

XSCL/XSC Series

Compensated and Calibrated Pressure Sensors



DESCRIPTION

The XSCL/XSC Series sensors integrate silicon micromachined sensing technology, temperature compensation and calibration in a wide variety of low-cost packages. This series offers a cost-effective solution for design requirements.

These piezoresistive pressure sensors use micromachined silicon chips mounted on ceramic and protected with a plastic cap. Several tube arrangements with nylon housings are available for various pressure applications.

FEATURES

- Low cost, small size, temperature compensated
- Zero and span calibrated
- Millivolt output
- Differential, gage and absolute pressure
- Constant voltage excitation
- High impedance – low current

On devices of 5 psi and above, the topside of the chip is protected against humidity by a Silgel® coating. While the sensors are designed for use with non-corrosive, non-ionic pressure media, they accommodate many gases that are used in medical applications.

POTENTIAL APPLICATIONS

- Medical equipment
- Applications requiring small size
- Applications requiring vacuum and positive pressure reference, or both

XSCL/XSC Series

Compensated and Calibrated

ELECTRICAL SPECIFICATIONS AT 12 ±0.01 VDC EXCITATION AT 25 °C [77 °F] ⁽¹⁾

Characteristic	Min.	Typ.	Max.	Unit
Excitation voltage	3.0	12.0	16.0	Vdc
Null	-1.0	0	+1.0	mV
Offset temperature shift 0 °C to 70 °C [32 °F to 158 °F] ⁽²⁾	—	—	±1.0	mV
Full scale temperature shift 0 °C to 70 °C [32 °F to 158 °F] ⁽²⁾	—	—	±2	% span
Linearity, hysteresis error ⁽³⁾	—	0.25	1.0	% span
Input resistance	5.0	—	—	kΩ
Output resistance	—	3.0	—	kΩ
Operating temperature	-25	—	+85	°C
Storage temperature	-40	—	+125	°C
Common mode pressure	—	—	50	psi
Weight	—	2	—	g

Notes:

1. All parameters are measured at 12 Vdc excitation. Pressure specs obtained with pressure applied to the front of the sensor.
2. Shift is relative to 25 °C [77 °F].
3. Measured at ½ full scale rated pressure using BFSL.

XSC ABSOLUTE OUTPUT AT 12 VDC ±0.01 EXCITATION AT 25 °C [77 °F]

FS Pressure (psi)	XSC Output Full Scale Span (mV)			Overpressure (psi)
	Min.	Typ.	Max.	Max.
5	57	60	63	15
15	85	90	95	45
30	85	90	95	90
60	85	90	95	180

XSCL/XSC GAGE AND DIFFERENTIAL ⁽¹⁾ OUTPUT AT 12 VDC ±0.01 EXCITATION AT 25 °C [77 °F]

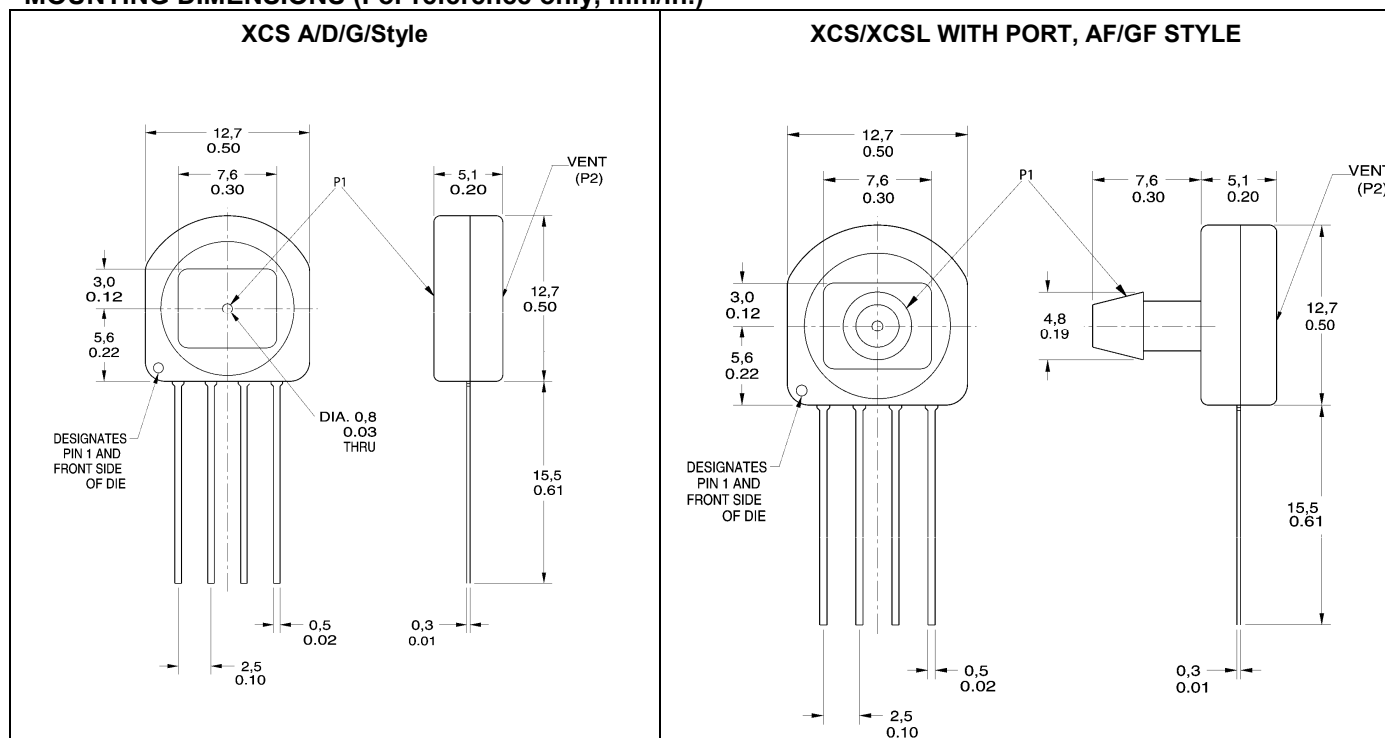
FS Pressure (psi)	XSC Output Full Scale Span (mV)			Overpressure (psi)
	Min.	Typ.	Max.	Max.
4 in H2O	23	25	27	3
10 in H2O	19	20	21	3
1	17	18	19	3
5	57	60	63	15
15	85	90	95	45
30	85	90	95	90
60	85	90	95	180
100	95	100	105	250

Note:

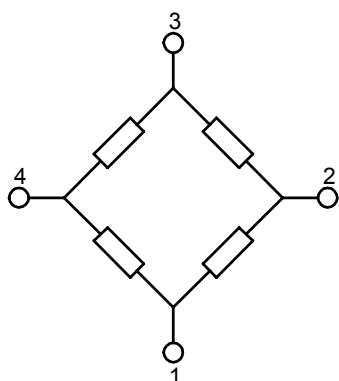
1. Differential common mode pressure should not exceed 50 psi.

Pressure Sensors

MOUNTING DIMENSIONS (For reference only, mm/in.)



EQUIVALENT CIRCUIT



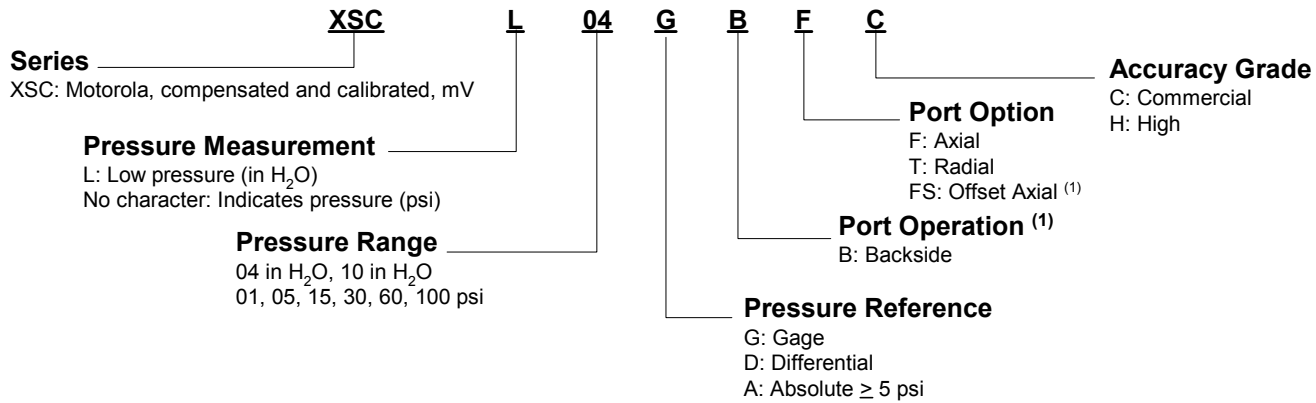
PIN DESIGNATIONS

1. -V Excitation
2. +Output Signal
3. +V Excitation
4. -Output Signal

MEDIA COMPATIBILITY

Dry gasses only. Media must be compatible with nylon housing, epoxy adhesive and silicon.

ORDER GUIDE



Note:

1. Option available in ported gage version only.

WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

Automation and Control Solutions

Sensing and Control

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WARNING

MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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