



RPO Series

Compensated and calibrated pressure sensors

FEATURES

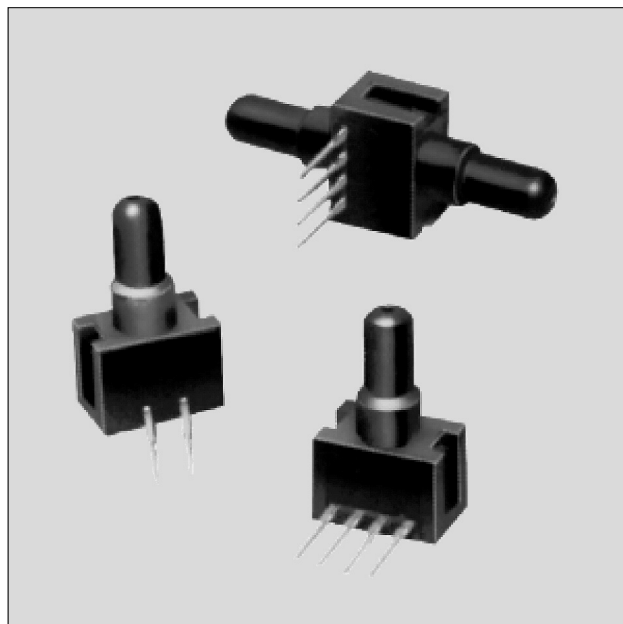
- 0...50 mbar to 0...16 bar and 0...1 to 0...250 psi gage or differential
- High impedance bridge
- Miniature package
- Different pinning configurations
- Usable for wet/wet applications⁸
- Sensortech PRO services

MEDIA COMPATIBILITY

All media compatible with

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

port 2⁹: - polyetherimide
- fluor-silicone
- silicon

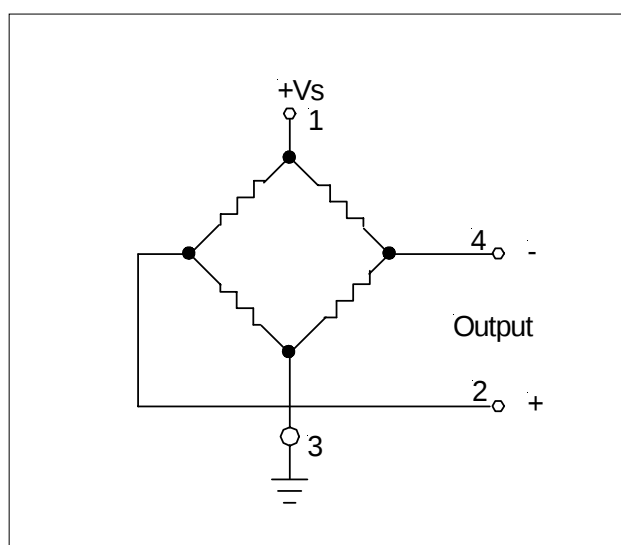


SPECIFICATIONS

Maximum ratings

Supply voltage	16 V
Temperature limits	
Storage	-55 to +100°C
Operating	-40 to +85°C
Lead temperature (10 sec. soldering)	300°C
Humidity limits	0...100 %RH
Vibration	150 g
(MIL-STD-202, Meth. 213)	half sine 11 msec.
Mechanical shock	150 g
(qualification tested)	

ELECTRICAL CONNECTION





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PRESSURE SENSOR CHARACTERISTICS

($V_s = 10.0 \pm 0.01$ V, $t_{amb} = 25$ °C)

Part number	Operating pressure	Proof pressure ¹	Full-scale span ²		
			Min.	Typ.	Max.
RPOM050...	0...50 mbar	1.4 bar	10.5 mV	12.0 mV	13.6 mV
RPOM100...	0...100 mbar	1.4 bar	20.0 mV	24.0 mV	27.0 mV
RPOM250...	0...250 mbar	1.4 bar	33.5 mV	36.0 mV	38.5 mV
RPOB001...	0...1 bar	3 bar	93.0 mV	97.0 mV	100.0 mV
RPOB002...	0...2 bar	4 bar	91.0 mV	97.0 mV	100.0 mV
RPOB005...	0...5 bar	12 bar	69.0 mV	72.0 mV	76.0 mV
RPOB010...	0...10 bar	35 bar	82.0 mV	87.0 mV	92.0 mV
RPOB016...	0...16 bar	35 bar	133.0 mV	140.0 mV	147.0 mV
RPOP001...	0...1 psi	20 psi	14.7 mV	16.7 mV	18.7 mV
RPOP005...	0...5 psi	20 psi	47 mV	50 mV	53 mV
RPOP015...	0...15 psi	45 psi	97 mV	100 mV	103 mV
RPOP030...	0...30 psi	60 psi	97 mV	100 mV	103 mV
RPOP100...	0...100 psi	200 psi	95 mV	100 mV	105 mV
RPOP250...	0...250 psi	500 psi	143 mV	150 mV	157 mV

PERFORMANCE CHARACTERISTICS

($V_s = 10.0 \pm 0.01$ V, $t_{amb} = 25$ °C)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	all devices up to 2 bar/30 psi	-0.75		+0.75	mV
	all 5 bar/100 psi devices	-2.0		+2.0	
	all other devices	-1.5		+1.5	
Temperature effects (0 to 50 °C) ⁴					
Offset	all devices up to 1 bar/15 psi		±0.5	±1.0	mV
	all 2 bar/30 psi devices		±0.75	±1.5	
	all other devices		±1.0	±2.0	
Span	all devices up to 100 mbar/1 psi		±1.0	±2.0	% span
	all other devices		±0.75...±1.0	±1.5	
Non-linearity (BSL) ³			±0.25	±0.5	
			±0.1	±0.2	
			±0.1	±0.7	
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

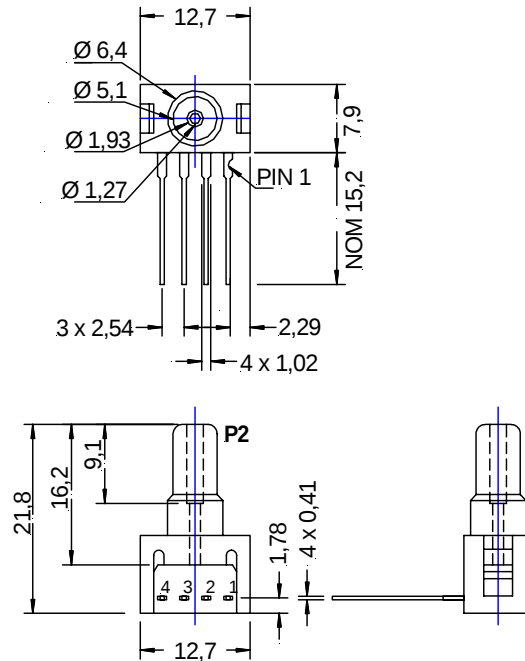


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OUTLINE DRAWINGS¹⁰

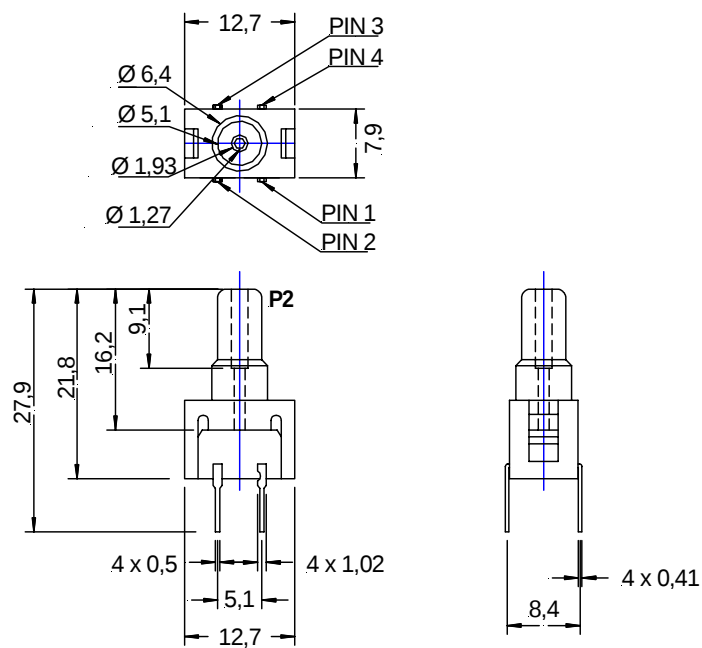
RPO...G6A (single inline pinning, 1 x 4), gage pressure devices



mass: 2 g

third angle projection
dimensions in mm

RPO...G2A (dual inline pinning, 2 x 2), gage pressure devices



mass: 2 g

third angle projection
dimensions in mm

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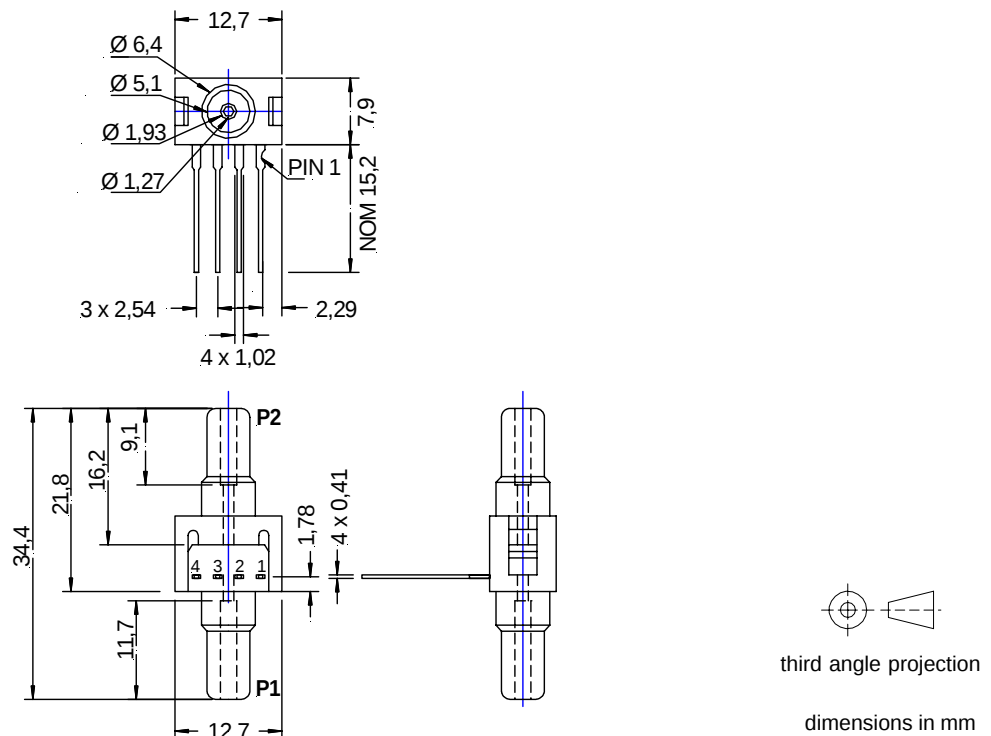


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OUTLINE DRAWINGS¹⁰

RPO...D6A (single inline pinning, 1 x 4), *differential pressure devices*



mass: 2 g

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".
9. **Other sealing materials are available on request.** Minimum order quantities might be required.
10. **Other pressure port styles, like barbed ones, luers, modular, M5, needle style or flow through connection, are available on request.** Minimum order quantities might be required.



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ORDERING INFORMATION - AVAILABLE LISTINGS

Note: Preferred listings are highlighted in grey

Pressure range	Gage pressure		Differential pressure
	Single inline pinning	Dual inline pinning	Single inline pinning
50 mbar	RPOM050G6A	RPOM050G2A	RPOM050D6A
100 mbar	RPOM100G6A	RPOM100G2A	RPOM100D6A
250 mbar	RPOM250G6A	RPOM250G2A	RPOM250D6A
1 bar	RPOB001G6A	RPOB001G2A	RPOB001D6A
2 bar	RPOB002G6A	RPOB002G2A	RPOB002D6A
5 bar	RPOB005G6A	RPOB005G2A	RPOB005D6A
10 bar	RPOB010G6A	RPOB010G2A	RPOB010D6A
16 bar	RPOB016G6A	RPOB016G2A	RPOB016D6A
1 psi	RPOP001G6A	RPOP001G2A	RPOP001D6A
5 psi	RPOP005G6A	RPOP005G2A	RPOP005D6A
15 psi	RPOP015G6A	RPOP015G2A	RPOP015D6A
30 psi	RPOP030G6A	RPOP030G2A	RPOP030D6A
60 psi	-	-	-
100 psi	RPOP100G6A	RPOP100G2A	RPOP100D6A
250 psi	RPOP250G6A	RPOP250G2A	RPOP250D6A

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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