RQU Series
Basic 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 applications[8]**
- **Sensortechnics PRO services**

MEDIA COMPATIBILITY

All media compatible with

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

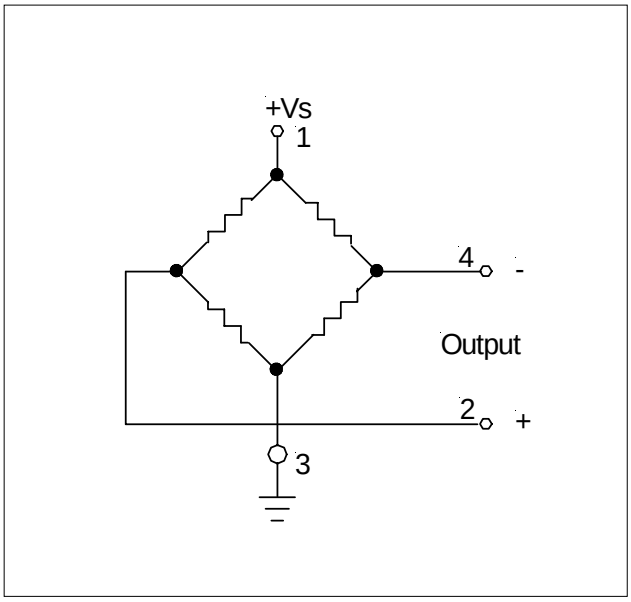
port 2: - polyphtalamide
- fluor-silicone
- silicon

SPECIFICATIONS

Maximum ratings

Supply voltage	12 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 (0 to 2000 Hz) (qualification tested)	20 g sine
Mechanical shock (qualification tested)	50 g

ELECTRICAL CONNECTION



PRESSURE SENSOR CHARACTERISTICS

(V_s = 10.0 ± 0.01 V, t_{amb} = 25 °C)

Part number	Operating pressure	Proof pressure[1]	Full-scale span[2]		
			Min.	Typ.	Max.
RQUM050D	0...50 mbar	1.4 bar	21 mV	33 mV	44 mV
RQUM100D	0...100 mbar	1.4 bar	43 mV	65 mV	87 mV
RQUM250D	0...250 mbar	1.4 bar	61 mV	83 mV	105 mV
RQUB001D	0...1 bar	3 bar	159 mV	218 mV	276 mV
RQUP001D	0...1 psi	20 psi	30 mV	45 mV	60 mV
RQUP005D	0...5 psi	20 psi	85 mV	115 mV	145 mV
RQUP015D	0...15 psi	45 psi	165 mV	225 mV	285 mV

PERFORMANCE CHARACTERISTICS

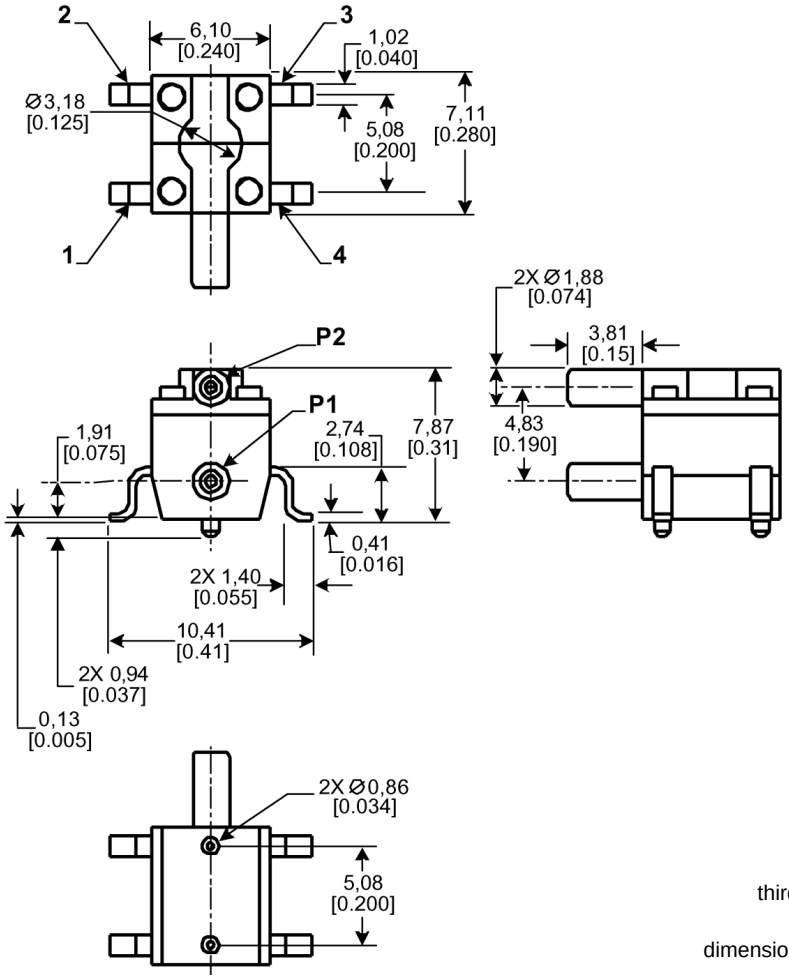
(V_s = 10.0 ± 0.01 V, t_{amb} = 25 °C)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset		-20		+20	mV
Temperature effects (0 to 50°C)[4]	Offset		±2.0		
	Span		-2000		ppm/°C
Temperature effects on bridge impedance[4]			+2200		
Non-linearity (BSL)[3]			±0.25		% span
Repeatability and hysteresis[5]			±0.15		
Long term stability[7]			±0.5		
Input impedance		4.0	5.0	6.0	kΩ
Output impedance		4.0	5.0	6.0	
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 **B**est **S**traight **L**ine 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".

OUTLINE DRAWING

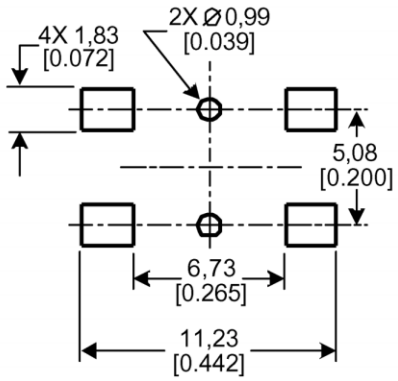


third angle projection

mass: 0.5 g

dimensions in mm (inches)

SUGGESTED LAND PATTERN



dimensions in mm (inches)

ORDERING INFORMATION - AVAILABLE LISTINGS

Note: Preferred listings are highlighted in grey

Pressure range	Gage/differential pressure
50 mbar	RQUM050D
100 mbar	RQUM100D
250 mbar	RQUM250D
1 bar	RQUB001D
1 psi	RQUP001D
5 psi	RQUP005D
15 psi	RQUP015D

Sensortechnics 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