P3000 Series

LVDT-Based for Very Low Pressure Measurement from 2" of H_2O

The P3000 Series pressure sensors are rugged and reliable devices for the measurement of low pressures, either vented gauge or wet/wet differential pressures, in a variety of fluid media.

The pressure sensing element of this sensor includes an all-welded Ni-Span C capsule that offers low hysteresis and constant scale factor with temperature variation. The deflection of the capsule when pressurized is measured by an LVDT displacement sensor whose core is directly coupled to the capsule. The LVDT produces an electrical output that is directly proportional to core motion, which is, in turn, proportional to the pressure applied to the capsule.

Features

- ❑ ***Zero and span potentiometers***
- ❑ ***Low operating current***
- ❑ ***Unregulated input***
- ❑ ***High line pressure; low differential***
- ❑ ***Vented gauge or wet/wet differential***

Applications

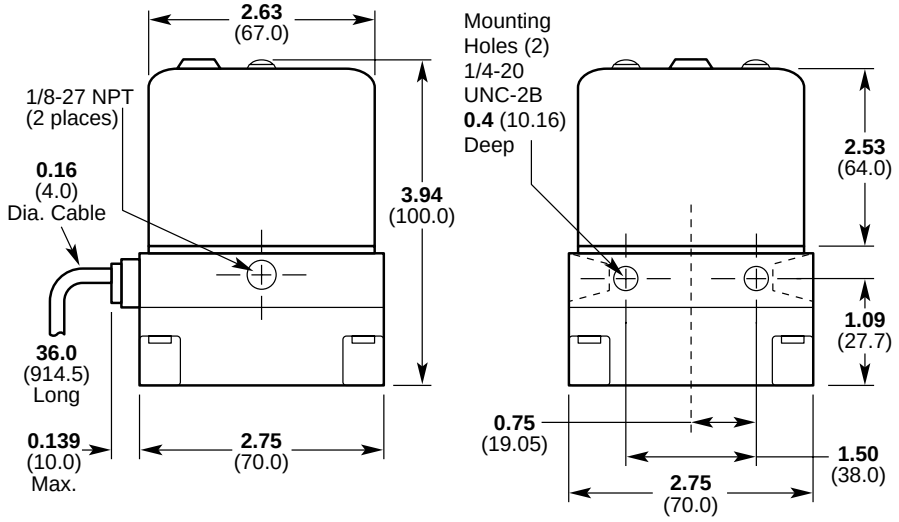
- ❑ ***Liquid levels in bulk storage tanks and closed pressure vessels***
- ❑ ***Climate control and energy management***
- ❑ ***Air/fuel ratio measurement in industrial furnaces***
- ❑ ***Leakage measurement in natural gas meters***

Specifications by Model

Model Number	P3061	P3081
Input Supply Voltage (unregulated)	10-32 VDC	See loop supply
Current (mA)	1.2	–
Loop Supply	–	10-32 VDC
Loop Resistance (ohms)	–	1200 (max)
Zero Adjustment Range (%F.R.O.)	±10	±10
Span Adjustment Range (%F.R.O.)	±10	±10
Output (Uni-directional output standard)	0-5 VDC 5 mA (max)	4-20 mA 2-wire loop
Output Impendance	1 ohm	–
Frequency Response	1 Hz	1 Hz
Output Change with Input Voltage Change	<0.1% from 10 to 32 VDC	–
Combined Nonlinearity, Hysteresis, and Nonrepeatability	<±0.5% F.R.O.	<±0.5% F.R.O.
Combined Thermal Zero and Sensitivity Shift		
% F.R.O./°F	0.035	0.035
% F.R.O./°C	0.02	0.02
Temperature Range		
Operable	-40°F to 175°F (-40°C to 80°C)	-40°F to 175°F (-40°C to 80°C)
Compensated	25°F to 150°F (-5°C to 65°C)	25°F to 150°F (-5°C to 65°C)
Wetted Materials		
Port P_1	-A380 aluminum, Ni-Span C, Buna-N "O" rings, 300 Series SS	
Port P_2	-A380 aluminum, Ni-Span C, Buna-N "O" rings, 300 Series SS, 52% Ni/48% Fe alloy	
Weight oz (Kg)	16 (0.45)	16 (0.45)

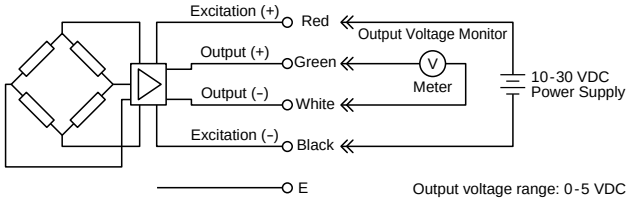
Dimensions

in (mm)

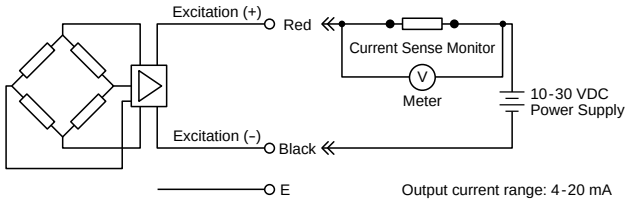


Wiring

P3061 Voltage Output - 4 wire



P3081 4-20 mA Output - 2 wire Current Loop



How to Order

Specify by series type, range, pressure units, and reference mode. Example: P3061-100 WD designates a 10-32 VDC input, 0 to 5 VDC output differential pressure transducer with a full scale pressure input of 100 inches of water.

Model Number and Code

P30 ☐ 1 — ☐ ☐ G/D**

Series Type
6 – Transducer
8 – Transmitter

Range
Full scale pressure range without unit

Unit
W – Inches of H_2O
Hg – Inches Hg
P – psi

Pressure Ranges and Ratings

Pressure Ranges	Metric Equivalent	Pressure Reference*	Overpressure (P_1>P_2)	Overpressure (P_2>P_1)	Line Pressure (max)
0-2 In H_2O	0-5 mbar	G/D	5psi	3 psi	200 psi
0-5 In H_2O	0-12.5 mbar	G/D	5 psi	3 psi	200 psi
0-10 In H_2O	0-25 mbar	G/D	5 psi	3 psi	200 psi
0-20 In H_2O	0-50 mbar	G/D	8 psi	5 psi	200 psi
0-50 In H_2O	0-125 mbar	G/D	15 psi	10 psi	200 psi
0-100 In H_2O	0-250 mbar	G/D	37 psi	25 psi	200 psi
0-200 In H_2O	0-500 mbar	G/D	37 psi	25 psi	200 psi
0-15 psi	0-1 bar	G/D	75 psi	50 psi	200 psi
0-50 psi	0-3.5 bar	G/D	150 psi	100 psi	200 psi
0-100 psi	0-7 bar	G	150 psi	100 psi	200 psi

*G = vented gauge; D = differential Other ranges available

**Note: All transducers in gauge mode are supplied with a filter plug in P2 port. For differential pressure measurements, remove plug. All units are calibrated in gauge mode (unidirectional differential).

CHAEVITZ SENSORS