MAGNETIC SHIELD CORP.
Since 1941

Magnetic Field Evaluator Probes

PART NO:
EP-102T
SHOWN

MAGNETIC SHIELD CORPORATION
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AC PICKUP PROBES:
Axial - mV
Transverse - mV

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AC MAGNETIC PICKUP PROBES

NOTE: Probes are supplied with BNC connector.
BNC to dual banana adaptor available upon request.

FIG. A – AXIAL COIL • EP-102A

FIG. B – TRANSVERSE COIL • EP-102T

Our AC magnetic field evaluator probes may be used with a digital volt meter or oscilloscope to determine AC magnetic field sources and intensities. It is also used to measure the attenuation of magnetic shields.

The nominal probe output is 60 millivolts per gauss at 60 Hertz. The formula on the probe label gives the individual probe calibration number and the correction for other frequencies. The probes are accurate for direct measurements in gauss for frequencies up to 3 kHz. At higher frequencies accuracy is reduced, but the probe remains useful for determining relative values of shielded versus unshielded areas.

The probe formula is:

$$\text{GAUSS (PEAK)} = \frac{60 \cdot E(\text{peak mv})^*}{\text{Cal. No.} \cdot f(\text{Hz})}$$

*Peak voltage as determined with an oscilloscope. If using an instrument that reads rms voltages, multiply the reading by 1.414 before using formula.

The probe is an air core inductor sensitive to magnetic flux lines crossing the plane identified by the yellow stripe on the housing. By orienting the probe for maximum output, the source of an interference field can be located. For durability, the probe coil and the slotted electric field shield are encapsulated in an epoxy housing. The housing is 1-3/8" [35 mm] diameter and 2-1/4" [58 mm] long. The cable is shielded to prevent loop current pickup. The output connector is standard BNC.

The probes are furnished with either axial or transverse pickup coil positions to facilitate correct orientation in restricted areas. Figure "A" EP-102A shows the axial probe with the yellow band indicating that a maximum reading will be obtained with the housing axis aligned with the field. Figure "B" EP-102T shows the transverse type which gives a maximum reading when the field approaches the side of the housing perpendicular to the plane of the yellow stripe.

AC magnetic field evaluator probes are extremely useful in determining interference field intensity. With this essential information, the proper gauges of MuMETAL®, CO-NETIC® and NETIC® magnetic shielding alloys can be specified. Magnetic shield designs can be optimized by hand forming prototypes from material available in our Lab Kit. Please refer to brochure LK-5.

@MagShieldCorp

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Catalog EP-5

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