

Features & Options

- 5 Direct and 5 Bi-Directional Standard Ranges
- Inches of Water Column (W.C.) or Pascal Operation
- 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC Output
- Pressure Range and Output Settings are Field Selectable
- Microprocessor Controlled Auto-Zero
- Rugged (IP66 rated) Housing
- Fits Standard 1/8" I.D. or 1/4" I.D. Tubing
- Mounting Tabs for Easy Installation
- Three Year Warranty
- Applications:
 - Duct, Room or Building Static Pressure
 - Air Velocity and Volume • Air Filter Pressure Drop
 - Coil Airflow Monitoring • Room-to-Room Differential Pressure
 - Exhaust Fan Control



Zone Pressure Transmitter



Optional Static Pressure Probe Assembly

BAPI's Zone Pressure Transmitter is an accurate, rugged and economical solution for measuring and reporting duct/building static pressure, room-to-room differential pressure or air velocities/volumes. The heart of the unit is a micro-machined silicon piezoresistive pressure sensor specifically developed for low pressure. The sensor receives a five-point error correction over the compensated temperature range for excellent accuracy, repeatability and stability.

The pressure sensor's custom ASIC (Application Specific Integrated Circuit) provides error correction and signal amplification using digital compensation while maintaining an analog signal path—a unique design among piezoresistive sensor products. This technique provides both the high level of error correction found in microprocessor-based circuits and the high bandwidth generally found only in analog circuits. The result is a pressure sensor that offers the ultimate in high accuracy, while preserving the fast response and smooth output inherent to silicon sensors.

With an easy-mounting, rugged enclosure and short circuit proof output and reverse polarity protected inputs, this device is built to perform under real world conditions. The unit installs quickly by connecting standard 1/8" or 1/4" tubing to the two pressure ports. The various Output Ranges and Pressure Ranges are all field selectable with DIP switches, and the auto-zeroing process is microprocessor-controlled for simplicity (flip a switch, wait five seconds, flip it back and walk away).

The optional Static Pressure Probe Assembly connects to the high port of the Zone Pressure Sensor. The probe includes a built in surge damper which smoothes out the airflow signals or room pressure signals for a more stable reading.

Specifications

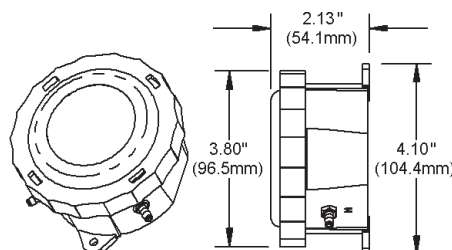
Material: ABS Plastic

Rating: IP 66

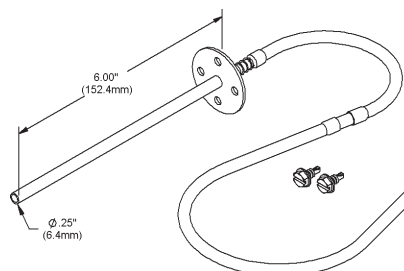
Environmental Specifications:

Temperature: 32 to 140 °F (0 to 60 °C)

Humidity: 0 to 95%, non-condensing



Zone Pressure Transmitter



Optional Static Pressure Probe Assembly

Rev. 11/01/05

Specifications

Power:

8.5 to 45 VDC (4-20 mA output)
8.5 to 45 VDC or 8.5 to 32 VAC (0-5 VDC output)
13 to 45 VDC or 13 to 32 VAC (0-10 VDC output)

Load Resistance:

Voltage Output - 1 kΩ minimum
Current Output - 500 Ω max.
(depending on available voltage)

Power Consumption: .53 VA maximum

Accuracy:

±1% on 0 to 0.1 range and ±0.1 range,
±0.5% on other ranges

Stability: ±2 % F.S. (full scale) per year

Temperature Error:

Zero - ±0.025% F.S. per °C,
Span - max ±0.03% F.S. per °C

Environmental Specifications:

Temperature: -13 to 176 °F (-25 to 80 °C)
32 to 140 °F (0 to 60 °C)
compensated range

Humidity: 0 to 95% RH, non-condensing

Wiring:

*2 (loop powered) or 3 (AC powered) wires

Overpressure:

Proof - 5 PSI, Burst - 10 PSI

Optional Field Mounting Kit

For more information,
see page C8.



ZPS with Field Mounting Kit

* BAPI recommends that you do not run wiring for the pressure transmitter in the same conduit as line voltage wiring or with wiring used to supply highly inductive loads such as motors, generators, and coils.

Note: Mount unit with the pressure fittings on the bottom to prevent condensation from entering the sensor.

Ordering Information		Zone Pressure Sensor																																																					
ZPS																																																							
	Output Range ±																																																						
	-20	4 to 20 mA	(8.5 to 45 VDC Supply ONLY)																																																				
	-05	0 to 5 V	(8.5 to 45 VDC Supply or 8.5 to 32 VAC Supply)																																																				
	-10	0 to 10 V	(13 to 45 VDC Supply or 13 to 32 VAC Supply)																																																				
	Pressure Range ±																																																						
	-SR(range)	Standard Pressure Ranges - replace (range) with option # shown below																																																					
		<table><tr><th>Option</th><th>Range (inches W.C.)</th><th>Option</th><th>Range (Pascals)</th></tr><tr><td>01</td><td>0 to 0.10</td><td>11</td><td>0 to 25</td></tr><tr><td>02</td><td>0 to 0.25</td><td>12</td><td>0 to 50</td></tr><tr><td>03</td><td>0 to 1.00</td><td>13</td><td>0 to 300</td></tr><tr><td>04</td><td>0 to 2.50</td><td>14</td><td>0 to 500</td></tr><tr><td>05</td><td>0 to 5.00</td><td>15</td><td>0 to 1,000</td></tr><tr><td>06</td><td>-0.10 to 0.10</td><td>16</td><td>-25 to 25</td></tr><tr><td>07</td><td>-0.25 to 0.25</td><td>17</td><td>-50 to 50</td></tr><tr><td>08</td><td>-1.00 to 1.00</td><td>18</td><td>-300 to 300</td></tr><tr><td>09</td><td>-2.50 to 2.50</td><td>19</td><td>-500 to 500</td></tr><tr><td>10</td><td>-5.00 to 5.00</td><td>20</td><td>-1,000 to 1,000</td></tr><tr><td colspan="2"><u>Custom Range (W.C.)</u></td><td colspan="2"><u>Custom Range (Pascals)</u></td></tr><tr><td>CI</td><td>[x.xx to y.yy]*</td><td>CP</td><td>[xxxx to yyyy]**</td></tr></table>	Option	Range (inches W.C.)	Option	Range (Pascals)	01	0 to 0.10	11	0 to 25	02	0 to 0.25	12	0 to 50	03	0 to 1.00	13	0 to 300	04	0 to 2.50	14	0 to 500	05	0 to 5.00	15	0 to 1,000	06	-0.10 to 0.10	16	-25 to 25	07	-0.25 to 0.25	17	-50 to 50	08	-1.00 to 1.00	18	-300 to 300	09	-2.50 to 2.50	19	-500 to 500	10	-5.00 to 5.00	20	-1,000 to 1,000	<u>Custom Range (W.C.)</u>		<u>Custom Range (Pascals)</u>		CI	[x.xx to y.yy]*	CP	[xxxx to yyyy]**	
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Accessory Options																																																							
-NT	No Tube or Probe Included																																																						
-ST	Static Pressure Measurement Probe																																																						
	Pressure Port Fitting Size																																																						
	-125	Port accepts 1/8" I.D. tubing																																																					
	-250	Port accepts 1/4" I.D. tubing																																																					
	Mounting Kits (Optional)																																																						
	-FMK	Field Mounting Kit																																																					
	-FM	1/2" conduit adaptor only																																																					
	-PM	Panel Mount																																																					

EXAMPLE					
ZPS	-20	-SR01	-NT	-125	-FMK
Example Part Number: ZPS-20-SR01-NT-125-FMK					
Your Part Number:					

*For custom W.C. ranges, x.xx and y.yy can be any pressure from -5.00 to +5.00 inches W.C. However, x.xx must be less than y.yy and y.yy - x.xx must be at least .1 inches. (Example Part #: ZPS-20-SR01[0.00 to 3.00]-NT-250-D)

**For custom Pascal ranges, xxxx and yyyy can be any pressure from -1250 to +1250 Pascals. However, xxxx must be less than yyyy and yyyy - xxxx must be at least 25 Pascals. (Example Part #: ZPS-20-SR01[0 to 100]-NT-250-D)

‡ Custom output ranges and higher accuracy units are available. Contact BAPI for details.