

# INSTALLATION INSTRUCTIONS

## P4 Economy Pressure Sensor

0-0.05/0.1/0.25/0.50/1/1.5/2.5/3.0/  
5/7.5/10/25/50" W.C. Models Fixed  
Ranges, Uni or Bi-Directional

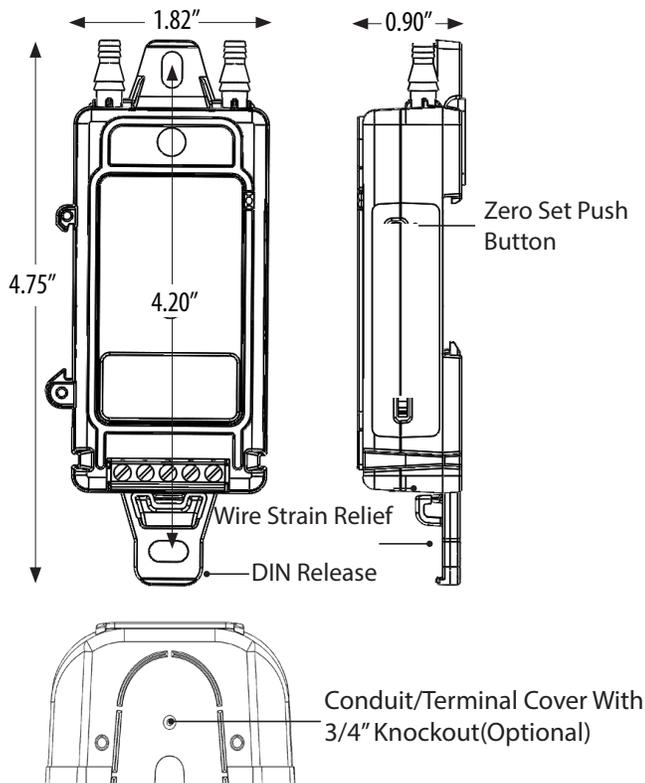


### Optional versatile probe for both remote or duct mount

- RP-6 Remote/duct probe, 6"
- Accepts both 1/8" and 1/4" tubing



## DIMENSIONS



## INSTALLATION

1. Screw mount sensor directly to duct, or in panel using self-tapping screws or attach to a DIN rail (2 possible orientations for DIN mounting, BACK and LEFT SIDE).
2. Plumb air lines to sensor hose barbs (Accepts 1/8" & 1/4" ID tubing). High (+) and low (-) ports are labeled on the sensor.
3. Wire sensor for voltage or current output as shown in the wiring diagrams. Tighten terminals to 3.5 in-lb.
4. Recommendation: Apply power to sensor. With no pressure applied, press the ZERO SET button for 2 seconds. (For best results, temporarily connect high and low pressure ports together while zeroing.)

### PRODUCT APPLICATION LIMITATION:

Senva products are not designed to be used as the lone device 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 believes a systems approach to safety is necessary for these types of applications. Senva is not liable, in whole or in part, for any claims or damages arising from such uses.

## LED STATUS/INDICATION

LED indicator will flash every 5 seconds for normal operation.

LED indicator will rapidly flash when applied pressure greater than 110% of selected range.

LED indicator will rapidly flash momentarily when zeroing process is complete.

## IMPORTANT!

### 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
- Forming a "drip-loop" (allowing tubing to dip below the level of the sensor hose barbs) is recommended to protect the sensor from damage caused by condensation.

## TROUBLESHOOTING

Symptom	Solution
No output	Check wiring. Ensure power supply meets requirements.
Pressure reading error	Verify control panel software is configured for correct output scaling.
	Verify switch settings.
	Verify tubing is not pinched or leaking.
	Possible contamination. Ensure sensor is used only on dry air or nitrogen.

# SPECIFICATIONS

Power Supply	12-30VDC/24VAC(1), 30mA max
Output type	Outputs Available 4-20mA loop powered, 4-20 mA 3-wire, 0-5VDC, 0-10VDC
Fixed Ranges	Multiple Fixed Ranges 0.05" w.c. up to 50" w.c. models (Inches of w.c. and Pascals) 25 Pa up to 5000Pa models
Operating Temperature	Operating range -4 to 140F (-20 to 60°C) Compensated range -4 to 140F (-20 to 60°C)
Media compatibility	Dry, oil-free air, N2
Sensor Type	MEMS silicon piezoresistive; precision calibrated
Sensor Performance	Accuracy 1.00% ±1.00% of range
	Accuracy 0.25% <sup>(2)</sup> ±0.25% of range; 7-point NIST calibrated
	Accuracy 0.50% <sup>(2)</sup> ±0.50% of range; 7-point NIST calibrated
	Zero Tolerance Included in accuracy specification
	Span Tolerance ±1.00%
	Zero Drift (1 year) 0.004"WC/year max. 0.4% for units >0.5" w.c.
	Auto-Zero input Push-Button and contact closure
	Thermal Shift (Zero and Span) 0.02% FSO/°C (0.01%FSO/°F) measured from 22°C (72°F)
	Overpressure up to 5" models: 41.5" w.c.; 10" models: 133" w.c.; 25" models: 332" w.c.
	Max Static Line Pressure up to 5" models: 41.5" w.c.; 10" models: 133" w.c.; 25" models: 332" w.c.
Burst Pressure up to 5" models: 83" w.c.; 10" models: 166" w.c.; 25" models: 415" w.c.	
Position Sensitivity Non-position sensitive	
Agency Compliance CE, RoHS	
Enclosure	Material UL94 5VB, ABS
	Environmental NEMA 1

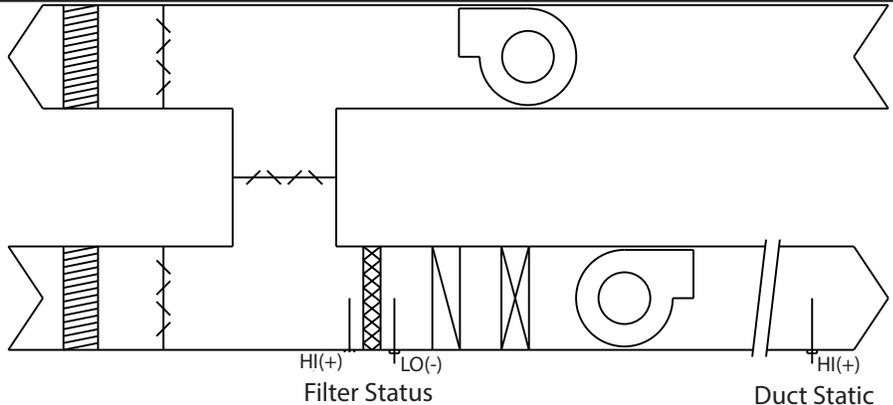
(1) One side of transformer secondary is connected to signal common. Dedicated transformer is recommended. For 2-wire, use DC only

(2) Accuracy includes non-linearity, hysteresis, and repeatability at 70°F.

# TYPICAL APPLICATIONS

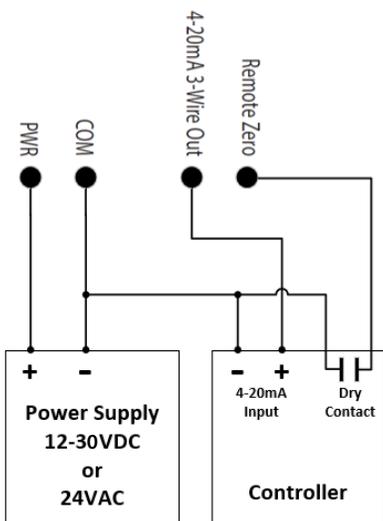
**Velocity:** Use a pitot tube and plumb high (+) port to total pressure (Pt) connection and low (-) port to static pressure (Ps) connection to directly read Pt-Ps = Pv. Apply correction constant provided by pitot tube manufacturer.

**Duct Static:** Install a static pressure pickup tube approximately 2/3 of the way down the discharge air duct and plumb to high (+) port for positively pressurized ducts.

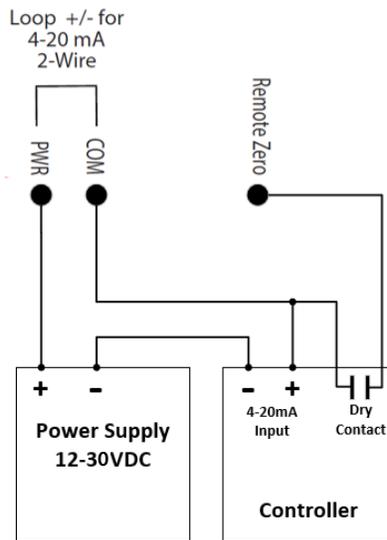


# WIRING DIAGRAMS

**3 – Wire 4 – 20mA**



**2 – Wire 4 – 20mA**



**3 - Wire 0-5 or 0-10V Output**

