

C-Grade Pressure Sensors



- 0 to 0.3 PSI to 0 to 100 PSI Pressure Ranges
- 1 % linearity version
- Temperature Compensated
- Calibrated Zero and Span

- Medical Instrumentation
- Environmental Controls
- HVAC

The Millivolt Output pressure sensors is based upon a proprietary packaging technology to reduce output offset or common mode errors. This model provides a calibrated millivolt output with good output offset characteristics. 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 C-GRADE is a lowest cost version of the millivolt output pressure sensors.

The output of the device is ratiometric to the supply voltage and operation from any D.C. supply voltage up to +16 V is acceptable.

The drawing shows the mechanical specifications for the 100-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 pin pitch (0.174 to 0.190 inches), and the overall dimensions of the housing. The top view on the right shows the layout of the 100 pins, with dimensions for the pin pitch (0.10 inches), the pin diameter (0.021 inches), and the overall dimensions of the connector body.

Dimensions (Inches / Millimeters):

- Pin Size: 0.010 x 0.020 (0.25 x 0.50)
- Pin Pitch: 0.174 to 0.190 (4.4 to 4.8)
- Pin Diameter: 0.021 (5.3)
- Overall Width: 1.08 (27.4)
- Overall Height: 0.66 (16.0)
- Pin 1 to Pin 100 Distance: 1.10 (27.9)
- Pin 1 to Pin 50 Distance: 0.85 (21.6)
- Pin 50 to Pin 100 Distance: 0.80 (20.3)
- Pin 1 to Pin 25 Distance: 0.48 (12.2)
- Pin 25 to Pin 50 Distance: 0.55 (14.0)
- Pin 50 to Pin 75 Distance: 0.42 (10.5)
- Pin 75 to Pin 100 Distance: 0.21 (5.3)

NOTES:

- Dimensions in inches (millimeters)

pin 1: N/C
pin 2: +V supply
pin 3: +Voutput
pin 4: -Vsupply
pin 5: -Voutput
pin 6: N/C



Pressure Sensor Characteristics Maximum Ratings

Supply Voltage ,Vs	16 Vdc
Common-mode pressure	50 psig
Lead Temperature (soldering 2-4 sec.)	250°C

Environmental Specifications

Temperature Ranges	
Compensated	0 to 70° C
Operating	-25 to 85° C
Storage	-40 to 125° C
Humidity Limits	0 to 95% RH (non condensing)

Standard Pressure Ranges

Part Number	Operating Pressure	Nominal Span	Proof Pressure	Burst Pressure
4 INCH-D-CGRADE-MV	0 - 4 "H2O	40 mV	1 PSI	5 PSI
0.3 PSI-D-CGRADE-MV	0 - 0.3 PSI	20 mV	5 PSI	5 PSI
1 PSI-D-CGRADE-MV	0 - 1 PSI	18 mV	5 PSI	15 PSI
5 PSI-D-CGRADE-MV	0 - 5 PSI	60 mV	10 PSI	30 PSI
15 PSI-D-CGRADE-MV	0 - 15 PSI	90 mV	60 PSI	120 PSI
30 PSI-D-CGRADE-MV	0 - 30 PSI	90 mV	90 PSI	150 PSI
100 PSI-D-CGRADE-MV	0 - 100 PSI	100mV	200 PSI	250 PSI
150 PSI-D-CGRADE-MV	0 - 150 PSI	90mV	200 PSI	250 PSI
15 PSI-A-CGRADE-MV	0 - 15 PSIA	60mV	60 PSIA	120 PSI

Performance Characteristics for 4 INCH-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		4.0		"H2O
Output Span, note 5	38	40.0	42	mV
Offset Voltage @ zero differential pressure			±1.5	mV
Offset Temperature Shift (0°C-50°C), note 2			±1.5	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-50°C), note 2			±2	%fs

Performance Characteristics for 0.3 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		0.3		PSI
Output Span, note 5	18	20.0	22	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Performance Characteristics for 1 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		1.0		PSI
Output Span, note 5	16	18	20	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Performance Characteristics for 5 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		5.0		PSI
Output Span, note 5	57	60	63	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Performance Characteristics for 15 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		15.0		PSI
Output Span, note 5	86	90.0	94	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Performance Characteristics for 30 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		30.0		PSI
Output Span, note 5	86	90	94	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs



Performance Characteristics for 100 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		100.0		PSI
Output Span, note 5	96	100	104	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Performance Characteristics for 150 PSI-D-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure		150.0		PSI
Output Span, note 5	86	90	95	mV
Offset Voltage @ zero differential pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Performance Characteristics for 15 PSI-A-CGRADE-MV

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, absolute pressure		15.0		PSIA
Output Span, note 5	86	90.0	94	mV
Offset Voltage @ zero absolute pressure			±1	mV
Offset Temperature Shift (0°C-70°C), note 2			±1	mV
Linearity, hysteresis error, note 4		0.5	1.0	%fs
Span Shift (0°C-70°C), note 2			±2	%fs

Specification Notes

NOTE 1: ALL PARAMETERS ARE MEASURED AT 12.0 VOLT EXCITATION, FOR THE NOMINAL FULL SCALE PRESSURE AND ROOM TEMPERATURE UNLESS

OTHERWISE SPECIFIED. PRESSURE MEASUREMENTS ARE WITH POSITIVE PRESSURE APPLIED TO PORT B.

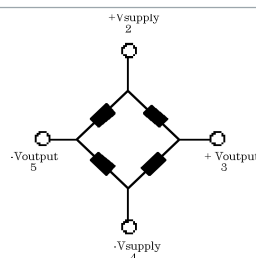
NOTE 2: SHIFT IS RELATIVE TO 25°C.

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.

Input Resistance 5.0 k ohm
Output Resistance 3.0 k ohm



Equivalent Circuit

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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