

PLA Series

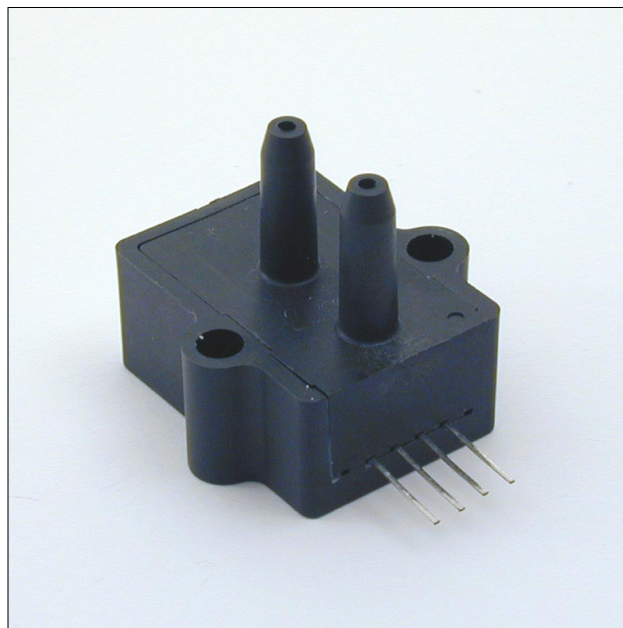
Amplified precision very low pressure sensors

FEATURES

- Ranges from 1 mbar to 30 inch H₂O gage or differential
- Ratiometric 4 V output
- Precision temperature compensated
- Calibrated offset and span
- Extremely low position sensitivity
- Excellent long term stability

MEDIA COMPATIBILITY

To be used with non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

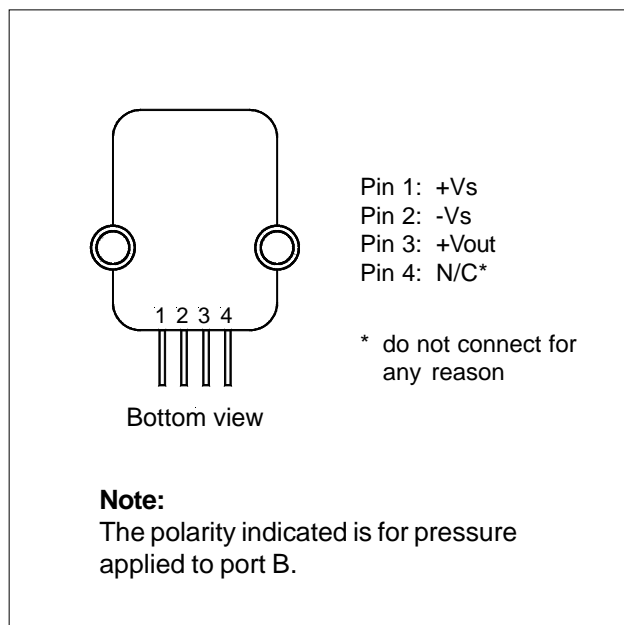


SPECIFICATIONS

Maximum ratings

Supply voltage V_s	+4.5...+5.5 V_{DC}
Lead temperature (soldering 2-4 sec.)	250 °C
Temperature ranges	
Compensated	5...50 °C
Operating	-25...85 °C
Storage	-40...125 °C
Humidity limits (non-condensing)	0...95 % RH
Common mode pressure	10 psig

ELECTRICAL CONNECTION



PRESSURE SENSOR CHARACTERISTICS¹

Part no.	Operating pressure	Proof pressure ²	Burst pressure ³
PLAM001DB	0 ... ±1 mbar	0 ... 100 "H ₂ O	0 ... 200 "H ₂ O
PLAH001DB	0 ... ±1 "H ₂ O	0 ... 100 "H ₂ O	0 ... 200 "H ₂ O
PLAH2x5DB	0 ... ±2.5 "H ₂ O	0 ... 200 "H ₂ O	0 ... 300 "H ₂ O
PLAH005DB	0 ... ±5 "H ₂ O	0 ... 200 "H ₂ O	0 ... 300 "H ₂ O
PLAH010DB	0 ... ±10 "H ₂ O	0 ... 200 "H ₂ O	0 ... 300 "H ₂ O
PLAH020DB	0 ... ±20 "H ₂ O	0 ... 300 "H ₂ O	0 ... 500 "H ₂ O
PLAH030DB	0 ... ±30 "H ₂ O	0 ... 500 "H ₂ O	0 ... 800 "H ₂ O
PLAH001DU	0 ... 1 "H ₂ O	0 ... 100 "H ₂ O	0 ... 200 "H ₂ O
PLAH005DU	0 ... 5 "H ₂ O	0 ... 200 "H ₂ O	0 ... 300 "H ₂ O
PLAH010DU	0 ... 10 "H ₂ O	0 ... 200 "H ₂ O	0 ... 300 "H ₂ O
PLAH020DU	0 ... 20 "H ₂ O	0 ... 300 "H ₂ O	0 ... 500 "H ₂ O
PLAH030DU	0 ... 30 "H ₂ O	0 ... 500 "H ₂ O	0 ... 800 "H ₂ O

Specification notes:

- Reference conditions: supply voltage $V_s = 5.00$ V, $T_A = 25^\circ\text{C}$, common-mode pressure 0, pressure applied to port B.
- Proof pressure is the maximum pressure which may be applied without causing durable shifts of the electrical parameters of the sensing element.
- Burst pressure is the maximum pressure which may be applied without causing damage to the sensing element or leaks from the housing.
- Full scale span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. The output voltage of the sensor is ratiometric or proportional to the excitation voltage. For these models all specifications will change proportionally to any changes in the excitation voltage. The excitation may vary between 4.5 to 5.5 V. All specifications will nominally be change by a ratio of $V_{\text{excitation}} / 5.0$ V. For example, if 5.5 V excitation then both, the full scale output voltage and the offset voltage, would be 5.5/5th of the specified value.
- Non-linearity refers to the **Best Straight Line** fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.
- Shifts relative to 25°C.
- Shifts within the first hour of excitation applied to the sensor.

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COMMON PERFORMANCE CHARACTERISTICS¹

PLA...DB (bidirectional devices)

Characteristics			Min.	Typ.	Max.	Unit
Zero pressure offset		PLAM001DB	2.00	2.25	2.50	V
		all other	2.15	2.25	2.35	
Full scale span ⁴		PLAM001DB	1.80	2.00	2.20	V
		all other	1.90	2.00	2.10	
Combined non-linearity and hysteresis (BSL) ⁵				0.05	0.25	%FS
Temperature effects (5...50 °C) ⁶	Span	PLAM001DB PLAH001DB all other			±4 ±2 ±1	%Span
	Offset	PLAM001DB PLAH001DB PLAH2x5DB, ...005DB all other			±120 ±60 ±40 ±20	mV
Offset warm-up shift ⁷	PLAM001DB PLAH001DB all other		±20 ±10 ±5			
Offset position sensitivity (±1 g)	PLAM001DB all other		±40 ±5			
Offset long term stability (one year)	PLAM001DB PLAH001DB all other		±20 ±10 ±5			

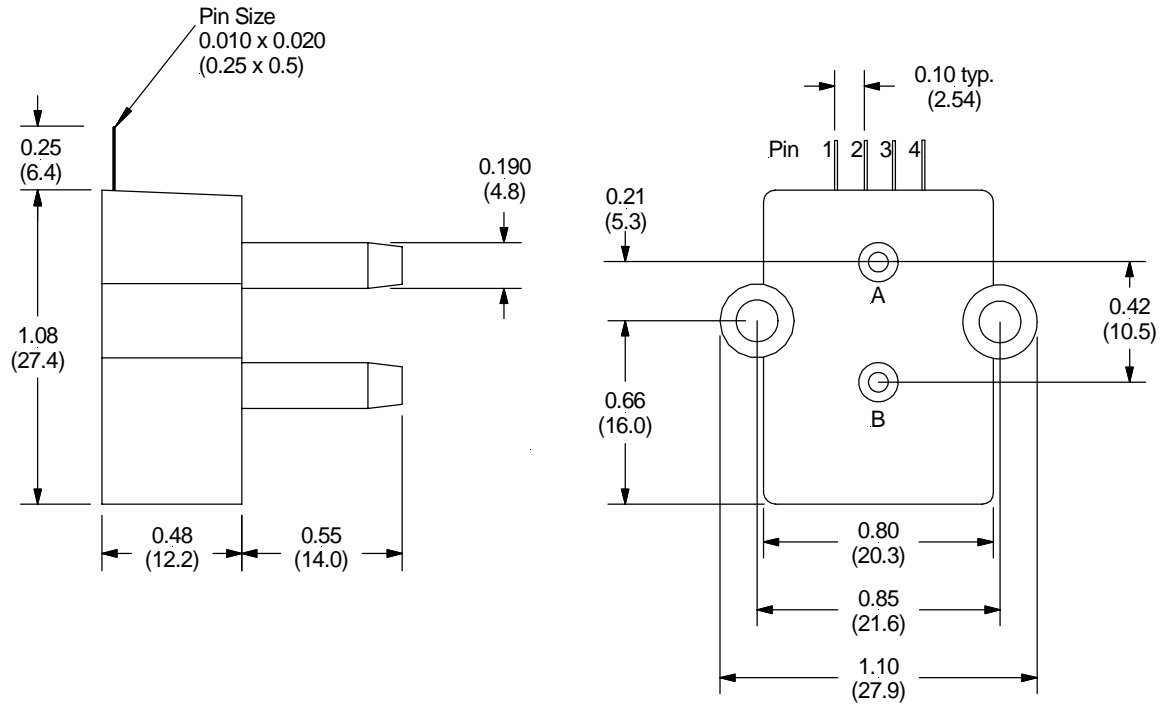
PLA...DU (unidirectional devices)

Characteristics			Min.	Typ.	Max.	Unit
Zero pressure offset			0.15	0.25	0.35	V
Full scale span ⁴			3.90	4.00	4.10	
Combined non-linearity and hysteresis (BSL) ⁵				0.05	0.25	%FS
Temperature effects (5...50 °C) ⁶	Span	PLAH001DU all other			±2 ±1	%Span
	Offset	PLAH001DU PLAH005DU all other			±60 ±40 ±20	mV
Offset warm-up shift ⁷	PLAH001DU all other		±10 ±5			
Offset position sensitivity (±1 g)	PLAH001DU all other		±15 ±5			
Offset long term stability (one year)	PLAH001DU all other		±10 ±5			

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PHYSICAL DIMENSIONS



dimensions in inches (mm)

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