

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

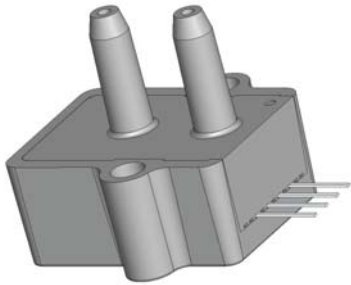
Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

Amplified Low Pressure Sensors

1 mbar (0.4 In H2O) to 30 In H2O Pressure Sensors

Industrial Temperature Grade



Features

- 0 to 1 mbar to 0 to 30 In H2O Pressure Ranges
- Ratiometric 4V Output
- Temperature Compensated (-25C to 85C)
- Calibrated Zero and Span

Applications

- Medical Instrumentation
- Environmental Controls
- HVAC

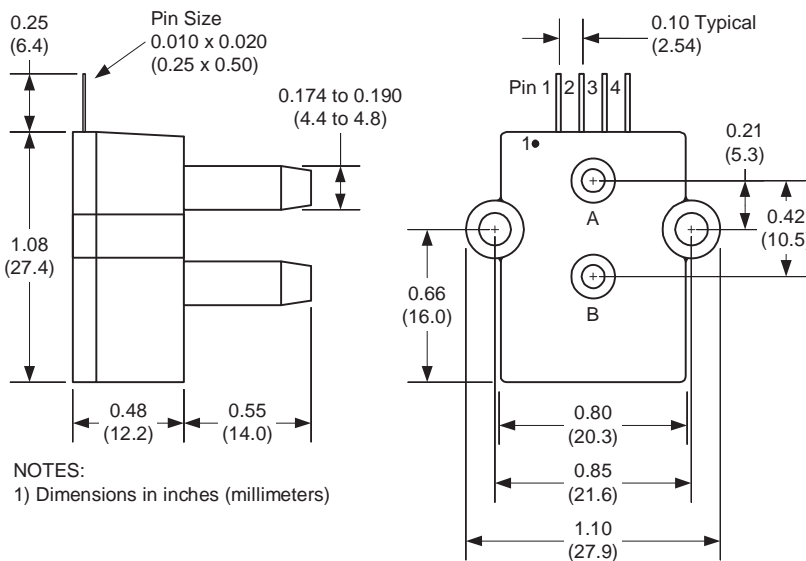
General Description

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



- pin 1: Vsupply
- pin 2: Common
- pin 3: Voutput
- pin 4: do not connect

Approvals

MKT	DATE	MFG	DATE	ENG	DATE	QA	DATE
<input type="checkbox"/> As Is <input type="checkbox"/> With Change		<input type="checkbox"/> As Is <input type="checkbox"/> With Change		<input type="checkbox"/> As Is <input type="checkbox"/> With Change		<input type="checkbox"/> As Is <input type="checkbox"/> With Change	

All Sensors

DS-0025 Rev B

Pressure Sensor Ratings		Environmental Specifications	
Supply Voltage VS	+4.5 to +5.5 Vdc	Temperature Ranges	
Common-mode pressure	-10 to +10 psig	Compensated	-25 to 85° C
Lead Temperature, max (soldering 2-4 sec.)	250°C	Operating	-40 to 125° 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
1 MBAR-D-4V-PRIME	±1 mbar	4 V	100 In H2O	200 In H2O
1 INCH-D-4V-PRIME	±1 In H2O	4 V	100 In H2O	200 In H2O
1 INCH-G-4V-PRIME	0 - 1 In H2O	4 V	100 In H2O	200 In H2O
5 INCH-D-4V-PRIME	± 5 In H2O	4 V	200 In H2O	300 In H2O
5 INCH-G-4V-PRIME	0 - 5 In H2O	4 V	200 In H2O	300 In H2O
10 INCH-D-4V-PRIME	±10 In H2O	4 V	200 In H2O	300 In H2O
10 INCH-G-4V-PRIME	0 - 10 In H2O	4 V	200 In H2O	300 In H2O
20 INCH-D-4V-PRIME	±20 In H2O	4 V	300 In H2O	500 In H2O
20 INCH-G-4V-PRIME	0 - 20 In H2O	4 V	300 In H2O	500 In H2O
30 INCH-D-4V-PRIME	±30 In H2O	4 V	500 In H2O	800 In H2O
30 INCH-G-4V-PRIME	0 - 30 In H2O	4 V	500 In H2O	800 In H2O

Performance Characteristics for: 1 MBAR-D-4V-PRIME

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure	--	±1.0	--	mbar
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 (-25°C to 85°C), NOTE 2	--	--	±120	mvolt
Offset Warm-up Shift, NOTE 3	--	±20.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±40.0	--	mvolt
Offset Long Term Drift (one year)	--	±20.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±4.0	%span

Amplified Low Pressure Sensors Industrial grade

Performance Characteristics for 1 INCH-D-4V-PRIME

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure	--	±1.0	--	"H2O
Output Span, note 5	±1.90	±2.0	±2.10	volt
Offset Voltage @ zero differential pressure	2.15	2.25	2.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±60.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±10.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±10.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±2.0	%span

Performance Characteristics for 1 INCH-G-4V-PRIME

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure	--	1.0	--	"H2O
Output Span, note 5	3.90	4.0	4.10	volt
Offset Voltage @ zero pressure	0.15	0.25	0.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±60.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±10.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±10.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±2.0	%span

Performance Characteristics for 5 INCH-D-4V-PRIME

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure	--	±5.0	--	"H2O
Output Span, note 5	±1.90	±2.0	±2.10	volt
Offset Voltage @ zero differential pressure	2.15	2.25	2.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±40.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Performance Characteristics for: 5 INCH-G-4V-PRIME

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure	--	5.0	--	"H2O
Output Span, NOTE 5	3.90	4.0	4.10	volt
Offset Voltage @ zero pressure	0.15	0.25	0.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±40.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Performance Characteristics for: 10 INCH-D-4V-PRIME

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure	--	±10.0	--	"H2O
Output Span, NOTE 5	±1.90	±2.0	±2.10	volt
Offset Voltage @ zero differential pressure	2.15	2.25	2.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±20.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Performance Characteristics for: 10 INCH-G-4V-PRIME

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure	--	10.0	--	"H2O
Output Span, NOTE 5	3.90	4.0	4.10	volt
Offset Voltage @ zero pressure	0.15	0.25	0.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±20.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Performance Characteristics for 20 INCH-D-4V-PRIME

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure	--	±20.0	--	"H2O
Output Span, note 5	±1.90	±2.0	±2.10	volt
Offset Voltage @ zero differential pressure	2.15	2.25	2.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±20.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Performance Characteristics for 20 INCH-G-4V-PRIME

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure	--	20.0	--	"H2O
Output Span, note 5	3.90	4.0	4.1	volt
Offset Voltage @ zero pressure	0.15	0.25	0.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±20.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

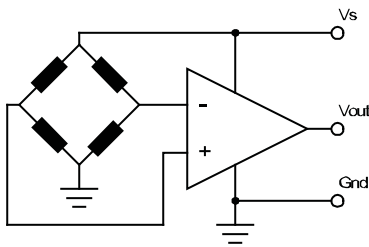
Performance Characteristics for 30 INCH-D-4V-PRIME

Parameter, note 1	Minimum	Nominal	Maximum	Units
Operating Range, differential pressure	--	±30.0	--	"H2O
Output Span, note 5	±1.90	±2.0	±2.10	volt
Offset Voltage @ zero differential pressure	2.15	2.25	2.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±20.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Performance Characteristics for 30 INCH-G-4V-PRIME

Parameter, NOTE 1	Minimum	Nominal	Maximum	Units
Operating Range, gage pressure	--	30.0	--	"H2O
Output Span, NOTE 5	3.9	4.0	4.1	volt
Offset Voltage @ zero pressure	0.15	0.25	0.35	volt
Offset Temperature Shift (-25°C to 85°C), NOTE 2	--	--	±20.0	mvolt
Offset Warm-up Shift, NOTE 3	--	±5.0	--	mvolt
Offset Position Sensitivity (±1g)	--	±5.0	--	mvolt
Offset Long Term Drift (one year)	--	±5.0	--	mvolt
Linearity, hysteresis error, NOTE 4	--	0.05	0.25	%fs
Span Shift (-25°C to 85°C), NOTE 2	--	--	±1.0	%span

Equivalent Circuit



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 SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN FULL SCALE OUTPUT VOLTAGE AND THE VOLTAGE.

Pressure Response: for any pressure applied the response time to get to 90% of pressure applied is typically less than 500 useconds.

All Sensors reserves the right to make changes to any products herein. All Sensors does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.

Amplified Low Pressure Sensors Industrial grade