



## Features & Options

- 10 Field Selectable Pressure Ranges & 3 Field Selectable Outputs
- Optional Display Shows Pressure Over the Entire Operational Range Regardless of Which Individual Pressure Range is Selected
- Inches of Water Column (W.C.) or Pascal Operation
- Free NIST Certificate Included with Each Pressure Unit
- Simple Auto-Zero Process
- Optimized for Pressures Below 1" W.C. or 250 Pascals
- Three Year Warranty

BAPI's 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 display helps with troubleshooting because it displays the actual 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 controller.

Patent Pending



**Low Pressure Sensor with Display in the BAPI-Box**

## Pressure Sensor with Attached Static Tube

The unit is available with an Attached Static Tube so 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 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.)

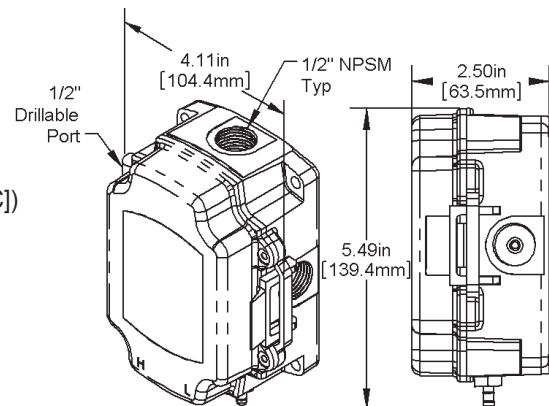
### Enclosure Material:

UV-resistant Polycarbonate, UL94, V-0

**Enclosure Rating:** IP66, NEMA 4

### Mounting:

Four external tabs with holes for #10 screws



<sup>1</sup>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.



Rev. 01/07/14

# Low Pressure Sensor

## Zone Pressure Sensors (ZPS)

# C13

Datasheets without List Prices are available on our website at [www.bapihvac.com](http://www.bapihvac.com)

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

Part Number	Description	List Price
ZPS-LR-BB-NT-D-IN	... BAPI-Box Pressure with Display, Low W.C. Ranges, No Tube/Probe included	\$340
ZPS-LR-BB-ST-D-IN	... BAPI-Box Pressure with Display, Low W.C. Ranges, with Static Pressure Probe	\$340
ZPS-LR-BB-AT-D-IN	... BAPI-Box Pressure with Display, Low W.C. Ranges, with Attached Static Tube	\$340
ZPS-LR-BB-NT-D-PA	.. BAPI-Box Pressure with Display, Low Pascal Ranges, No Tube/Probe included	\$340
ZPS-LR-BB-ST-D-PA	.. BAPI-Box Pressure with Display, Low Pascal Ranges, with Static Pressure Probe	\$340
ZPS-LR-BB-AT-D-PA	.. BAPI-Box Pressure with Display, Low Pascal Ranges, with Attached Static Tube	\$340

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							List Price	Your Order		
<b>Zone Pressure Sensor in a BAPI-Box, Low Pressure Ranges</b>							\$340	\$ _____		
<b>ZPS</b>										
<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>							\$30	Net Add***		
-LR(range)	Low 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>									\$0	
-BB BAPI-Box Enclosure - IP66 rated, UV-resistant polycarbonate										
<b>Static Pressure Probe (Must Select One)</b>							\$0			
-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])							\$0			
<b>Optional LCD Display</b>							\$0			
-D LCD Display										
<b>Back Mounting Options (Omit if not required)</b>							\$0			
-BM Back Mount (pressure ports run out the back, not available with Attached Static Pressure Probe [-AT])										
EXAMPLE							Total =	\$ _____		
ZPS	-20	-LR51	-BB	-NT	-D	-BM				
Example Part Number: ZPS-20-LR51-BB-NT-D-BM										
<b>Your Part Number:</b>										

While field technicians can easily set up custom ranges in the field, BAPI will setup custom ranges in our factory. See the notes below for additional information and fees.

\*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: 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: 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.

