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Data Sheet

Essential Series

RadiSense® Essential Series

Electric Field Probe

Model - RSB2110E

Accurate | Laser Powered | Fast



Publish date: 19/11/2026

RadiSense® 10 Essential Series

Models - RSB2110E

Measure the essence of EMC

Accurate | Laser Powered | Fast

Raditeq B.V. has been the market leader in the area of electric field strength probes for many years. These high end laser powered field probes are mainly used in accredited EMC labs and research institutes. Until now, laser powered probes were expensive compared to battery powered probes. With the introduction of the RSS2010E probe, these highly accurate probes are now within everyone's reach.

What is the RadiSense® Essential? The RadiSense® RSS2110E Essential is designed to make the proven RadiSense® technology accessible for every budget. While the Essential series offers a more economical alternative to our Pro series, no compromises have been made when it comes to measurement accuracy. The RSS2110E combines accurate field measurements with the convenience and reliability of laser-powered operation. With no batteries to recharge or replace, measurements can be performed continuously without battery-related interruptions or limitations.

Superb Isotropy During tests in an anechoic chamber, the surrounding walls, floor and ceiling will cause reflections. These reflections arrive at the probe elements from different angles. This results in large and unpredictable measurement errors when your probe is not isotropic. Like all other RadiSense® probes, the RSB2110E has an excellent isotropic behavior. In contradiction to most other probes, the isotropic response of the RSB2110E is specified over its full frequency range!

Internal calibration data Like the RadiSense® Pro series probes, the linearity correction data is stored inside the probe. Additionally, the frequency response calibration data for the individual X-Y-Z axis, can be stored inside the probe by the user. As a result, there is no need to apply frequency dependent correction factors for each individual axis in the PC software. This feature results in higher accuracy, faster measurements and ease-of-use.

Laser Powered Despite its attractive price, the RSB2110E probe still is a Laser powered probe! This means that nobody has to deal with the limitations of battery powered E-field probes anymore. Perform E-field measurements at high accuracy and without interruptions!

A Set includes:

- RadiSense® 10E - Essential (RSB2110E) [1]
- RadiSupply® Laser Card (LPS2001B)
- 10M optic fibre cable (CBL2001B-10M)
- Fibre Coupling set (CPL2001A)
- RadiCentre® Slim (CTR2001E)
- Small probe stand (PST2000B)
- Protective Case



[1] Note that the RadiSense® Essential is only compatible with RadiCentre® Slim and is currently not supported in the CTR1004B and CTR1009B.

Performance (*)	RSS2010E
Measuring range	0.5 to 200 V/m
Damage Level (Max.)	250 V/m
Frequency range	20 MHz to 10 GHz
Resolution	0.01 V/m
Measurement speed (X,Y, Z & ETot - Simultaneously)	15 measurements/s
Accuracy (1,2)	
Frequency response	-4 dB +1.5 dB (20 MHz to 1 GHz) -3 dB +3.5 dB (1 to 10 GHz)
Isotropic deviation (3)	±0,5 dB (20 MHz to 1 GHz) < ±1 dB (1 to GHz) < ±5 dB (3 to 10 GHz)
Linearity (4)	±0.5 dB ±0.5 V/m
Dimensions	
Shape of housing	Spherical
Total electrical dimensions	4.9 * 4.9 * 4.9 cm (117 cm^3)
Diameter of Spherical housing	2.5 cm (0.98 in)
Environmental conditions	
Temperature range (operating)	0 to 40 °C (32 to 104 °F)
Relative humidity (operating)	10 to 90 %rh (non-condensing)
Power consumption	
Factory adjustment data	Internally stored
Accredited calibration (5)	Traceable, accredited calibration with calibration certificate (optional)
Optical LASER power	Max. 0.5 Watt at aperture @ 808 nm
Laser safety class	Class 1M
Interfaces & cables	
F.O. connector LASER	FC/PC fibre
F.O. connector data	ST/PC fibre
Fiber length (6)	Standard lengths 10, 20 or 30m. (Maximum 100 m on request)
Safety	
Interlock	External Interlock & closed loop safety system
Warranty (7)	3 Years

*) All specifications are measured after 30 minutes warm-up time.

1) The overall measurement accuracy of a field probe is primarily determined by the measurement uncertainty of the calibration laboratory. This calibration uncertainty varies significantly between different calibration labs. Therefore, the specified accuracy for the probe does not include the measurement uncertainty of the calibration laboratory but refers solely to the accuracy and stability of the probe itself. To determine the overall measurement uncertainty, the RSS (Root Sum Square) of the specified accuracy of the probe and the stated measurement uncertainty of the calibration report must be calculated.

2) The specified accuracy is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

3) Isotropy is the maximum deviation from the geometric mean as defined by IEEE 1309-2013.

4) Linearity is defined over a range of ± 6 dB from the reference point (for example 20 V/m) as defined in the IEC61000-4-3 standard. I

5) This calibration data can be stored inside the probe as user correction data.

6) Probe is delivered with 2.5 m fixed + 10 m extension fiber and FC/ST in-line coupling set as a standard. Additional fiber lengths are sold separately

7) Three years warranty will be granted only after you register the product at www.raditeq.com. Without registration, a 1 year warranty period applies.

Specifications are subject to change without notice



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