



**INSTRUCTION MANUAL**

**LOOP ANTENNA**

**MODEL ALP-11**

**20 Hz – 50 kHz**

# INSTRUCTION MANUAL

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## **LOOP ANTENNA**

**20 Hz – 50 kHz**

## **ELECTRO-METRICS**

**MODEL ALP-11**

**SERIAL NO: N/A**

## **ELECTRO-METRICS CORPORATION**

**231 Enterprise Road, Johnstown, New York 12095**  
**Phone: (518) 762-2600      Fax: (518) 762-2812**

**EMAIL: [info@emihq.com](mailto:info@emihq.com)**

**WEB: <http://www.electro-metrics.com>**

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# **WARRANTY**

**This Model ALP-11 Loop Antenna is warranted for a period of 12 months (USA only) from date of shipment against defective materials and workmanship. This warranty is limited to the repair of or replacement of defective parts and is void if unauthorized repair or modification is attempted. Repairs for damage due to misuse or abnormal operating conditions will be performed at the factory and will be billed at our commercial hourly rates. Our estimate will be provided before the work is started.**

## DESCRIPTION AND USE ELECTRO-METRICS ALP-11 LOOP ANTENNA

### 1.0 Description

The ALP-11 Loop Antenna is designed to obtain magnetic field measurements from 20 Hz to 50 kHz. It can be used up to 500 kHz with any  $50\Omega$  instrument since it is designed and calibrated for use in a  $50\Omega$  system. The antenna is suited for use in compliance testing to MIL-STD-461A/B/C, CISPR standards, plus other government and federal standards.

The antenna incorporates a balanced faraday shield that reduces response to electric fields to a vanishingly small amount. This allows the antenna to obtain practically pure magnetic field measurements.

The antenna is designed to work into a  $50\Omega$  system and the calibration chart is based on this use. The calibration chart gives values of antenna factor for finding magnetic field strength H.

**NOTE:** The calibration chart in Figure 1 only extends to 100 kHz. However, the antenna factor from 100 kHz to 1 MHz remains almost constant at 1.8 dB(S/m).

To find the field strength H in dB( $\mu$ A/m), add the factor in dB(S/m) to the measured two-terminal input voltage on the  $50\Omega$  instrument in dB( $\mu$ V).

To find the flux density B in dB(pT), add 2 dB to the field strength H reading.

The ALP-11 Loop Antenna is, electrically, a magnetic dipole and thus having a dipole pattern must be oriented for best sensitivity.

The base plate has a 5/8-11 threaded receptacle for mounting to the Model TRI-136 Tripod. This allows the loop antenna to be mounted either vertically or horizontally with respect to a horizontal plane.

## 2.0 Specifications

### 2.1 Electrical

Frequency Range: 20 Hz-50 kHz.  
(calibrated)

(Refer to Figure 1 for the Antenna Factor Chart)

Impedance: Calibration for use into 50Ω.

Output Connector: BNC.

### 2.2 Mechanical

Outside Diameter: 635 mm (25").

Height: 686 mm (27").

Weight: 0.5 kg (1.1 lbs).

**FIGURE 1**  
**ALP-11 ANTENNA FACTOR CHART**  
**PAGE 3A**