

# HPCS-[F]-[V]-M[n]

## Analog Corrected Hall Effect Probe

WITH MINIATURE PROBE HEAD & INTEGRAL POWER SUPPLY

### 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

Add: -D at end of model name if with voltage display

Example: HPCS-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 or unipolar field range
Temperature:	10°C to 50°C

### Output:

Output Voltage:	bipolar output range
Accuracy:	± (0.02% of full scale + 0.01% of field + 0.00002) tesla up to 10kHz ± 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/μs
Noise level:	< 1mV p-p (over bandwidth 0 to 10kHz, > 0.5T full-scale)
Output Impedance:	< 10 Ω
Output load:	2k Ω minimum

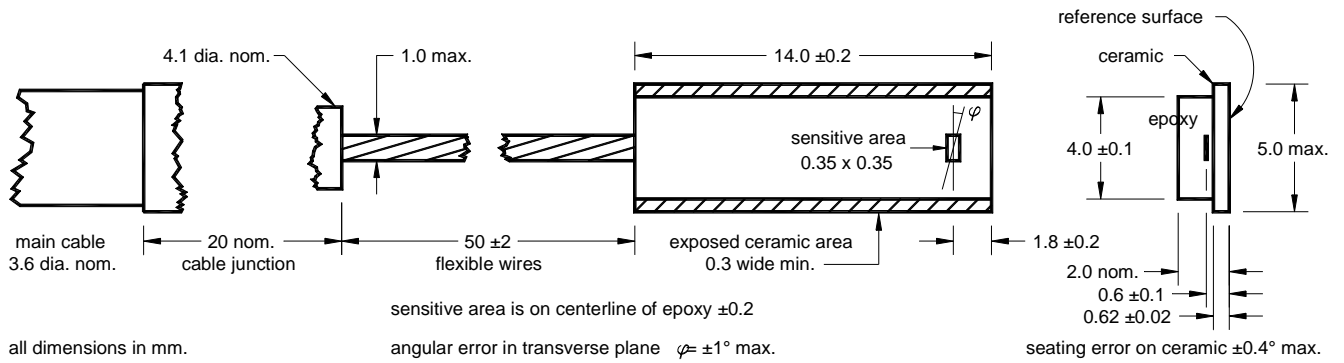
### Power Input Requirement:

24V nominal AC or DC  
 AC: 28V max., 17V min. 3VA nominal  
 DC: 36V max., 20V min. 2W nominal  
 Red LED indicates "POWER ON"

### Over Temperature Output:

Isolated collector and emitter of optocoupler.

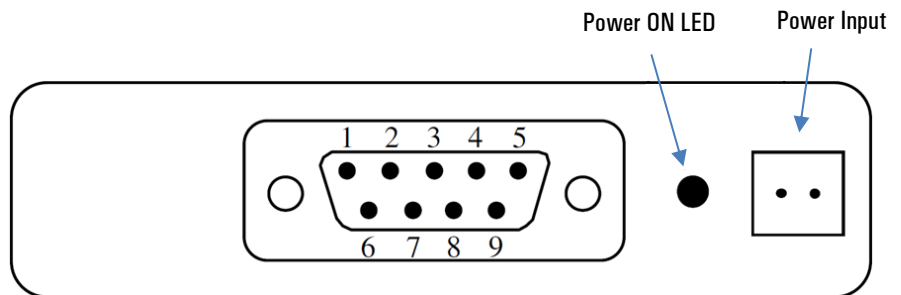
### Probe Head Dimension:



### Connector: DB9 Male

ON if Hall device temperature exceeds  $\sim 70^\circ\text{C}$

- 1 output ground\*
- 2 analog ground\*
- 3 over temp. (collector)
- 4 -
- 5 -
- 6 Output signal
- 7 Analog ground\*
- 8 Over temp. (emitter)
- 9 ..



Terminate wiring shield to the connector shell  
Enclosure dimension: 142 x 92 x 30mm

\* Pins 1, 2, and 7 are connected internally