

# MPT-141-13T

## High Field Hall Effect Probe

High Field Application (up to 13 Tesla)

High Accuracy:  $\pm 0.05\%$  max. error at  $25^\circ\text{C}$  above 2.2T\*  
Calibration tables at 0, 25 and  $50^\circ\text{C}$  supplied

\* Contribution of probe only



## Specifications

The MPT-141-13T High Field Hall Effect Probe is most suitable to be used with a DTM-151 or DTM-152 Digital Teslameter. Temperature-compensated from 0 to  $50^\circ\text{C}$  up to 2.2 Tesla. Probe can be calibrated to measure field up to 13 Tesla. 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 up to 2.2T, temperature-compensated
- $\pm 0.05\%$  of reading + 0.006% of full scale above 2.2T at  $25^\circ\text{C}$

### Operating Range:

4- Range Operation

R0.3=1.2, R0.6=2.2, R1.2=2.2, R3.0=13.0 Tesla Full Scale

NOTE: Range R0.3 is calibrated to read up to 1.2T only. Ranges R0.6 and 1.2 could only display calibrated readings up to 2.2T and are temperature compensated. Reading above 2.2T on those ranges are not calibrated and it is highly recommended to use the top range 13.0 for measurements above 2.2T. This range is only calibrated at  $25^\circ\text{C}$  operating temperature.

### Temperature Stability:

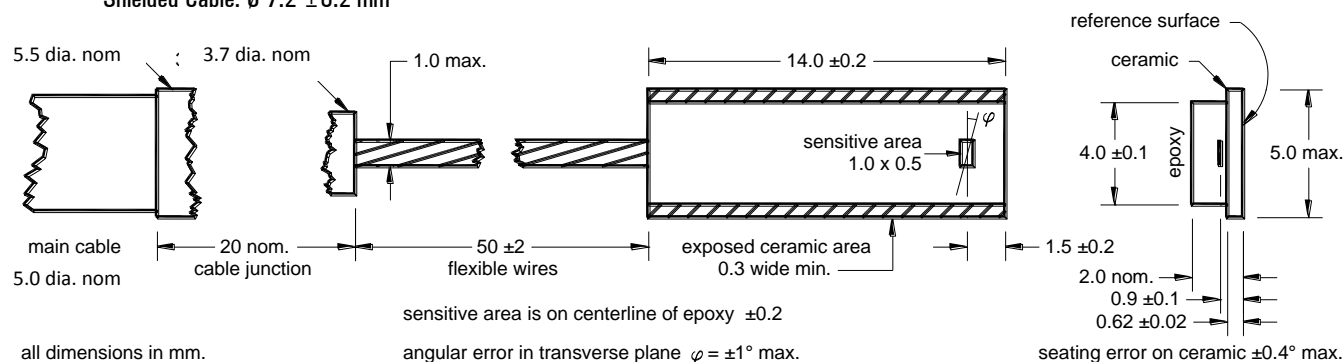
- Calibration:  $\pm 10\text{ppm}$  of reading/ $^\circ\text{C}$  max.
- 3ppm/ $^\circ\text{C}$  of reading per meter of probe cable
- Zero Drift:  $\pm (1/\mu\text{T} + 0.0003\%$  of full scale)/ $^\circ\text{C}$  max.

### Temperature Range:

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

### Dimensions:

- Probe Head Size:  $14 \times 5 \times 2$  mm
- Sensitive Area:  $1 \times 0.5$  mm
- Unshielded part of cable at probe head:  $5.0 \pm 0.2$  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	0.1	0.00001	0.01	0.000001
0.6	0.01	0.000001	0.01	0.000001
1.2	0.2	0.00002	0.1	0.00001
3.0	1	0.0001	0.1	0.00001

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	0.2	0.00002	0.01	0.000001
0.6	0.5	0.00005	0.01	0.000001
1.2	1	0.0001	0.1	0.00001
3.0	2	0.0002	0.1	0.00001