

Rev. 03/09/16

## Features & Options

- Field Selectable Outputs and Pressure Ranges
- LCD shows Pressure Over the Entire Operational Range Regardless of Which Individual Pressure Range is Selected
- Inches of Water Column (W.C.) or Pascal Operation
- Optimized for Pressures Below 1" W.C. or 250 Pascals
- Mounting Tabs for Easy Installation and Simple Auto-Zero Process
- Three Year Warranty

The BAPI-Box Low Pressure Sensor 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 model offers an additional level of troubleshooting and monitoring capability over the standard model by displaying the actual differential pressure over the entire operational range (-5 to +5 inches W.C. or -1,000 to 1,000 Pascals) regardless of which individual pressure range is selected for output to the system controller.

The unit comes with an IP66-rated BAPI-Box enclosure with short circuit proof outputs and reverse polarity protected inputs. The Output Ranges and Pressure Ranges are field selectable with DIP switches, and the auto-zeroing process is very simple (flip a switch, wait 5 seconds and flip it back).

## Specifications

### Power:

7 to 40 VDC (4 to 20 mA Output)  
7 to 40 VDC or 18 to 28 VAC (0 to 5 VDC Output)  
13 to 40 VDC or 18 to 28 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  $\Omega$  Maximum @ 24 VDC  
0 to 5 VDC or 0 to 10 VDC output 1K $\Omega$  minimum

### Accuracy at 72°F:

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

**Stability:**  $\pm 0.25\%$  F.S. per year

### Temperature Error:

0.04% FS/°F (0.07% FS/°C) ( $\pm 1.0$ " W.C. @ -4 to 140°F [-20 to 60°C])

**Environmental Operation Range:** -4 to 140°F (-20 to 60°C)

**Storage Temperature:** -40 to 203°F (-40 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 to 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" to 3/16" I.D.)

### Enclosure Material:

UV-resistant Polycarbonate, UL94, V-0

**Enclosure Rating:** IP66, NEMA 4

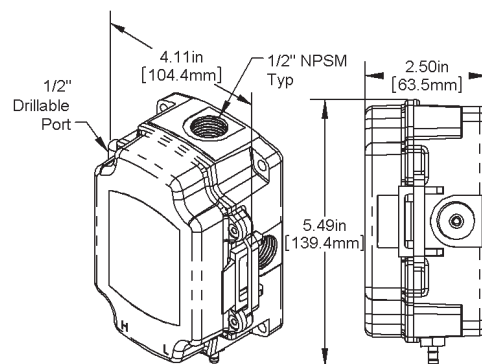
**Mounting:** 4 external tabs with holes for #10 screws



Low Pressure Sensor with and without Display

## Sensor with Attached Static Tube

The unit is available in a BAPI-Box with an Attached Static Tube (-AT), therefore it doesn't require two trades to install the unit.



\*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.



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### Ordering Information (for units without a factory specified range or output)

PART NUMBER	DESCRIPTION
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ALC/ZPS-LR-BB-NT-D-IN ....	Low Pressure with Display, W.C. ranges, No Tube or Probe included
ALC/ZPS-LR-BB-ST-D-IN.....	Low Pressure with Display, W.C. ranges with Static Pressure Probe
ALC/ZPS-LR-BB-AT-D-IN.....	Low Pressure with Display, W.C. ranges with Attached Static Tube
ALC/ZPS-LR-BB-NT-D-PA ...	Low Pressure with Display, Pascal ranges, No Tube or Probe included
ALC/ZPS-LR-BB-ST-D-PA ...	Low Pressure with Display, Pascal ranges with Static Pressure Probe
ALC/ZPS-LR-BB-AT-D-PA ...	Low Pressure with Display, Pascal ranges with Attached Static Tube
ALC/ZPS-LR-BB-NT-IN .....	Low Pressure without Display, W.C. ranges, No Tube or Probe included
ALC/ZPS-LR-BB-ST-IN .....	Low Pressure without Display, W.C. ranges with Static Pressure Probe
ALC/ZPS-LR-BB-AT-IN .....	Low Pressure without Display, W.C. ranges with Attached Static Tube
ALC/ZPS-LR-BB-NT-PA .....	Low Pressure without Display, Pascal ranges, No Tube or Probe included
ALC/ZPS-LR-BB-ST-PA .....	Low Pressure without Display, Pascal ranges with Static Pressure Probe
ALC/ZPS-LR-BB-AT-PA .....	Low Pressure without 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		Zone Low Pressure Sensor in a BAPI-Box				
ALC/ZPS	<b>Output Range</b>					
	-20	4 to 20 mA	(7 to 40 VDC Supply ONLY)			
	-05	0 to 5 V	(7 to 40 VDC Supply or 18 to 28 VAC Supply)			
	-10	0 to 10 V	(13 to 40 VDC Supply or 18 to 28 VAC Supply)			
	<b>Pressure Range</b>					
	-LR(range)	Standard Pressure Ranges - replace (range) with option # shown below				
		<b>Option</b>	<b>Range (inches W.C.)</b>	<b>Option</b>	<b>Range (Pascals)</b>	
		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		
	<b>Custom Range (W.C.)***</b>		<b>Custom Range (Pascals)***</b>			
	CI	[0 to y.yy]*	CP	[0 to yyyy]**		
<b>Enclosure Style (Must Select One)</b>						
	-BB	BAPI-Box Enclosure - IP66 rated, UV-resistant polycarbonate				
<b>Static Pressure Probe (Must Select One)</b>						
	-NT	No Tube or Probe Included				
	-ST	Static Pressure Probe Included (not attached)				
	-AT	Attached Static Pressure Probe (not available with Back Mount option [-BM])				
<b>LCD Display (Omit if not required)</b>						
	-D	LCD Display				
<b>Back Mount Option (Omit if not required)</b>						
	-BM	Back Mount (wires and pressure ports run out the back, not available with Attached Tube option [-AT])				
EXAMPLE						
ALC/ZPS	-20	-LR51	-BB	-NT	-D	-BM
Example Part Number: ALC/ZPS-20-LR51-BB-NT-D-BM						
<b>Your Part Number:</b>						

\*For custom W.C. ranges, x.xx and y.yy can be any pressure from -1.00 to +1.00 inches W.C. However, x.xx must be less than y.yy and y.yy - x.xx must be at least 0.1 inch. (Example: ALC/ZPS-20-SRCI[-0.50 to 0.75]-BB-NT-D-BM)

\*\*For custom Pascal ranges, xxxx and yyyy can be any pressure between -250 to +250 Pascals. However, xxxx must be less than yyyy and yyyy - xxxx must be at least 30 Pascals. (Ex: ALC/ZPS-20-SRCP[0 to 125]-BB-NT-D-BM)

\*\*\*There is a net add of \$30 for custom ranges. Multipliers do not apply to net adds. Custom Ranges include a certification of 3 points within the custom pressure range.