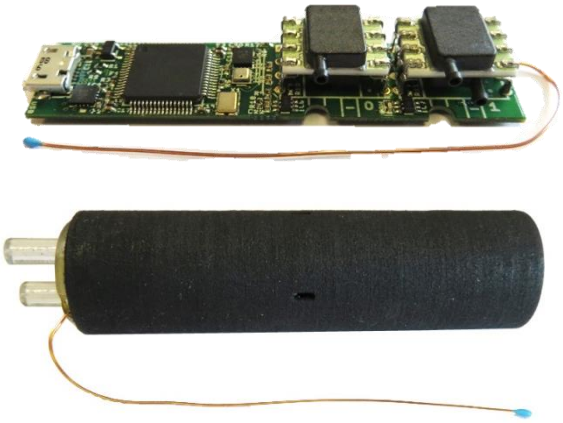
DIGITAL PITOT STATIC PROBE DRIVER SYSTEM

This high-precision, low-cost package includes all of the sensing elements required for high quality measurements with a standard Pitot-static probe. Ideal for use in process control, flow speed monitoring or education, this system provides a simple, high-power sensing solution.



- 24-bit differential pressure sensor accurate to +/- 0.75% full-scale, with internal temperature compensation
- 24-bit, 0-1.6 Atm. absolute pressure sensor for high-precision static pressure measurements
- Sensor calibration carried in on-board memory
- Temperature probe with dedicated 16-bit A/D system for accurate density estimates
- Simple and intuitive software for real-time monitoring and data recording included
- Powered and driven by USB for simple plug-and-play operation
- Integrated enclosures with probe mounts and pressure connections are available

Specification

Standard sensor specifications (custom available on request)	Differential pressure sensor			Static pressure sensor
Product code	ID2HP-160P	ID2HP-1K0	ID2HP-6K9	
Standard pressure ranges	160 Pa FS	1 kPa FS	6.9 kPa FS	1 atm.
Maximum overpressure	33.5 kPa	37.5 kPa	69 kPa	400 kPa
Sensor accuracy[1]	± 0.1 % FS			
Total error band after auto-zero[2]	± 0.5 % FS	± 0.25 % FS	± 0.25 % FS	± 0.25 % FS
Compensated temperature range (extended ranges available)	-40° to +65° C	0° to +50° C	0° to +50° C	0° to +50° C
Operating temperature range	-40° to +65° C non-condensing			
Storage temperature range	-40° to +65° C non-condensing			
Vibration	Sensors rated to 15 g, 10 Hz to 2 Hz			
Maximum relative humidity	95 %			
Relative ambient humidity sensor specification	0 % to 100 % RH, +/- 3%			

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Ambient temperature sensor specification[3]	0°C - 65°C ± 0.5°C
Ambient absolute pressure sensor specification	30-110 kPa FS, +/- 0.1kPa
Remote temperature probe	-40°C - 150°C ± 0.5°C
Absolute temperature limits	5° to +65° C non-condensing
Absolute pressure limits	0.2 - 1.5 atm
Weight (approximate)	< 20 g
Voltage	6-24 VDC or via USB
Power	min. 290 mW
Communications interface	USB2.0 or RS485
Data acquisition rate	1 kHz (equivalent)
Digital resolution	24-bit pressure, 16-bit environmental and IMU
System requirements	Windows 7 or later, minimum 3GHz & 4Gb RAM
IMU specification	3 axis gyro, 125 °/s FS, ± 3.9 x10^{-3} °/s 3 axis accelerometer, 2g FS, ± 0.061 mg

[1] Includes errors due to pressure non-linearity, pressure hysteresis, non-repeatability and calibration uncertainty.
[2] Total residual error after auto-zero, excluding residual temperature sensitivity.
[3]Temperature is recorded at the location of the PCB. Waste heat from electronic components may distort temperature readings.

Dimensions