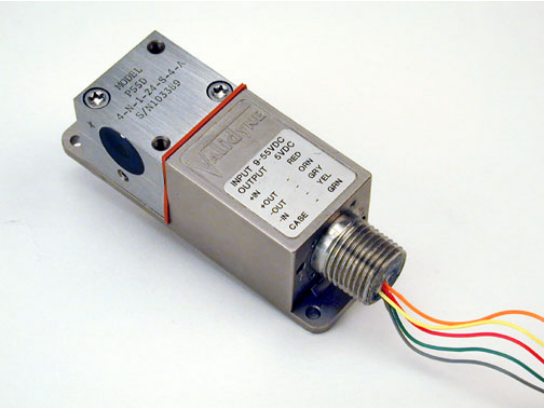
P855 Digital Differential Pressure Transmitter



- **Digitally Compensated for High Accuracy**
- **RS485 Serial Interface for Digital Operation**
- **Excellent Stability Over Wide Thermal Range**
- **0.1% FS Accuracy, 0.25% Max Temperature Error**
- **Zero, Span Set by Switches or via RS485**
- **For Liquid or Gas Service**
- **FS Ranges from 2.22 In H2O**
- **NEMA 4 Housing**
- **+/-5 Vdc and 4-20 mA Versions Available**

The Validyne model P855 is a digital differential pressure transmitter designed for industrial pressure measurement applications. The on-board microprocessor provides high accuracy and improved stability in changing thermal environments. Communication via RS485 serial interface provides remote zero and span adjustment as well as pressure readings in engineering units

The P855 is designed for a wide variety of low pressure measurements where fast dynamic response, high resistance to vibration and superior signal stability through temperature change is required. The P855 will accept both liquids and gases directly at the sensing diaphragm.

The zero and full-scale outputs are set by switch or RS485 command. No potentiometer adjustments are required to calibrate. A second switch provides 2.5x gain change and this smaller range may be offset to any place within the full range.

The P855 has 1/8 inch female NPT pressure connections and measures just 1.5 x 1.5 x 5 inches overall.

The P855 is available in three output configurations: 4-20 mA current sink output, DC output and isolated DC output. The 4-20 mA output version is a true two-wire system that will operate over a supply voltage of 9 to 55 Vdc.

Wiring options for the P855 include a six-pin PT02A connector and pigtail leads. A 1/2 inch male NPT conduit thread connection for mounting a junction box is included with the pigtail lead option.

The P855 is Ideal for:

- **Flow Measurements**
- **Level Measurements**
- **Hydraulic Systems**
- **Vehicle Testing**

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P855 Specifications

General Specifications -

Ranges:

P855D: +/-0.08 psid to +/-3200 psid
P855A: 0 - 0.08 psia to 0 - 3200 psia

Accuracy:

P855D: +/-0.1% FS, includes non-linearity, hysteresis and non-repeatability
P855A: +/-0.25% FS, as above

Overpressure:

P855D: 200% FS up to 4000 psi maximum with less than 0.5% FS output shift
P855A: 20 psia or 200% FS, whichever is greater, up to 4000 psia maximum, for less than 0.5% zero shift

Line Pressure:

P855D: 3200 psig maximum, with zero shift less than 1%/Kpsi

Pressure Ports:

P855D: 1/8" female NPT with 8-32 Bleed Screw & Gasket, STD
P855A: 5/16-24 UNF-2B with 1/8" male NPT adapter included

Environmental Specifications -

Operating Temp: 0 to +160 F

Compensated Temp: 0 to +160 F

Temperature Error: +/-0.25% FS Including non-linearity & hysteresis

Sensor Physical Specifications -

Pressure Media: Liquids & gases compatible with 410 SST and Inconel

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

Pressure Cavity Volume: 4 e-3 cu in, each port

Volumetric Displacement: 3 e-4 cu in at FS

Weight: 16 Oz.

Power Requirements -

Power Supply: 9 to 55 Vdc, unregulated

Current Draw:

4-20 mA Output:	25 mA max
+/-5 Vdc Versions:	3 mA, typ
Isolated Version:	7 mA, typ

Signal Output -

4-20 mA Output: 4 to 20 mA
DC Voltage Output: +/-5 Vdc @ 0.5 mA
Isolated DC Output: +/-5 Vdc @ 0.5 mA

Zero Balance: Auto-zero with switch closure
Span: Set by Switch
Gain: 2.5X enabled by switch

Frequency Response: Low Pass Filter at 250 Hz, -3 db

Line Regulation: 0.02%

Output Noise: 2 mVrms

Insulation Resistance: 100 MOhms, any terminal to case

Serial Interface –

RS485 for multi-drop, long distance

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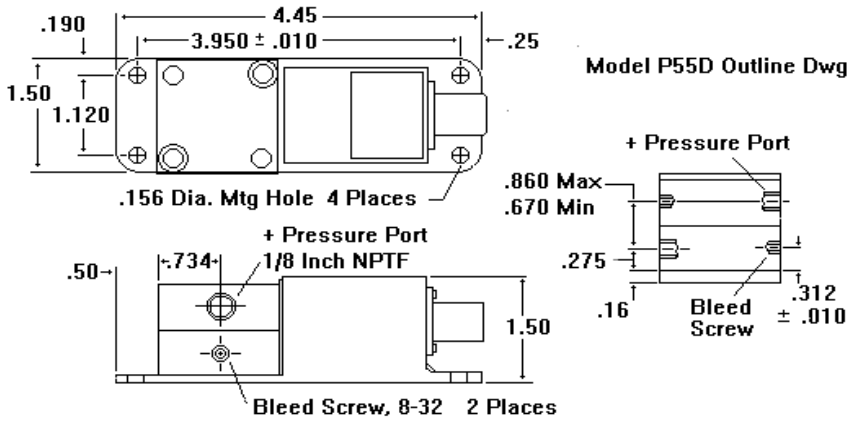
P855 Outline Drawing & Model Number



P855D-4-N-4-20-S-4-A

Pressure Port
A = 1/8" NPT & 8-32 Bleed Ports
B = 1/8" NPT Press & Bleed
E = 5/16-24 Female No Bleed
F = 1/4" OD X 1" Lng Tube No Bleed

Measurement
A = Absolute
D = Differential

Sensor Material
4 = 410 SST
5 = Ni Plated 410 SST
6 = Gold Plated
7 = 17-7 ph (8 psi & above)

Elec. Connector
1 = PT02A-10-6P
2 = PT02E-10-6P
4 = Pig Tail Leads

Temp Range
S = 0 to 160F

See Press Range Chart

O-Rings
A = None
K = Kalrez
N = Buna-N
E = EPR
V = Viton A
S = Silicone
T = Teflon

Output
1 = 0 to +5 Vdc
2 = -5 to +5 Vdc
3 = 0 to 2.5 to 5 Vdc
4 = 4-20 mA
5 = 4 - 12 - 20 mA

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