P66 Differential Pressure Transducer for CAN Bus

Features:

- **CAN Bus Interface for Digital Operations**
- **Full Scale Range from 3.50” H2O to 3200 psi**
- **Nickel, Gold, 316SST, Inconel options available**
- **For Liquid and Gas Service**
- **Compatible with CAN Bus Software**

The Validyne Model P66 is a compact differential pressure transducer designed for industrial measurement applications. The variable reluctance sensing technology allows the P66 to be used in a wide variety of low pressure measurements where fast dynamic response, high resistance to vibration and superior signal stability through ambient temperature change is required. The P66 will accept both gases and liquids directly at the sensing diaphragm; there are no internal isolation fluids to slow the sensor response or cause excessive temperature shift errors.

The P66 communication via CAN bus provides remote zero and span adjustment commands as well as digital pressure readings in engineering units. Calibration information including model number, serial number, calibration date, full scale pressure, and zero and full scale counts are available digitally. The pressure readings are calibrated to set counts which can also be converted to engineering units.

The P66 is also available in an absolute pressure version with a welded variable reluctance sensor.

Sensor wetted parts include 410 steel, suitable for inert gases and hydrocarbons, 316 SST for water-based fluids and Inconel for corrosive applications. (See ordering information)

The P66 is Ideal for:

- **Automotive Pressure Measurements**
- **Level Measurements**
- **Engine Test Cells**
- **Test Track Pressure Measurements**

8626 Wilbur Avenue - Northridge, CA 91324 - **Voice:** 818-886-8488 - **Fax:** 818-886-0190
Website: www.validyne.com - **E-Mail:** sales@validyne.com

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Specifications

General Specifications –

Ranges:
P66D: ±0.125 psid to ±3200 psid
P66A: 0 – 0.125 psia to 0 - 3200 psia

Accuracy:
P66D: ±0.25% FS, includes Non-linearity, hysteresis and non-repeatability
P66A: ±0.5% FS, as above
P66D: ±0.5% FS, ranges -62, -64

Overpressure:
P66D: 200% FS up to 4000 psi maximum with less than 0.5% FS output shift
P66A: 20 psia or 200% FS, whichever is greater, up to 4000 psia maximum, for less than 0.5% zero shift

Line Pressure:
P66D: 3200 psig maximum, with zero shift less than 1%/Kpsi

Pressure Ports:
P66D: 1/8" female NPT with 8-32 bleed screw & Gasket, Other options available.
P66A: 5/16-24 UNF-2B with 1/8" male NPT adapter included

Environmental Specifications -

Operating Temp: -65ºF to 250ºF (-54 to 121ºC)

Compensated Temp:
Standard: 40ºF to +140ºF (4ºC to 60ºC)
Optional: 0ºF to +160ºF (-18ºC to 71ºC)
Optional: -40ºF to +230ºF (-40ºC to 110ºC)
Optional: -65ºF to +250ºF (-54ºC to 121ºC)

Temperature Errors: ±0.5% FS for operating temperature range of 40F to +140 F

Optional ranges temp. errors vary.

Includes non-linearity and hysteresis errors

Sensor Physical Specifications -

Pressure Media: Liquids & gases compatible with 410, 316 SST, Inconel.

O-Rings: Buna-N Standard, other compounds available

Pressure Cavity Volume: 0.012 cu in, each port

Volumetric Displacement: 0.0003 cu in at FS

Weight: 16 Oz.

Power Requirements -

Power Supply: +5 to 55 VDC

Current Draw: 5 mA, typical

Signal Output -

Output: Digital via CAN Bus

Zero Balance: Auto-zero via CAN Bus
Span: Auto-span via CAN Bus

Output Noise: 2 mV RMS

Insulation Resistance: 100 MOhms, any terminal to case

CAN Bus: CAN Standard 2.0 Parts A & B

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Ordering Information

MEASUREMENT

A = Absolute

D = Differential

ELECTRICAL CONNECTORS

1 = PT02A-10-6P (STD)

2 = PT02E-10-6P (NEMA)

4 = ½" NPT 24" LEADS 24 Gage

5 = D38999 A35 (MIL-STD-1560)

*Consult factory for other connector options

COMP. TEMP. RANGE

G = 40F to +140F (4ºC to 60ºC) STD

S = 0F to +160F (-18ºC to 71ºC)

U = -40F to 230F (-40ºC to 110ºC)

W = -65F to +250F (-54ºC to 121ºC)

C = Customer specified

*Other Temp. Ranges available.

** -U and –W = Not for all configurations.

SENSOR MATERIAL

3 = 316 SS (Teflon coated dia.)
4 = 410 SST (STD)
5 = 410 SST Nickel Plated
6 = 410 SST Gold Plated
8 = Inconel (Teflon coated dia.)

MODEL NUMBER

P66D - 1 - N - Y - XX - G - 4 - A

O-RINGS

L = Flurosilicone

N = BUNA-N (STD)

E = Ethylene Propylene

V = Viton-A

S = Silicone

K = Kalrez

T = Teflon

C = Customer Specified

*Consult factory for other O-rings

CALIBRATED OUTPUT (DC):

X = -Full Scale to +Full Scale

Y = 0 to + Full Scale

*Consult factory for different output options, offset calibrations, USB, RS485, and other digital outputs.

PRESSURE RANGE

Two digit Range Dash Number See Page 5.

*Consult factory for different full scale pressures and engineering units not listed.

PRESSURE PORT OPTIONS PRESSURE PORT

A = 1/8" NPT Female with 8-32" bleed port (STD) (90º from elec. Conn.)

B = 1/8" NPT Female with 1/8" female NPT bleed port (90º from elec. Conn.)

E = 5/16" female port AND 10050-2, No bleed port,

F = ¼" OD tube X 1" Long, No bleed port

G = ZTA41 Adapters (1/16" Pressure Port)

H = 5/16" female port A.N.D 10050-2 (M.S. 33649 / SAE AS5202), 8-32" bleed port, 55D,55E

Special Requirements?

With over 3000 custom specifications already we are confident we can customize a solution to fit your needs. Form factor, housing, pressure ports, electrical connectors, outputs and calibrations are all customizable. Contact our factory via email or phone today!

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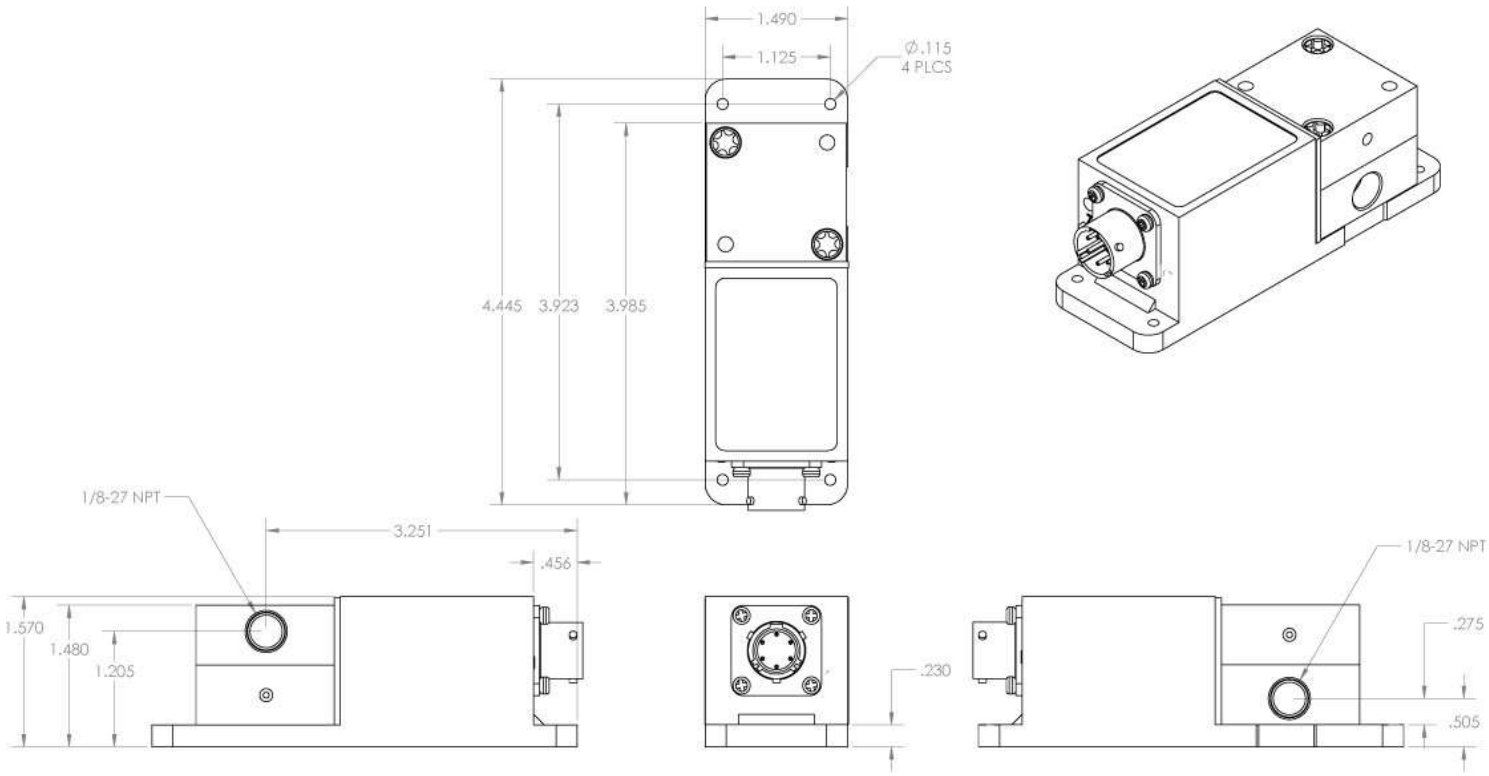
Outline Drawing & Connections



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Ordering Information – Range Chart

Range Code	Psi	In Hg	In H2O	KPa	Torr	CM H2O
20	0.125	0.25	3.5	0.86	6.5	8.8
22	0.20	0.41	5.5	1.40	10.3	14.0
24	0.32	0.65	8.9	2.2	16.5	22.5
26	0.50	1.02	14.0	3.5	25.8	35.0
28	0.80	1.6	22.2	5.5	41.4	56.0
30	1.25	2.5	35.0	8.6	65.0	88.0
32	2.0	4.1	55.0	14.0	103.0	140.0
34	3.2	6.5	89.0	22.0	165.0	225.0
36	5.0	10.2	140.0	35.0	258.0	350.0
38	8.0	16.0	222.0	55.0	414.0	560.0
40	12.5	25.0	350.0	86.0	650.0	880.0
42	20.0	41.0	550.0	140.0	1030.0	1400.0
44	32.0	65.0	890.0	220.0	1650.0	2250.0
46	50.0	102.0	1400.0	350.0	2580.0	3500.0
48	80.0	160.0	2220.0	550.0	4140.0	5600.0
50	125.0	250.0	3500.0	860.0	6500.0	8800.0
52	200.0	410.0	5500.0	1400.0	10300	14000
54	320.0	650.0	8900.0	2200.0	16500	22500
56	500.0	1020.0	14000	3500.0	28500	35000
58	800.0	1600.0	22200	5500.0	41400	56000
60	1250.0	2500.0	35000	8600.0	65000	88000
62	2000.0	4100.0	55000	14000	103000	140000
64	3200.0	6500.0	89000	22000	165000	225000

- Units can be calibrated in other engineering units as well. Contact the factory for details.
- For pressures in between range codes, pick the higher range code

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