



RQO Series

Temp. compensated and calibrated pressure sensors

FEATURES

- 0...50 mbar to 0...1 bar and 0...1 to 0...15 psi gage or differential
- High impedance bridge
- Surface mount miniature package
- Usable for wet/wet applications⁸
- Sensortech PRO services

MEDIA COMPATIBILITY

All media compatible with

- port 1:
- polyphthalamide
 - silver-filled silicone
 - silicon nitride

- port 2:
- polyphthalamide
 - fluor-silicone
 - silicon

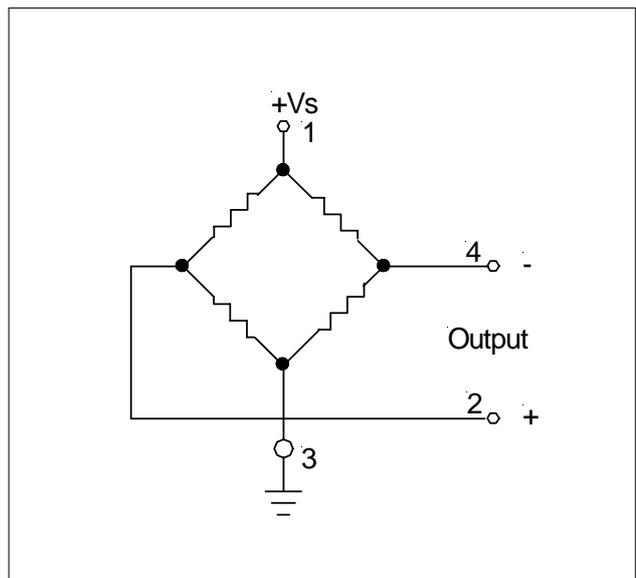


SPECIFICATIONS

Maximum ratings

Supply voltage	16 V
Temperature limits	
Storage	-55 to +100°C
Operating	-40 to +85°C
Lead temperature (10 sec. soldering)	260°C
Humidity limits	0...100 %RH
Vibration	
(MIL-STD-202, Meth. 213)	150 g half sine 11 ms
Mechanical shock (qualification tested)	150 g

ELECTRICAL CONNECTION





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PRESSURE SENSOR CHARACTERISTICS ($V_s = 10.0 \pm 0.01 \text{ V}$, $t_{\text{amb}} = 25 \text{ }^\circ\text{C}$)

Part number	Operating pressure	Proof pressure ¹	Full-scale span (P2 > P1) ²		
			Min.	Typ.	Max.
RQOM050D	0...50 mbar	1.4 bar	10.6 mV	12.1 mV	13.6 mV
RQOM100D	0...100 mbar	1.4 bar	21 mV	24 mV	27 mV
RQOM250D	0...250 mbar	1.4 bar	34 mV	36 mV	38.5 mV
RQOB001D	0...1 bar	3 bar	93 mV	97 mV	101 mV
RQOP001D	0...1 psi	20 psi	14.7 mV	16.7 mV	18.7 mV
RQOP005D	0...5 psi	20 psi	47 mV	50 mV	53 mV
RQOP015D	0...15 psi	60 psi	96 mV	100 mV	104 mV

PERFORMANCE CHARACTERISTICS ($V_s = 10.0 \pm 0.01 \text{ V}$, $t_{\text{amb}} = 25 \text{ }^\circ\text{C}$)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset		-0.75		+0.75	mV
Temperature effects (0 - 50°C) ⁴	Offset			±1.0	
	Span	all devices up to 100 mbar/1 psi		±1.5	±4.5
		all 250 mbar/5 psi devices		±1.0	±1.7
		all other devices		±0.75	±1.5
Non-linearity (BSL) ³	50 mbar device		±0.4	±1.6	% span
	all 100 mbar/1 psi devices		±0.5	±1.75	
	250 mbar device		±0.3	±1.0	
	all other devices		±0.5	±1.0	
Repeatability and hysteresis ⁵			±0.2		
Long term stability ⁷			±0.5		
Input impedance		5.5	7.5	11.5	kΩ
Output impedance		1.5	2.5	3.0	
Response time ⁶				1.0	ms

Specification notes:

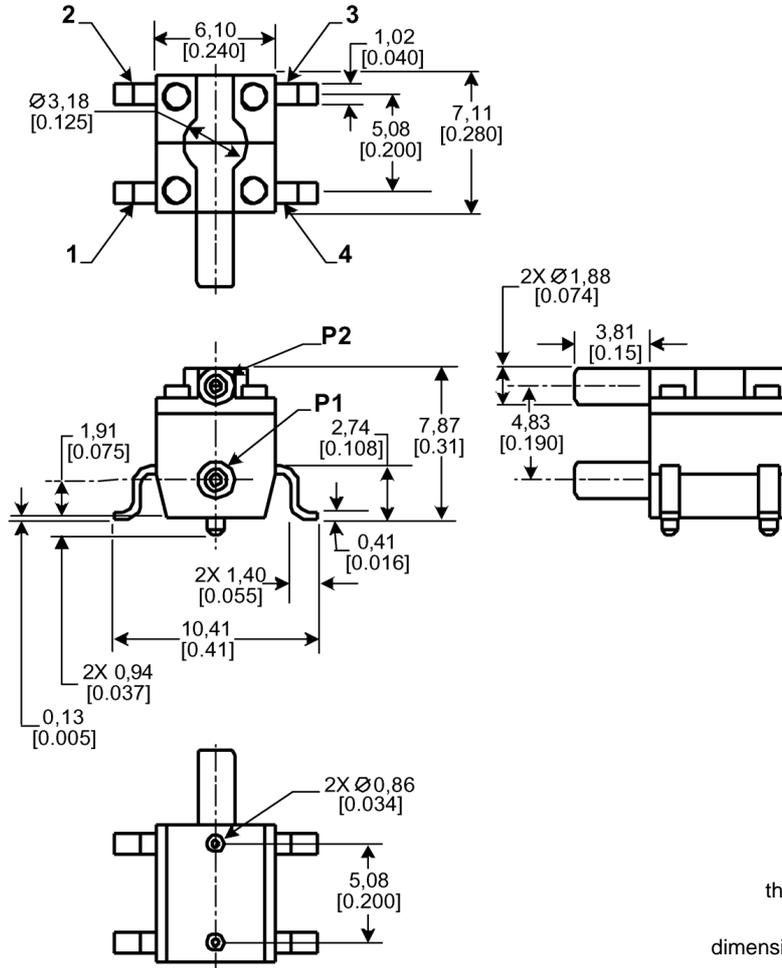
1. The maximum specified pressure which may be applied to the sensor without causing a permanent change in the output characteristics.
2. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. Span is ratiometric to the supply voltage.
3. Non-linearity refers to the **Best Straight Line** fit, measured for offset pressure, full scale pressure and 1/2 full scale pressure.
4. Error band of the offset voltage, span or bridge impedance in the specified temperature range, relative to the 25°C reading.
5. Repeatability, the deviation in output readings for successive application of any given input pressure (all other conditions remaining constant). Hysteresis, the error defined by the deviation in output signal obtained when a specific pressure point is approached first with increasing pressure, then with decreasing pressure or vice versa (all other conditions remaining constant).
6. Response time for 0 to full-scale pressure step change, readings taken at 10 % and 90 % of full-scale pressure.
7. Long term stability of offset and span over a period over one year.
8. The sensors might be used on both ports for media compatible with the components specified under "Media Compatibility".



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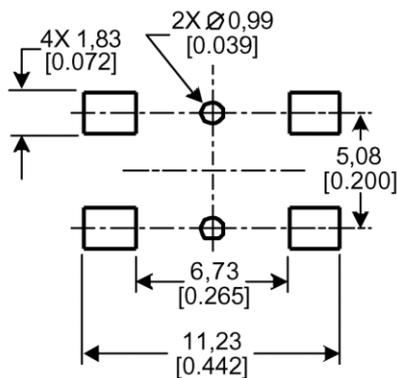
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OUTLINE DRAWING



mass: 0.5 g

SUGGESTED LAND PATTERN



dimensions in mm (inches)



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ORDERING INFORMATION - AVAILABLE LISTINGS

Note: Preferred listings are highlighted in grey

Pressure range	Gage/differential pressure
50 mbar	RQOM050D
100 mbar	RQOM100D
250 mbar	RQOM250D
1 bar	RQOB001D
1 psi	RQOP001D
5 psi	RQOP005D
15 psi	RQOP015D

Sensortech PRO services:

- Extended guarantee period of 2 years
- Improved performance characteristics
- Custom product modifications and adaptations even for small quantities
- Advanced logistics models for supply inventory and short delivery times
- Technical support through application engineers on the phone or at your site
- Fastest possible technical response for design and QA engineers
- ... plus other services on request

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