

# MPT-141

## Hall Effect Probe

Standard Sensitivity with temperature compensation

High Accuracy:  $\pm 0.01\%$  max. error at  $25^\circ\text{C}^*$

Low thermal drift at  $\pm 5\text{ppm}/^\circ\text{C}$  max. \*

Low Zero Drift of  $\pm 0.01\text{G}/^\circ\text{C}$  max. \*

Calibration tables at 0, 25 and  $50^\circ\text{C}$  supplied

\* Contribution of probe only



## Specifications

The MPT-141 Hall Effect Probe is most suitable to be used with a DTM-151 or DTM-152 Digital Teslameter.

Probe is calibrated up to 2.2 Tesla, bipolar. Temperature-compensated from 0 to  $50^\circ\text{C}$ . Transverse orientation, reads (+) when field vector enters the top epoxy surface.

### Accuracy at $25^\circ\text{C}$ :

$\pm 0.01\%$  of reading + 0.006% of full scale

### Operating Range:

4- Range Operation.

0.3, 0.6, 1.2, 3.0 Tesla Full Scale

3, 6, 12, 30 Kilo Gauss Full Scale

### Temperature Stability:

Calibration:  $\pm 10\text{ppm}$  of reading/ $^\circ\text{C}$  max.

- 3ppm/ $^\circ\text{C}$  of reading per meter of probe cable

Zero Drift:  $\pm (1\mu\text{T} + 0.0003\%$  of full scale)/ $^\circ\text{C}$  max.

### ORDER CODE:

MPT-141-2S for probe with basic 2 meters shielded cable. Special probe cable lengths may be ordered up to 30 meters. For single range probes, add range suffix -03, -06, -12, -30 e.g. MPT-141-03-2S.

### Probe Accessories:

MPT Transverse Probe Holder – Part No. 17000081

MPT Axial Probe Holder – Part No. 17000100

### Temperature Range:

0 to  $50^\circ\text{C}$  operating to spec,  $-20$  to  $+60^\circ\text{C}$  max.

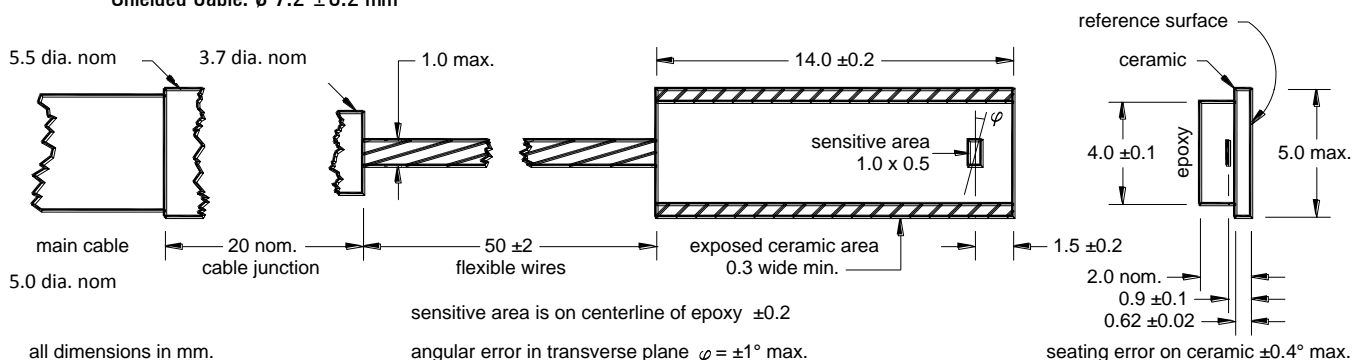
### Dimensions:

Probe Head Size: 14 x 5 x 2 mm

Sensitive Area: 1 x 0.5 mm

Unshielded part of cable at probe head:  $\varnothing 5.0 \pm 0.2$  mm, 300 mm nominal length

Shielded Cable:  $\varnothing 7.2 \pm 0.2$  mm



### Resolution using DTM-151 Digital Teslameter:

TABLE 1 - DC Mode with Digital Filtering ON

1 in 600,000 of bipolar scan in front of panel display

Range	Display resolution		Serial / GPIB Output Resolution	
	Gauss	Tesla	Gauss	Tesla
0.3	0.01	0.000001	0.001	0.0000001
0.6	0.02	0.000002	0.01	0.000001
1.2	0.04	0.000004	0.01	0.000001
3.0	0.1	0.00001	0.01	0.000001

TABLE 2 - DC Mode with Digital Filtering OFF, and AC Mode,

1 in 120,000 of bipolar scan in front of panel display

Range	Display resolution		Serial / GPIB Output Resolution	
	Gauss	Tesla	Gauss	Tesla
0.3	0.05	0.000005	0.001	0.0000001
0.6	0.1	0.00001	0.01	0.000001
1.2	0.2	0.00002	0.01	0.000001
3.0	1	0.0001	0.01	0.000001