

550572 B

WIRING - ANALOG OUTPUTS

CONNECTORS

RG Connector:

Pin No.	Wire Color	Function					
1	Gray	Output #1 (Displacement) *					
		0 to 10 Vdc, 10 to 0 Vdc					
		4 to 20 mA, 20 to 4 mA,					
		0 to 20 mA or 20 to 0 mA					
2	Pink	Return for Pin 1					
3	Yellow	Output #2					
		(Displacement or Velocity) *					
		0 to 10 Vdc, 10 to 0 Vdc					
		4 to 20 mA, 20 to 4 mA,					
		0 to 20 mA or 20 to 0 mA					
4	Green	Return for Pin 3					
5	Red or Brown	+ 24 Vdc (+20%, -15%),					
		Customer Supplied					
6	White	DC Ground					
7	-	No Connection					



RG Connector (Molded Mating Extension Cable Required) View as seen from end of sensor

D6 Connector:

Pin No.	Wire Color	Function				
1	Gray	Output #1 (Displacement) *				
		0 to 10 Vdc, 10 to 0 Vdc				
		4 to 20 mA, 20 to 4 mA,				
		0 to 20 mA or 20 to 0 mA				
2	Pink	Return for Pin 1				
3	Yellow	Output #2				
		(Displacement or Velocity) *				
		0 to 10 Vdc, 10 to 0 Vdc				
		4 to 20 mA, 20 to 4 mA,				
		0 to 20 mA or 20 to 0 mA				
4	Green	Return for Pin 3				
5	Red or Brown	Customer Supplied Power (+24 Vdc)				
6	White	DC Ground				



Pin outs for 6-Pin D6 90° and Straight-exit Connector View as seen from end of sensor

NOTE:

* When using dual outputs, outputs #1 and #2 must have the same output scale (i.e., voltage or current) and the same orientation (i.e., forward or reverse acting).

INTEGRAL CABLE

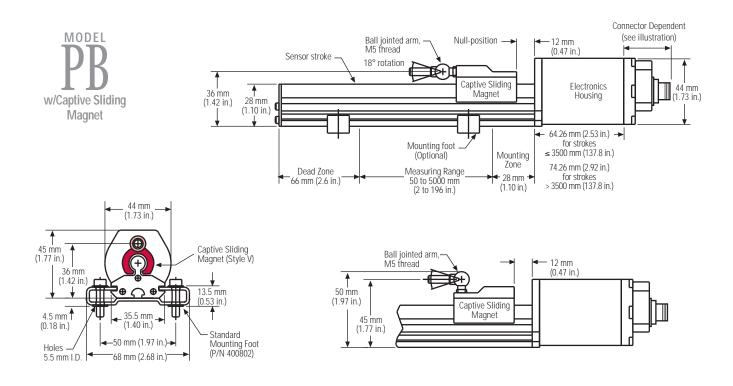
R Cable:

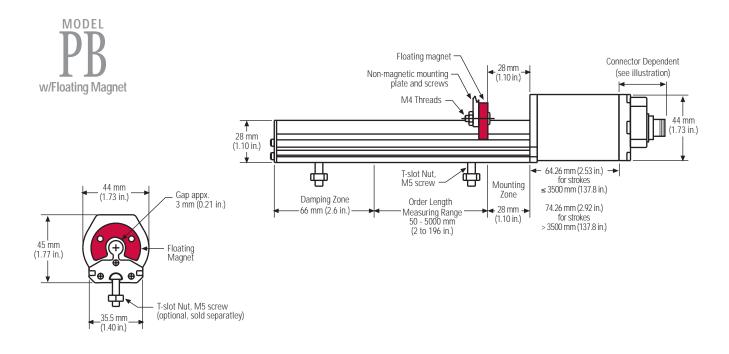
Wire Color	Function					
Gray	Output #1 (Displacement) *					
	0 to 10 Vdc, 10 to 0 Vdc					
	4 to 20 mA, 20 to 4 mA,					
	0 to 20 mA or 20 to 0 mA					
Pink	Displacement Output Return					
	for Gray Wire					
Yellow	Output #2					
	(Displacement or Velocity) *					
	0 to 10 Vdc, 10 to 0 Vdc					
	4 to 20 mA, 20 to 4 mA,					
	0 to 20 mA or 20 to 0 mA					
Green	Displacement Output Return					
	for Yellow Wire					
Red or Brown	+ 24 Vdc (+20%, -15%),					
	Customer Supplied					
White	DC Ground					

CAUTION!

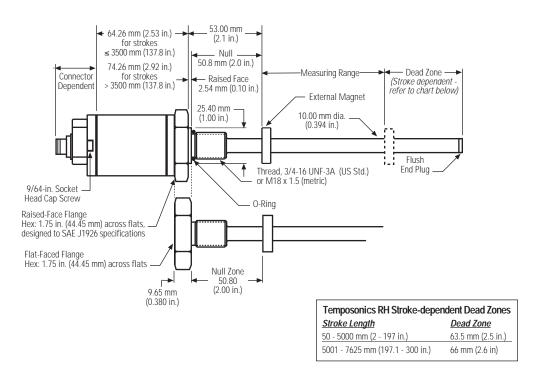
When wiring Temposonics III sensors, **DO NOT** connect DC ground to the cable shield or drain wire.



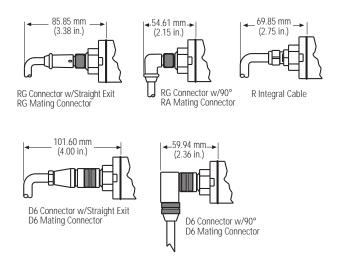




RH

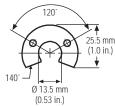


CONNECTORS



MAGNETS & MAGNET ACCESSORIES

Part No. 251416



ID: 13.5 mm (0.53 in.) OD: 32.8 mm (1.29 in.) Thickness: 7.9 mm (0.312 in.)

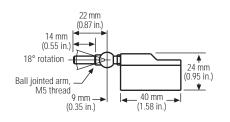
For use with Temposonics PB & RH sensors

Part No. 201542

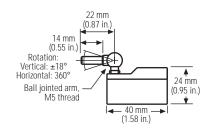


ID: 13.5 mm (0.53 in.) OD: 32.8 mm (1.29 in.) Thickness: 7.9 mm (0.312 in.)

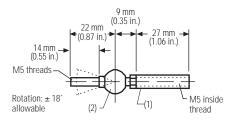
For use with Temposonics RH sensors



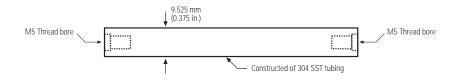
Captive Sliding Magnet, Style V Part No. 252111-1 For use with Temposonics PB sensors



Captive Sliding Magnet, Style S Part No. 252110-1 For use with Temposonics PB sensors

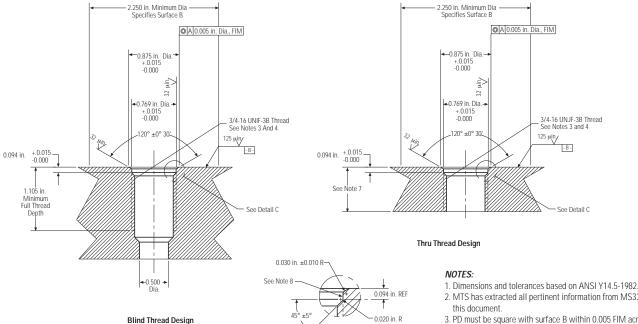


Joint Rod (1) Sleeve, Part No. 401603 (2) Ball Jointed Arm, Part No. 401600-1 For use with Temposonics PB sensors



Extension Rod Used with Captive Sliding Magnets on Temposonics PB sensors

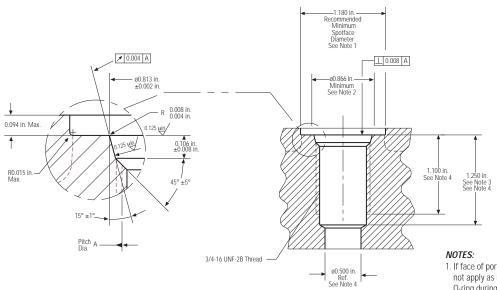
Port Detail for Temposonics RH Sensors with Housing Style 'S'



Detail C

- 2. MTS has extracted all pertinent information from MS33649 to Generate
- 3. PD must be square with surface B within 0.005 FIM across 2.250 dia minimum.
- 4. PD must be concentric with 2.250 dia within 0.030 FIM and with 0.769 dia within 0.005 FIM.
- 5. Surface texture ANSI B46.1-1978
- 6. Use o-ring MTS part number 560315 for correct sealing.
- 7. The thread design shall have sufficient threads to meet strength requirements of material used.
- 8. Finish counter-bore shall be free from longitudinal and spiral tool marks. Annular tool marks up to 32 microinches maximum will be permissible.

Port Detail (SAE J1926/1) for Temposonics RH Sensors with Housing Style 'T'



- 1. If face of port is on a machined surface, dimensions 1.180 and 0.094 need not apply as long as R0.008/0.004 is maintained to avoid damage to the O-ring during installation.
- 2. Measure perpendicularity to A at this diameter.
- 3. This dimension applies when tap drill cannot pass through entire boss.
- 4. This dimension does not conform to SAE J1926/1.

PARAMETER	SPECIFICATION			
Measured Variable:	Displacement, Velocity (magnitude only)			
Resolution:	16 bit or 0.025 mm, whichever is greater			
Non-Linearity:	< ± 0.02% of full stroke or ± 0.05 mm, whichever is greater			
Repeatability:	$<\pm$ 0.001% of full scale or \pm 0.0025 mm, whichever is greater			
Hysteresis:	< 0.004 mm			
Outputs:	Voltage: 0 to 10 Vdc or +10 to 0 Vdc *; Minimum load: $\geq 5 \text{ k}\Omega$			
Current: 4 (0) to 20 mA, 20 to 4 (0) mA; Maximum load: \leq 500 Ω				
Measuring Range: Profile Style Sensors (PB): 50 to 5000 mm (2 to 196 in.)				
	Rod Style Sensors (RH): 50 to 7600 mm (2 to 300 in.)			
Velocity:	Velocity output range: 0.1 to 10 m/s or 1.0 to 400.0 in/s Minimum velocity: 1.0 in/s or 0.05 x stroke length in inches, whichever is greater			
	Maximum velocity: 1.0 iii/s or 0.05 x stroke length in inches, whichever is greater Maximum velocity: 400.0 in/s or 100 x stroke length in inches, whichever is less (factory calibrated)			
Operating Voltage:	+24 Vdc (+ 20%, - 15%)			
Power Consumption: 100 mA typical				
Operating Temperature:	Head Electronics: - 40 to 75°C (- 40 to 167°F)			
operating remperature.	Sensing Element: - 40 to 105°C (- 40 to 221°F)			
EMC Test:	DIN IEC 801-4, Type 4, CE Qualified;			
	DIN EN 50081-1 (Emissions), DIN EN 50082-2 (Immunity)			
Shock Rating:	100 g (single hit)/IEC standard 68-2-27 (survivability)			
Vibration Rating:	5 g/10-150 Hz/IEC standard 68-2-6			
Adjustment of Zero & Span:	100% field adjustment of measuring range			
Update Time:	≤ 1 ms typical (length dependent)			
PROFILE STYLE (PB MODEL)				
Electronic Head:	Aluminum die-cast housing			
Sensor Stroke:	Aluminum profile			
Sealing:	Electronics Head: IP 67			
	Extrusion: IP 65			
Mounting:	Adjustable mounting feet or T-slot M5 nut in base channel			
Magnet Type:	Captive sliding magnet or floating magnet			
ROD STYLE (RH MODEL)				
Electronic Head:	Aluminum die-cast housing			
Sensor Rod with Flange:	304L stainless steel			
Operating Pressure:	350 bar, 530 bar peak (5000 psi static; 10,000 psi spike)			
Maximum Hex Torque:	45 nM (33.19 ft. lbs.)			
Sealing:	IP 67			
Mounting:	M18 x 1.5 or 3/4-16 UNF-3A			
Magnet Type:	Ring magnet			

^{*} Varies with sensor model, 0.002 in. is the minimum absolute non-linearity.

** Due to single ended power supply, 0.0 V is not attainable. Typical minimum voltage is 50 mV.

						3 or 7 c	ligit output code
Tempo: T = S = M = N = B =	SENSOR MODEL Hydraulic Rod Style Low-Profile Style HOUSING STYLE Sonics RH only (magnet must) US customary threads, rlait Metric threads, flat-faced Metric threads, raised-fac Sensor cartridge only (No Sonics PB only (magnet incl.) Floating Magnet, (Open rir Captive sliding magnet wi Captive sliding magnet wi	st be ordered separately): sed-faced hex, and pressure t-faced hex, and pressure the hex, and pressure tube ed hex, and pressure tube application housing, stroke uded): 19: 140°) th joint at top	ube				
	LENGTH						
	U = Inches <i>(RH: enco</i> <i>or</i>	de in 0.5 in. increments; PB.	: encode in 1 in. incren	nents)			
	M = Millimeters (<i>RH:</i>	encode in 5 mm increment	ts; PB: encode in 25 mi	m increments)			
D60 =	Standard 7-pin micro conn Integral 6-pin DIN connect I Cables = Integral Cable, Stand Cable Length	ector or dard					
	encode in m Range: 1 (01	eet if using US customary neters if using metric strok 1) to 99 (99) ft. or 1 (01) to 3	e length				
1 =	INPUT VOLTAGE +24 Vdc (+20%, -15%)						
V0 V1	OUTPUT = 0 to 10 Vdc	A0	= 4 to 20 mA = 20 to 4 mA	A2 A3	= =	0 to 20 mA 20 to 0 mA	
	To complete the analog ou	itput code, select from the	1 to 5 digit option cod	es below.			
	Single Magnet Analog S 1 = One (1) displacement 1 = One (1) (61)	output only each displacement and ve					tput - Magnet Position
	(fill if	n blanks with desired max.	veiocity) See chart a	rig n t.		Output	Velocity Direction
	Velocity output range:	001.0 to 400.0 inches/sec <u>Minimum velocity</u> = 1.0 in 0.05 x stroke length in inch <u>Maximum velocity</u> = 400 100 x stroke length in inch	nches/second or ches, whichever is gre inches/second or	ater.		0 - 10 Vdc 10 - 0 Vdc 4 - 20 mA 20 - 4 mA	Head Magnet at rest Tip 10 - 0 - 10 10 - 0 - 10 20 - 4 - 20 20 - 4 - 20

Dual Magnet Analog System
2 = Two (2) displacement outputs (Set points are referenced to the zero point of each application housing.)

velocity output magneti osition						
Output	Vel	Velocity Dir		Dir	ection	
	Head	Magnet at rest		et st	Tip	
0 - 10 Vdc	10	-	0	-	10	
10 - 0 Vdc	10	-	0	-	10	
4 - 20 mA	20	-	4	-	20	
20 - 4 mA	20	-	4	-	20	
0 - 20 mA	20	-	0	-	20	
20 - 0 mA	20	-	0	-	20	



SENSORS G R O U P

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Sensing

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