

# Smart Fieldmeter ® Specification

## Probe PI-01 (with RFP-04CE Meter)

- Probe directivity: Omni directional (Isotropic probe).
- Dynamic range: **0.2-500 V/m** (Variant 0.5 - 800 V/m).
- Frequency range: **0.2 MHz-3 GHz** (Variant 0.1 MHz-3 GHz).
- Frequency response: +/- 1 dB (2 MHz-2 GHz),  
-3 dB @ 0.2 MHz; -2.5 dB @ 3 GHz.
- Rotational isotropy: +/- 0.5 dB (2 MHz-2.8 GHz).  
+/- 1 dB (0.2 MHz-2 MHz).

## Probe PI-02 (with RFP-04HF Meter)

- Probe directivity: Omni directional (Isotropic probe).
- Dynamic range: **0.5-800 V/m**.
- Frequency range: **2 MHz-12.5 GHz**.
- Frequency response  
with correction factors: +/- 1.0 dB (10 MHz-12.5 GHz).
- Frequency response: +/-1.5 dB (10 MHz-6 GHz), +/- 2.5 dB (6GHz-12 GHz),  
-3 dB @ 2 MHz; -2.5 dB @ 12.5 GHz.
- Rotational isotropy: +/- 0.5 dB (10 MHz-6 GHz).  
+/- 1.5 dB (6 GHz -12.5 GHz).

## **Probe PI-03 (with RFP-04HF Meter)**

- Probe directivity: Omni directional (Isotropic probe).
- Dynamic range: **0.8-800 V/m.**
- Frequency range: **3 MHz-18 GHz.**
- Frequency response with correction factors: +/- 1.0 dB (10 MHz-12 GHz), +/- 1.5 dB (12 GHz-18 GHz),
- Frequency response: +/- 1.5 dB (10 MHz-6 GHz), +/- 3 dB (6 GHz-12 GHz), -3 dB @ 3 MHz.
- Rotational isotropy: +/- 0.5 dB (3 MHz-6 GHz). +/- 2 dB (6 GHz -18 GHz).

## **Probe/Meter System Parameters**

- Ranges (V/m, full scale): 2, 20, 200, 600.
- Resolution (at range): 0.01 V/m (2 V/m and 20 V/m), 0.1 V/m (200 V/m), 1 V/m (600 V/m).
- Calibration accuracy: +/- 0.5 dB (at reference levels).
- Linearity deviation: +/- 1.5 dB (any range 10-150% of full scale). Typically +/- 1 dB.

- Operating modes: Average, Pulse and Peak.
- Reading: RMS (root mean square) in all modes:  
Average: RMS (Averaged over  $T_{av}$ ).  
Pulse:  $0.707 \times$  Instant Value (Averaged over  $T_p$ ).  
Peak:  $0.707 \times$  Peak Value (Averaged over  $T_s$ ).
- Response times for different operating modes:  
Average (Slow Response):  $T_{av}$  (averaging slow time)=2 sec.  
Pulse (Fast Response):  $T_p$  (averaging fast time)=100 ms.  
Peak (Peak Response):  $T_s$  (sample time)=50 ms,  $T_h$ (hold time)=14 sec.
- Auto zeroing (automatic and/or user activated) operates even at strong EM fields, and eliminates temperature induced offset errors.
- Display: LCD 3.5 Digits, with over-range feature.
- Remote monitor: Special 1.8 m (6 ft.) cable (supplied with unit) allows remote output monitoring by data logger, scope or voltmeter.
- PC data streaming allows fast data transfer (120 samples/sec.) through AC/RF decoupled DAQ box to serial RS232 port.
- Data logging allows the use of portable battery operated data loggers for data storage and PC transfer at a later time.
- Design: rugged metal hand held enclosure. Probe is mounted on nonmetal handle and can be removed for cable operation at a distance.
- Standard tripod mount (1/4"-20) for meter, probe clip and nonmetal portable tripod are provided.
- Operating temperature: 5 C° to 40° C, RH 10%-90%, non-condensing.
- Temperature error: <0.08 dB/°C (range 2 V/m), <0.05 dB/°C (other ranges).
- Dimensions: Meter (hxwxh) 130x80x30 mm., 5x3.125x1.25 inch,  
Probe (LxD) 230x58 mm, 9.0x2.25 inch.
- Weight: Meter 225 g., 0.5 lb; Probe 100 g., 0.2 lb.
- Battery life: 100 hr. with user replaceable 9V battery (included).  
Low battery indicator.
- Calibration: Every unit is individually calibrated for absolute test levels and linearity at specified frequencies. NIST traceable Calibration certificate is supplied with each unit.
- Accessories: **Smart Fieldmeter™** comes in a hard carrying case and includes the RFP-04CE/HF Meter with installed battery, PI-01/02 Isotropic Probe together with probe cable, remote monitor cable, tripod, probe clip and product documentation.

*Note: This Specification may be changed without notice due to continuous improvement of the design and manufacturing process.*