PW31 Series

Single Diaphragm Wet-to-Wet Differential Pressure Sensor

±0.25% accuracy
Stand-alone transducer, 3-valve, or 5-valve options
Rugged IP65 construction for harsh environments
Optional LED display for ease of commissioning and troubleshooting

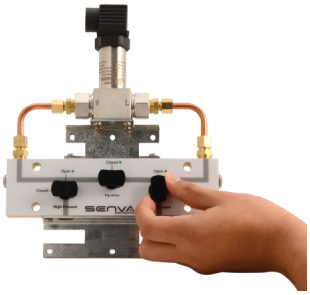
DESCRIPTION

Senva's PW31 Series is designed to streamline installation and provide maximum accuracy. Options for standalone transducer or 3-valve and 5-valve bypass assemblies allow flexibility and save time on installation and commissioning. The single-diaphragm element is temperature compensated to provides superior ±0.25% accuracy. The PW31's compact, light, and rugged structure combined with IP65 stainless steel construction make it ideal for most installations and capable of withstanding the most rugged environments. Now available with a highly visible, loop-powered LED display. Just plug it in for ease of commissioning and troubleshooting (4-20mA version only).

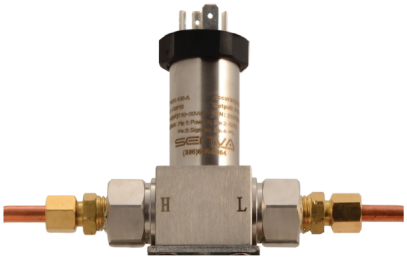
APPLICATIONS

- Meet rigid accuracy and/or bypass specifications
- Demand measurement in HVAC systems for pump speed control and local indication
- Process control systems
- Measurement of gases, vapors, and liquids
- Measure pressure changes on pumps for efficiency regulation and energy savings
- Level measurement in tanks and vessels
- Filter status monitoring
- System leak detection
- Great for data center wet pressure sensing

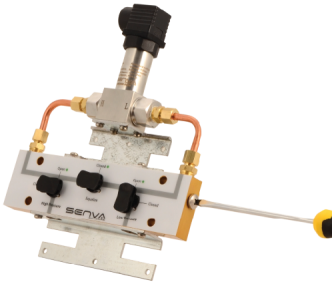
IP65 LED display option for ease of troubleshooting

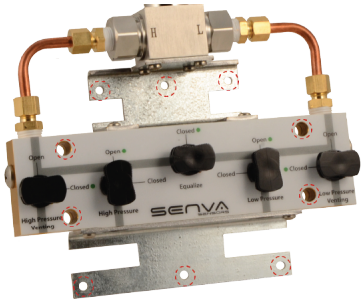


3-valve and 5-valve bypass assemblies to meet specifications



High accuracy ±0.25% single-diaphragm element





Easy-to-use bleed valves *Securely screw-mount or clamp to any pipe* *DIN43650 connection for ease of wiring*

FEATURES

- Temperature compensated element for high accuracy in any environment
- 3-valve or 5-valve bypass options available to meet specifications
- DIN 43650 connector with screw terminals - no splicing necessary
- Versatile 1/2" FNPT allows simplified conduit connections - connect to any EMT, flex, or liquid-tight conduit
- Easy-access bleed valves for quick commissioning
- Calibration certificate included with every sensing element
- Optional LED display is highly visible and makes commissioning and troubleshooting simple (IP65)

ORDERING

☐ - ☐ - ☐ ☐ - ☐

Model
PW31

Bypass
X = None
3V = 3 Valves
5V = 5 Valves

Transducer Range
005 = 0-5 PSID
010 = 0-10 PSID
025 = 0-25 PSID
050 = 0-50 PSID
100 = 0-100 PSID
150 = 0-150 PSID

Output
A = 0-5V
B = 0-10V
C = 4-20mA

Display
D = Display*
*for 4-20mA units only

Manifold Only

PWV-3 3-valve

PWV-5 5-valve

Display Only

PW31-DISPLAY

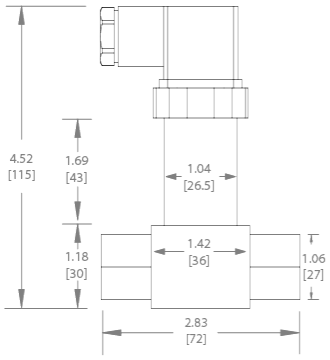
Ordering the Correct Transducer

Transducer Ordering #	PSID Range (Differential)	Expected PSIG Pressure Range (Max Line Pressure)
005	0-5 PSID	0-25 PSIG
010	0-10 PSID	0-50 PSIG
025	0-25 PSID	0-100 PSIG
050	0-50 PSID	0-250 PSIG
100	0-100 PSID	0-500 PSIG
150	0-150 PSID	0-750 PSIG

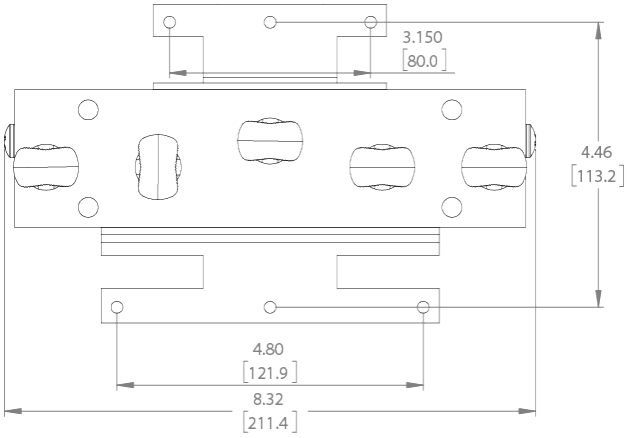
**Using a lower range PSID transducer for higher PSIG applications will result in inaccurate readings and may reduce the life span of the transducer. See "line pressure effect" in specification section.*

DIMENSIONS

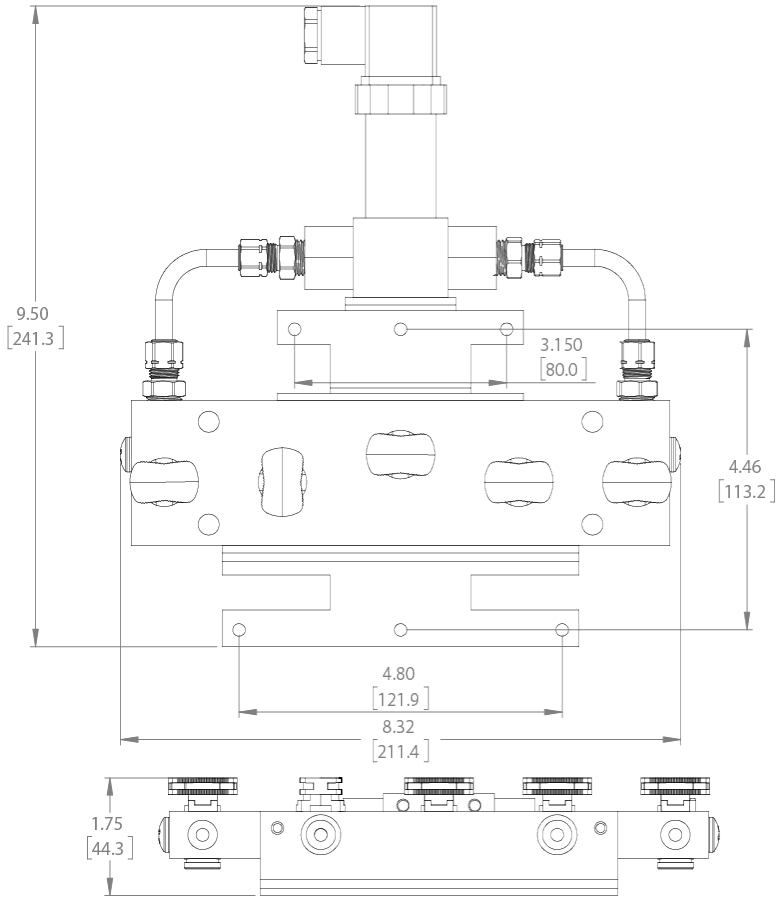
Transmitter Only



Manifold Only



3-Valve and 5-Valve Assemblies (same dimensions)



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Warning: The datasheet is designed for reference only. Refer to installation instructions that accompany the product and heed all safety instructions. Product improvement is a continuing process at Senva. Changes may occur to products without prior notice.

SPECIFICATIONS		
Power supply		15-35vdc, 20mA max.
Outputs		2-wire 4-20mA, 3-wire 0-10V, 3-wire 0-5V
Operating Temperature (3)	Operating Temperature	-4 to 175°F (-20-80°C)
	Compensated range	30 to 158°F (0-70°C)
Media Compatibility Transmitter	Transmitter Only	316L SS compatible liquids and gases, Fluororubber O-rings
Media Compatibility Manifold	Connection	Copper tube, CW614n Brass fittings (2.5-3.5% lead content)
	Manifold O-Rings	Neoprene
	Manifold Valves	Glass filled Acetal (Polyacetal Resin)
	Manifold Material	Anodized Aluminum
Sensor Performance	Type	Micro-machined silicon strain gauge
	Temp coefficient zero	For units <25PSI: ±1.7% FS/100°F; ±1.5%FS/50°C For units >25PSI: ±1.1% FS/100°F; ±1.0%FS/50°C
	Temp coefficient span	For units <25PSI: ±1.7% FS/100°F; ±1.5%FS/50°C For units >25PSI: ±1.1% FS/100°F; ±1.0%FS/50°C
	Line Pressure Effect	Zero Shift ≤0.0035%FS/PSIG line pressure
	Differential Pressure Ranges	0-5, 0-10, 0-25, 0-50, 0-100, 0-150 PSID
	Differential Overload Pressure	150%FS
	Maximum Pressure (1)	500%FS
	Accuracy (2)	±0.25%FS
	Sensor Enclosure	Laser welded housing, IP65
	Long Term Stability	±0.5 %FS/Year
	Shock and Vibration	30G. 5G @ 50Hz; 10G peak
	EMI/RFI Protection	Per CE Requirements
Connection	Pressure Connection Transmitter	1/4" NPT Female
	Pressure Connections Manifold	1/4" NPT female
	Electrical Connection	DIN43650A
	Environmental	IP65 (Installed with water-tight fittings)
		1/2" conduit adapter included
Display	Accuracy	0.1%
	Output	4-20mA
	Voltage Drop	<3.5VDC
	Sample Rate	4/s
	Environmental	IP65
Agency	Transmitter Only	CE, RoHS
	Manifold	CE

(1) This is the maximum gauge pressure to maintain 0.25% accuracy.
(2) FS is defined as the full scale of the selected range. Accuracy includes non-linearity, hysteresis, repeatability, zero, and span tolerance.

(3) Stated operating range is for electronics only; Media temperature may be considerably higher. Use of devices outside of compensated range may result in drift.

** Product improvement is a continual process at Senva and product features and specification may change without prior notice. Refer to instructions that accompany the product for installation and wiring.*