



RTO Series

Stainless steel pressure sensors

FEATURES

- 0...3 to 0...500 psi and
-15...15 to -15...100 psi
- Absolute and gage pressures
- Calibrated and temperature compensated
- Rugged stainless steel isolated package
- Sensortech PRO services

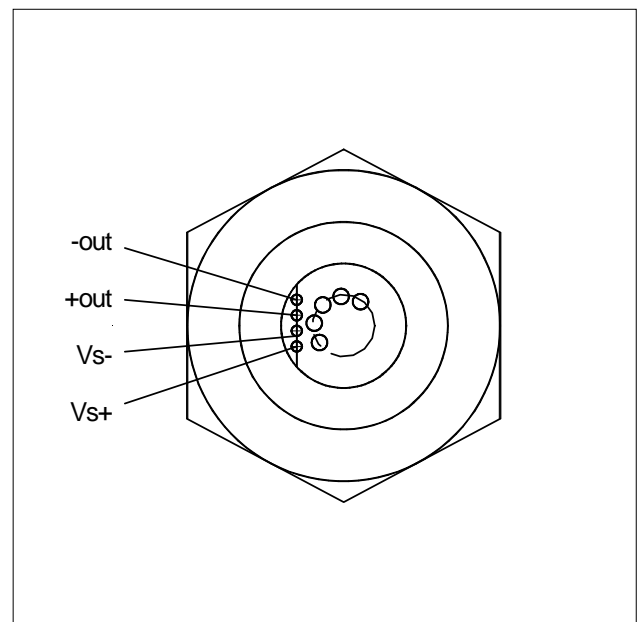


SPECIFICATIONS

Maximum ratings

Supply voltage	+15 V _{DC}
Temperature ranges:	
Compensated	0 to +82°C
Operating	-40 to +125°C
Storage	-40 to +125°C
Vibration:	10 g at 20 to 2000 Hz
Shock:	100 g for 11 msec.
Life:	1 million cycles minimum
Insulation resistance (min.):	100 MΩ at 50 V _{DC}

ELECTRICAL CONNECTION





PRESSURE SENSOR CHARACTERISTICS

Part number	Pressure range	Proof pressure⁶	Burst pressure⁷
RTOP003G...	0...3 psig	9 psig	15 psig
RTOP005G...	0...5 psig	15 psig	25 psig
RTOP010G...	0...10 psig	30 psig	45 psig
RTOP015(A,G)...	0...15 psi	45 psi	75 psig
RTOP015V...	-15...15 psig	45 psig	75 psig
RTOP030(A,G)...	0...30 psi	90 psi	150 psi
RTOP030V...	-15...30 psig	90 psig	150 psig
RTOP050(A,G)...	0...50 psi	150 psi	250 psi
RTOP100(A,G)...	0...100 psi	300 psi	300 psi
RTOP100V...	-15...100 psig	300 psig	300 psig
RTOP200(A,G)...	0...200 psi	600 psi	1000 psi
RTOP300(A,G)...	0...300 psi	900 psi	1500 psi
RTOP500(A,G)...	0...500 psi	1200 psi	2400 psi



PERFORMANCE CHARACTERISTICS

($V_s = 10 V_{DC} \pm 0.01 V_{DC}$, $t_{amb} = 25^\circ C$)

Characteristics		Min.	Typ.	Max.	Units	
Zero pressure offset	all devices up to 10 psi	-1.5	0	+1.5	mV	
	all RTO...A... devices ⁹	-2.0	0	-2.0		
	all others	-1.0	0	-1.0		
Full scale span ¹	3 psi and 5 psi devices	48	50	52	mV	
	all others	98	100	102		
Non-linearity ²			±0.1	±0.25	%FSO	
Pressure hysteresis ²			±0.015	±0.030		
Thermal effects ³ (0 to 82°C)	3 psi and 5 psi devices	Offset		±2.0		
		Span		±2.0		
	all others	Offset		±0.5		±1.0
		Span		±0.5		±1.0
Thermal hysteresis (0 to 82°C)			±0.1	±0.3		
Repeatability			±0.010	±0.030		
Long term stability of offset and span ⁴			±0.1	±0.3		
Response time (10 to 90 %)			0.1			ms
Input impedance		8.0	25	50	kΩ	
Output impedance		3.0	4.5	6.0		
Common mode voltage ⁸		0.5	1.3	2.0	V	

Specification notes:

- Span is the algebraic difference between the output voltage at full scale pressure and the output at zero pressure. Full scale span is ratiometric to the supply voltage.
- Linearity is based on **Best fit Straight Line** from the zero to the full scale pressure. Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure.
- Maximum error band of the offset voltage or span over the compensated temperature range, relative to the 25°C reading.
- Long term stability over a six month period.
- Response time for a step change from the zero pressure to the full scale pressure .
- The maximum pressure that can be applied without changing the transducer's performance or accuracy.
- The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer case.
- Common mode voltage as measured from output to ground.
- Absolute devices with improved zero pressure offset values are available on request. Please contact your nearest Sensortechincs sales office for further information.

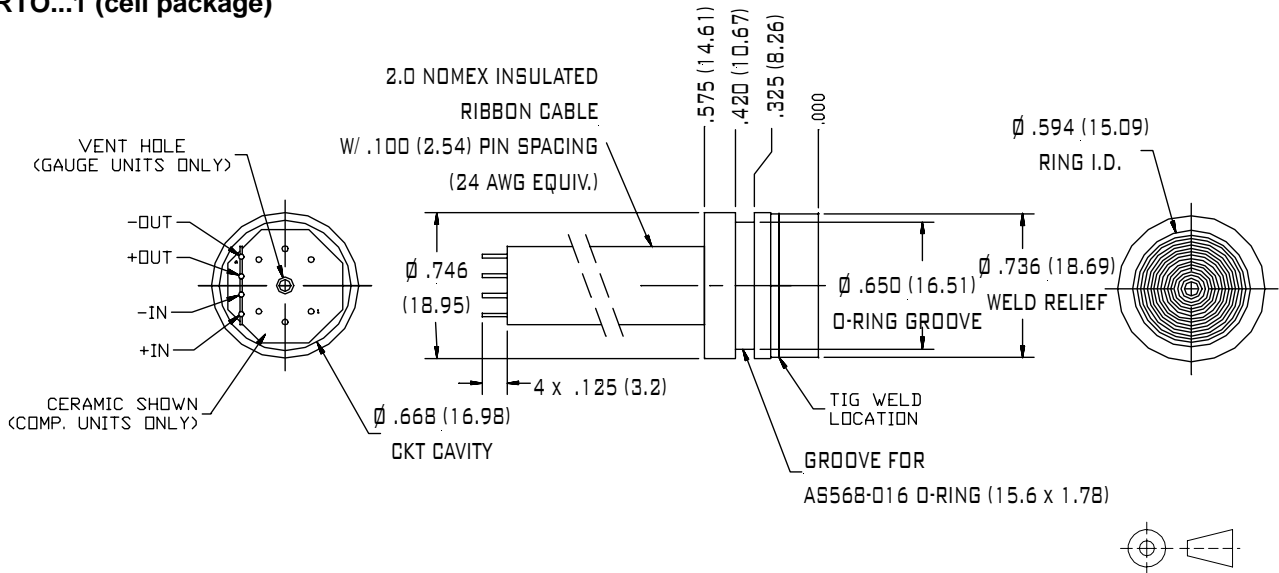


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PHYSICAL DIMENSIONS

RTO...1 (cell package)



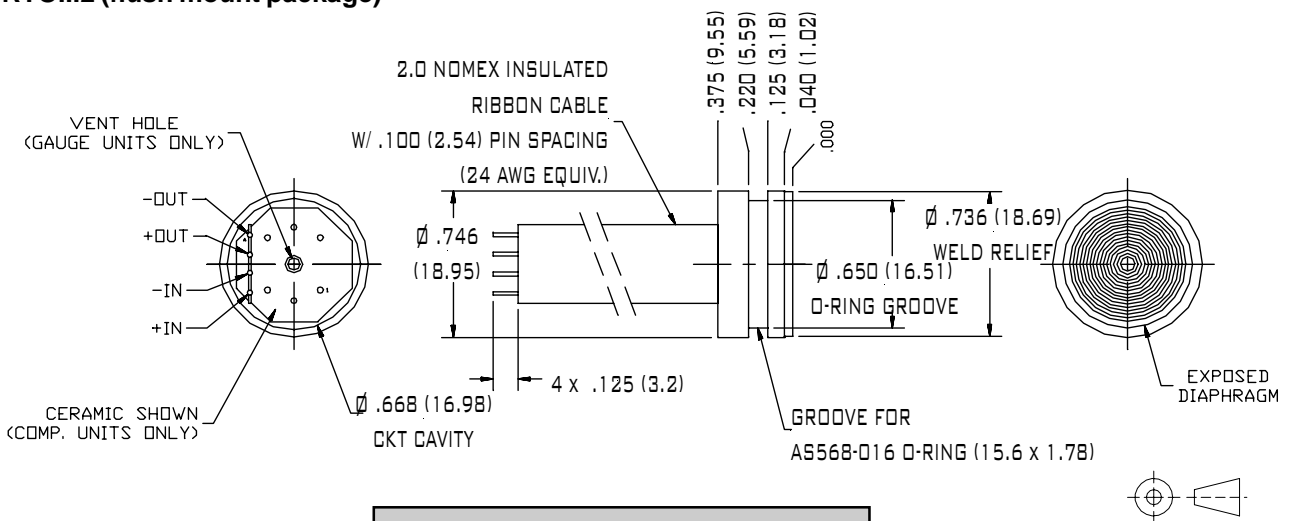
Do not touch the diaphragm!

mass: 20 g

third angle projection
dimensions in inches (mm)

Note: Non-concentricity effects at the diaphragm weld area may cause run out of up to ±0.006" between the upper and lower portions of the sensor body (it is recommended to use a counter bore in the mating bore used with this device to allow for this non-concentricity).

RTO...2 (flush mount package)



Do not touch the diaphragm!

mass: 18 g

third angle projection
dimensions in inches (mm)

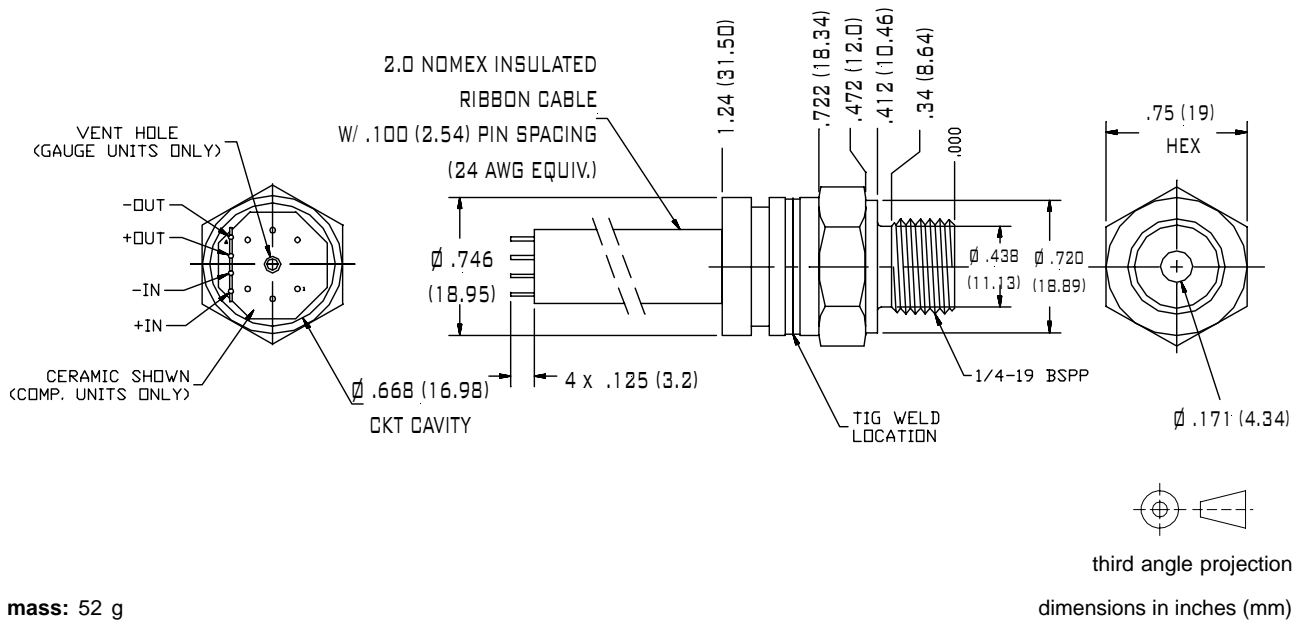


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PHYSICAL DIMENSIONS (cont.)

RTO...7 (1/4 BSP package)



mass: 52 g



ORDERING INFORMATION

Options	Series	Pressure range		Pressure mode		Housing style	
	RTO	P003	0...3 psi	A*	Absolute	1	Cell
		P005	0...5 psi	G	Gage	2	Flush mount
		P010	0...10 psi	V**	Vacuum/gage	7	1/4 BSP
		P015	0...15 psi				
		P015(V)	-15...+15 psi				
		P030	0...30 psi				
		P030(V)	-15...+30 psi				
		P050	0...50 psi				
		P100	0...100 psi				
		P100(V)	-15...+100 psi				
		P200	0...200 psi				
		P300	0...300 psi				
		P500	0...500 psi				
				* from 15 psi upwards only ** for 15, 30 and 100 psi only			
Example:	RTO	P015		A		2	

Note: Current supply versions are available on request.
Please contact your nearest Sensortechincs sales office for further information.

Sensortechincs 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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