

AMPLIFIED Pressure Sensors



- 0.25 and 0.50 In H₂O Pressure Ranges
- Ratiometric 4V Output
- Temperature Compensated
- Calibrated Zero and Span

- Medical Breathing
- HVAC

The Amplified line of low pressure sensors is based upon a proprietary technology to reduce all output offset or common mode errors. This model provides a ratiometric 4-volt output with superior output offset characteristics. Output offset errors due to change in temperature, stability to warm-up, stability to long time period, and position sensitivity are all significantly reduced when compared to conventional compensation methods. In addition the sensor utilizes a silicon, micromachined, stress concentration enhanced structure to provide a very linear output to measured pressure.

The output of the device is ratiometric to the supply voltage over a supply voltage range of 4.5 to 5.5 volts.

The drawing shows the mechanical specifications for the 10-pin connector. The side view on the left details the profile of the connector, including the pin size (0.010 x 0.020 inches), the overall height (1.08 inches), and the lengths of the main body (0.48 inches) and the mounting tab (0.55 inches). The top view on the right shows the 10-pin layout, with dimensions for the pin pitch (0.10 inches), the distance between the two rows of pins (0.66 inches), and the overall width (1.10 inches). The mounting tab has a width of 0.21 inches and a height of 0.42 inches. The connector is labeled with Pin 1, Pin 2, Pin 3, Pin 4, Pin 5, Pin 6, Pin 7, Pin 8, Pin 9, and Pin 10.

Pin Size
0.010 x 0.020
(0.25 x 0.50)

0.174 to 0.190
(4.4 to 4.8)

0.25
(6.4)

1.08
(27.4)

0.48
(12.2)

0.55
(14.0)

0.10 Typical
(2.54)

Pin 1

Pin 2

Pin 3

Pin 4

Pin 5

Pin 6

Pin 7

Pin 8

Pin 9

Pin 10

0.21
(5.3)

0.42
(10.5)

0.66
(16.0)

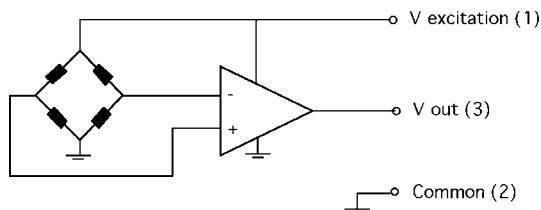
0.80
(20.3)

0.85
(21.6)

1.10
(27.9)

NOTES:
1) Dimensions in inches (millimeters)

Equivalent Circuit



Pressure Sensor Ratings

Supply Voltage, Vs	+4.5 to +5.5 Vdc
Common-mode pressure	-10 to +10 psig
Lead Temperature, max (soldering 2-4 sec.)	250°C

Environmental Specifications

Temperature Ranges	
Compensated	5 to 50° C
Operating	-25 to 85° C
Storage	-40 to 125° C
Humidity Limits	0 to 95% RH (non condensing)

Performance Characteristics for: 0.25 INCH-D-4V

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		±0.25		"H ₂ O
Output Span, NOTE 5	±1.80	±20	±2.20	volt
Offset Voltage @ zero differential pressure	2.00	2.25	2.50	volt
Offset Temperature Shift (5°C-50°C), NOTE 2			±50	mvolt
Offset Warm-up Shift, NOTE 3		±20	±50	mvolt
Offset Position Sensitivity (±1g)		±40	±100	mvolt
Offset Long Term Drift (one year)		±20	±50	mvolt
Linearity, hysteresis error, NOTE 4		0.05	0.25	%fs
Span Shift (5°C-50°C), NOTE 2			±4	%span

Performance Characteristics for: 0.5 INCH-G-4V

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure		0.5		"H ₂ O
Output Span, NOTE 5	3.80	4.0	4.20	volt
Offset Voltage @ zero gage pressure	0.10	0.25	0.40	volt
Offset Temperature Shift (5°C-50°C), NOTE 2			±50	mvolt
Offset Warm-up Shift, NOTE 3		±20	±50	mvolt
Offset Position Sensitivity (±1g)		±40	±100	mvolt
Offset Long Term Drift (one year)		±20	±50	mvolt
Linearity, hysteresis error, NOTE 4		0.05	0.25	%fs
Span Shift (5°C-50°C), NOTE 2			±4	%span

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 APPLIED TO PORT B.**

NOTE 2: SHIFT IS RELATIVE TO 25°C.

NOTE 3: SHIFT IS WITHIN THE FIRST HOUR OF EXCITATION APPLIED TO THE DEVICE.

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

NOTE 5: THE VOLTAGE ADDED TO THE OFFSET VOLTAGE AT FULL SCALE PRESSURE. NOMINALLY THE OUTPUT VOLTAGE RANGE IS 0.25 TO 4.25 VOLTS FOR MINUS TO PLUS FULL SCALE PRESSURE.

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- Поставка более 17-ти миллионов наименований электронных компонентов;
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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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