multi-purpose survey system. The EMR-20C and -21C have even been designed to withstand drops from two meters directly on the sensor head!

Operation of this series of survey systems could not be any easier. All you need to do is connect the probe and turn on the meter. The system automatically detects the probe and auto-zero's the system – even while immersed in an RF field environment. Electric field readings are displayed in units of V/m, W/m<sup>2</sup> and mW/cm<sup>2</sup>, with over 62 dB of measurement range, without touching a button!

Both the EMR-20C and -21C feature a bi-directional fiber-optic link. With the optional software and cables, real-time readings can be displayed on a personal computer.

## Specifications

	EMR-20C	EMR-21C
Frequency Range	100 kHz to 3 GHz	
Field Measured	E-Field Only, Isotropic Detection, Diode Sensor	
Measurement Range	0.6 to 800 V/m (CW signals > 300 kHz) 0.6 to 20 V/m (True RMS)	0.2 to 320 V/m (CW signals > 300 kHz) 0.2 to 10 V/m (True RMS)
Measurement Resolution	0.01 V/m	
Overload Levels	700 mW/cm <sup>2</sup> (CW) 70 W/cm <sup>2</sup> (Peak)	175 mW/cm <sup>2</sup> (CW) 17.5 W/cm <sup>2</sup> (Peak)
Absolute Error	±1 dB (27.5 V/m and 27.12 MHz)	
Linearity Error <sup>a</sup>	0.6 to 1.25 V/m = ±3dB 1.25 to 2.5 V/m = ±1 dB 2.5 to 400 V/m = ±0.5 dB 400 to 800 V/m = ±0.7 dB	0.6 to 1.2 V/m = ±1dB 1.2 to 200 V/m = ±0.5 dB 200 to 320 V/m = ±0.7 dB
Frequency Response Error <sup>b</sup>	100 kHz to 100 MHz = ±0.45 dB 100 MHz to 3 GHz = ±1.4 dB	
Isotropic Deviation (Typical)	Field probe only = ±0.5 dB for Freq. > 1 MHz Complete system = ±1.0 dB for Freq. > 1 MHz	
Temperature Error	+ 0.2 / - 1.0 dB (0 to +50°C)	
H-field Immunity	100 kHz to 5 MHz = >35 dB – 20 dB x log f (f in MHz) Above 5 MHz = > 20 dB (Typical)	>20 dB Typical
Settling Time	1 second (0 to 90% of measured value) Typical	
Display Refresh Rate	400 msec. Typical	
Units Displayed	V/m, A/m, mW/cm <sup>2</sup> , W/m <sup>2</sup> and “% of limit value”	
Levels Displayed	Current reading, maximum reading or average reading	
Audible Alarm	Variable setting, piezoelectric	
Interfaces	Fiber Optic, serial interface for results transfer, remote operation and calibration	
Power Supply	Rechargeable AA batteries (supplied)	
Operating Temperature	0 to +50°C	
Size (H x W x D, approx.)	18.3" x 3.78" x 2.52" (465 x 96 x 64 mm)	
Weight (approx.)	450 grams	

Notes:

<sup>a</sup> Referenced to 27.5 V/m and 27.12 MHz<sup>b</sup> Error after using supplied correction factors, includes calibration accuracy

## Ordering Information

Model	Ordering Part Number	Accessories Supplied	Optional Accessories
EMR-20C	2244/70	Meter, Probe, 2 AA NiCad batteries, charger and calibration report	Soft carrying case – 2244/60
EMR-21C	2244/46		Rigid carrying case – 2244/62 Tripod (non-metallic) – 2244/90.31 EMR-TS Software, FO adapter and cable – 2244/90.36

