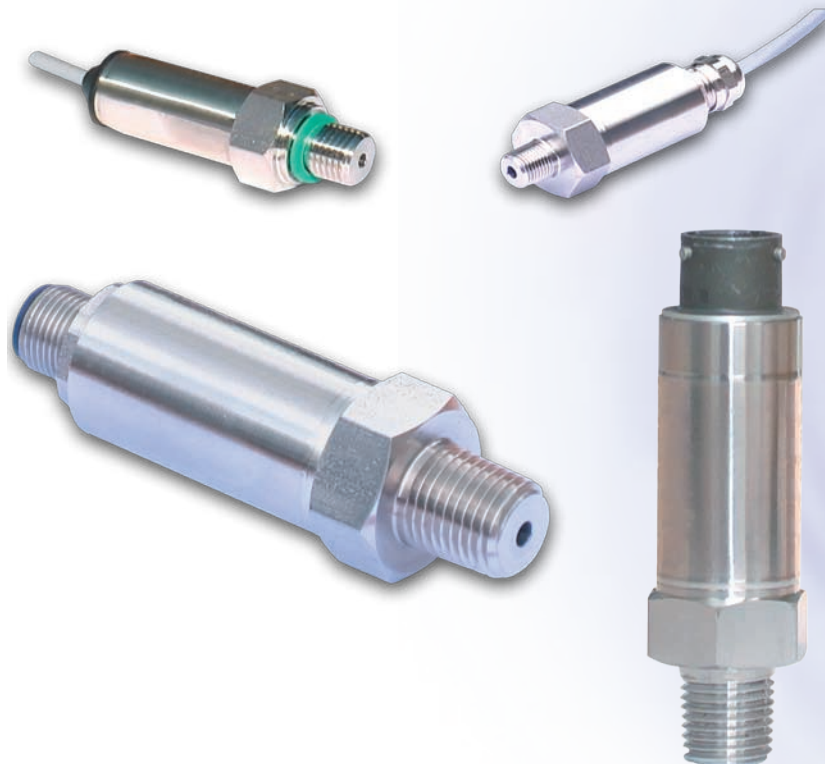


High Precision, Digitally Compensated Pressure Transducers

- ✓ $\pm 0.1\%$ FS static accuracy ($\pm 0.05\%$ FS possible as an option)
- ✓ Compact, rugged, all-welded 316 stainless steel construction (No O-ring)
- ✓ Reliable (lifetime in millions of cycles), high-performance transducers
- ✓ Excellent performance / price ratio
- ✓ MEMS technology for superior linearity and low hysteresis
- ✓ Ranges from 300 to 3,000 psi



MODEL PI3H

High Precision, Digitally Compensated Pressure Transducers

Description

Senzors' model PI3H is an advanced digitally compensated pressure transducer, which provides high accuracy and cost-effectiveness in one package. Equipped with the latest leading-edge technologies, the PI3H is a compact rugged pressure transducer with an excellent stability and a proven reliability. It is designed for any application that requires a highly accurate, medium to high pressure measurement. Its modular design makes it a general purpose industrial pressure transducer that can serve as the basis for a unique custom solution without sacrificing price and high performance.

The sensing element is a solid-state piezoresistive silicon die. This technology is based on a principle that results in excellent linearity, increased long-term stability and reliability and virtually no hysteresis. The silicon strain gage is fitted into a 316 stainless steel package and is completely isolated from the media. There are no internal O-rings or elastomers to contain the media and to contribute to instabilities or drifts.

The sensor signal is compensated by a state-of-the-art 16-bit digital electronics providing a high-level output from an unregulated voltage supply. The digital electronics ensures precise calibration of all critical parameters and achieves very high precision, thermal stability and compensation of all repeatable errors.

The electronics is packaged in an hermetically-sealed all-welded 316 stainless steel housing enabling the PI3H to be immersed in water or pressure washed without internal leakage. This design makes the PI3H ideal for pressure measurements that can involve wet, corrosive or sterile media in the most severe environments.



Applications

- Turbomachinery & Engine Test Stands
- Aircrafts / Avionics
- Flow control / Flow measurement / Filter Monitoring
- Offshore Oil Exploration
- Pumps / Compressors
- Refrigeration / Air Conditioning / HVAC
- Hydraulic & Pneumatic Systems
- Liquid level measurement
- Tank pressure / Tank Level Metering
- Industrial Controls
- Biomedical instruments / Medical Equipment
- Process Control Systems

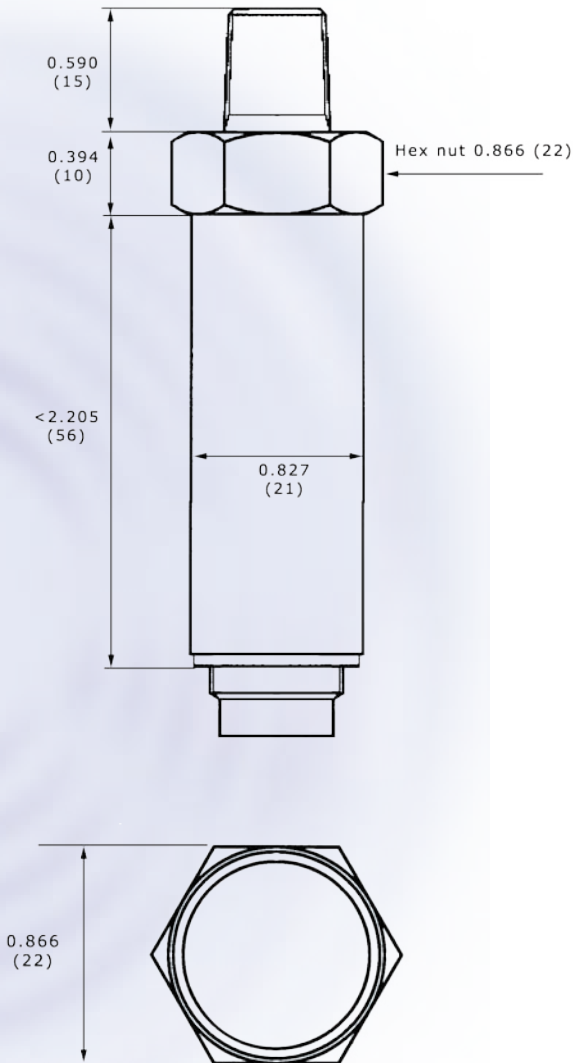


Model PI3H

High Precision, Digitally Compensated Pressure Transducers

Dimensions

Dimensions below are in inches and (mm).
Tolerance on diameter: -0.000"/-0.0020"
(-0.00mm/-0.05mm)



Specifications

Pressure Ranges	0-300 psi through 0-3,000 psi
Type of pressure	Absolute, Sealed, Compound

Performances

Static Accuracy (linearity, hysteresis, repeatability and calibration)	$\pm 0.1\%$ FS (B.F.S.L.) $\pm 0.05\%$ FS (B.F.S.L.) optional
Temperature error	$\pm 0.01\%$ FS/°F
Long term stability	$\pm 0.2\%$ FS per annum
Response time (-3dB)	< 5 ms
Resolution	0.01%FS practical minimum
Fatigue life	> 10 million cycles

Environmental characteristics

Operating temperature (process)	-40°C to +125°C
Ambient temperature	-40°C to +80°C
Random vibration (50-2000Hz)	20G
Shock	100G, 11 ms, half-sine
Drop (any axis)	1.5 m

Electrical characteristics

Supply	6 to 28 VDC	8 to 28 VDC	13 to 28 VDC	8 to 28 VDC
Output	0 to 1 VDC	0 to 5 VDC	0 to 10 VDC	4 to 20 mA
Load	> 5 k Ω	> 5 k Ω	> 5 k Ω	< 1 k Ω
Current draw	< 4 mA	< 4 mA	< 4 mA	< 20 mA
Insulation	> 100 M Ω at 50 VDC			

Physical characteristics

Proof pressure	2x
Burst pressure (pressure containment)	5000 psi
Wetted parts	316L Stainless Steel
Weight	≈ 5.3 oz (150 g)

High Precision, Digitally Compensated Pressure Transducers

Wiring diagram

	Cable	DIN 43650	Binder	MIL
3-wire, voltage output	Black +Supply Red +OUT White GND	pin 1 GND pin 2 +OUT pin 3 +Supply	pin 1 GND pin 2 +OUT pin 3 +Supply	pin C GND pin B +OUT pin A +Supply
2-wire, 4-20 mA output	Black +Supply White +OUT/GND	pin 1 GND pin 3 +Supply	pin 1 GND pin 3 +Supply	pin C GND pin A +Supply

Ordering information

PI3H - S Q50 05 - 42 1E - N4 D4 S X K - 0000

Pressure reference	A Absolute S Sealed C Compound
Pressure range	Request code to use for your pressure range
Compensated temperature range	05 0 to +50°C A8 -10 to +80°C Request code to use for any other compensated temperature range
Output signal	42 4 to 20 mA 01 0 to 1 VDC 10 0 to 10 VDC 05 0 to 5 VDC Request code to use for any other output signal
Static accuracy	1E 0.1%FS ZD 0.05%FS
Pressure fitting	N4 1/4"-18NPT G4 1/4" BSP (G 1/4") Request code to use for any other pressure fitting
Electrical connection	D4 DIN43650 connector CC Cable BI Binder connector L1 MIL connector Request code to use for any other electrical termination
Wetted material	S 316L Stainless Steel H Hastelloy C276
O-ring material	V Fluorocarbon S Silicone E EPDM X No O-ring (metal seal threads) K Kalrez®
Oil filling	K Silicone oil O Olive oil
Option	0000 Standard

Important Notice: Due to continuing development and improvement, Sensors reserves the right to make changes to or discontinue any product or service identified in this publication without prior notice. Sensors assumes no responsibility for infringement of patents or rights of others based on Sensors applications assistance or product specifications since Sensors does not possess full access concerning the use or application of customers' products. While Sensors provides applications assistance, it is up to the customer to determine the suitability of the product or service for the application. Sensors does not assume any liability arising out of the application or use of any of its products. All sales are subject to our standard sales terms and conditions.

Sensors, Inc.
3500 South Dupont Highway
Dover, DE 19901
Toll free: 1-866-SENZORS (736-9677)
email: sales@senzors.com
www.senzors.com