Amplified VeryLow Pressure Sensors

AMPLIFIED Pressure Sensors



Features

• 0.25 and 0.50 In H2O Pressure Ranges

Sensors

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a 16035 Vineyard Blvd. Morgan Hill,

- Ratiometric 4V Output
- Temperature Compensated
- Calibrated Zero and Span

Applications

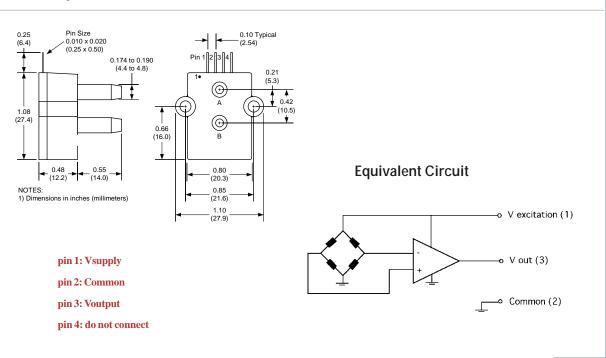
- Medical Breathing
- HVAC

General Description (generic product)

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.

These calibrated and temperature compensated sensors give an accurate and stable output over a wide temperature range. 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 over a supply voltage range of 4.5 to 5.5 volts.



Physical Dimensions

Pressure Sensor Ratings		Environmental Specifications		
Supply Voltage, Vs	+4.5 to +5.5 Vdc	Temperature Ranges		
Common-mode pressure	-10 to +10 psig	Compensated	5 to 50° C	
Lead Temperature, max (soldering 2-4 sec.)	250°C	Operating	-25 to 85° C	
		Storage	-40 to 125° C	
		Humidity Limits	0 to 95% RH	

Performance Characteristics for: 0.25 INCH-D-4V

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		±0.25		"H2O
Output Span, note 5	±1.80	±2.0	±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			<u>±</u> 4	%span

Performance Characteristics for: 0.5 INCH-G-4V

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure		0.5		"H2O
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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0 to 95% RH (non condensing)