

BLM Manifold Mount Button Pressure Sensors

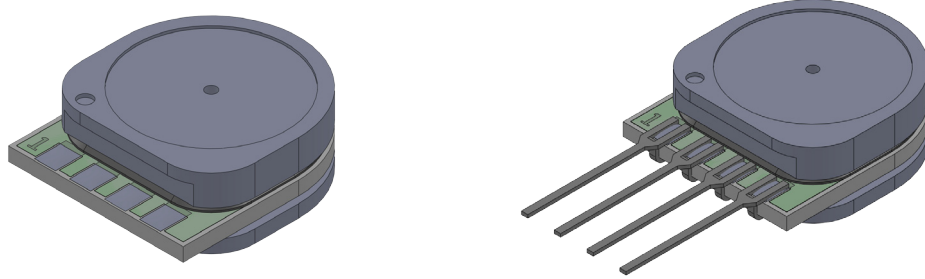


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Introduction

The BLM Series pressure sensors utilize a silicon microelectromechanical systems (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 similar substances. The output of the device is ratiometric to the supply voltage. The BLM Series device provides an uncompensated, millivolt output which is proportional to the applied pressure. To help you select the best sensor for your specific needs, our experienced application specialists are ready to provide expert support.



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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

Applications

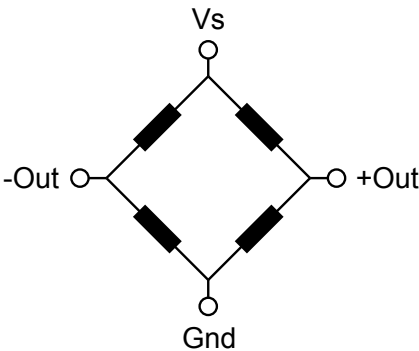
- HVAC
- Industrial Controls
- Environmental Controls

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 ⁶					Sensitivity ⁵			Proof Pressure ⁷		Burst Pressure ⁸	
					Min	Nominal	Max				
CODE	P _{min} inH ₂ O	P _{max}	Pressure Mode	kPa	mV/V/inH ₂ O	mV/V/inH ₂ O	mV/V/inH ₂ O	inH ₂ O	kPa	inH ₂ O	kPa
BLM-L01G	0	1	Gage	0.2	2.5	3.0	3.5	270	67	415	103
BLM-L05G	0	5	Gage	1.2	2.0	2.5	3.0	300	75	550	137
BLM-L10G	0	10	Gage	2.5	1.0	1.5	2.0	350	87	550	137
BLM-L20G	0	20	Gage	5.0	0.5	0.75	1.0	350	87	550	137

CODE	P _{min} PSI	P _{max}	Pressure Mode	kPa	mV/V/PSI	mV/V/PSI	mV/V/PSI	psi	kPa	psi	kPa
BLM-001G	0	1	Gage	6.9	7.00	14.00	21.00	10	69	15	103
BLM-005G	0	5	Gage	34.5	2.56	5.32	6.64	10	69	15	103
BLM-015G	0	15	Gage	103.4	1.33	1.77	3.36	30	206	45	310
BLM-030G	0	30	Gage	206.9	0.67	0.89	2.16	60	413	90	620
BLM-060G	0	60	Gage	413.7	0.29	0.38	1.02	140	965	210	1447
BLM-100G	0	100	Gage	689.5	0.13	0.18	0.64	200	1379	250	1724
BLM-150G	0	150	Gage	1034.3	0.13	0.18	0.38	200	1379	250	1724
BLM-300G	0	300	Gage	2068.5	0.07	0.09	0.11	350	2413	350	2413

CODE	P _{min} PSI	P _{max}	Pressure Mode	kPa	mV/V/PSI	mV/V/PSI	mV/V/PSI	psi	kPa	psi	kPa
BLM-015A	0	15	Absolute	103.4	1.33	1.77	3.84	30	206	45	310
BLM-030A	0	30	Absolute	206.9	0.67	0.89	2.16	60	413	90	620
BLM-060A	0	60	Absolute	413.7	0.29	0.38	1.02	140	965	210	1447
BLM-100A	0	100	Absolute	689.5	0.13	0.18	0.64	140	965	210	1447
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 6: Pressure ranges in Pa and kPa are expressed as an approximate value.

Note 7: Proof Pressure: The maximum pressure that may be applied to the sensor without causing any changes in performance to the specifications.

Note 8: 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.



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	4.2	4.6	kΩ	-
>1PSI	4	5	6	kΩ	-
Offset Voltage					
	-10	0	10	mV/V	-
Span					
L01G	6.3	8.4	10.78	mV	1
L05G	25.2	35	46.2	mV	1
L10G	25	42	62	mV	1
L20G	25.2	42	61.6	mV	1
001G	18	39	65	mV	1
005G	58	133	183	mV	2
015G	90	133	277	mV	2
015A	90	133	317	mV	2
030A/G	90	133	356	mV	2
060A/G	77.1	114	336.6	mV	2
100A/G	60	89	352	mV	2
150G	90	133	314	mV	2
150A	90	133	183	mV	2
300A/G	90	133	183	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		0.035	0.075	%FSO/g	5
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

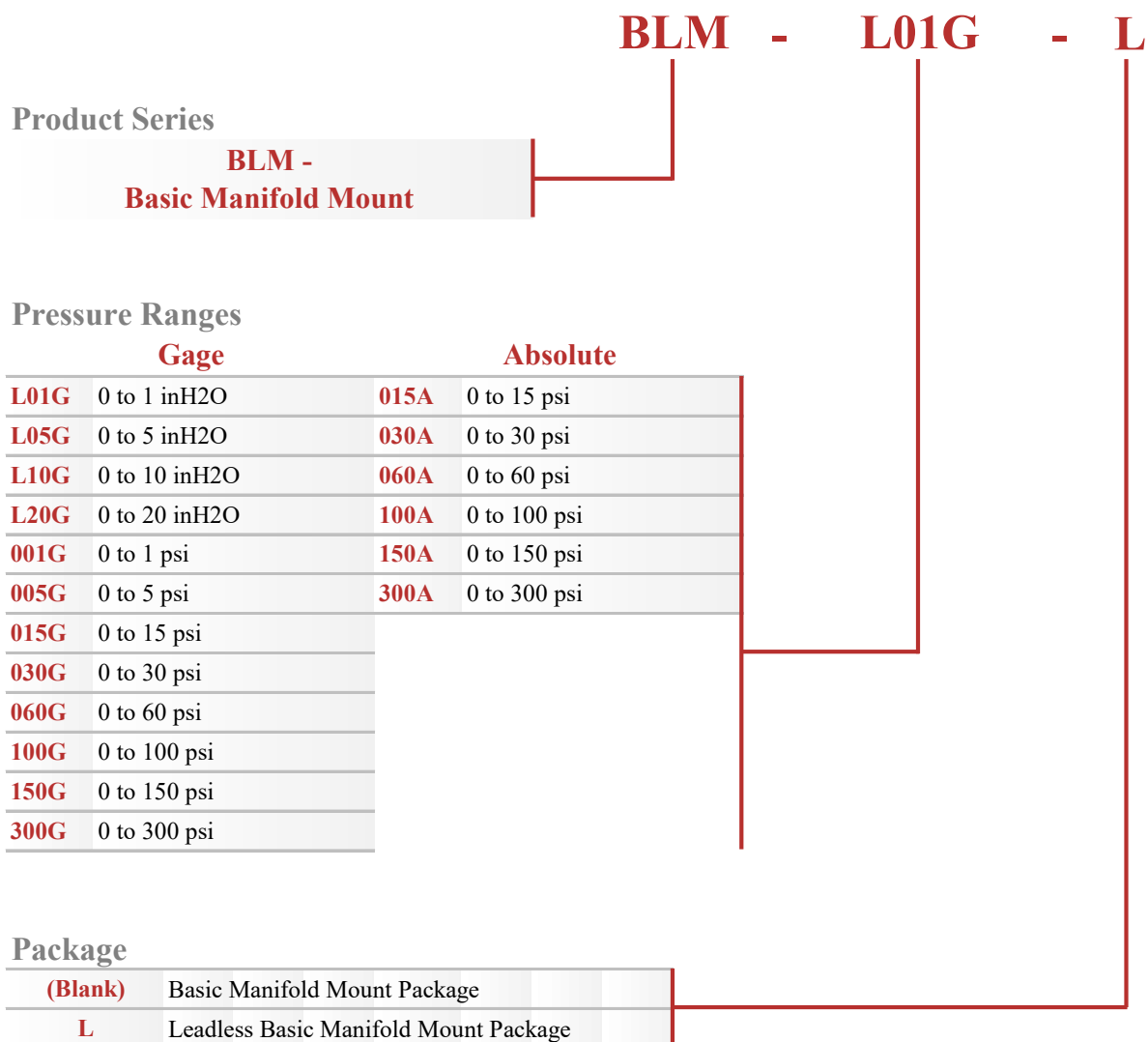
Note 3: Measured from 0-70°C

Note 4: Best Fit Straight Line @ 25°C

Note 5: Parameter is characterized and not 100% tested

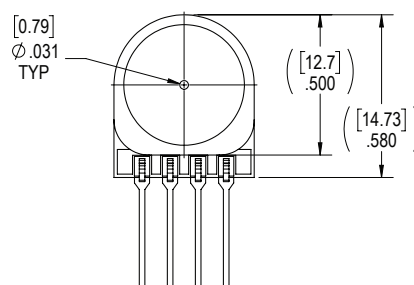
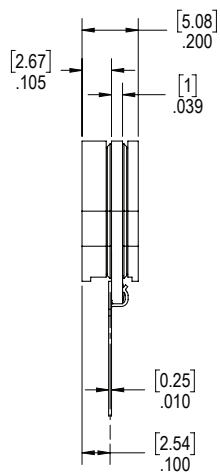
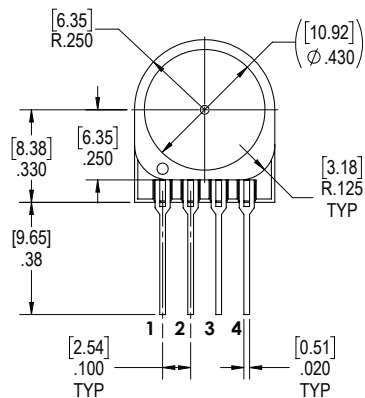
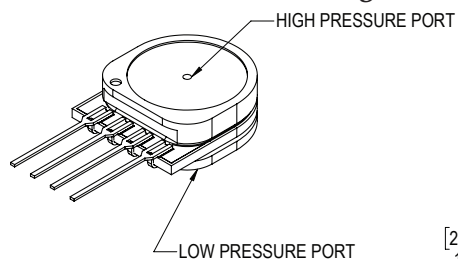
How to Order

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.



Dimensional Drawings

BLM Manifold Mount Package



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

Notes

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

ALL SENSORS

TITLE:

BLM Series Package

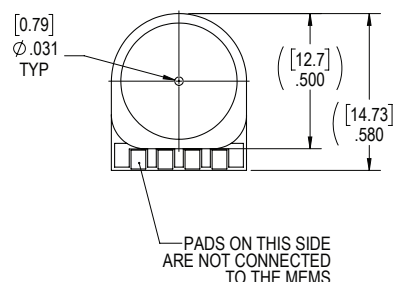
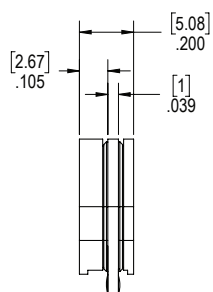
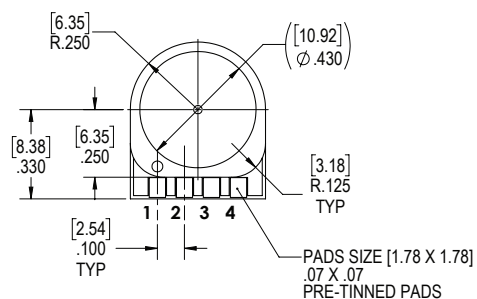
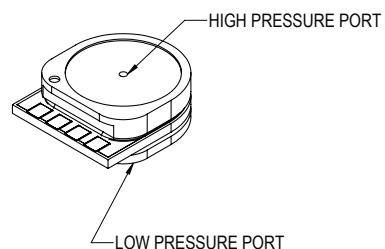
SIZE:

FILE NAME:

A

BLM Basic Manifold Package

BLM Leadless Manifold Mount Package



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

Notes

- 1) Dimensions are in inches [mm].

ALL SENSORS

TITLE:

BLM Series Package

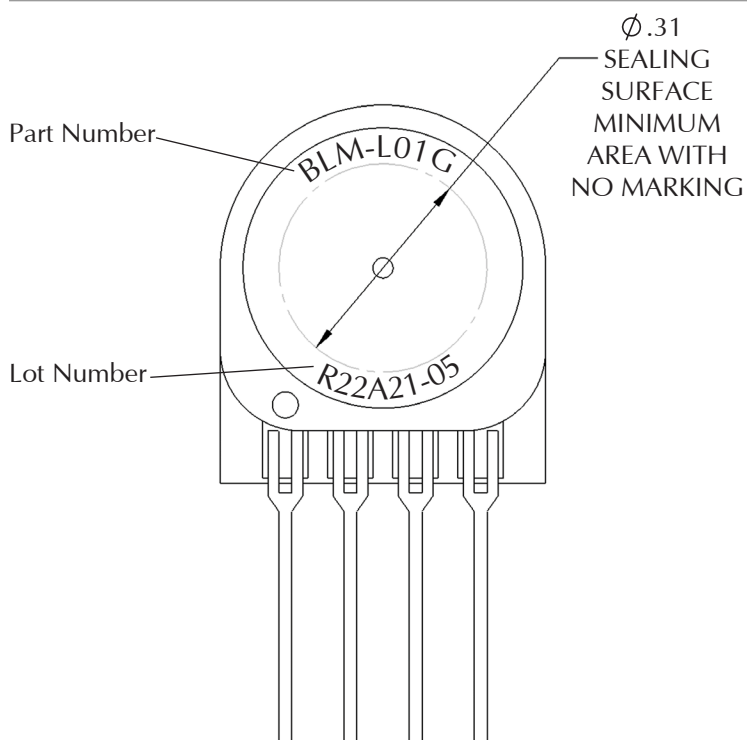
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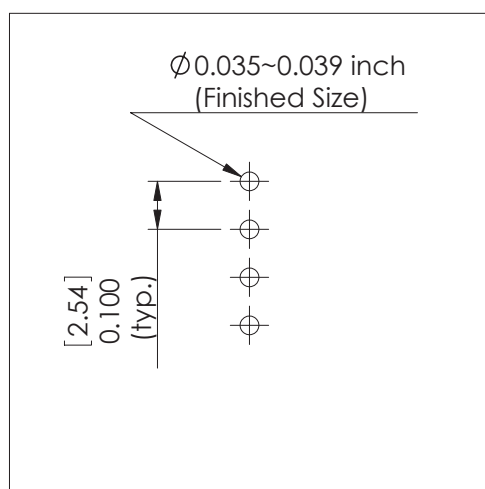
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BLM Leadless Manifold Package

Product Identification



Suggested Pad Layouts



PAD-01

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