

# INSTALLATION INSTRUCTIONS

## P6 Universal Pressure Sensor 0-5/15/40" W.C. Models With Four Selectable Ranges



### WARNING

#### 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.

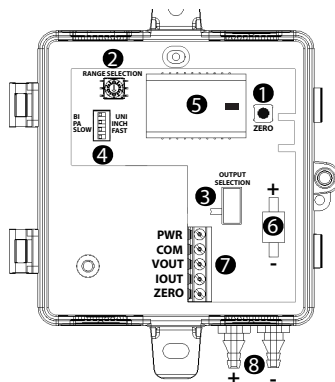
### IMPORTANT!

#### 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.

### INSTALLATION

- 1 - Zero Button
- 2 - Range Selection Dial
- 3 - Output Selection Switch
- 4 - Configuration Switches
- 5 - Display
- 6 - Pressure Sensor
- 7 - Wiring Terminal Block
- 8 - Pressure Barbs

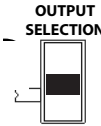


#### Duct Installation:

1. Remove added duct probe from bag.
2. Screw Duct probe into the back of the enclosure.
3. Connect tubing from high (+) pressure port to duct probe
4. Drill a 1/4" hole in duct. Install sensor using gasket and screws provided.

#### General Installation:

1. Screw mount sensor directly to duct, or in panel using self-tapping screws.
2. Move output selection switch to select appropriate analog output (4-20mA 2-Wire or 3-Wire configurations or 5V/10V.)



Vout	Iout(mA)	Position
0-5VDC	3-Wire	Top
0-10VDC	3-Wire	Middle
-	2-Wire	Bottom

3. Move rotary range selection dial to the desired pressure range position.

#### RANGE SELECTION



Dial Position	Range Selection					
	5" WC	15" WC	40" WC	1250 Pa	3750 Pa	10000 Pa
0	0.10	0.25	1.00	25	50	250
1	0.25	0.50	2.50	50	125	625
2	0.50	1.00	5.00	125	250	1250
3	1.00	2.50	8.00	250	625	2000
4	1.50	3.00	10.00	375	750	2500
5	2.00	4.00	15.00	500	1000	3750
6	2.50	5.00	20.00	625	1250	5000
7	3.00	8.00	25.00	750	2000	6250
8	4.00	10.00	30.00	1000	2500	7500
9	5.00	15.00	40.00	1250	3750	10000

4. Use the configuration switches to adjust the device settings.



5. Plumb air lines to sensor hose barbs (Accepts 1/8" & 1/4" ID tubing). High (+) and low (-) ports are labeled on the sensor.
6. Wire sensor for voltage or current output as shown in the wiring diagrams.
7. 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.)

### LED STATUS/INDICATION

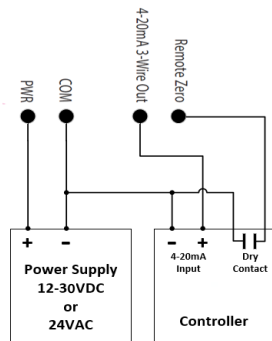
LED indicator will flash every 5 seconds for normal operation. LED indicator will rapidly flash when applied pressure greater than 110% of selected range. LED indicator will rapidly flash momentarily when zeroing process is complete.

### TROUBLESHOOTING

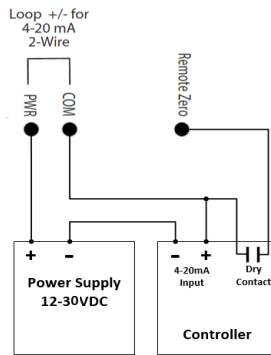
Symptom	Solution
No output	Check wiring. Ensure power supply meets requirements.
Pressure reading error	Verify control panel software is configured for correct output scaling.
	Verify switch settings.
	Verify tubing is not pinched or leaking.
	Possible contamination. Ensure sensor is used only on dry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

# WIRING DIAGRAMS

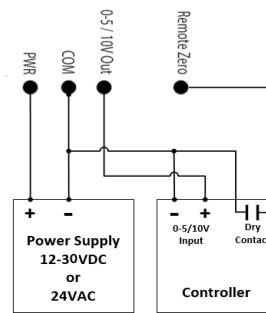
3 – Wire 4 – 20mA



2 – Wire 4 – 20mA



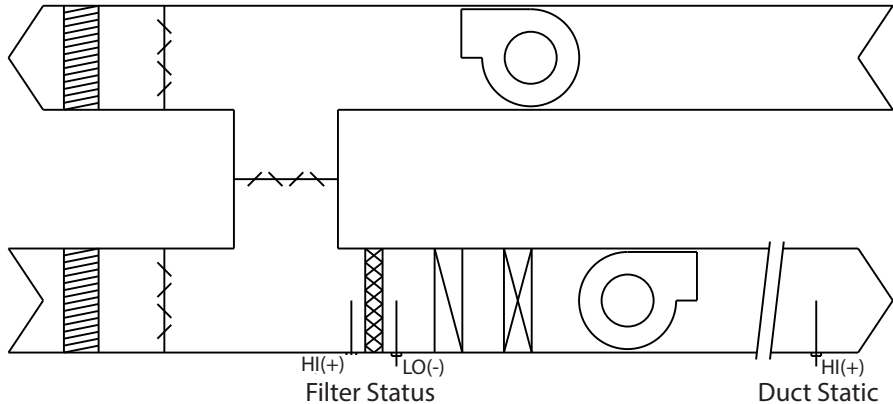
0-5 or 0-10V Selected Output



## 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  $P_t - P_s = P_v$ . 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.



## SPECIFICATIONS

Power Supply		12-30VDC/24VAC (1), 30mA max.
Output type	Selectable outputs	4-20 mA loop powered, 4-20 mA 3-wire, 0-5VDC, 0-10VDC
Output scaling	Max range (Selectable sub ranges)	0-5" (0.1/0.25/0.5/1/1.5/2/2.5/3/4/5"wc), 0-1250Pa (25/50/125/250/375/500/625/750/1000/1250 Pa) 0-15" (0.25/0.5/1/2.5/3/4/5/8/10/15"wc) 0-3750Pa (50/125/250/625/750/1000/1250/2000/2500/3750 Pa) 0-40" (1/2.5/5/8/10/15/20/25/30/40"wc) 0-10000Pa (250/625/1250/2000/2500/3750/5000/6250/7500/10000 Pa)
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 (2)	±1.0% of selected range
	Zero Tolerance	Included in accuracy specification
	Span Tolerance (3)	±1.0%
	Zero Drift (1 year)	0.004"wc/year max. 0.4% for units >0.5"wc
	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"wc; 10" models: 133"wc; 25" models: 332"wc
	Max Static Line Pressure	up to 5" models: 41.5"wc; 10" models: 133"wc; 25" models: 332"wc
	Burst Pressure	up to 5" models: 83"wc; 10" models: 166"wc; 25" models: 415"wc
Response Rate	Position Sensitivity	Non-position sensitive
	Auto-zero input	Push-button and N.O. contact closure
Response Rate	Selectable	Fast = 2 seconds, slow = 8 seconds
Agency	Compliance	CE, RoHS
	Material	UL94 5VB, ABS
Enclosure	Environmental	NEMA 4X
	Dimensions	4.0"h x 3.7"w x 2.1"d

(1) One side of transformer secondary is connected to signal common. Dedicated transformer is recommended.

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

(3) Span tolerance is ±1% ±0.005inWC for models less than 0.10inWC or equivalent pressure range