

# Field Monitoring Products

FA7006/Kit  
FA7218/Kit  
FA7040/Kit  
FA7060/Kit  
Electric Field Analyzer  
Kits

## Features

The FA7000 series Field Analyzers are specifically designed to measure modulated electric fields. Each kit provides a web-based, oscilloscope-type display of the instantaneous electric field strength or power density over time and calculates the minimum, maximum, and average field strength of the waveform as displayed. Each kit consists of an isotropic Field Sensor, glass fiber-optic cabling, a miniature tripod, carrying case, and a Processor Unit. The Processor Unit stores all of the necessary linearity corrections for its associated Field Sensor.

The Field Sensor is laser powered to allow for continuous operation without recharging or battery replacement. An ortho angle mount and adapter foot is provided for ease of mounting in common orientations.

Correction factors for many frequencies are provided with each kit. These factors can be loaded into the Processor Unit to automatically correct the field readings at user-specified frequencies. When correction factors are applied, the true accuracy of this device can be realized.

The glass fiber optic cabling between the Field Sensor and the Processor Unit can be up to 100 meters long.

The export classification for this equipment is EAR99. This equipment is controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.



FA7218, FA7040, & FA7060 Field  
Sensor

FA7006 Field Sensor



FA7006, FA7218, FA7040, & FA7060 Processor Unit

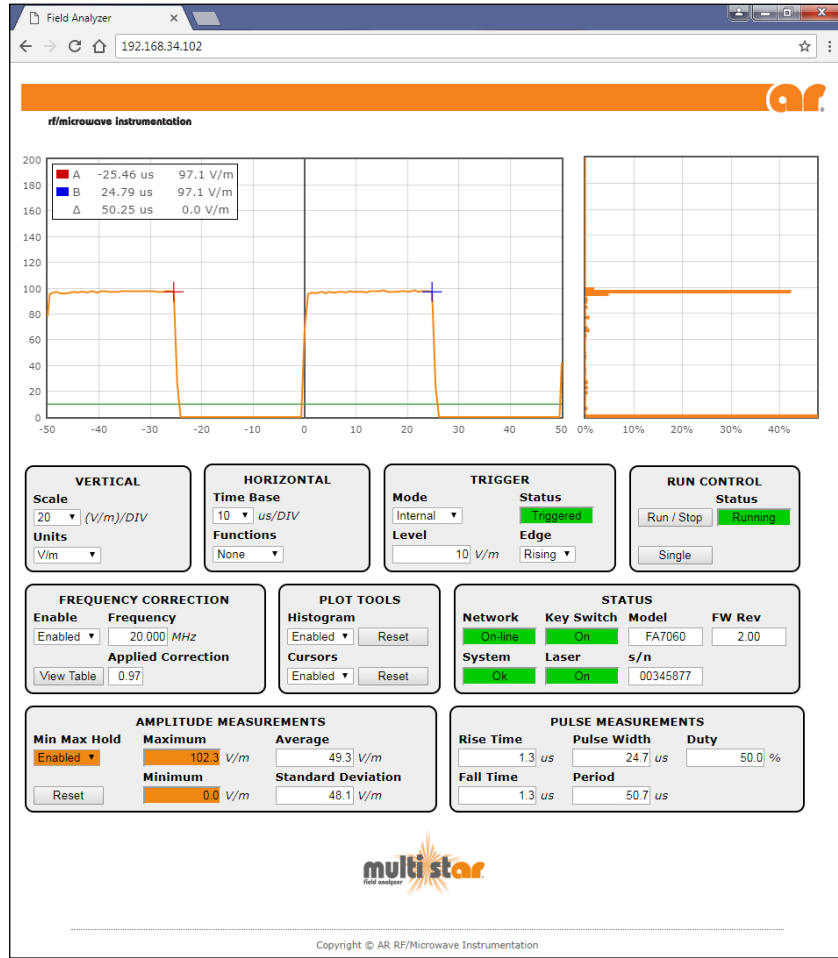
AR RF/Microwave  
Instrumentation  
160 School House Rd  
Souderton, PA 18964  
215-723-8181

For an applications engi-  
neer call:800.933.8181

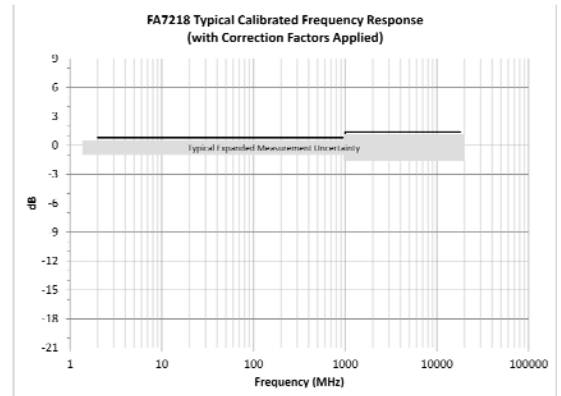
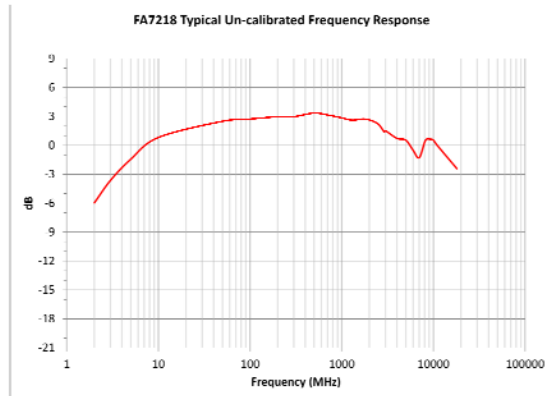
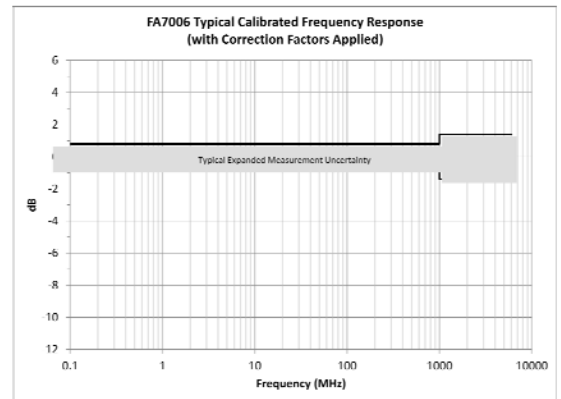
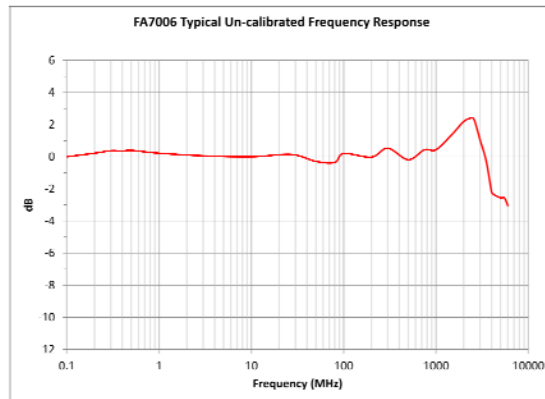
[www.arworld.us](http://www.arworld.us)



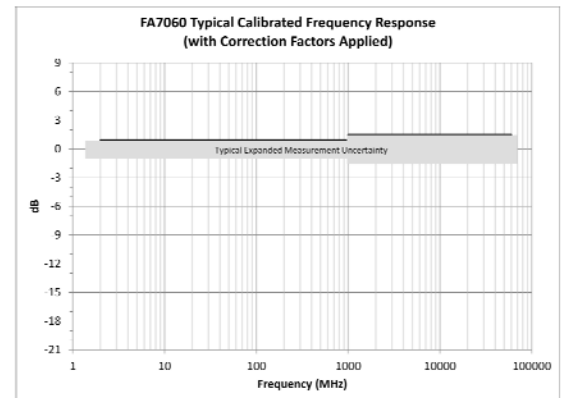
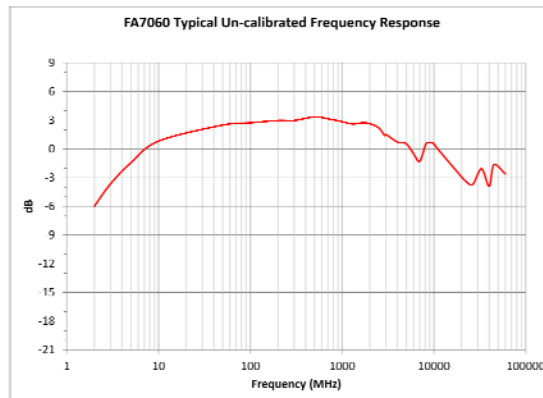
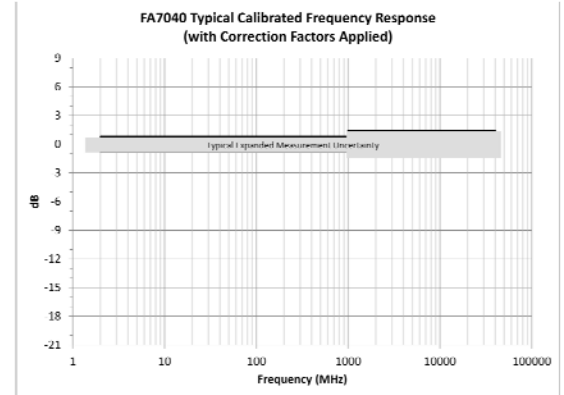
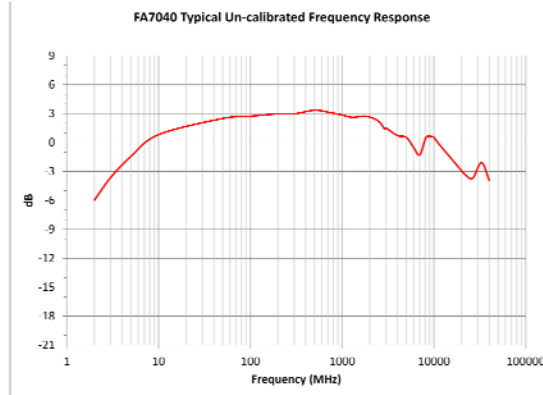
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Embedded webpage for viewing the modulation envelope of the measured electric field



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## Specifications

### Processor Unit:

#### Dimensions (W x H x D):

21.91 x 4.45 x 27.69 cm (8.63 x 1.75 x 10.9 in)

#### Field Processor Weight: 1.36 kg (3 lbs)

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

**Fiber Optic Connector:** E2000 compact duplex connectors (yellow, keying #3).

**Fiber Optic Cable length:** 20m (supplied with kit)

**Max Fiber Optic length:** 100m (sold separately)

### Remote Interfaces:

LAN (Ethernet)  
USB 2.0 (Test and Measurement class)  
IEEE-488 (GPIB)  
Fiber Optic Serial (FSMA connectors; Reserved for use with FM7004A Field Monitor)

**Max Remote Transfer Rate:** 20 queries per second

### External Trigger Port:

Impedance: > 10MΩ  
Threshold Voltage: 3V  
Maximum Input Voltage: 5V  
Minimum Pulse Width: 40ns

**Readout Display:** Embedded Web Application through PC (PC not included)

Remote Interface: LAN (Ethernet)

Compatible Web Browsers: Chrome, Internet Explorer, Firefox, Opera (Some features not available in all browsers.)

Timebase Range: 1μs/Div to 400μs/Div

Scale Range: 0.1(V/m)/Div to 5000(V/m)/Div

Trigger Modes: Free Run, Internal (conventional threshold), External

Edges (Threshold trigger): Rising and Falling

Vertical Divisions: 10

Horizontal Divisions: 10

### Laser:

Wavelength: 830nm

Output Power: ≤ 500mW

Shutdown Time: < 1 ms after fiber disconnect

### Power Requirements:

Input Voltage: 90–260VAC, 50–60Hz

Input Current: 0.2–0.6A

Input type: IEC inlet with filter

**Sample Rate:** 1.5MS/s

**Max Record Length:** 6kPoints

**Modulation Frequency Range:** 250Hz to 750kHz

**Measurement Format:** Composite only

**Calibration Data:** Accredited Calibration Report supplied with kit.

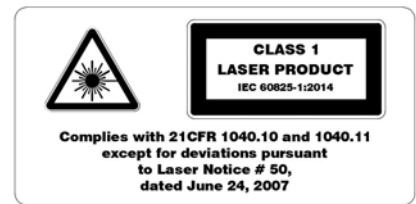
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Specifications

Field Sensors

	FA7006	FA7218	FA7040	FA7060
<b>Frequency Range</b>	100kHz–6GHz	2MHz–18GHz	2MHz–40GHz	2MHz–60GHz
<b>Amplitude Accuracy<sup>1</sup></b>	±1.0dB @ 10MHz <sup>2</sup> 0.8dB, 100kHz–1GHz <sup>3,4</sup> 1.4dB, 1GHz–6GHz <sup>3,4</sup>	±1.0dB @ 10MHz <sup>2</sup> 0.8dB, 2MHz–1GHz <sup>3,4</sup> 1.4dB, 1GHz–18GHz <sup>3,4</sup>	±1.0dB @ 10MHz <sup>2</sup> 0.8dB, 2MHz–1GHz <sup>3,4</sup> 1.4dB, 1GHz–40GHz <sup>3,4</sup>	±1.0dB @ 10MHz <sup>2</sup> 0.95dB, 2MHz–1GHz <sup>3,4</sup> 1.5dB, 1GHz–60GHz <sup>3,4</sup>
<b>Isotropic Deviation<sup>4,5</sup></b>	±1.2dB @ 10MHz ≤ 200V/m	±1.0dB @ 10MHz ≤ 200V/m	±1.0dB @ 10MHz ≤ 200V/m	±1.0dB @ 10MHz ≤ 200V/m
	±2.0dB @ 10MHz > 200V/m	±2.0dB @ 10MHz > 200V/m	±2.0dB @ 10MHz > 200V/m	±2.0dB @ 10MHz > 200V/m
<b>Operating Range<sup>9</sup></b>	9 – 900V/m	14–1400V/m	14–1400V/m	14–1400V/m
<b>Linearity</b>	±0.5dB	±0.5dB	±0.5dB	±0.5dB
<b>Typical Analog Rise Time<sup>6,7</sup></b>	300nS	300nS	300nS	300nS
<b>Minimum Pulse Width</b>	1μs	1μs	1μs	1μs
<b>Damage Level (CW)</b>	1000V/m	1200V/m	1200V/m	1200V/m
<b>Temperature Stability</b>	±1.0dB, 10°C - 40°C <sup>8</sup>	±1.0dB, 10°C - 40°C <sup>8</sup>	±1.0dB, 10°C - 40°C <sup>8</sup>	±1.0dB, 10°C - 40°C <sup>8</sup>
<b>Approximate Dimensions (W x H x D)</b>	5.7 x 5.7 x 5.7cm	27.8 x 6.5 x 6.5cm	27.8 x 6.5 x 6.5cm	27.8 x 6.5 x 6.5cm
<b>Weight</b>	62.5g	150g	150g	150g

<sup>1</sup> Single axis aligned with field  
<sup>2</sup> Without correction factors applied  
<sup>3</sup> With correction factors applied  
<sup>4</sup> Typical expanded measurement uncertainty (95% confidence interval)  
<sup>5</sup> Measured at the ortho angle  
<sup>6</sup> 10% - 90%  
<sup>7</sup> Pre-digitization  
<sup>8</sup> 5% - 95% Relative humidity, non-condensing  
<sup>9</sup> Less than 50% duty



Compatible Accessories

Model	Description
FM7004A	Field Monitor
RK7000	Rack mount kit for up to two Processor Units (1.75" height x 19" width)
FAC7010	10 meter fiber optic cable
FAC7020	20 meter fiber optic cable
FAC7050	50 meter fiber optic cable
FAC7100	100 meter fiber optic cable
FAM7000	Fiber optic mating adapter