

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:	$\pm (0.02\% \text{ of full scale} + 0.01\% \text{ of field} + 0.00002) \text{ tesla up to } 10\text{kHz}$ $\pm 1\% \text{ approximate for field components above } 10\text{kHz}.$
Bandwidth (small signal):	0 to $> 200\text{kHz}$ (-3dB point)
Bandwidth (full output):	0 to 35kHz sine wave (20volt peak-to-peak output)
Slew rate:	$> 2\text{V}/\mu\text{s}$
Noise level:	$< 1\text{mV p-p}$ (over bandwidth 0 to 10kHz, $> 0.5\text{T}$ full-scale)
Output Impedance:	$< 10 \Omega$
Output load:	2k Ω minimum

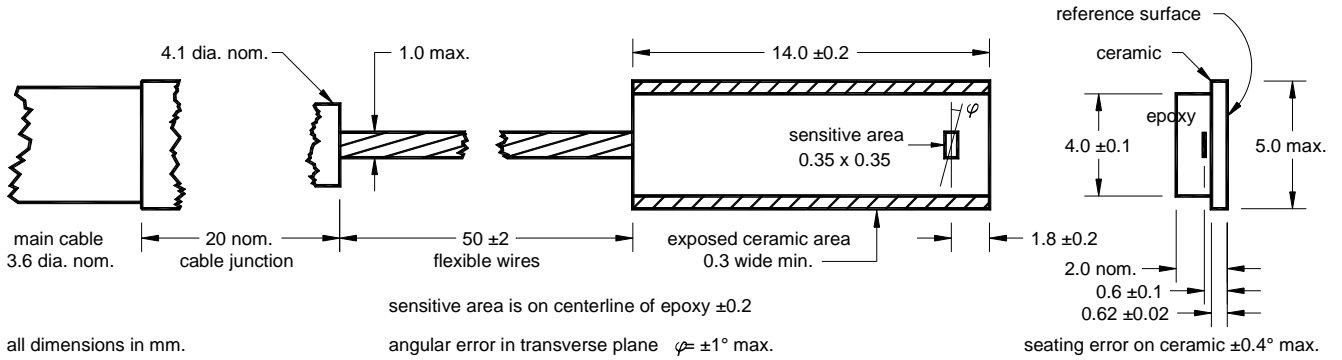
Power Input Requirement:

$\pm 15\text{V}$ nominal DC, nominal, $\pm 14.5\text{V}$ min, $\pm 18\text{V}$ max
 $+15\text{V}$ @45mA typ.
 -15V @30mA typ.
 Red LED indicates "POWER ON"

Over Temperature Output:

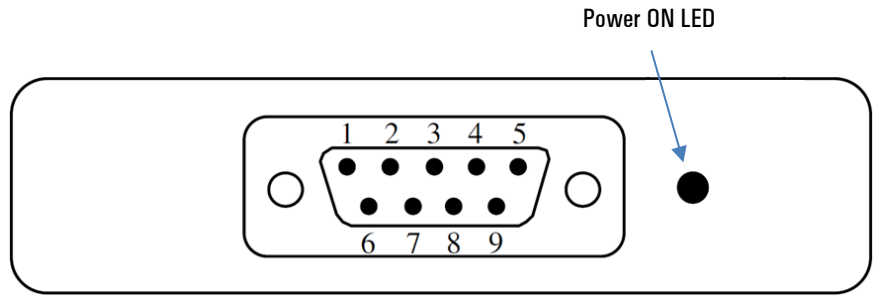
Isolated collector and emitter of optocoupler.

Probe Head Dimension:



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. (emitter)
- 9 Supply 0V



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

* Pins 1, 2, and 7 are connected internally