



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

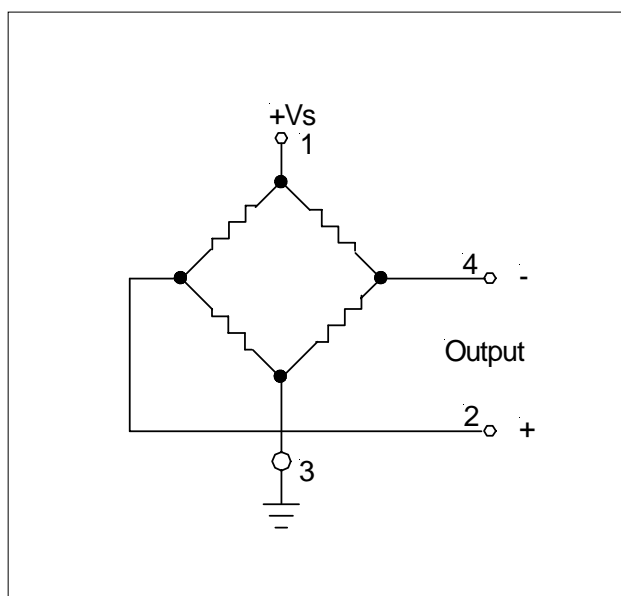


SPECIFICATIONS

Maximum ratings

| | |
|--|---------------|
| Supply voltage | 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

($V_s = 10.0 \pm 0.01$ 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

($V_s = 10.0 \pm 0.01$ 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:

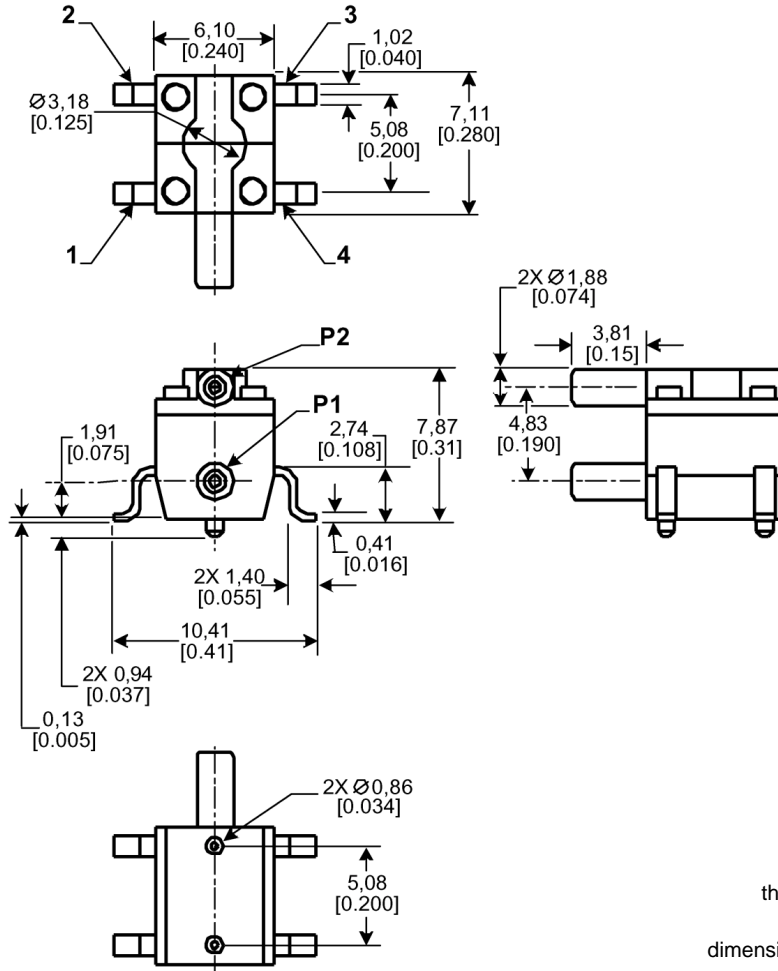
1. The maximum specified pressure which may be applied to the sensor without causing a permanent change in the output characteristics.
2. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. Span is ratiometric to the supply voltage.
3. Non-linearity refers to the **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".



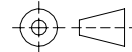
RQU Series

Basic pressure sensors

OUTLINE DRAWING



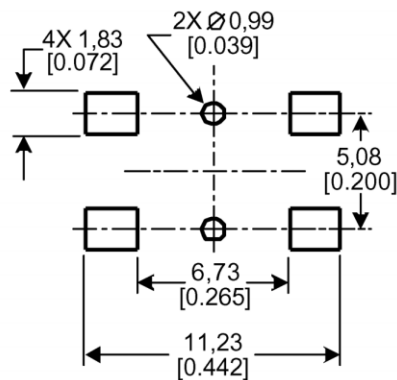
mass: 0.5 g



third angle projection

dimensions in mm (inches)

SUGGESTED LAND PATTERN



dimensions in mm (inches)



RQU Series Basic pressure sensors

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 |

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

Sensortech reserves the right to make changes to any products herein. Sensortech 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.