



RXU Series

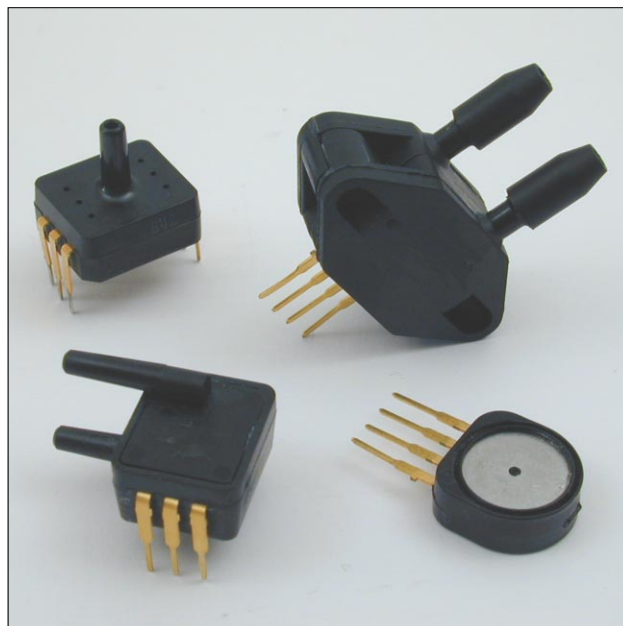
Basic pressure sensors

FEATURES

- 0...25 mbar to 0...10 bar, 0...10 inch H₂O to 0...150 psi, differential, gage or absolute pressure
- High impedance bridge
- Low power consumption for battery operation
- Sensortech PRO services

MEDIA COMPATIBILITY

To be used with non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

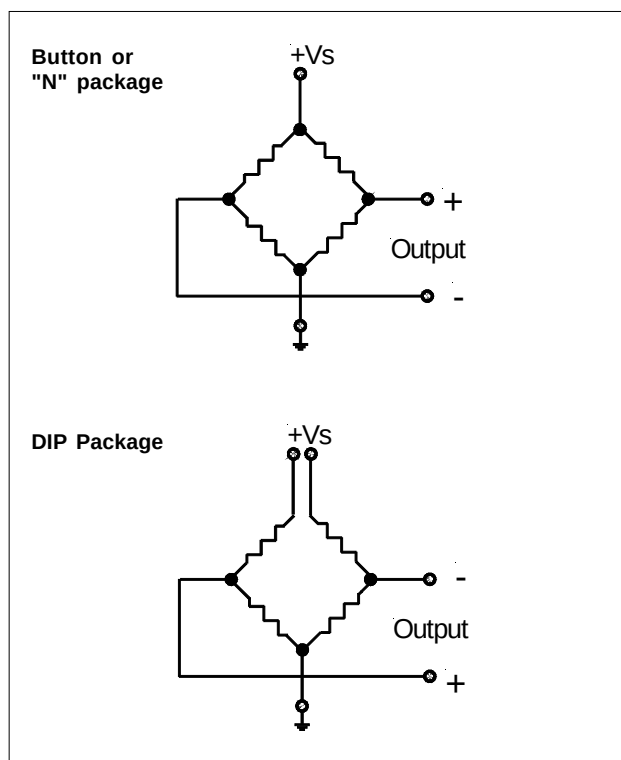


SPECIFICATIONS

Maximum ratings

Supply voltage, V_s	12 V _{DC}
Temperature ranges	
Operating	-40 to +85°C
Storage	-55 to +125°C
Humidity limits (non-condensing)	0 to 100 %RH
Lead temperature (soldering 4 sec.)	250°C
Common-mode pressure	
RXUM025D4/RXUH010D4	50 psi
all others	150 psi

EQUIVALENT CIRCUIT





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PRESSURE SENSOR CHARACTERISTICS

($V_s = 5.0 \pm 0.01$ V, $T_A = 25$ °C, common-mode pressure = 0 psig, pressure applied to **P1** for Button, N and A2 housings, pressure applied to **P2** for G2 and D4 housings)

Part number	Operating pressure	Proof pressure ⁸	Full-scale span ¹		
			Min.	Typ.	Max.
RXUM025...	0...25 mbar	500 mbar	20 mV	45 mV	80 mV
RXUM050...	0...50 mbar	1.4 bar	10.9 mV	14.5 mV	18.1 mV
RXUM100...	0...100 mbar	1.4 bar	21.8 mV	29 mV	36.2 mV
RXUM250...	0...250 mbar	1.4 bar	36.3 mV	54.0 mV	72.5 mV
RXUB001...	0...1 bar	2 bar	72.5 mV	105 mV	145 mV
RXUB002...	0...2 bar	4 bar	72.5 mV	105 mV	145 mV
RXUB005...	0...5 bar	10 bar	72.5 mV	105 mV	145 mV
RXUB010...	0...10 bar	14 bar	72.5 mV	105 mV	145 mV
RXUH010...	0..10 inch H ₂ O	7 psi	20 mV	45 mV	80 mV
RXUP001...	0...1 psi	20 psi	15 mV	20 mV	25 mV
RXUP005...	0...5 psi	20 psi	50 mV	75 mV	100 mV
RXUP015...	0...15 psi	30 psi	75 mV	110 mV	150 mV
RXUP030...	0...30 psi	60 psi	75 mV	110 mV	150 mV
RXUP100...	0...100 psi	150 psi	100 mV	150 mV	200 mV
RXUP150...	0...150 psi	200 psi	75 mV	110 mV	150 mV

Specification notes:

1. Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.
2. Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure. Linearity is the maximum deviation of measure output at constant temperature (25°C) from "Best Straight Line" determined by three points, offset, full scale pressure and half full scale pressure.
3. Maximum difference in output at any pressure with the operating pressure range and temperature within 0°C to +70°C after:
 - a) 100 temperature cycles, 0°C to +70°C
 - b) 1.0 million pressure cycles, 0 psi to full scale span
4. Slope of the best straight line from 0°C and 70°C. For operation outside this temperature, contact Sensorteknics for more specific applications information.
5. Response time for a 0 to full-scale span pressure step change.
6. Long term stability over a one year period .
7. This parameter is not 100 % tested. It is guaranteed by process design and tested on a sample basis only.
8. If the proof pressure is exceeded, even momentarily, the package may leak or burst, or the pressure sensing die may fracture.
Note: The proof pressure for the forward gage of all devices in the D4-package is the specified value or 100 psi, whatever is less.
9. The zero pressure offset is 0 mV Min, 20 mV Typ and 35 mV Max for part nos. RXU...G2 and RXU...D4.



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PERFORMANCE CHARACTERISTICS

($V_s = 5.0 \pm 0.01$ V, $T_A = 25$ °C, common-mode pressure = 0 psig, pressure applied to **P1** for Button, N and A2 housings, pressure applied to **P2** for G2 and D4 housings)

25 mbar/10 inch H₂O devices

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset		-35	-20	0	mV
Temperature effects (0 to 70 °C) ^{4,7}	Offset		±4		μV/V/°C
	Span		-2300		ppm/°C
	Bridge impedance		+750		
Combined linearity and hysteresis ²			±0.2	±1.0	%FSS
Repeatability ³			±0.5		
Long term stability of offset and span ⁶			±0.1		mV
Input impedance			4.0		kΩ
Output impedance			4.0		
Response time ⁵			0.1		ms
Position sensitivity			2		μV/V/g

All other devices

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset ⁹		-35	-20	0	mV
Temperature effects (0 to 70 °C) ^{4,7}	Offset		±4		μV/V/°C
	Span	-2550	-2150	-1900	ppm/°C
	Bridge impedance	+690	+750	+810	
Combined linearity and hysteresis ²			±0.2	±0.5	%FSS
Repeatability ³			±0.5		
Long term stability of offset and span ⁶			±0.1		mV
Input impedance			4.1		kΩ
Output impedance			4.1		
Response time ⁵			0.1		ms

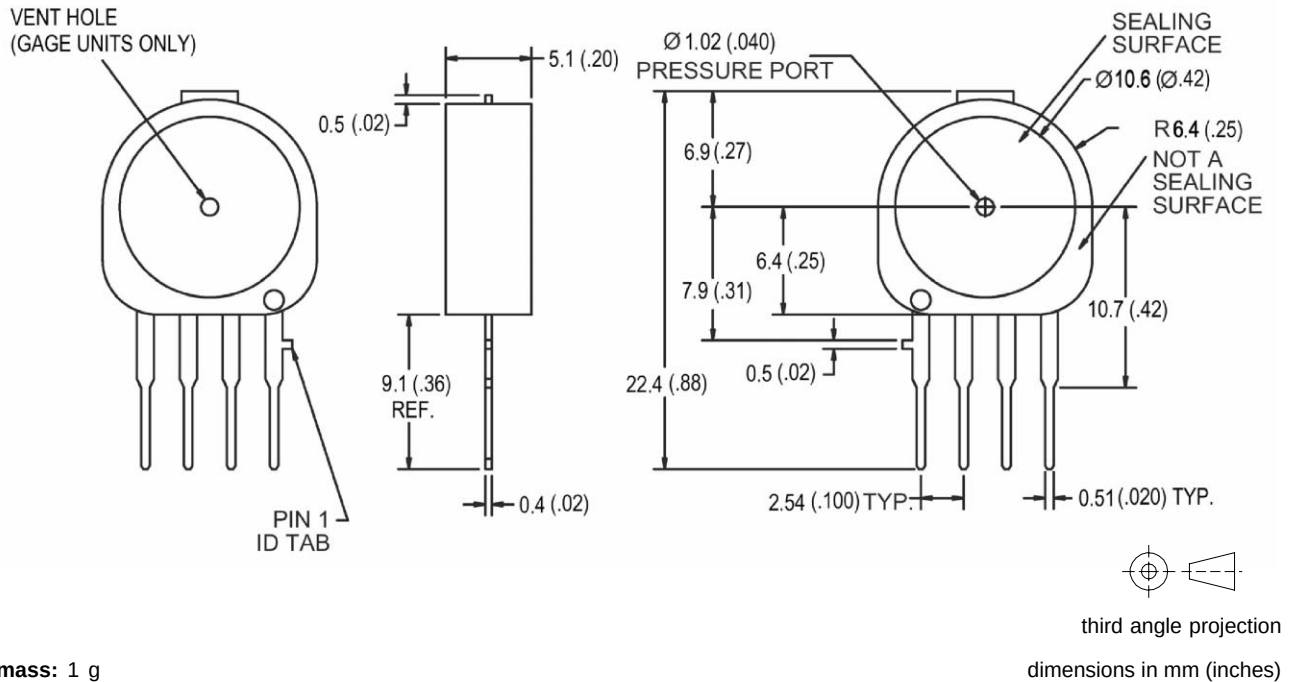


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PHYSICAL DIMENSIONS

Button package



mass: 1 g

Colour codes for Button housing

Colour dot 1	Pressure range	Colour dot 2	Series
Yellow	25 mbar, 10 "H ₂ O	Gold	RXU
Green	50 mbar, 100 mbar, 1 psi		
Light blue	250 mbar, 5 psi		
Purple	1 bar, 15 psi		
Orange	2 bar, 30 psi		
Dark brown	5 bar, 100 psi		
Red	10 bar, 150 psi		

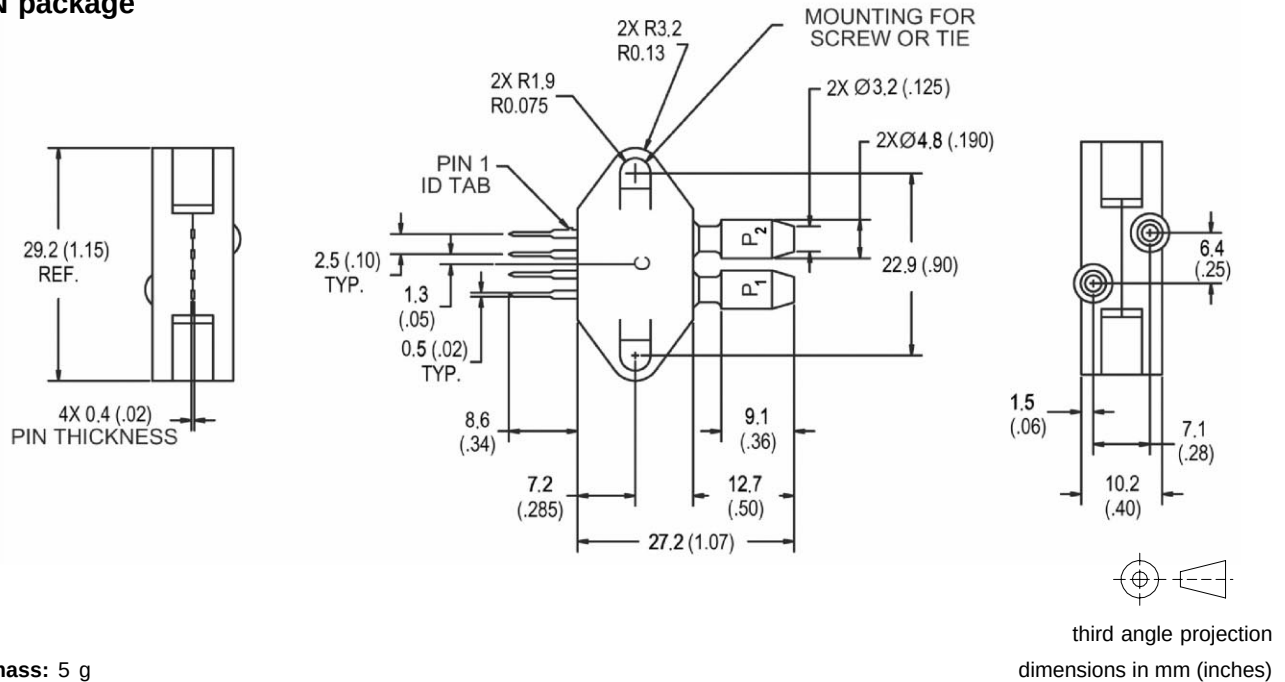


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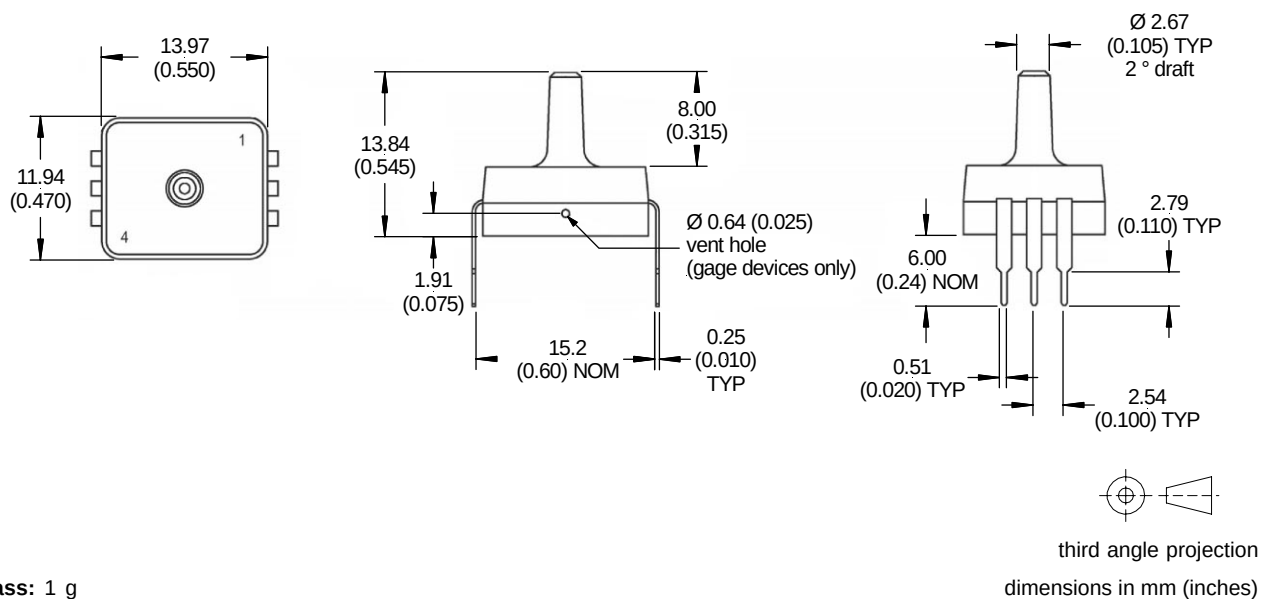
PHYSICAL DIMENSIONS (cont.)

N package



mass: 5 g

DIP package, single port



mass: 1 g

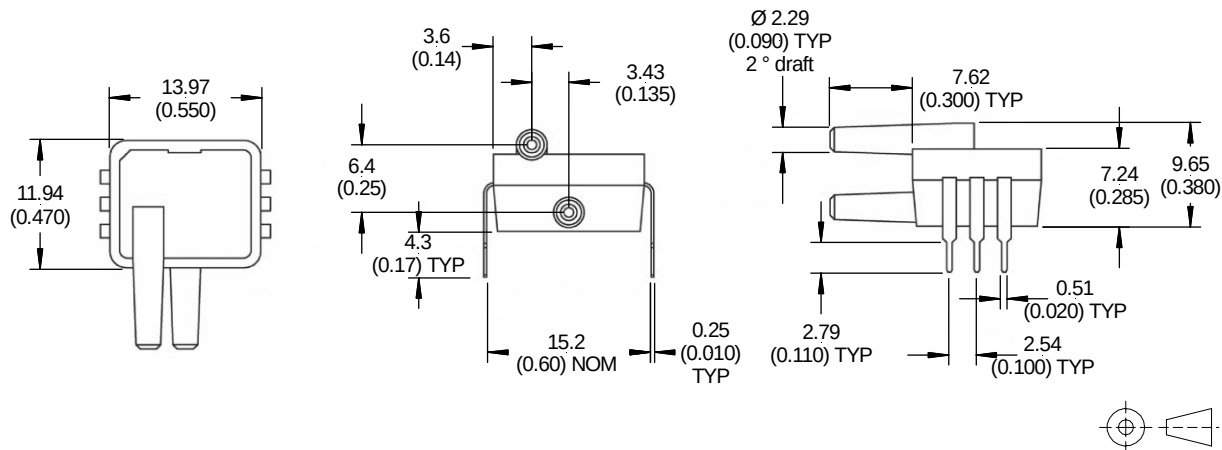


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PHYSICAL DIMENSIONS (cont.)

DIP package, dual port

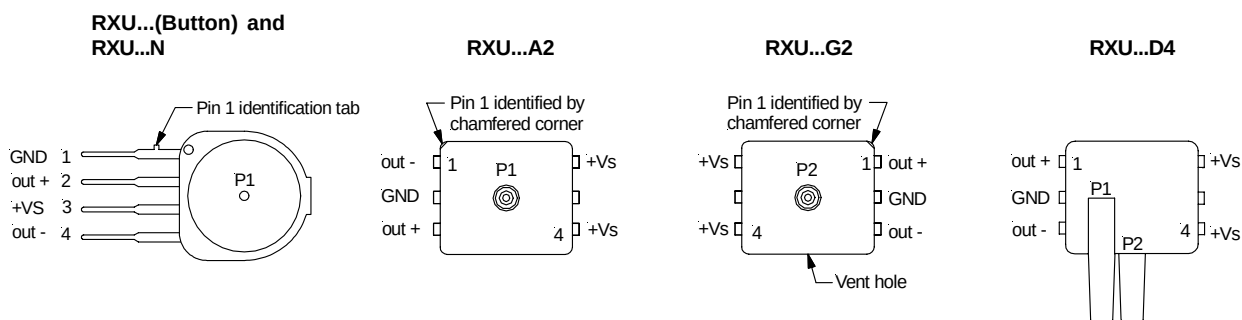


third angle projection

dimensions in mm (inches)

mass: 1 g

ELECTRICAL CONNECTION



The polarity indicated is for pressure applied to

RXU...(Button), ...N, ...A2 : P1 (forward gage)
RXU...G2, ...D4 : P2 (backward gage)



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ORDERING INFORMATION - AVAILABLE LISTINGS

Note: Preferred listings are highlighted in grey

Pressure range	Absolute pressure		
	Button package	N package	DIP single port
0...1 bar	RXUB001A	-	-
0...2 bar	-	RXUB002AN	-
0...5 bar	RXUB005A	-	-
0...10 bar	RXUB010A	-	-
0...15 psi	RXUP015A	-	-
0...30 psi	-	RXUP030AN	-
0...100 psi	RXUP100A	-	-
0...150 psi	RXUP150A	-	-

Pressure range	Gage and differential/gage pressure			
	Button package	N package	DIP single port	DIP dual port
0...25 mbar				-
0...50 mbar	RXUM050D	RXUM050DN	RXUM050G2	RXUM050D4
0...100 mbar	RXUM100D	RXUM100DN	RXUM100G2	RXUM100D4
0...250 mbar	-	-	RXUM250G2	-
0...1 bar	RXUB001D	-	-	-
0...2 bar	-	-	-	RXUB002D4
0...5 bar	RXUB005D	RXUB005DN	RXUB005G2	RXUB005D4
0...10 bar	RXUB010D			
0...10 inch H ₂ O				RXUH010D4
0...1 psi	RXUP001D	RXUP001DN	RXUP001G2	RXUP001D4
0...5 psi	-	-	RXUP005G2	-
0...15 psi	RXUP015D	-	-	-
0...30 psi	-	-	-	RXUP030D4
0...100 psi	RXUP100D	RXUP100DN	RXUP100G2	RXUP100D4
0...150 psi	RXUP150D	-	-	-

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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