

## FL7006

### Electric Field Probe

- 100kHz–6GHz
- 0.5–800 V/m
- User-selectable X, Y, Z Axes



### Features

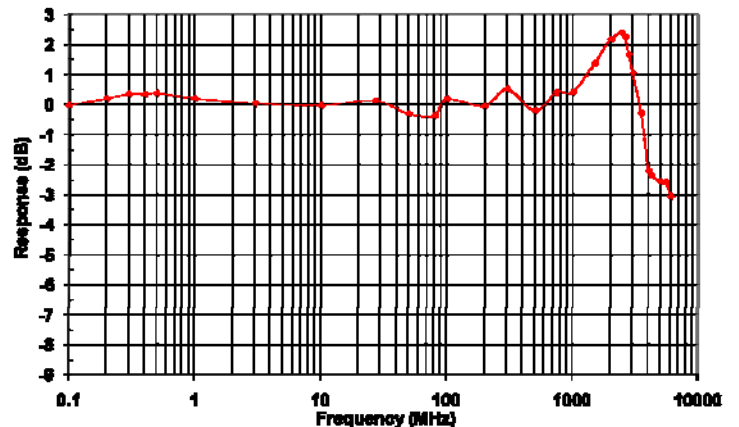
The FL7006 is a smart, fast, extremely accurate electric field probe that contains an internal microprocessor to provide linearization, temperature compensation, control, and communication functions. Noise reduction and temperature compensation allow accurate measurements down to 0.5 V/m without zero adjustment. Microprocessor based linearization technology provides a 64 dB dynamic range. When rotated about its ortho angle mount, the probe provides isotropic response of  $\pm 0.5$  dB over 2 GHz.

The FL7006 is laser powered to allow for continuous operation without recharging or battery replacement. This probe requires an FI7000 for power and communication. FM7004A is recommended for local monitoring and control.

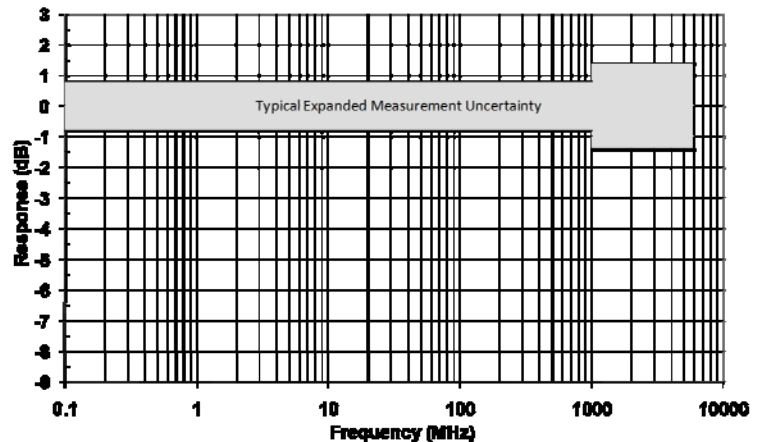
Correction factors are provided with the probe. These factors can be loaded into the Model FM7004A Field Monitor (sold separately) to automatically correct the probe readings at user-specified frequencies. When correction factors are applied, the true accuracy of the probe can be realized.

The FL7006 communicates through glass fiber optic cables, up to 100 meters long, to the FI7000 interface. X, Y, Z, and isotropic readings can be returned through an FI7000 in 20 msec.

FL7006 Typical Uncalibrated Frequency Response



FL7006 Typical Calibrated Frequency Response (with correction factors applied)



AR RF/Microwave  
Instrumentation  
160 School House Rd  
Souderton, PA 18964  
215-723-8181

For an applications engineer call: 800.933.8181

[www.arworld.us](http://www.arworld.us)

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## Specifications

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### Amplitude Accuracy (field aligned with sensor axes):

Without correction factors applied:  
 $\pm 1.0$  dB @ 10 MHz

With correction factors applied: Typical expanded measurement uncertainty (95% confidence interval):

0.8 dB, 100 kHz–1 GHz  
1.4 dB, 1 GHz–6 GHz

### Response Time/Sampling Rate (through F17000):

20 msec/up to 50 samples per second, USB and GPIB only

### Isotropic Deviation (measured at the ortho angle):

$\pm 0.5$  dB @ 10 MHz  
 $\pm 0.5$  dB, 0.5 MHz–2 GHz (typical)

### Operating Range:

0.5–800 V/m, 100 kHz–1 GHz  
0.5–600 V/m, 1 GHz–4 GHz  
0.7–800 V/m, 4 GHz–6 GHz

### Linearity, 0.5 to 800 V/m:

$\pm 0.5$  dB and  $\pm 0.3$  V/m

**Temperature Stability:**  $\pm 0.5$  dB over operating temperature range

**Damage Level:** 1000 V/m continuous field

**Ranges:** Single range

**Data returned from probe:** X, Y, Z axes, and composite

**Power Requirements:** Laser powered from F17000 interface

### Dimensions:

5.7 x 5.7 x 5.7 cm (2.25 x 2.25 x 2.25 in)  
2.92 cm (1.15 in) DIA spherical housing  
3.18 cm (1.25 in) sensor radome per axes

**Weight:** 62.5 g (2.2 oz)

**Operating Temperature Range:** 10°C to 40°C (50°F to 104°F) @ 5% to 95% RH non-condensing

**Fiber Optic Connectors:** Two E2000 compact duplex connectors at 1 meter, includes fiber optic verification loop.

**Calibration Data:** Accredited Calibration Report (A2LA) supplied with probe