

Zone Pressure Sensors (ZPS)

Rev. 06/15/11

Features & Options

- Field Selectable Pressure and Output Ranges
- LCD Displays Pressure Over the Entire Operational Range Regardless of Which Individual Pressure Range is Selected
- Inches of Water Column (W.C.) or Pascal Operation
- Simple Auto-Zero Process
- IP66 Rated BAPI-Box Enclosure
- Optimized for Pressures Below 1" W.C. or 250 Pascals
- Three Year Warranty

Patent Pending

**BAPI-Box (BB) Enclosure**

BAPI's Low Pressure Sensor with Display 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 pressure sensor specifically developed for low pressures. The capacitive sensor design inherently provides excellent accuracy, repeatability and stability. The unit has been optimized for pressures below 1" W.C. or 250 Pascals.

The LCD display helps with troubleshooting because it displays the actual differential pressure over the entire operational range (-1 to +1 inches W.C. or -250 to +250 Pascals) regardless of which individual pressure range is selected for output to the system controller.

Pressure Sensor with Attached Static Tube

The unit is available in a BAPI-Box with an Attached Static Tube, therefore it doesn't require two trades to install the unit. Choose the (-AT) option in the Static Pressure Probe section of the ordering grid at right.

**Specifications****Power:**

7 to 45 VDC (4 to 20 mA Output)
7 to 45 VDC or 7 to 32 VAC (0 to 5 VDC Output)
13 to 45 VDC or 13 to 32 VAC (0 to 10 VDC Output)

Power Consumption:

20 mA max, DC only at 4 to 20 mA Output
4.9 mA max DC at 0 to 5 VDC or 0 to 10 VDC Output
0.12 VA max AC at 0 to 5 VDC or 0 to 10 VDC Output

Load Resistance:

4 to 20 mA Output 850 Ω Maximum @ 24 VDC
0 to 5 VDC or 0 to 10 VDC output 1KΩ minimum

Accuracy at 72°F:

±0.5% of range 0 to 0.1", 0 to 0.25", ±0.1" and ±0.25" ranges
±0.5% of range 0 to 30 Pa, 0 to 50 Pa, ±30 Pa and ±50 Pa ranges
±0.25% of range all other ranges

Stability: ±0.25% F.S. per year

Temperature Error: ±2% of Span max

(±1.0 in WC @ 50°F to 104°F [10 to 40°C])

Environmental Operation Range: 32°F to 140°F (0°C to 60°C)

Storage Temperature: -40°F to 203°F (-40°C to 95°C)

Overpressure: Proof 27.68 in W.C. (1 PSI),
Burst 41.52 in W.C. (1.5 PSI)

Wiring: 2 wires (4-20mA Current loop)
3 wires (AC or DC powered, Voltage out)

Humidity: 0 to 95% RH, non-condensing

Port Connection:

1 High Pressure & 1 Low Pressure for push-on
1/4-inch tubing (1/8" – 3/16" I.D.)

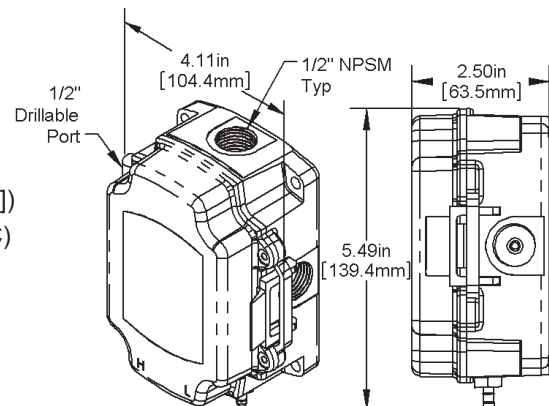
Enclosure Material:

UV-resistant Polycarbonate, UL94, V-0

Enclosure Rating: IP66, NEMA 4

Mounting:

Four external tabs with holes for #10 screws



¹BAPI 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 (for units without a factory specified range or output)

Part Number **Description**

- ZPS-LR-BB-NT-D-IN** ...BAPI-Box Low Pressure with Display, inches of W.C. ranges, No Tube/Probe included
- ZPS-LR-BB-ST-D-IN** ...BAPI-Box Low Pressure with Display, inches of W.C. ranges with Static Pressure Probe
- ZPS-LR-BB-AT-D-IN** ...BAPI-Box Low Pressure with Display, inches of W.C. ranges with Attached Static Tube
- ZPS-LR-BB-NT-D-PA** ..BAPI-Box Low Pressure with Display, Pascal ranges, No Tube or Probe included
- ZPS-LR-BB-ST-D-PA** ..BAPI-Box Low Pressure with Display, Pascal ranges with Static Pressure Probe
- ZPS-LR-BB-AT-D-PA** ..BAPI-Box Low Pressure with Display, Pascal ranges with Attached Static Tube

Note: Pressure Range and Output Range for these units will be selected in the field.

Part numbers for units with a factory specified range or output

Ordering Information		BAPI-Box Low Pressure Sensor with Display				
ZPS						
Output Range						
-20	4 to 20 mA	(7 to 45 VDC Supply ONLY)				
-05	0 to 5 V	(7 to 45 VDC Supply or 7 to 32 VAC Supply)				
-10	0 to 10 V	(13 to 45 VDC Supply or 13 to 32 VAC Supply)				
Pressure Range						
-LR(range)	Standard Pressure Ranges - replace (range) with option # shown below					
	Option	Range (inches W.C.)	Option	Range (Pascals)		
	51	0 to 0.10	61	0 to 30		
	52	0 to 0.25	62	0 to 50		
	53	0 to 0.50	63	0 to 100		
	54	0 to 0.75	64	0 to 175		
	55	0 to 1.00	65	0 to 250		
	56	-0.10 to 0.10	66	-30 to 30		
	57	-0.25 to 0.25	67	-50 to 50		
	58	-0.50 to 0.50	68	-100 to 100		
	59	-0.75 to 0.75	69	-175 to 175		
	60	-1.00 to 1.00	70	-250 to 250		
Enclosure Style (Must Select One)						
-BB	BAPI-Box Enclosure - IP66 rated, UV-resistant polycarbonate					
Static Pressure Probe (Must Select One)						
	-NT	No Tube or Probe Included				
	-ST	Static Pressure Measurement Probe Included (not attached)				
	-AT	Attached Static Pressure Probe (Not available with Back Mount [-BM])				
LCD Display						
	-D	LCD Display				
Back Mounting Options (Omit if not required)						
	-BM	Back Mount (wires and pressure ports run out the back, not available with Attached Static Pressure Probe [-AT])				
EXAMPLE						
ZPS	-20	-LR51	-BB	-NT	-D	-BM
Example Part Number: ZPS-20-LR51-BB-NT-D-BM						
Your Part Number:						

Having Trouble Fitting Your Pressure Sensor Into Small Spaces?

BAPI's EZ pressure sensor has all the functionality of larger units with only 1/3rd of the footprint. It's also the easiest sensor on the market to install.

For more info, see pgs 2-5.

