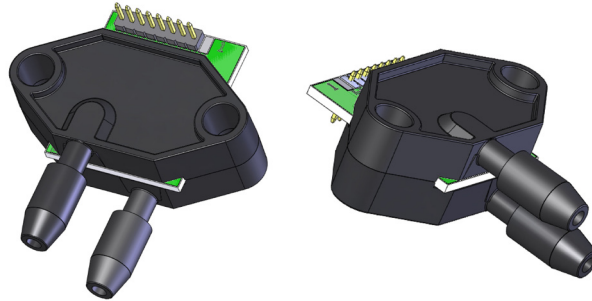




ALL SENSORS®
an Amphenol company

BFTM SERIES BASIC PRESSURE SENSORS



General Description

The Amphenol All Sensors BFTM series leverages proprietary technology to minimize size while maintaining superior performance. These sensors significantly reduce output offset errors caused by position sensitivity, packaging stress, and long-term drift compared to conventional silicon sensors. Featuring a silicon, micromachined, stress-concentration-enhanced structure, the BFTM series provides a highly linear output to measured pressure.

Designed for use with non-corrosive, non-ionic working fluids such as air and dry gases, these sensors offer a ratio-metric output proportional to the supply voltage, ensuring high precision and reliability for demanding applications.

With their compact design and enhanced accuracy, BFTM basic pressure sensors are ideal for industries requiring reliable pressure measurement, including industrial, and environmental monitoring applications.

Experience the next level of precision with the BFTM Series by Amphenol All Sensors. Consult with one of our applications specialists to assess if the BFTM series is the right sensing solution for your needs.

Features

- Ultrastable and Compact Design
- Enhanced Accuracy
- Optimized packaging for high common mode & low differential pressure monitoring
- Combined Absolute and Differential pressure in single package
- RoHS Compliant

Applications

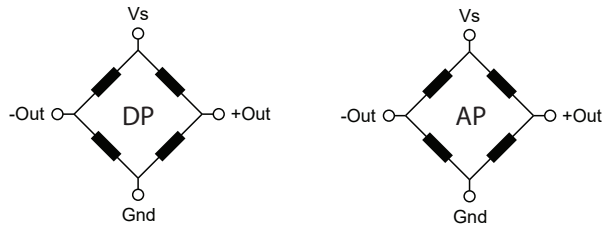
- HVAC
- Industrial Controls
- Environmental Controls
- Mass Flow Controllers
- Gas Mixers



For All Sensors Corporation's most recent quality certification documents, please visit www.allsensors.com



Equivalent Circuit



Pressure Sensor Characteristics Maximum Ratings

Supply Voltage VS	6 Vdc
Lead Temperature (soldering 2-4 sec.)	270°C

Environmental Specifications

Temperature Ranges	
Operating	-25 to 85° C
Storage	-40 to 125° C
Humidity Limits	0 to 95% RH (non condensing)

Standard Pressure Ranges

		<u>Sensitivity ⁽¹⁾</u>		
Pressure Range	Operating Pressure	Single Port Proof Pressure	Single Port Burst Pressure	Common Mode Pressure
L02D-060A		100 inH2O	200 inH2O	250 PSI
Absolute	0 - 60 PSIA			
Differential	0 - 2 inH2O			
L30D-060A		15 PSI	30 PSI	250 PSI
Absolute	0 - 60 PSIA			
Differential	0 - 30 inH2O			
L02D-180A		100 inH2O	200 inH2O	250 PSI
Absolute	0 - 180 PSIA			
Differential	0 - 2 inH2O			
L30D-180A		15 PSI	30 PSI	250 PSI
Absolute	0 - 180 PSIA			
Differential	0 - 30 inH2O			

Performance Characteristics for BFTM Series

Absolute Element

Parameter ¹	Minimum	Nominal	Maximum	Units	Notes
Offset Voltage (@1 atm)	-50	-	50	mV	-
Sensitivity					
60 PSIA	1.92	2.67	3.42	mV/PSI	1
180 PSIA	0.38	0.76	1.14	mV/PSI	1
Temperature Effect on Offset (@ 1 atm)	-	±10	-	µV/V/°C	2
Temperature Effect on Resistance	-	2700	-	ppm/°C	2, 6
Temperature Effect on Span	-	-1900	-	ppm/°C	2, 6
Linearity Error	-	±0.1	-	% FSS	4, 6
Hysteresis Error	-	±0.1	-	% FSS	-
Input Resistance	2.0	2.5	3.0	kΩ	6
Output Resistance	2.0	2.5	3.0	kΩ	6
Long term stability	-	0.1	-	% FSS	3

Differential Element

Parameter ¹	Minimum	Nominal	Maximum	Units	Notes
Offset Voltage	-	±5	±25	mV	-
Sensitivity					
L02D	12.5	15	17.5	mV/inH2O	1
L30D	1.25	2.5	3.75	mV/inH2O	1
Temperature Effect on Offset	-	±10	-	µV/V/°C	2
Temperature Effect on Resistance	2000	2800	3500	ppm/°C	2, 6
Temperature Effect on Span	-2500	-2000	-1600	ppm/°C	2, 6
Linearity Error	-	±0.5	1.0	% FSS	4, 6
Hysteresis Error	-	±0.01	-	% FSS	-
Position Sensitivity	-	±0.01	±0.03	% FSS	6
Warm-Up Shift	-	±100	-	µV	7
Input Resistance	1.2	2.1	2.5	kΩ	6
Output Resistance	1.2	2.1	2.5	kΩ	6
Long term stability	-	0.1	-	% FSS	3

Specification Notes

NOTE 1: ALL PARAMETERS ARE MEASURED AT 5.0 VOLT EXCITATION, FOR THE NOMINAL FULL SCALE PRESSURE AND ROOM TEMPERATURE UNLESS OTHERWISE SPECIFIED. PRESSURE MEASUREMENTS ARE WITH POSITIVE PRESSURE TO PORT A.

NOTE 2: SHIFT IS RELATIVE TO 25°C.

NOTE 3: SHIFT IS WITHIN THE FIRST YEAR OF OPERATION.

NOTE 4: MEASURED AT ONE-HALF FULL SCALE RATED PRESSURE USING BEST STRAIGHT LINE CURVE FIT.

NOTE 5: THE SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN FULL SCALE OUTPUT VOLTAGE AND THE OFFSET VOLTAGE..

NOTE 6: PARAMETER IS CHARACTERIZED AND NOT 100% TESTED. MINIMUM AND MAXIMUM VALUES INDICATED AS A DESIGN REFERENCE.

NOTE 7: SHIFT IS WITHIN THE FIRST HOUR OF EXCITATION APPLIED TO THE DEVICE.

NOTE 8: TYPICAL VALUES



Package Drawing

N8 Package

Pin	Definition
1	Not Populated
2	DP_Gnd
3	DP_+Out
4	AP_Gnd
5	DP_Vs
6	AP_-Out
7	DP_-Out
8	AP_Vs
9	AP_+Out

NOTES
1) Dimensions are in inches [mm].

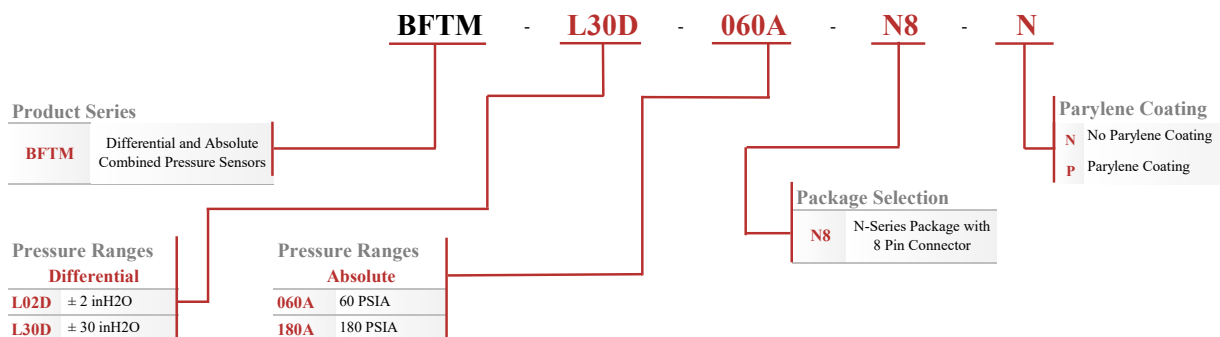
All Sensors	
TITLE:	N-Series Package
SIZE	A
FILE NAME	N8 Package

Parylene Coating

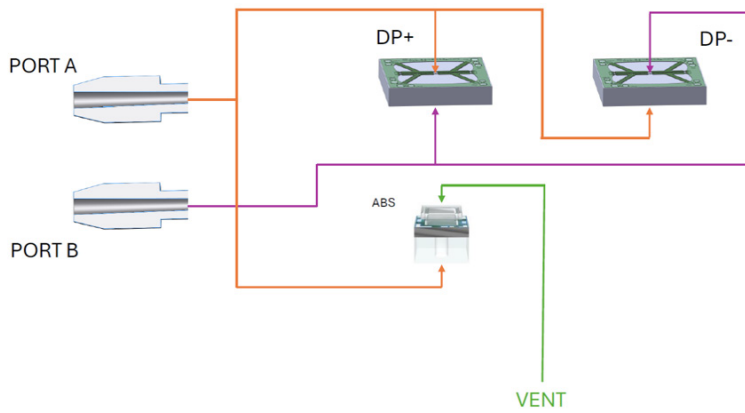
Parylene coating provides a moisture barrier and protection from some harsh media. Unlike other pressure sensor suppliers offering a Parylene coating, All Sensors performs this process in-house and uses an advanced production system to achieve the highest accuracy and reliability. This avoids transferring products out of and back to the pressure sensor manufacturing facility, provides complete quality control and improves the delivery time to customers. Specially designed masking techniques allow All Sensors to apply a cost-effective, high-volume Parylene coating in-house.

This option is not available for pressure range ± 2 inH₂O.

How to Order Table



Pressure Pathway

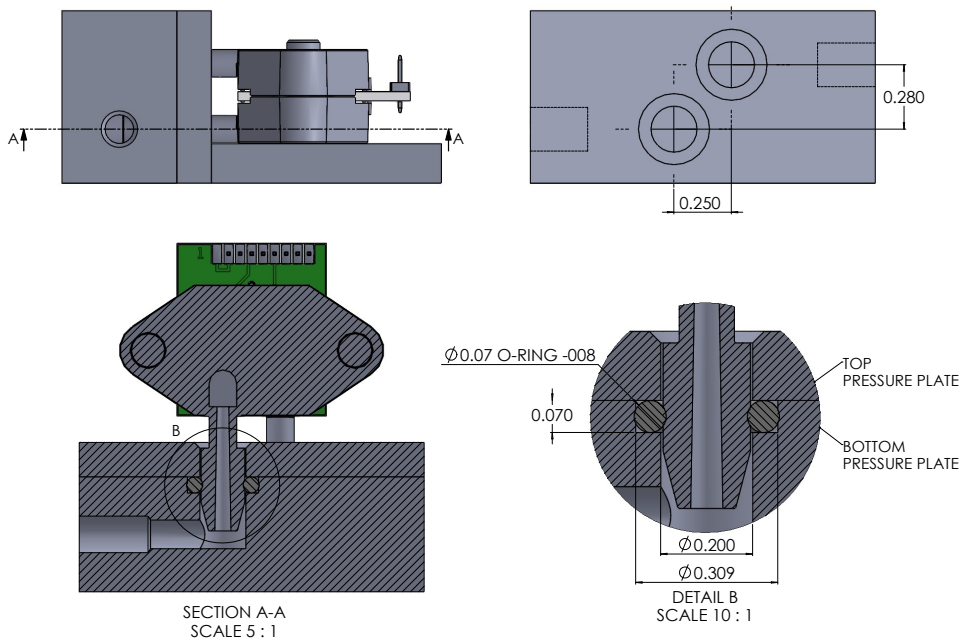


Product Recommendations

Recommended Female Mating Connector: Harwin Inc., Part #M50-3030842 or equivalent.

Recommended Tubing: Parker, Part #NB-4-062 or equivalent.

Recommended Manifold Seal Design:



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