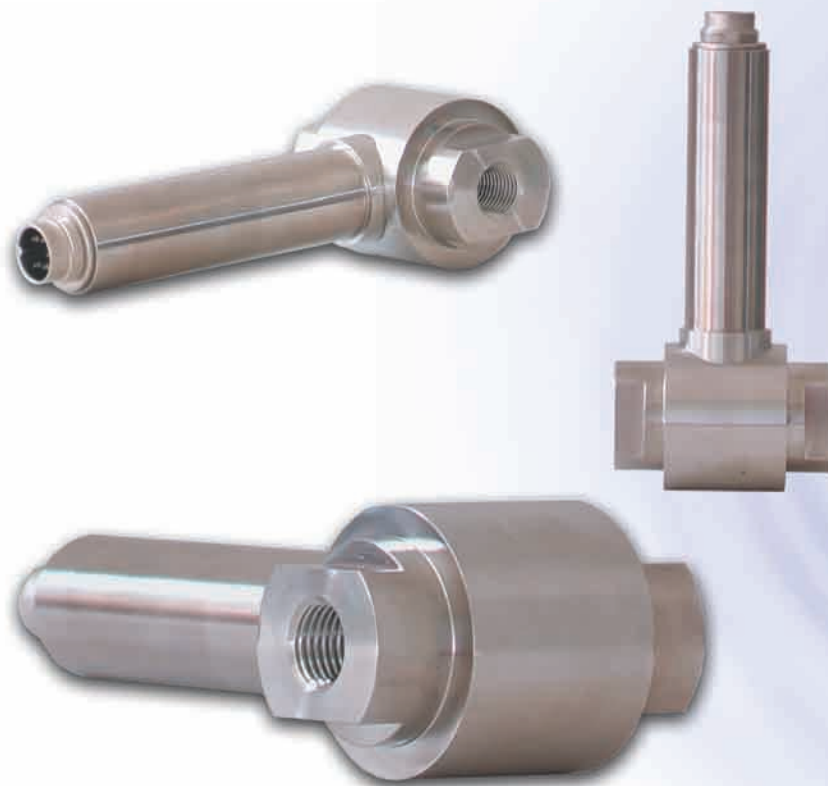


# MODEL PD1L

- ✓  $\pm 0.5\%$ FS static accuracy ( $\pm 0.25\%$ FS possible as an option)
- ✓ Compact, rugged, hermetically sealed 316 stainless steel construction
- ✓ High-performance transducers using a single silicon die
- ✓ 3,000 psi static pressure rating
- ✓ Fully tested, fully compensated, calibrated and serialized
- ✓ Ranges from 3 to 30 psi



### Wet/Wet Differential Pressure Transducers

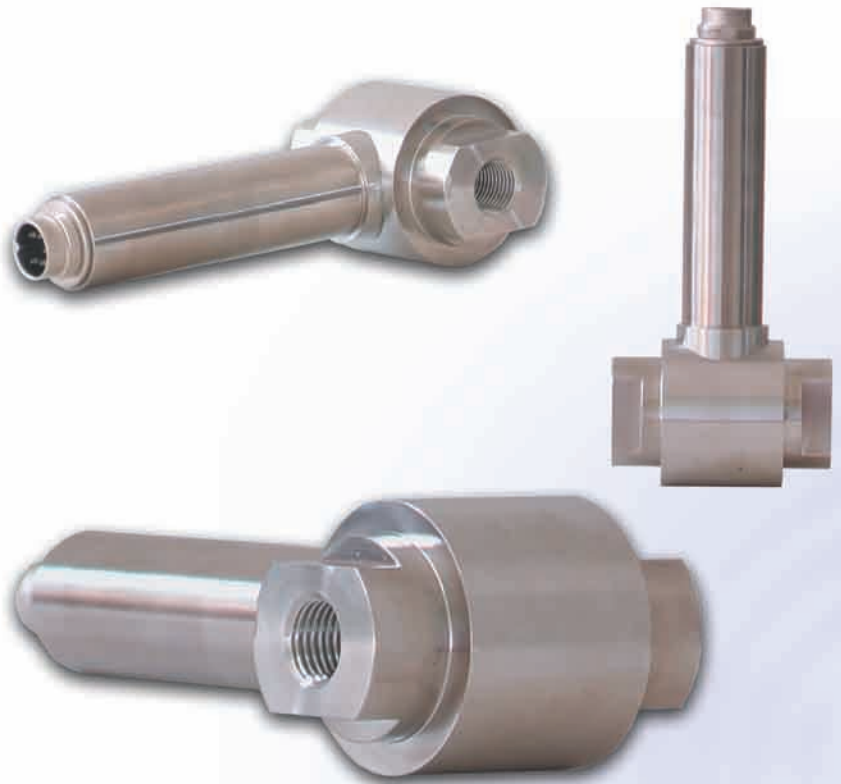
#### Description

Senzors' model PD1L is a compact rugged wet/wet differential pressure transducer that utilizes the latest leading-edge technologies to measure differential pressures. With its excellent stability and proven reliability the PD1L provides unequalled performance and is designed to accurately measure wet/wet differential pressures at high static line pressures. Its small size and light weight allows for mounting in places too tight for most other transducers.

The sensing element is a single 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 high-tech 316 stainless steel package which provides 2 stainless steel diaphragms and isolates the silicon die on both positive and negative sides.

The sensor signal is amplified by a signal conditioning module that integrates an advanced electronic amplifier and a built-in voltage regulator providing a high-level output from an unregulated voltage supply. This design using a single die and an advanced electronics provides a much better accuracy and durability than most designs using 2 sensors. Each unit is fully tested compensated and calibrated for pressure and temperature. Each transducer is shipped with a traceable calibration card.

The electronics is packaged in an hermetically-sealed 316 stainless steel housing enabling the PD1L to be immersed in water or pressure washed without internal leakage. This design makes the PD1L ideal for pressure measurements that can involve wet, corrosive or sterile media in the most severe environments, including underwater or subsea applications.



#### Applications

Pressure Instrumentation

Aircrafts / Avionics

Flow control / Flow measurement

Leak detection

Filter Control / Monitoring

Hydraulic & Pneumatic Systems

Tank pressure / Pressurized Tank Level

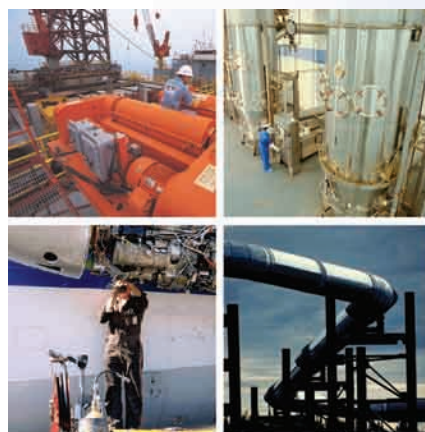
Industrial Controls

Biomedical instruments / Medical Equipment

Process Control Systems

Engine test stands

Automotive test stands

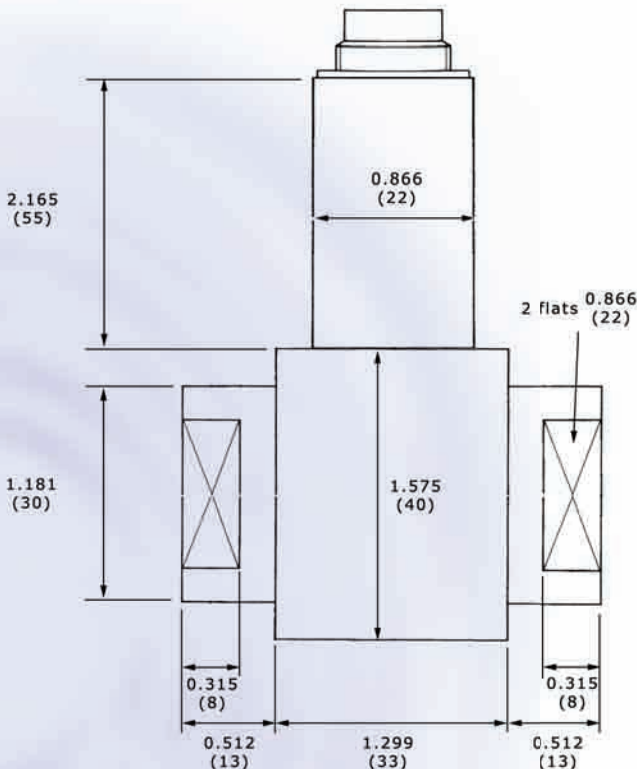


## Model PD1L

### Wet/Wet Differential Pressure Transducers

#### Dimensions

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



#### Specifications

Pressure Ranges	0-3 psi through 0-30 psi
Type of pressure	Differential

#### Performances

Static Accuracy (linearity, hysteresis, repeatability and calibration)	± 0.5%FS (B.F.S.L.) ± 0.25%FS (B.F.S.L.) optional
Temperature error	± 0.02%FS/°F
Static pressure effect	< 0.0005%FS/psi
Long term stability	± 0.3%FS per annum
Response time (-3dB)	< 10 ms
Resolution	infinite (0.02%FS practical minimum)
Fatigue life	> 1 million cycles

#### Environmental characteristics

Operating temperature (process)	-40°C to +100°C
Ambient temperature	-40°C to +80°C
Random vibration (50-2000Hz)	1G
Shock	5G, 11 ms, half-sine
Drop (any axis)	1.5 m

#### Electrical characteristics

Supply	5 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 kΩ	> 5 kΩ	> 5 kΩ	< 1 kΩ
Current draw	< 3 mA	< 3 mA	< 3 mA	< 25 mA
Insulation	> 100 MΩ at 50 VDC			

#### Physical characteristics

Proof pressure	+ side	2x
	- side	1x
Max. static pressure		3,000 psi
Burst pressure (pressure containment)		750 psi
Wetted parts		316L Stainless Steel
Weight		≈ 1 lb (440 g)

### Wet/Wet Differential 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 Red +OUT/GND	pin 1 GND pin 3 +Supply	pin 1 GND pin 3 +Supply	pin C GND pin A +Supply

#### Ordering information

PD1L - D P10 05 - 42 5C - I4 D4 S V K - 0000

Pressure reference	D	Differential
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
	10	0 to 10 VDC
	01	0 to 1 VDC
	05	0 to 5 VDC
	Request code to use for any other output signal	
Static accuracy	5C	0.5%FS
	3D	0.25%FS
Pressure fitting	I4	1/4"-18NPT female
	E4	1/4" BSP (G 1/4") female
	Request code to use for any other pressure fitting	
Electrical connection	D4	DIN43650 connector
	BI	Binder connector
	CC	Cable
	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	Fluorosilicone
	E	EPDM
	K	Kalrez®
Oil filling	K	Silicone oil
	O	Olive oil
Option	0000	Standard

**Important Notice:** Due to continuing development and improvement, Senzors reserves the right to make changes to or discontinue any product or service identified in this publication without prior notice. Senzors assumes no responsibility for infringement of patents or rights of others based on Senzors applications assistance or product specifications since Senzors does not possess full access concerning the use or application of customers' products. While Senzors provides applications assistance, it is up to the customer to determine the suitability of the product or service for the application. Senzors 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.

Senzors, Inc.  
15 East North Street  
Dover, DE 19901  
Toll free: 1-866-SENZORS (736-9677)  
email: sales@senzors.com  
www.senzors.com