

HF Radiation Meters

EMR-21, EMR-21C



- Excellent measurement sensitivity beginning at 0.2 V/m
- Isotropic (three-dimensional) measurement
- 64 dB dynamic range
- Increased measurement accuracy for the EMR-21C (multiple frequency calibration)
- Easy to use
- Shock, dust and water-resistant



SPECIFICATIONS ^a

Electric (E-) FIELD									
Frequency range (broadband –3dB)	100 kHz to 3 GHz								
Specified measurement principle	Digital tri-axial measurement								
Directional characteristic	Isotropic (tri-axial)								
Sensor	Diode based design								
Measurement range (CW)	0.2 to 320 V/m 0.01 $\mu\text{W}/\text{cm}^2$ to 27 mW/cm^2								
Measurement range (true RMS)	0.2 to 10V/m 0.01 $\mu\text{W}/\text{cm}^2$ to 0.026 mW/cm^2								
Dynamic range	Typ. 64 dB								
Damage level (CW)	800 V/m 175 mW/cm^2								
Damage level (pulse)	8000 V/m 17.5 W/cm^2								
Frequency response (under consideration of calibration factors)	<table border="1"> <thead> <tr> <th>EMR-21C</th> <th>EMR-21</th> </tr> </thead> <tbody> <tr> <td>± 0.5 dB (100 kHz to 150 MHz)</td> <td>± 1.2 dB (1 MHz to 1 GHz)</td> </tr> <tr> <td>± 0.8 dB (150 MHz to 1.7 GHz)</td> <td>± 1.5 dB (1 GHz to 2.5 GHz)</td> </tr> <tr> <td>± 0.5 dB (1.7 GHz to 3 GHz)</td> <td></td> </tr> </tbody> </table>	EMR-21C	EMR-21	± 0.5 dB (100 kHz to 150 MHz)	± 1.2 dB (1 MHz to 1 GHz)	± 0.8 dB (150 MHz to 1.7 GHz)	± 1.5 dB (1 GHz to 2.5 GHz)	± 0.5 dB (1.7 GHz to 3 GHz)	
EMR-21C	EMR-21								
± 0.5 dB (100 kHz to 150 MHz)	± 1.2 dB (1 MHz to 1 GHz)								
± 0.8 dB (150 MHz to 1.7 GHz)	± 1.5 dB (1 GHz to 2.5 GHz)								
± 0.5 dB (1.7 GHz to 3 GHz)									
Linearity (at 27.12 MHz referred to 27.5 V/m)	± 1 dB (0.6 to 1.2 V/m) ± 0.5 dB (1.2 to 200 V/m) ± 0.7 dB (200 to 320 V/m)								
Ellipse ratio	Typ. ± 0.5 dB								
Anisotropy (including EMR meter)	Typ. ± 1 dB								
Temperature response (0 to +50 °C)	+0.2/ -1.5 dB (± 0.025 dB/K)								
Temperature range (operation)	0 to +50 °C								
H-Field suppression	Typ. > 20 dB								
Calibration interval	24 months recommended								
MEASUREMENT FUNCTIONS									
Units	V/m, A/m, mW/cm^2 , W/m^2 , % of user defined limit value								
Display mode	Instantaneous value, maximum value, time-averaged value								
Averaging	User defined averaging time between 2 s to 15 mn								
Alarm functions	User defined threshold and on/off								

^a Unless noted otherwise specifications apply at reference condition: ambient temperature 23 \pm 3 °C, relative air humidity 40% to 60%, continuous wave signal (CW), RMS detection (frequency range)

GENERAL SPECIFICATIONS	
Display type	LCD, instrument specific
Visible warning	Bright red LEDs in the foil keypad
Audible warning	Tone sequence depending on measured value
Result Update Rate	Each 400 ms
Interface (Remote Control and Readout)	RS-232 optical, bidirectional
Power supply	2 built-in Ni-Cd batteries (size AA, rechargeable)
Operating time	Min. 8 h
Operating temperature range	0 to +50 °C
Dimensions (w X h X d) in mm (probe plugged on EMR meter)	Approx. 96 X 64 X 465
Weight (incl. Batteries)	Approx. 450 g

ORDERING INFORMATION

Calibrated Basic Unit and E-Field Probe, Certificate of Calibration, Charger , Operating manual, Rechargeable Batteries

Description		Ordering Number
EMR-21	Radiation meter with isotropic E-field probe 100 kHz-3 GHz, high sensitivity, with single frequency calibration	BN 2244/45
EMR-21C	Radiation meter with isotropic E-field probe 100 kHz-3 GHz, high sensitivity, with multiple frequency (extended) calibration	BN 2244/46

OPTIONAL ACCESSORIES

Description	Ordering Number
Hardcase	2244/90.09
Tripod, non-conductive (height 1.65m) with carrying bag	2244/90.31
Tripod Extension, non-conductive (height 0.5m)	2244/90.45
Tripod benchtop (0.16 m)	2244/90.32
Handle, extension for E-field measurement (0.42 m length)	2250/92.02
Quick charger 4AA size, line 230 V, Euro-plug	2259/93.02
Quick charger 4AA size, line 230 V, UK-plug	2259/93.01
Test generator (27 MHz)	2244/90.38
Antenna extension cable (1.25 m length)	2244/90.35



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