

HPC-[F]-[V]-M[n]

Analog Corrected Hall Effect Probe

WITH MINIATURE PROBE HEAD

ORDER CODE:

[F] = full-scale magnetic field in tesla, 0.1T min., 2.2T max.

[V] = full-scale output voltage, 5.0V min., 10.0V max.

[n] = length in meters on flexible cable

Example: HPC-2.0T-10V-M2 has a full-scale range of -2.0 to +2.0 tesla giving -10 to +10 volts output, with a 2-meter probe cable.



Specifications

Probe:

Material: Ceramic substrate with epoxy encapsulation

Length: 14mm (see below diagram)

Cross-section: 2.0mm thick (in field direction) x 5mm wide

Sensor Position: 1.5mm from end of probe

Cable length: standard 2 meters, can be up to 30 meters maximum (customer specified)

Operating condition for full correction:

Magnetic Field: bipolar field range

Temperature: 10°C to 50°C

Output:

Output Voltage: bipolar output range

Accuracy: $\pm (0.02\% \text{ of full scale} + 0.01\% \text{ of field} + 0.00002) \text{ tesla up to } 10\text{kHz}$
 $\pm 1\%$ approximate for field components above 10kHz.

Bandwidth (small signal): 0 to >200kHz (-3dB point)

Bandwidth (full output): 0 to 35kHz sine wave (20volt peak-to-peak output)

Slew rate: >2V/ μ s

Noise level: <1mV p-p (over bandwidth 0 to 10kHz, >0.5T full-scale)

Output Impedance: <10 Ω

Output load: 2k Ω minimum

Power Input Requirement:

$\pm 15\text{V}$ nominal DC, nominal, $\pm 14.5\text{V}$ min, $\pm 18\text{V}$ max

+15V @45mA typ.

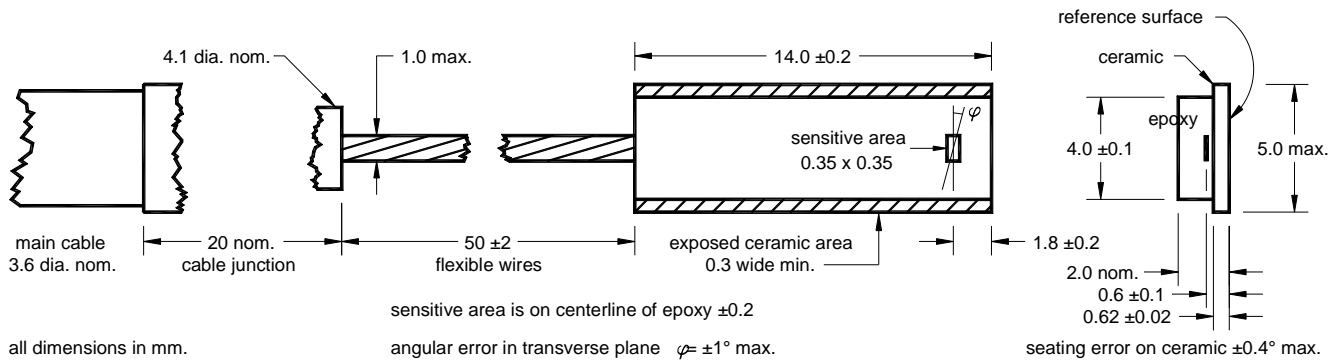
-15V @30mA typ.

Red LED indicates "POWER ON"

Over Temperature Output:

Isolated collector and emitter of optocoupler.

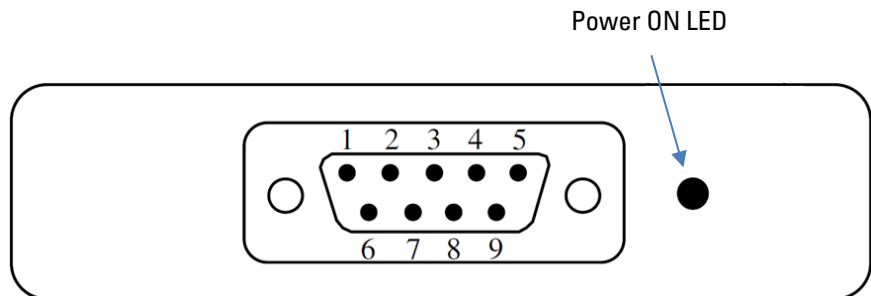
Probe Head



Connector: DB9 Male

- 1 Output ground*
- 2 Analog ground*
- 3 Over temp. (collector)
- 4 Supply -15V DC
- 5 Supply +15V DC
- 6 Output signal
- 7 Analog ground*
- 8 Over temp.

*Pins 1, 2, and 7 are connected



Terminate wiring shield to the connector shell
Enclosure dimension: 71 x 92 x 30mm