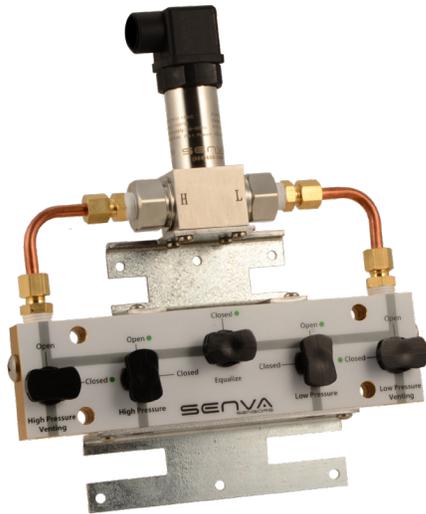


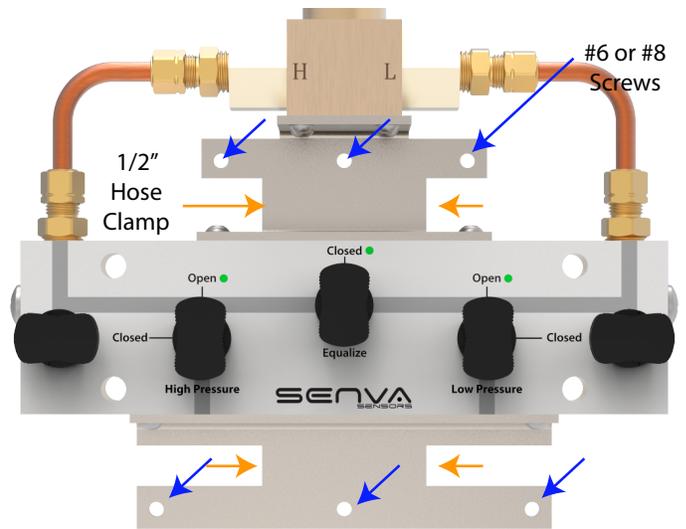
# INSTALLATION INSTRUCTIONS

## PW31

### Wet-Wet Pressure Transmitter With 3 or 5 Valve Manifold



## MOUNTING



The 3 and 5 valve assembly can be mounted using #6 to #8 pan head screws in the four holes shown above (blue arrows). The assembly can also be mounted with a 1/2" or smaller hose clamp (orange arrows).

## IMPORTANT WARNINGS

- Only qualified trade installers should install this product
- This product is not intended for life-safety applications
- Do not install in hazardous or classified locations
- The installer is responsible for all applicable codes
- De-energize power supply prior to installation or service

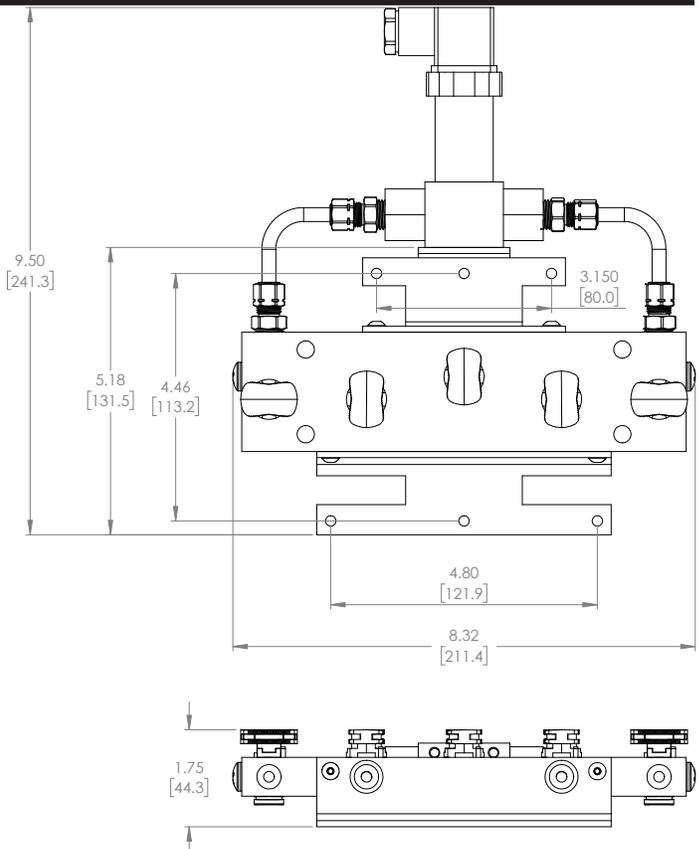
## PRODUCT APPLICATION LIMITATION:

Senva products are not designed for life or safety applications. Senva products are not intended for use in critical applications such as nuclear facilities, human implantable device or life support. Senva is not liable, in whole or in part, for any claims or damages arising from such uses.

## IMPORTANT!

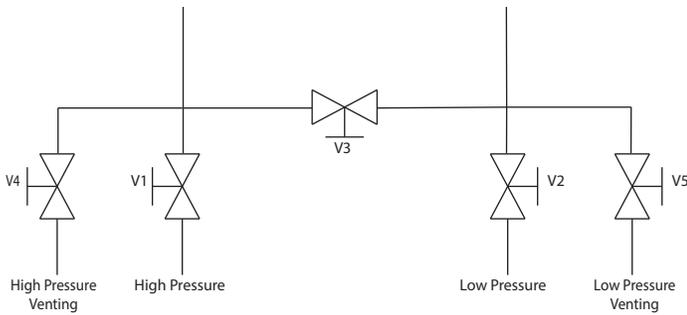
- Do NOT exceed gauge pressure rating of sensor.
- Follow instructions step by step to ensure proper setup.
- Sensor will be damaged if reverse pressure is applied.

## DIMENSIONS



\*Dimensions are the same for the 3 and 5 valve manifold.

## 5-VALVE OPERATION



5-Valve Manifold

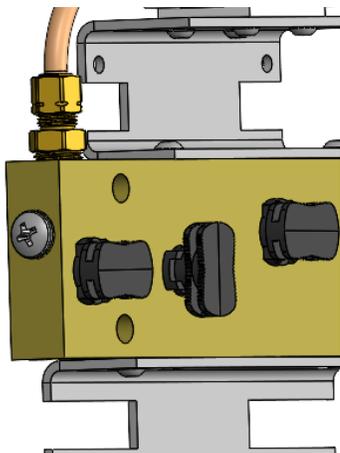
Manifold Material	Brass
Valve operation	V1 High pressure connection V2 Low pressure connection V3 Pressure equalize V4 For external gauge connection V5 For external gauge connection

### 5 VALVE OPERATION:

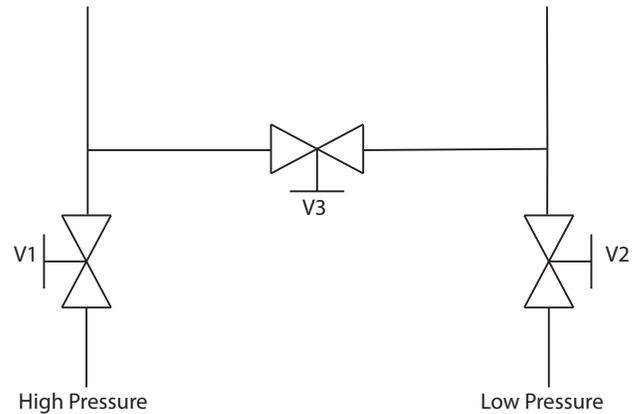
1. Close Valves V1, V2, V4, and V5 and open V3 to avoid hammering.
2. Mount the Senva PW31 and install low and high pressure connections
3. Slowly open V1, then V2.
4. If external gauge is to be installed for the high pressure port, slowly open V4 to bleed the line. Allow the liquid to flow out until all air is out of the system. Then fully close the valve and install the pressure gauge. Slowly open V4.
5. If external gauge is to be installed for the low pressure port, slowly open V5 to bleed the line. Allow the liquid to flow out until all air is out of the system. Then fully close the valve and install the pressure gauge. Slowly open V5.
6. Slowly bleed the device, see "Bleeding" for correct operation.
7. Close V3 for normal operation.

## BLEEDING

To remove air from the connections and ensure accurate readings, bleed screws are provided on the high and low sides as shown below. Turn the screw slowly (1.5 times max) until liquid begins to flow. Allow the system to bleed out until there are no bubbles in the liquid. Then fully tighten bleed screw. Perform this operation on both the high and low side.



## 3-VALVE OPERATION



3-Valve Manifold

Manifold Material	Brass
Valve operation	V1 High pressure connection V2 Low pressure connection V3 pressure equalize

### 3 VALVE OPERATION:

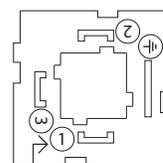
1. Close Values V1 and V2 and open V3 to avoid hammering.
2. Mount the Senva PW31 and install low and high pressure connections.
3. Slowly open V1, then V2.
4. Bleed the device, see "Bleeding" for correct operation.
5. Close V3 for normal operation.

## ELECTRICAL

Senva recommends using 22AWG stranded, 4 conductor shielded cable to wire between the PW31 transmitter and controller. Shielding should be connected to the ground terminal at the transmitter end, and left unconnected at the sensor end.

Terminals are rated for 24-14AWG, 3.5 lb-in of torque.

1. Run the cable through the connector body and connect the wires to the 4 terminals provided. Ensure that the wires are connected to the corresponding terminal label on the connector.



TERMINAL NUMBER

Connector pin	2-wires	3-wires
1	power+	power+
2	signal+	power-
3	null	signal+

2. Assemble the adapter and tighten the assembly screw. Place the rubber cover on the adapter and plug the adapter onto the element.

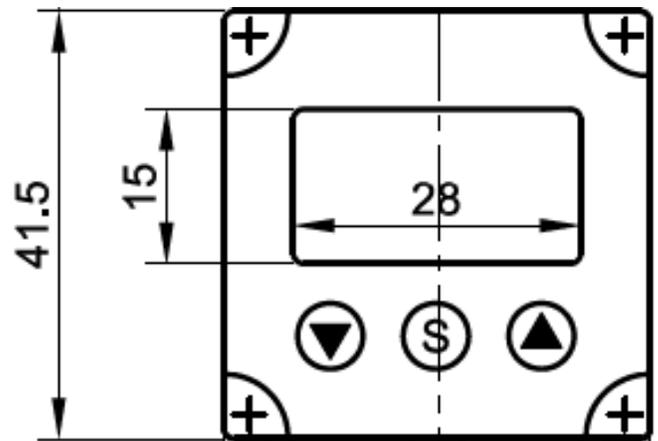


## SPECIFICATIONS

Power supply		15-35vdc, 20mA max.
Outputs		2-wire 4-20mA, 3-wire 0-5v
Operating Temperature	Operating Temperature Compensated range	-4 to 175°F (-20-80°C) 30 to 158°F (0-70°C)
Media Compatibility	Transmitter Only	316L SS compatible liquids and gases, Fluororubber O-rings
	Connection	Copper tube, CW614n Brass fittings (2.5-3.5% lead content)
	Manifold O-Rings	Neoprene
	Manifold Valves	Glass filled Acetal (Polyacetal Resin)
Sensor Performance	Manifold Material	Anodized Aluminum
	Type	Micro-machined silicon strain gauge
	Pressure Ranges	0-5, 10, 25, 50, 100, 150 PSID
	Overload Pressure (Differential)	150% FS
	Static Pressure	500% FS
	Accuracy <sup>(1)</sup>	±0.25 %FS
	Temp coefficient zero and span	<±0.03 %FSO
	Long Term Stability	±0.5 %FS/Year
Connection	Shock	30G
	Vibration	10G peak, 20 to 2000 Hz.
	Pressure Connection Transmitter only	1/4" NPT Female
	Pressure Connections Manifold	1/4" NPT Female
LED Display (optional)	Electrical Connection	DIN43650A
	Environmental	IP65 (Installed with water-tight fittings) 1/2" conduit adapter included
	Accuracy	0.1%
LED Display (optional)	Output	4-20mA
	Voltage Drop	<3.5VDC
	Sample Rate	4 times/second
	Environmental	IP65

(1) FS is defined as the full scale of the selected range. Accuracy includes non-linearity, hysteresis, and repeatability.

## DISPLAY DIMENSIONS



Dimensions in mm

## TROUBLESHOOTING

Symptom	Solution
No output	Check wiring. Ensure power supply meets requirements.
Pressure reading error	Ensure all air is bled from the system.

## CALIBRATION

Senva sensors are factory calibrated. No field calibration is necessary or recommended.