

MAGNETIC FIELD SENSOR (B)
(Free Field)

MODEL B-100

DESCRIPTION

The PRODYN Model B-100 sensor is a new addition to the line of multigap free-field type B-Dot sensors and fills a much needed frequency measurement capability that up to now could only be measured with a fragile laboratory style sensor. This sensor comes equipped with a weather cover, a holding cradle, and has SMA connectors on the output. These allow for easy mounting and hook-up.

The sensor design is similar to other multigap type sensors, such as the PRODYN Model B-60, in that the wiring configuration used causes any electric fields to be effectively cancelled out and the sensor's output signal to occur from only magnetic fields. An emphasis on accuracy and precision in manufacturing results in excellent common mode characteristics. The equation relating to the sensor is:

$$V_o = \vec{A}_{eq} \cdot \frac{d\vec{B}}{dt} = \text{sensor output (in volts)}$$

where

$$\vec{A}_{eq} = \text{sensor equivalent area (m}^2\text{)}$$

$$\vec{B} = \text{magnetic flux density vector (teslas)}$$

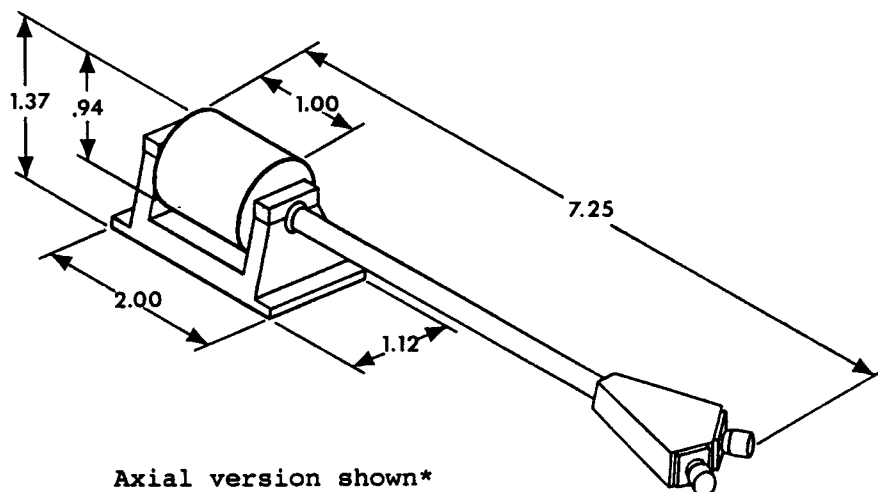
The sensor is a passive device; thus, an external power source is not required. It's available with an axial output, Model B-100(A), or a radial output, Model B-100(R).

ELECTRICAL SPECIFICATIONS

Equivalent Area (A_{eq})	$1 \times 10^{-4} \text{ m}^2$
Frequency Response (3 dB Point)	$> 2.6 \text{ GHz}$
Risetime ($t_r 10-90$)	$< .13 \text{ ns}$
Maximum Output (peak)	$\pm 1.5 \text{ KV}$
Output Connector	2 female 50 Ω SMA**

PHYSICAL SPECIFICATIONS

Mass: 32 grams



ORDERING INFORMATION

- * Customer to specify axial (A) or radial (R) version.
- ** Other connector types and output configurations are available. Please consult factory for details.