MAGNETIC FIELD SENSOR *(B)*
(Free Field)

MODEL B-24 (R)

DESCRIPTION

The PRODYN Model B- 24 is a full loop magnetic sensor with a redial output that measures the time rate of-change of a magnetic field. This very small portable device was designed specifically for making high frequency free field measurements - For this type of measurement and because the sensor is fragile due to its size, it should be supported by dielectric materials and placed a minimum of two sensor diameters from conducting surface. The sensing area is protected by a plastic cover. The sensor is a passive device, therefore, an external power source is not required.

The equation relating to the sensor is:

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

were

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

$\vec{B}$ = *magnetic flux density vector (Tesla's)*

ELECTRICAL SPECIFICATIONS

Equivalent Area (Aeq, Differential) ..... 9×10^{-6}

Frequency Response (3dB point) ..... >11GHz

Risetime (t_r 10-90) ..... ~.041 NS

Maximum Output (peak) ..... $\pm$ 500v

Output Connectors ..... SMA (Male)

PHYSICAL SPECIFICATIONS