

# HI-6153 ELECTRIC FIELD PROBE

ETS-Lindgren's HI-6153 Electric Field Probe operates at a Frequency Range: 10 MHz to 40 GHz.



ETS-Lindgren's Model HI-6153 Laser-powered Electric Field Probes provide broadband EMF frequency coverage and wide dynamic range that satisfies the demands of most test requirements. To take advantage of this capability, the HI-6153 RF field probe was designed to be single range reading so data can be read continuously over the entire dynamic range. Data values for each axis (X,Y,Z) can be read individually, or summed.

Fiber optic signal and power lines link the model HI-6153 probe to either the model HI-6100 Field Monitor, or as a direct connect to a PC USB port with the HI-6113 Laser Data Interface and ProbeView™ Laser Software.

The HI-6100 provides manual functions and programmed control via IEEE-488 and RS-232 Serial Data Interfaces. Readings from up to four probes can be displayed simultaneously.

The EMCenter™ Modular RF Platform along with the EMSense™ interface card can be used with the HI-6000 series field probes as a field monitor in addition to its capability as a system level platform.

The HI-6113 provides the laser power and communications for the HI-6153. A USB connection to the PC allows for quick and easy data collection, using ProbeView Laser software.

## Key Features

- **Laser Powered for Unlimited Test Time**
- **Frequency Range: 10 MHz to 40 GHz**
- **Dynamic Range: 2.0 to 800 V/m (Single Range)**

- Provides Individual and Summed Axis Values
- A2LA Accredited Calibration Report
- Suitable for MIL Standard Specs:
  - MIL-STD 461F Radiated Susceptibility (RS)
- Suitable for Automotive Specs:
  - SAE J1113/27
  - GMW 3091/3097/3103
  - FORD FMC 1278
- Suitable for Commercial Specs:
  - EN/IEC 61000-4-3 Radiated Immunities
- Operates with Most 3rd Party Immunity Software

## Specifications

### Electrical Specifications

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**Detection Isotropic:** (X, Y, and Z Axis Readings)

**Frequency Range:** 10 MHz to 40 GHz

**Frequency Response with Correction:**

- 10 MHz to 18 GHz  $\pm 0.9$  dB
- 18 to 40 GHz  $\pm 1.1$  dB

**Frequency Response (Typical):**

- 10 to 100 MHz + 3.0, -4.0 dB
- 100 MHz to 1 GHz +3.0, -0.50 dB
- 1 to 18 GHz +4.0, -2.0 dB
- 18 to 40 GHz +3.5, -4.5 dB

**Dynamic Range:** 2 to 800 V/m (Single Range)

**Resolution:** 0.01 V/m

**Isotropic Deviation:**  $\pm 1.0$  dB < 18 GHz

**Linearity:**  $\pm 0.5$  dB

**Sample Rate (Typical):** 70 Samples per Second Maximum

**Overload Withstand:** >1500 V/m CW

## Physical Specifications

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### Physical Interface:

- Duplex Optical Fiber (62.5 Micron Multimode)
- FC Connectors for Laser Cable, Integral 1m Optical Cable
- ST Connector for Transmitter Cable, Integral 1m Optical Cable

**Operating Temperature Range:** 10° to 40° C (50° to 104° F); 5-95% Relative Humidity Non-condensing

**Length:** 43.8 cm (17.24 in)

**Width:** 5.7 cm(2.24 in)

**Weight:** 0.36 kg (12.64 oz)

**Mounting:** 1/4 in x 20 UNC Internal Thread

## Other Specifications

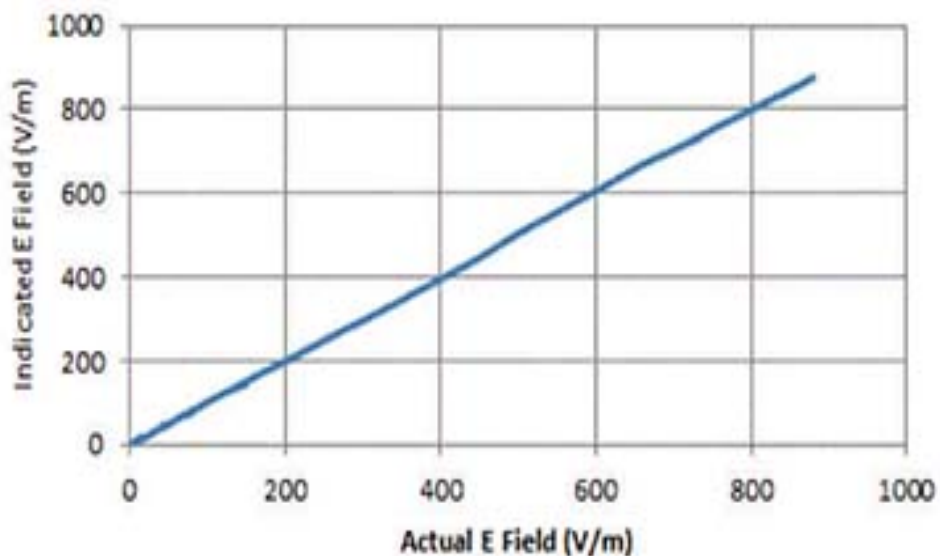
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- **Probe Assembly**
- **A2LA Traceable Calibration Report**
- **10m Fiber Optic Cable**
- **Bulkhead Connectors (2)**
- **Carrying Case**
- **Fiber Cleaning Kit and Swabs**
- **Manual**

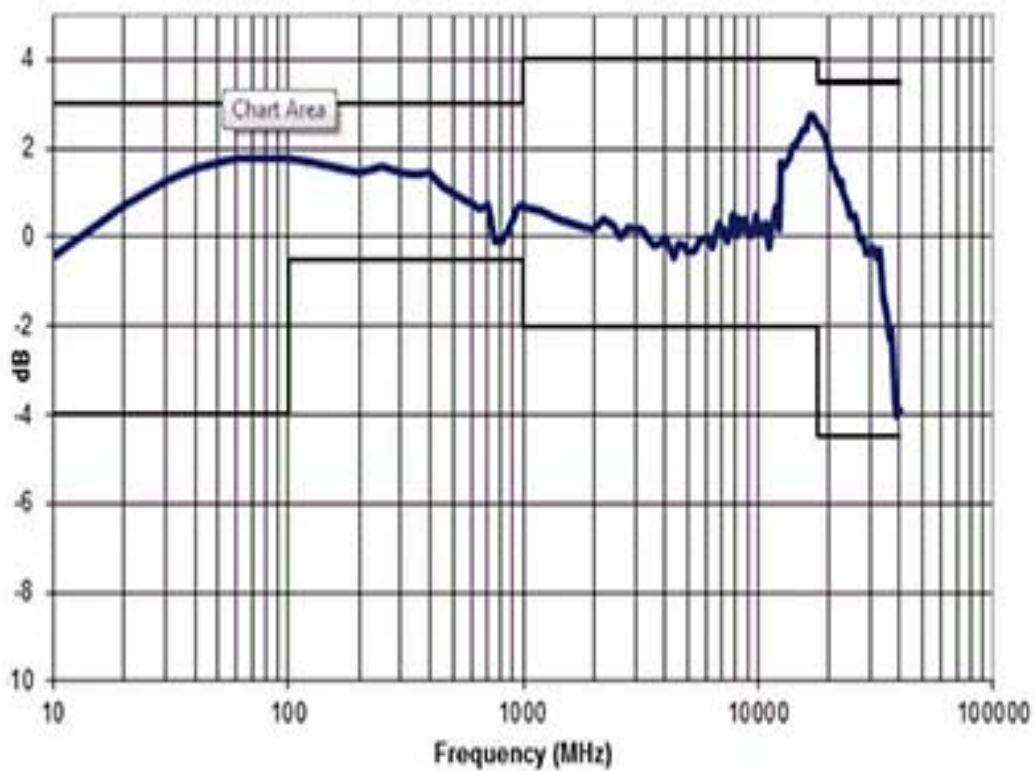
## Product Charts

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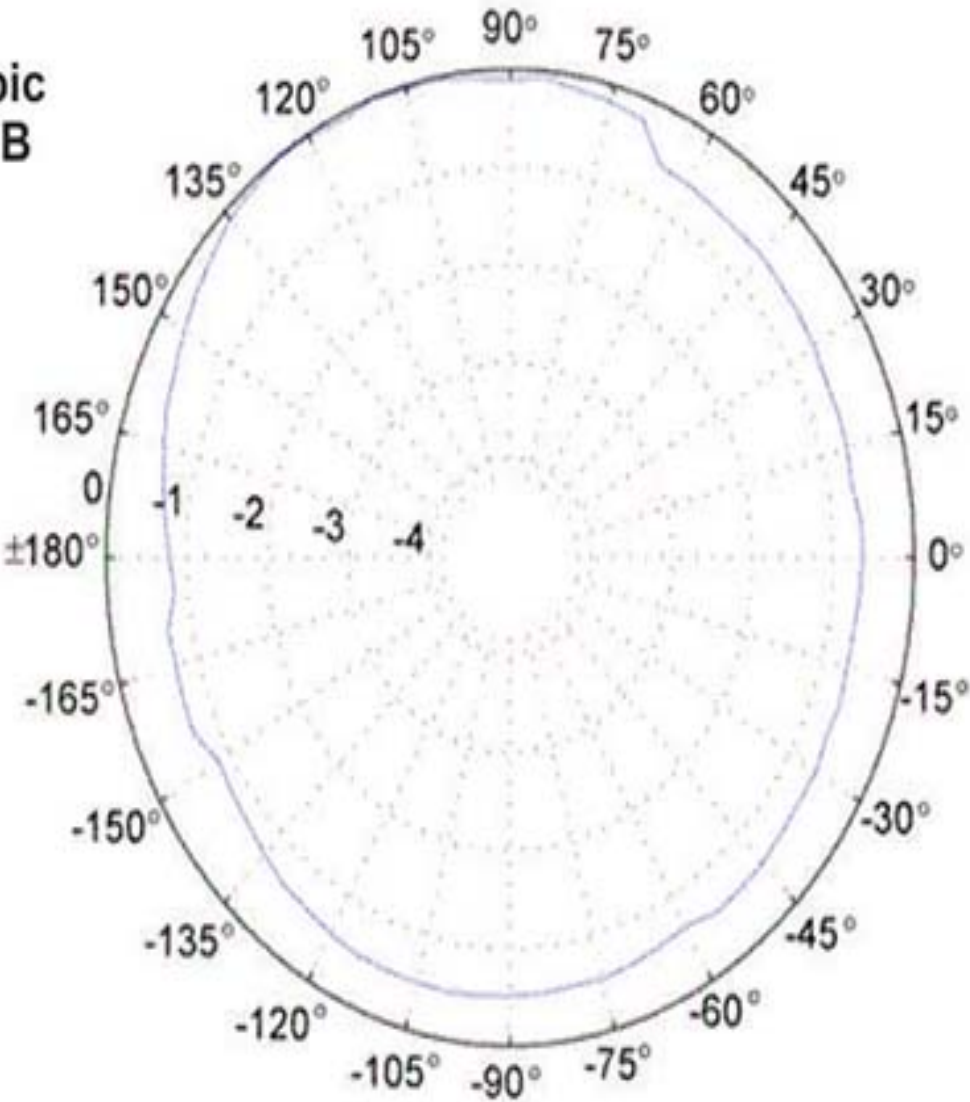
### Linearity Response at 1 GHz



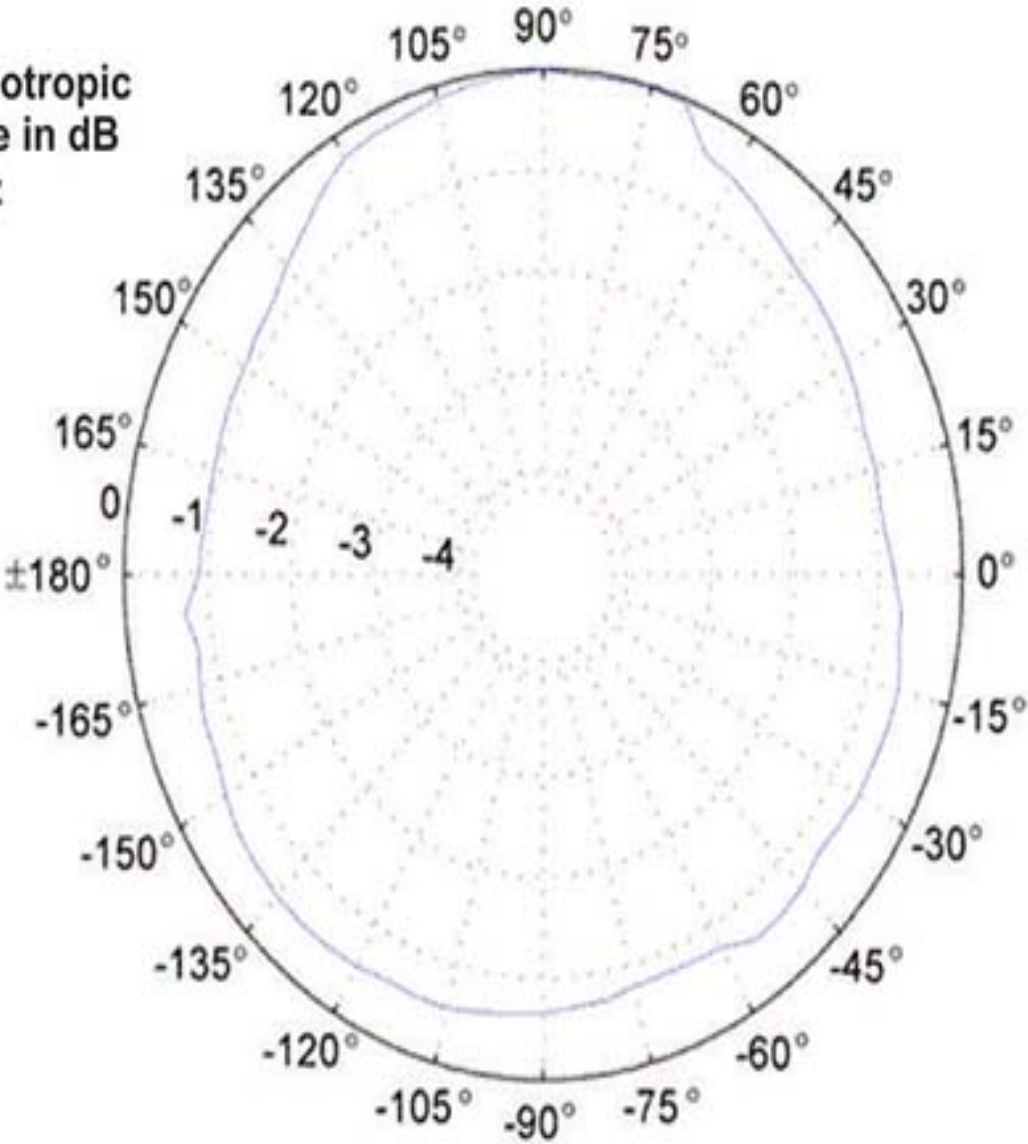
### Typical Frequency Response with Limits



Typical Isotropic  
Response in dB  
at 1 GHz



Typical Isotropic Response in dB at 10 GHz



Typical Isotropic  
Response in dB  
at 18 GHz

