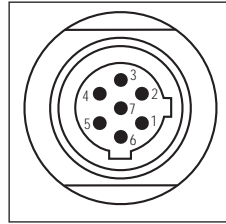


W I R I N G - C A N b u s O U T P U T S

CONNECTORS

RG Connector

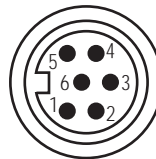
Pin No.	Wire Color	Function
1	Gray	CAN-L
2	Pink	CAN-H
3	Yellow	No Connection
4	Green	No Connection
5	Red or Brown	Customer Supplied Power (+ Vdc)
6	White	DC Ground
7	-	No Connection



RG Connector  
(View as seen from end of sensor)

D6 Connector:

Pin No.	Wire Color	Function
1	Gray	CAN-L
2	Pink	CAN-H
3	Yellow	No Connection
4	Green	No Connection
5	Red or Brown	Customer Supplied Power (+ Vdc)
6	White	DC Ground



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

INTEGRAL CABLE

P\_ \_ Integral Cable

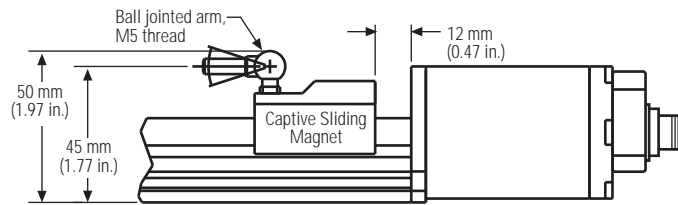
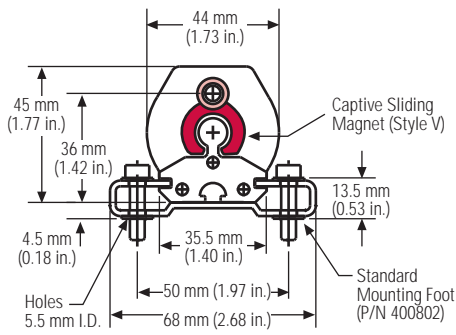
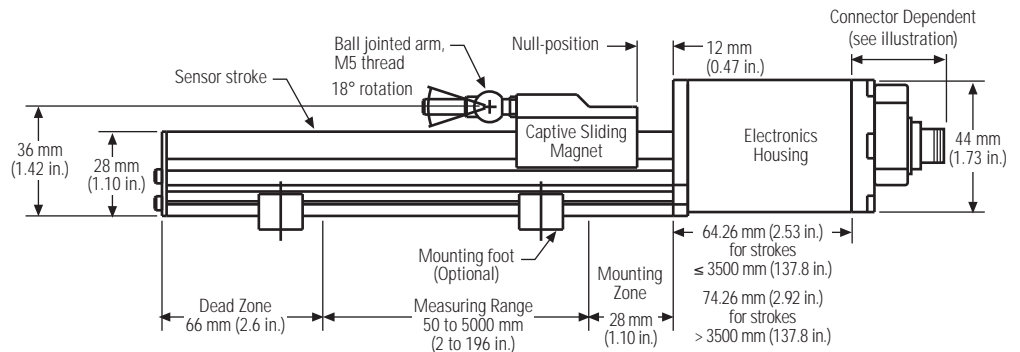
Wire Color	Function
Gray	CAN-L
Pink	CAN-H
Yellow	No Connection
Green	No Connection
Red or Brown	Customer Supplied Power (+ Vdc)*
White	DC Ground

CAUTION!

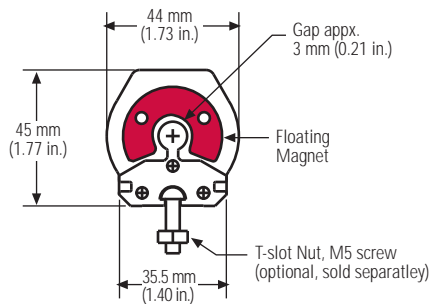
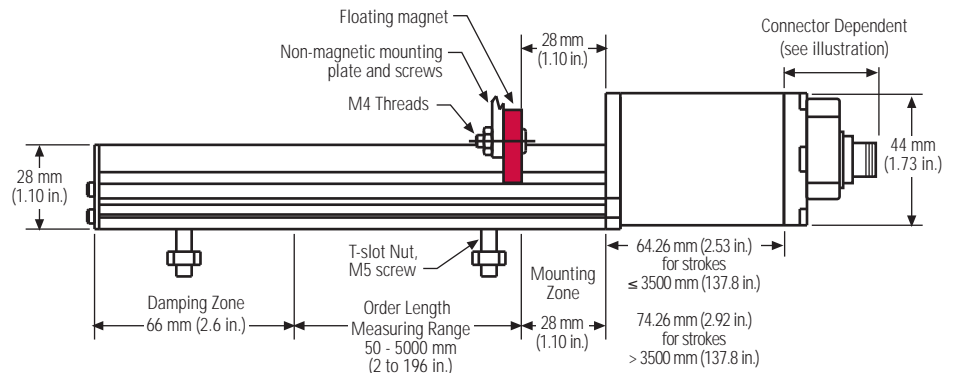
When wiring Temposonics III sensors,  
**DO NOT** connect DC ground to the cable  
shield or drain wire.

# DIMENSIONS

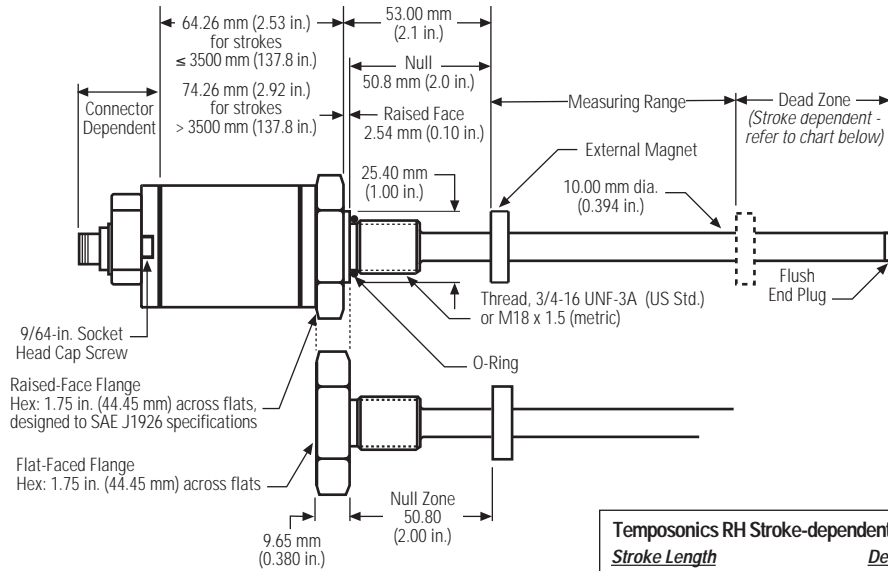
## MODEL PB w/Captive Sliding Magnet



## MODEL PB w/Floating Magnet

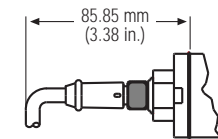


# MODEL RH

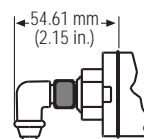


Temposonics RH Stroke-dependent Dead Zones	
<u>Stroke Length</u>	<u>Dead Zone</u>
50 - 5000 mm (2 - 197 in.)	63.5 mm (2.5 in.)
5001 - 7625 mm (197.1 - 300 in.)	66 mm (2.6 in.)

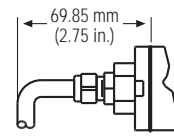
# CONNECTORS



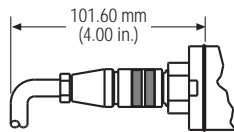
RG Connector w/ Straight Exit  
FG Mating Connector



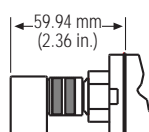
RG Connector w/ 90° Exit  
FA Mating Connector



P Integral Cable



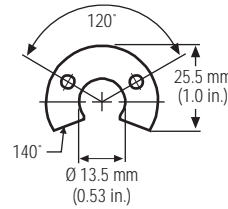
D6 Connector w/ Straight Exit  
D6 Mating Connector



D6 Connector w/ 90°  
D6 Mating Connector

# MAGNETS & MAGNET ACCESSORIES

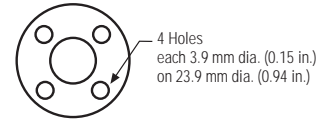
**Part No. 251416**



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

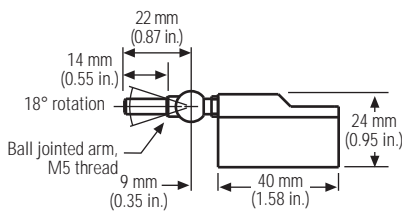
**For use with Temposonics  
PB & RH sensors**

**Part No. 201542**

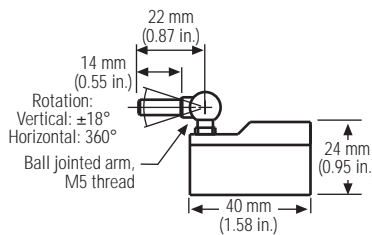


ID: 13.5 mm (0.53 in.)  
OD: 32.8 mm (1.29 in.)  
Thickness: 7.9 mm (0.312 in.)

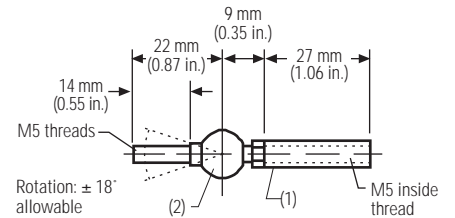
**For use with Temposonics RH sensors**



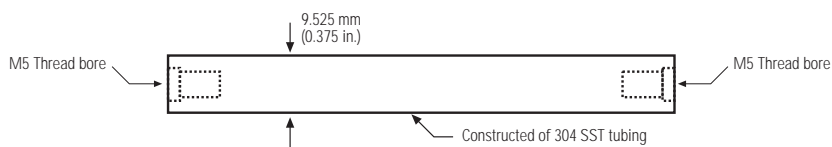
**Captive Sliding Magnet, Style V**  
**Part No. 252111-1**  
**For use with Temposonics PB sensors**



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



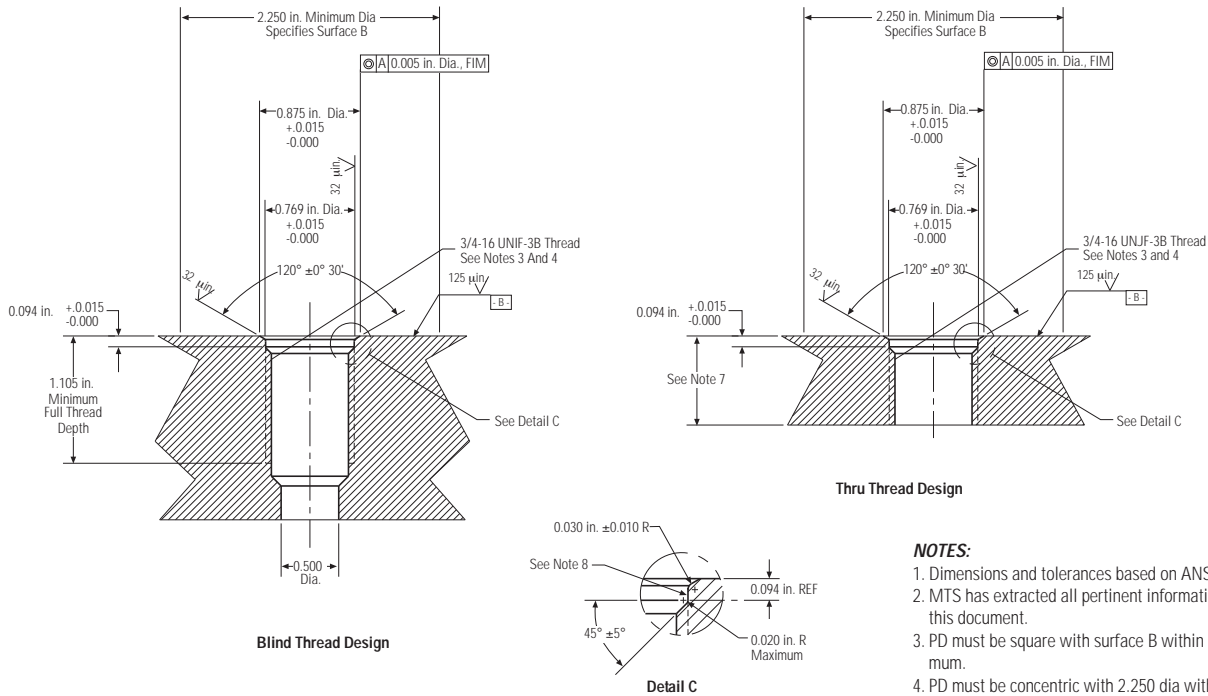
**Joint Rod**  
**(1) Sleeve, Part No. 401603**  
**(2) Ball Jointed Arm, Part No. 401600-1**  
**For use with Temposonics PB sensors**



**Extension Rod**  
**Used with Captive Sliding Magnets**  
**on Temposonics PB sensors**

# CYLINDER PORT DETAIL

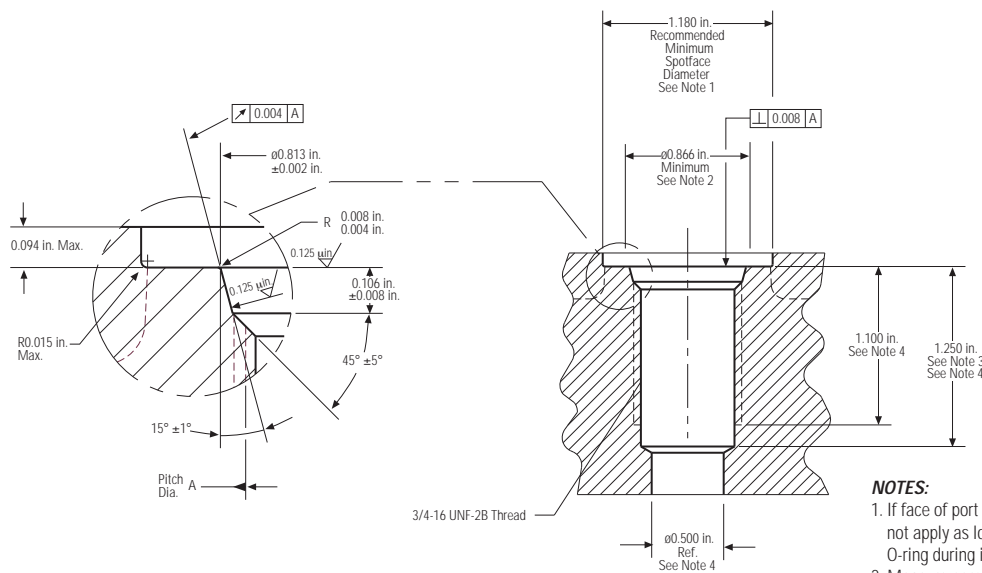
## Port Detail for Temposonics RH Sensors with Housing Style 'S'



**NOTES:**

1. Dimensions and tolerances based on ANSI Y14.5-1982.
2. MTS has extracted all pertinent information from MS33649 to Generate this document.
3. PD must be square with surface B within 0.005 FIM across 2.250 dia min mum.
4. PD must be concentric with 2.250 dia within 0.030 FIM and with 0.769 c 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'



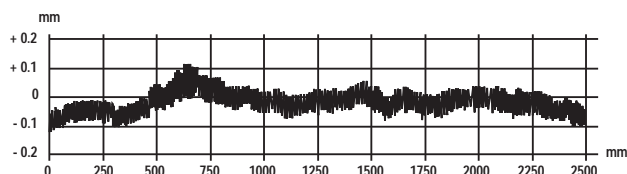
**NOTES:**

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.

# SPECIFICATIONS

## PARAMETER SPECIFICATION

<b>Measured Variable:</b>	Displacement, velocity
<b>Resolution:</b>	Up to 0.002 mm
<b>Non-Linearity:</b>	$< \pm 0.01\%$ of full stroke or $\pm 0.04$ mm, whichever is greater



Example: Sensor Type: Temposonics PB  
Measuring Range: 2500 mm  
Non-linearity (measured):  $\pm 0.116$  mm

<b>Repeatability:</b>	$< \pm 0.001\%$ of full scale or $\pm 0.0025$ mm, whichever is greater
<b>Hysteresis:</b>	$< 0.004$ mm
<b>Output:</b>	CANbus
<b>Data Protocol:</b>	MTS protocol
<b>Baud Rate:</b>	1 Mbit/sec. maximum
<b>Measuring Range:</b>	<i>Profile Style Sensors (PB):</i> 50 to 5000 mm (2 to 196 in.) <i>Rod Style Sensors (RH):</i> 50 to 7600 mm (2 to 300 in.)
<b>Operating Voltage:</b>	+24 Vdc (+ 20%, - 15%)
<b>Power Consumption:</b>	100 mA typical
<b>Operating Temperature:</b>	<i>Head Electronics:</i> - 40 to 75°C (- 40 to 167°F) <i>Sensing Element:</i> - 40 to 105°C (- 40 to 221°F)
<b>EMC Test:</b>	DIN IEC 801-4, Type 4, CE Qualified DIN EN 50081-1 (Emissions), DIN EN 50082-2 (Immunity)
<b>Shock Rating:</b>	100 g (single hit)/IEC standard 68-2-27 survivability
<b>Vibration Rating:</b>	5 g/10-150 Hz/IEC standard 68-2-6
<b>Update Time:</b>	$\leq 1$ ms typical (length dependent)

### PROFILE STYLE (PB MODEL)

<b>Electronic Head:</b>	Aluminum die-cast housing
<b>Sensor Stroke:</b>	Aluminum profile
<b>Sealing:</b>	<i>Electronics Head:</i> IP 67 <i>Extrusion:</i> IP 65
<b>Mounting:</b>	Adjustable mounting feet or T-slot M5 nut in base channel
<b>Magnet Type:</b>	Captive sliding magnet or floating magnet

### ROD STYLE (RH MODEL)

<b>Electronic Head:</b>	Aluminum die-cast housing
<b>Sensor Rod with Flange:</b>	304L Stainless steel
<b>Operating Pressure:</b>	350 bar, 530 bar peak (5000 psi static; 10,000 psi spike)
<b>Maximum Hex Torque:</b>	45 nM (33.19 ft. lbs.)
<b>Sealing:</b>	IP 67
<b>Mounting:</b>	M18 x 1.5 or 3/4-16 UNF-3A
<b>Magnet Type:</b>	Ring magnet

Specifications are subject to change without notice. Consult the factory for specifications critical to your needs.





**SENSORS**  
G R O U P

Pioneers,  
Innovators,  
Leaders in  
Magnetostrictive  
Sensing

**UNITED STATES**  
Sensors Division  
3001 Sheldon Drive  
Cary, NC 27513  
Phone: 800-633-7609  
Fax: 919-677-0200  
Internet: [www.temposonics.com](http://www.temposonics.com)

**GERMANY**  
Auf dem Schuffel 9, D-58513 Lüdenscheid, Germany  
Postfach 8130 D-58489 Lüdenscheid, Germany  
Phone: + 49-2351-95870  
Fax: + 49-2351-56491

**JAPAN**  
Ushikubo Bldg.  
737 Aihara-cho  
Machida-shi  
Tokyo 194-0211  
Japan  
Phone: + 81 (42) 775-3838  
Fax: + 81 (42) 775-5512

