

BLM Manifold Mount Bottom Pressure Sensors

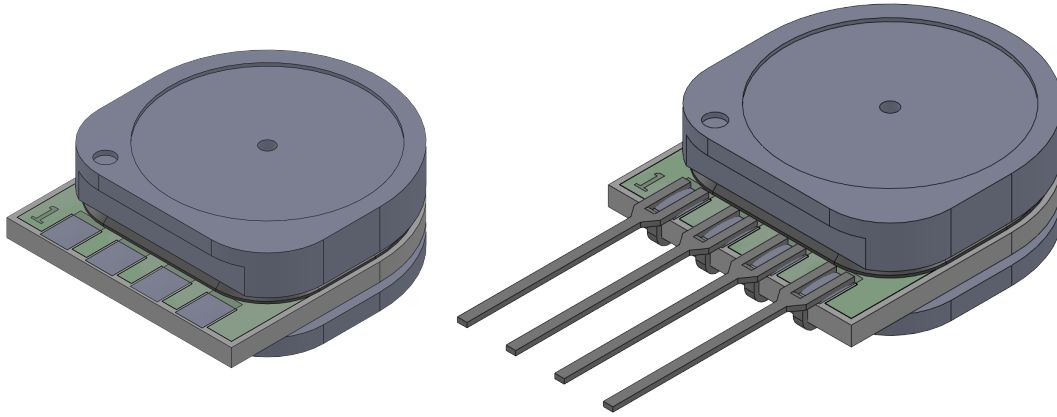


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Introduction

BLM Series pressure sensors use a silicon micromachined (MEMS) pressure sensor in the most basic configuration. The BLM Manifold package configuration provides a small footprint and manifold mounting.

This series is intended for use with non-corrosive, non-ionic working fluids such as air, dry gases and the like. The output of the device is ratiometric to the supply voltage. The BLM Series device provides an uncompensated output proportionate to pressure.

<https://www.allsensors.com/products/blm-series>



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BLM MANIFOLD MOUNT BUTTON BASIC PRESSURE SENSORS

Features

- Pressure Ranges from 1 inH2O to 300 PSI
- 0.5% Linearity
- Manifold Mount
- ROHS Compliant

Applications

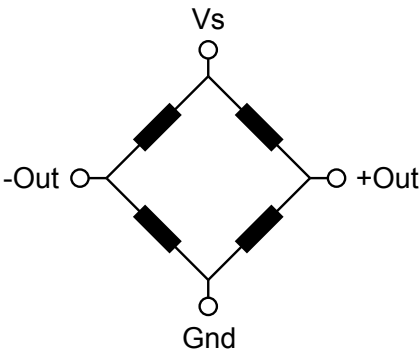
- HVAC
- Industrial Controls
- Environmental Controls

Wetted Media

- Silicon
- RTV
- Gold
- Ceramic
- Epoxy
- Nylon Plastic
- Aluminum

Pressure Sensor Maximum Ratings		Environmental Specifications	
Supply Voltage (Vs)	6 Vdc	Temperature Ranges	
Lead Temperature (soldering 2-4 sec.)	270°C	Operating	-25°C to 85°C
Device Temperature	245°C	Storage	-40°C to 125°C
		Humidity Limits (non condensing)	0 to 95% RH

Equivalent Circuit



BLM Series Pressure Ranges

Operating Range ¹					Sensitivity			Proof Pressure ²		Burst Pressure ³	
					Min	Nominal	Max				
CODE	Pmin inH2O	Pmax	Pressure Mode	kPa	mV/V/Inch	mV/V/Inch	mV/V/Inch	inH2O	kPa	inH2O	kPa
BLM-L01G	0	1	Gage	0.2	2.2	4.5	6.7	270	67	415	103
BLM-L02G	0	2	Gage	0.5	2.2	4.5	6.7	270	67	415	103
BLM-L04G	0	4	Gage	1.0	1.4	2.9	4.3	300	75	500	124
BLM-L05G	0	5	Gage	1.2	1.4	2.9	4.3	300	75	550	137
BLM-L10G	0	10	Gage	2.5	0.9	1.8	2.7	350	87	550	137
BLM-L20G	0	20	Gage	5.0	0.4	0.9	1.3	350	87	550	137

CODE	Pmin PSI	Pmax	Pressure Mode	kPa	mV/V/PSI	mV/V/PSI	mV/V/PSI	psi	kPa	psi	kPa
BLM-001G	0	1	Gage	6.9	8.25	16.49	24.74	10	69	15	103
BLM-005G	0	5	Gage	34.5	2.56	3.20	3.84	10	69	15	103
BLM-015G	0	15	Gage	103.4	1.33	1.77	2.21	45	310	75	517
BLM-030G	0	30	Gage	206.9	1.44	1.80	2.16	90	621	150	1034
BLM-060G	0	60	Gage	413.7	0.68	0.85	1.02	120	827	200	1379
BLM-100G	0	100	Gage	689.5	0.43	0.53	0.64	200	1379	250	1724
BLM-150G	0	150	Gage	1034.3	0.26	0.32	0.38	200	1379	250	1724
BLM-300G	0	300	Gage	2068.5	0.06	0.08	0.10	350	2413	350	2413

CODE	Pmin PSI	Pmax	Pressure Mode	kPa	mV/V/PSI	mV/V/PSI	mV/V/PSI	psi	kPa	psi	kPa
BLM-015A	0	15	Absolute	103.4	2.56	3.20	3.84	45	310	75	517
BLM-030A	0	30	Absolute	206.9	1.44	1.80	2.16	90	621	150	1034
BLM-060A	0	60	Absolute	413.7	0.68	0.85	1.02	120	827	200	1379
BLM-100A	0	100	Absolute	689.5	0.43	0.53	0.64	200	1379	250	1724
BLM-150A	0	150	Absolute	1034.3	0.13	0.18	0.22	200	1379	250	1724
BLM-300A	0	300	Absolute	2068.5	0.07	0.09	0.11	350	2413	350	2413

Note 1: Pressure ranges in Pa and kPa are expressed as an approximate value.

Note 2: Proof Pressure: The maximum pressure that may be applied to the sensor without causing any changes in performance to the specifications

Note 3: Burst Pressure: The maximum pressure the sensor is able to withstand before causing escape of the pressure media. The sensor should not be expected to function after exposed to any pressure beyond the burst pressure.

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Performance Characteristics for BLM Series

Parameter	Min	Typ	Max	Units	Notes
Excitation					
1 inH ₂ O to 1PSI	-	2.8	6	V	Max: 1.8mA
>1PSI	-	5	15	V	Max: 3mA
Bridge Resistance					
1 inH ₂ O to 1PSI	2.5	3.2	3.8	kΩ	-
>1PSI	4	5	6	kΩ	-
Offset Voltage					
	-10	0	10	mV/V	-
Span					
L01G	6.3	12.5	18.8	mV	1
L02G	12.5	25	37.5	mV	1
L04G	16	32	48	mV	1
L05G	20	40	60	mV	1
L10G, L20G, 001G	25	50	75	mV	1
005G	64	80	96	mV	2
015G	100	133	166	mV	2
015A	192	240	288	mV	2
030A/G	216	270	324	mV	2
060G	204	255	306	mV	2
060A	204	255	306	mV	2
100A/G	215	266	320	mV	2
150G	195	240	285	mV	2
150A	100	133	166	mV	2
300A/G	100	133	166	mV	2
Temperature Effect on Offset					
1 inH ₂ O to 1PSI	-30	-	30	μV/V/°C	3
>1PSI	-25	-	25	μV/V/°C	-
Temperature Effect on Resistance					
1 inH ₂ O to 1PSI	2400	2800	3300	ppm/°C	3
>1PSI	2500	3000	3500	ppm/°C	-
Temperature Effect on Span					
1 inH ₂ O to 1PSI	-2500	-2000	-1600	ppm/°C	3
>1PSI	-2500	-2000	-1500	ppm/°C	-
Linearity Error					
1 inH ₂ O to 1PSI	-0.5	0.2	0.5	%FSO	4
>1PSI	-0.5	-	0.5	%FSO	4
Hysteresis Error					
	0.1	0	0.1	%FSO	4
Long Term Stability of Span					
	-	0.1	-	%FSO	-
Position Sensitivity					
L01G, L02G		0.035	0.075	%FSO/g	5
L04G, L05G		0.015	0.035	%FSO/g	5
L10G, L20G, 001G		0.010	0.025	%FSO/g	5

Specification Notes

Note 1: Measured at 2.8V constant voltage supply

Note 2 : Measured at 5V constant voltage supply

Note 3: Measured from 0-70°C

Note 4: Best Fit Straight Line @ 25°C

Note 5: Parameter is characterized and not 100% tested

How to Order

For example, **BLM-L01G** defines an All Sensors' BLM Series Basic Manifold Mount Sensor, 1 inH₂O gage pressure range, BLM Manifold package with leads, whereas **BLM-L01G-L** defines an All Sensors' BLM Series Basic Manifold Mount Sensor, 1 inH₂O gage pressure range, leadless BLM Manifold package.

Product Series

BLM -
Basic Manifold Mount

Pressure Ranges

Gage	Absolute
L01G 0 to 1 inH ₂ O	015A 0 to 15 psi
L02G 0 to 2 inH ₂ O	030A 0 to 30 psi
L04G 0 to 4 inH ₂ O	060A 0 to 60 psi
L05G 0 to 5 inH ₂ O	100A 0 to 100 psi
L10G 0 to 10 inH ₂ O	150A 0 to 150 psi
L20G 0 to 20 inH ₂ O	300A 0 to 300 psi
001G 0 to 1 psi	
005G 0 to 5 psi	
015G 0 to 15 psi	
060G 0 to 60 psi	
030G 0 to 30 psi	
100G 0 to 100 psi	
150G 0 to 150 psi	
300G 0 to 300 psi	

Package

(Blank)	Basic Manifold Mount Package
L	Leadless Basic Manifold Mount Package

BLM - L01G - L

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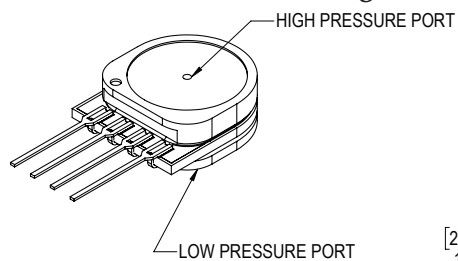
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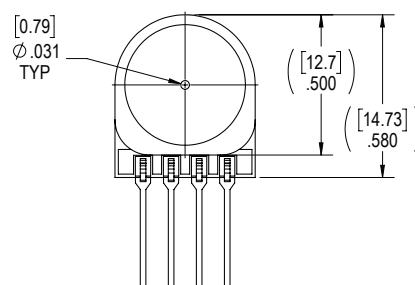
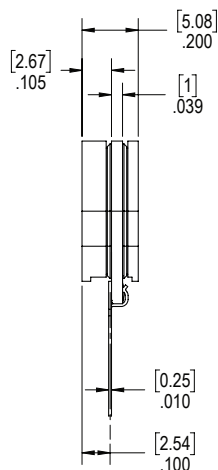
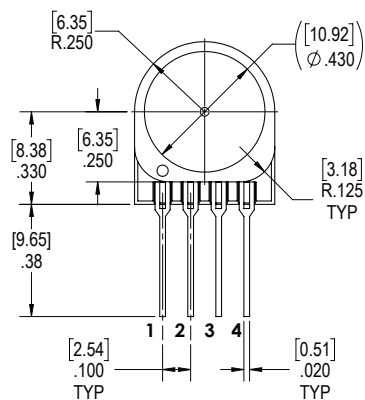


Dimensional Drawings

BLM Manifold Mount Package



Pin	Definition
1	GND
2	Vout+
3	Vs
4	Vout-



Notes

- Notes
- 1) Dimesions are in inches [mm].
 - 2) For suggested pad layout, see drawing: PAD-01.

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TITLE:

BLM Series Package

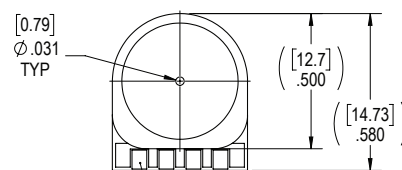
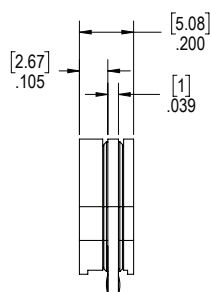
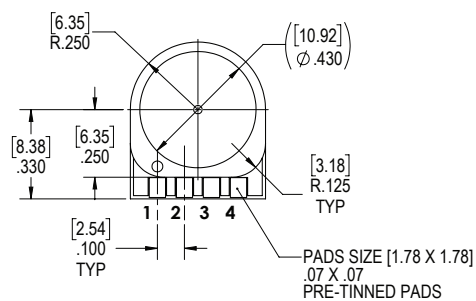
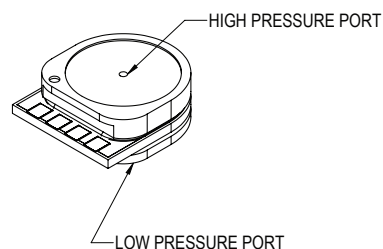
SIZE

FILE NAME

A

BLM Basic Manifold Package

BLM Leadless Manifold Mount Package



—PADS ON THIS SIDE
ARE NOT CONNECTED
TO THE MEMS

Notes

- 1) Dimensions are in inches [mm].

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TITLE:

BLM Series Package

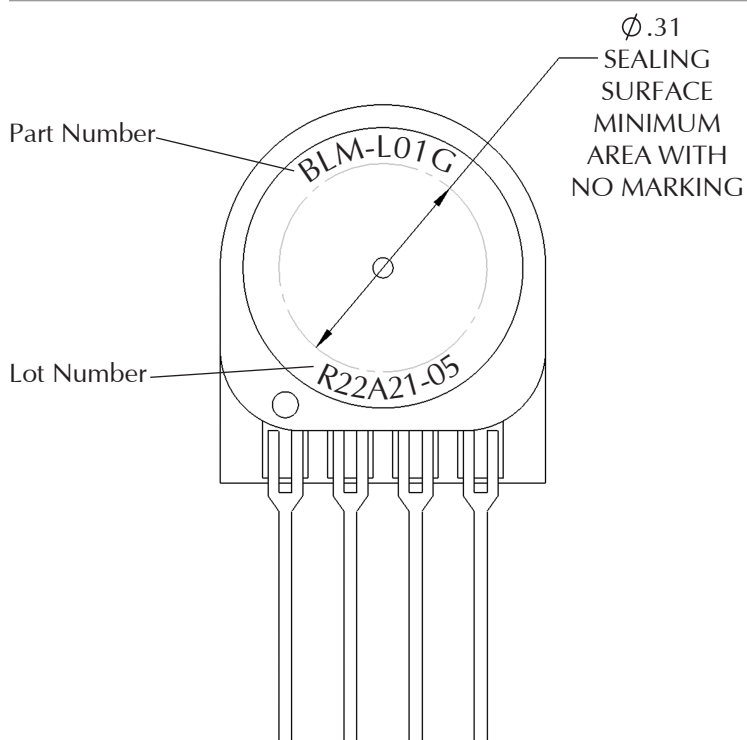
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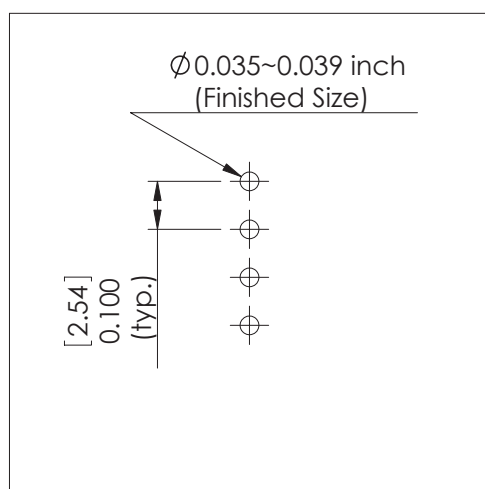
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BLM Leadless Manifold Package

Product Identification



Suggested Pad Layouts



PAD-01

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