



RZU Series

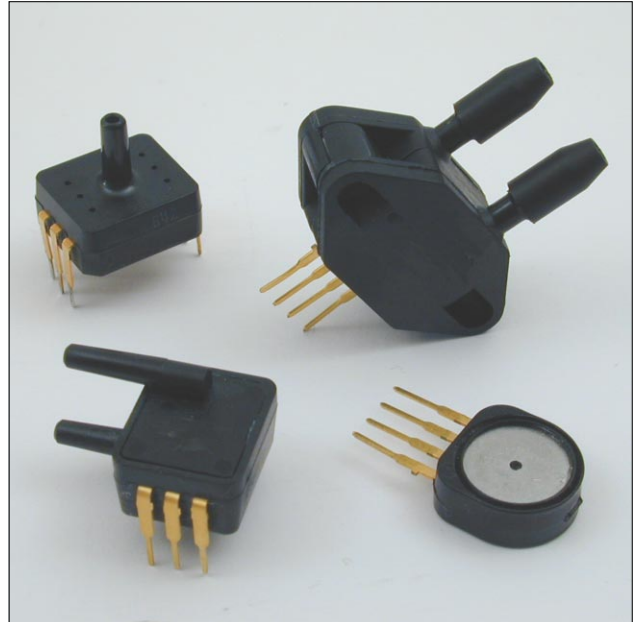
Basic pressure sensors

FEATURES

- 0...5 to 0...100 psi, differential, gage or absolute
- Low cost sensor element
- Internal temperature compensation
- 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.

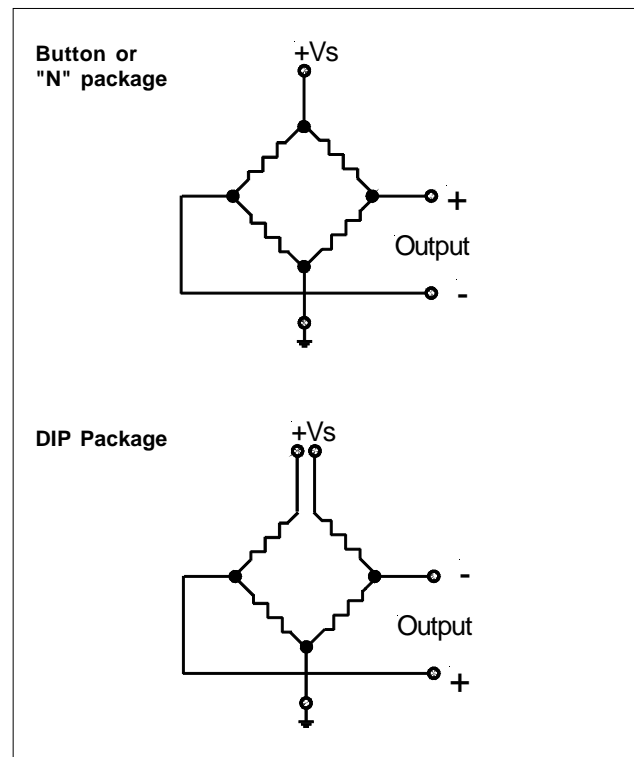


SPECIFICATIONS

Maximum ratings

Supply current, I_s	1.5 mA
Temperature ranges	
Compensated	0 to +50°C
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	150 psi

EQUIVALENT CIRCUIT





PRESSURE SENSOR CHARACTERISTICS

($I_S = 1.0 \text{ mA}$, $T_A = 25^\circ\text{C}$, common-mode line 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 ^{1,5}
RZUP005(D,G)...	0...5 psid(g)	20 psi	25 - 65 mV
RZUP015A...	0...15 psia	30 psia	30 - 95 mV
RZUP015(D,G)...	0...15 psid(g)	30 psi	40 - 95 mV
RZUP030A...	0...30 psia	60 psia	60 - 150 mV
RZUP030(D,G)...	0...30 psid(g)	60 psi	60 - 150 mV
RZUP100A...	0...100 psia	150 psia	85 - 225 mV
RZUP100(D,G)...	0...100 psid(g)	150 psi	85 - 225 mV

PERFORMANCE CHARACTERISTICS

($I_S = 1.0 \text{ mA}$, $T_A = 25^\circ\text{C}$, common-mode line pressure = 0 psig, pressure applied to **P1** for Button, N and A2 housings, pressure applied to **P2** for G2 and D4 housings)

Characteristics	Min.	Typ.	Max.	Units
Zero pressure offset	-30.0	-10	20.0	mV
Combined linearity, hysteresis and repeatability ¹		0.25	0.50	%FSO
Thermal effects (0 to 50°C) ⁷	Offset ³	0.50	2.00	
	Span ²	0.25	1.50	
Long term stability of offset and span ⁵		0.10		mV
Response time (10 to 90 %) ⁶		0.10		ms
Input impedance	4.00	5.00	6.50	kΩ
Output impedance	4.00	5.00	6.50	

Specification notes:

- Accuracy is the sum of hysteresis and linearity. Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure. Linearity refers to the best straight line fit as measured for the offset, full-scale and 1/2 full-scale pressure at 25°C.
- This is the maximum temperature shift for span when measured between 0 and 50°C relative to the 25°C reading. Typical temperature coefficients for span and resistance are -2200 and +2200 ppm/°C respectively.
- This is the maximum temperature shift for offset when measured between 0 and 50°C relative to the 25°C reading.
- Span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.
- Maximum difference in output at any pressure with the operating pressure range and temperature within 0 to 50°C after:
 - 100 temperature cycles, 0 to 50°C.
 - 1.0 million pressure cycles, 0 psi to full-scale span.
- Response time for a 0 psi to full-scale span pressure step change. 10 to 90 % rise time.
- Temp. effect on span and offset is guaranteed by design. Therefore these parameters are not 100 % tested.
- 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 dual port DIP package (RZU...4) is the specified value or 100 psi whatever is less. The RZUP100D (button package) can be used in forward gage mode only when the pressure does not exceed 30 psi, or special care is taken.



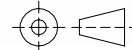
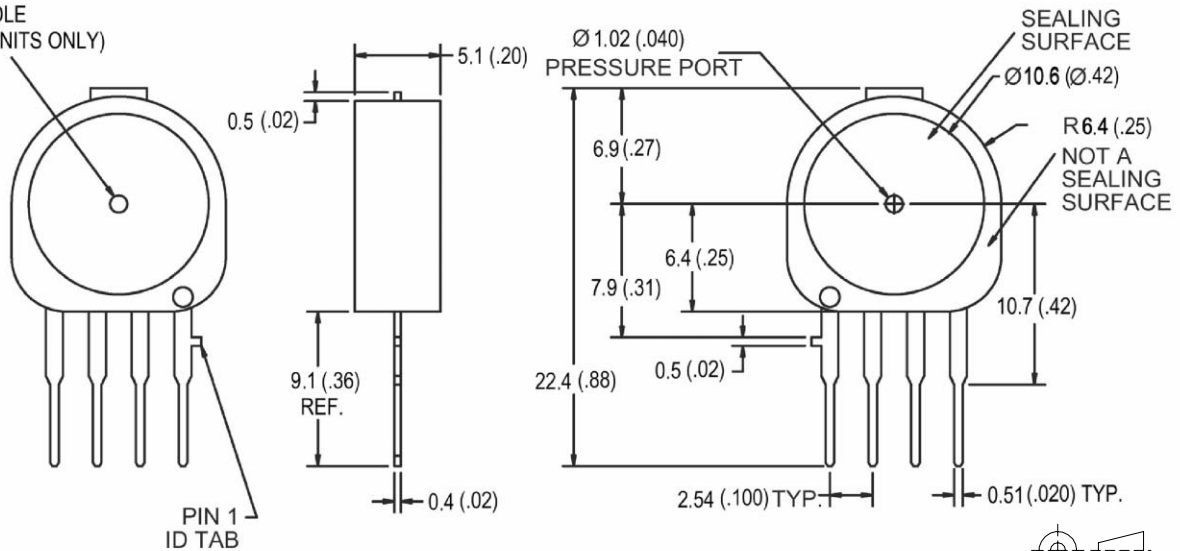
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PHYSICAL DIMENSIONS

Button package

VENT HOLE
(GAGE UNITS ONLY)



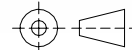
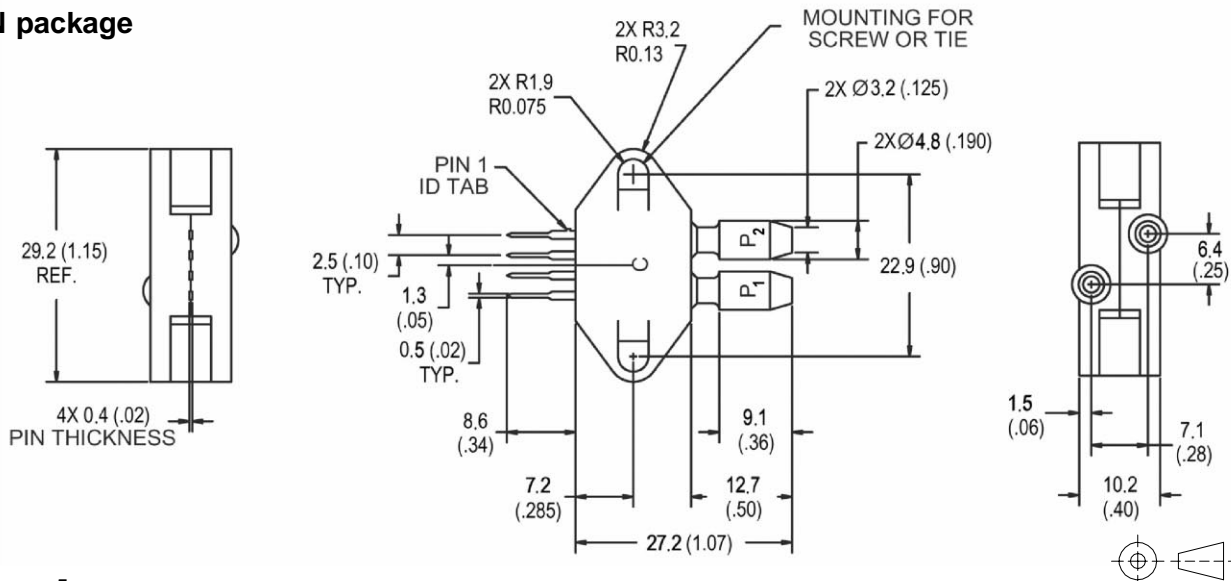
third angle projection
dimensions in mm (inches)

mass: 1 g

Colour codes for Button housing

Colour dot 1	Pressure range	Colour dot 2	Series
Light blue	5 psi	Silver	RZU
Purple	15 psi		
Orange	30 psi		
Dark brown	100 psi		

N package



third angle projection
dimensions in mm (inches)

mass: 5 g

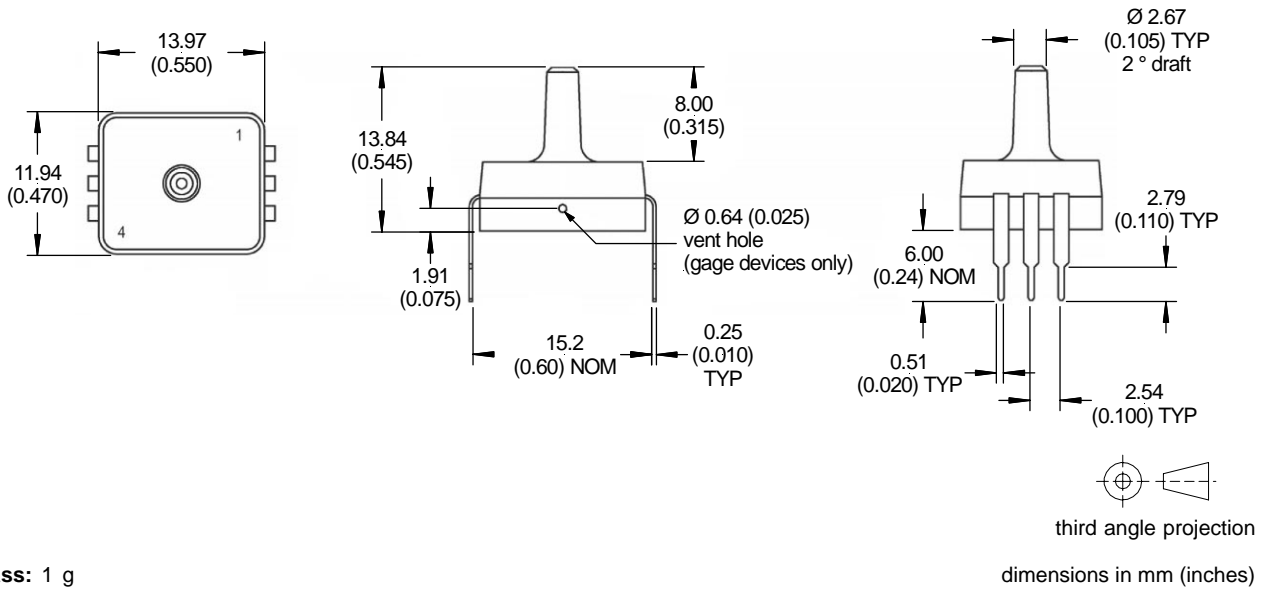


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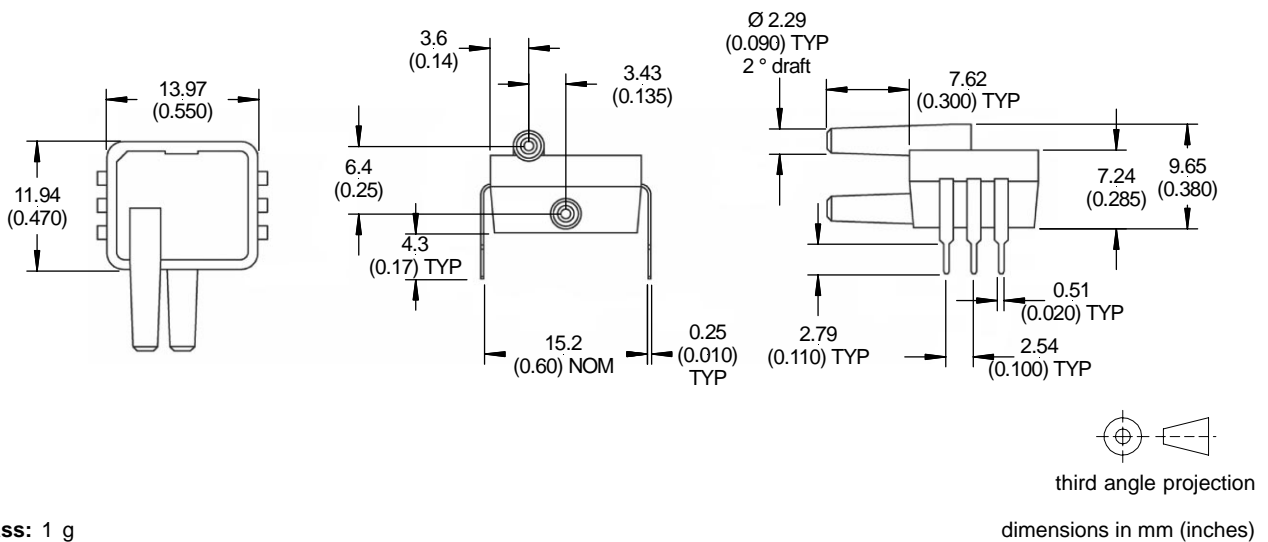
PHYSICAL DIMENSIONS (cont.)

DIP package, single port



mass: 1 g

DIP package, dual port



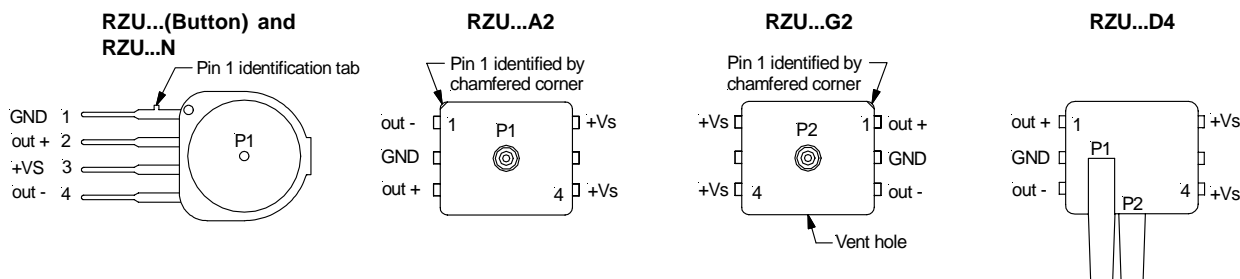
mass: 1 g



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ELECTRICAL CONNECTION



The polarity indicated is for pressure applied to
 RZU...(Button), ...N, ...A2 : P1 (forward gage)
 RZU...G2, ...D4 : P2 (backward gage)

ORDERING INFORMATION - AVAILABLE LISTINGS

Note: Preferred listings are highlighted in grey

Pressure range	Absolute pressure		
	Button package	N package	DIP single port
0...5 psi	-	-	-
0...15 psi	RZUP015A	-	-
0...30 psi	RZUP030A	RZUP030AN	RZUP030A2
0...100 psi	-	RZUP100AN	RZUP100A2

Pressure range	Gage and differential/gage pressure			
	Button package	N package	DIP single port	DIP dual port
0...5 psi	-	RZUP005DN	-	RZUP005D4
0...15 psi	RZUP015D	RZUP015DN	RZUP015G2	RZUP015D4
0...30 psi	RZUP030D	RZUP030DN	-	RZUP030D4
0...100 psi	RZUP100D	RZUP100DN	-	RZUP100D4

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- ... plus other services on request

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