PRECISION POSITION MEASUREMENT – HPH

This High Pressure Housing (HPH) is ATEX/IECEx as well as UL and cUL approved for use in hazardous locations with Temposonics® position sensors. The ATEX /IECEx, UL and cUL approvals cover flammable gases, vapors, liquids and dust. This housing is made to fit Temposonics® G-Series Analog + Start/Stop Sensors and R-Series sensors with analog and digital outputs. Both fixed cable and connector versions can be used. When using a standard sensor in this housing you get a cost efficient solution for use in hazardous locations which also allows easy sensor replacement. Several design combinations are available to fit your application: M18 or ¾"UNF mounting flange - M20 or ½" NPT cable gland thread - top mounted or single/dual side-mounted. See combination chart. All parts are made of 316L stainless steel. The housing is also available in non-approved versions ensuring an outstanding protection to the sensor when used in rigged applications with high humidity and aggressive gases.

TECHNICAL DATA

**Explosion protection**

ATEX, IECEx

II 2G Ex db IIC T5 Gb Tamb -40°C to +75°C

II 2D Ex tb IIIC T100°C Db

ATEX: ExVeritas 16 ATEX 0192X

IECEx: IECEx EXV 16.0014X

In accordance with EN 60079-0, EN 60079-0, EN 60079-26 and EN 60079-31

Only with ATEX approved cable glands (Ex d)

**Classification**

Class 1, Devision 1, Groups A, B, C, and D hazardous areas, temperature class T5

Certified to fire, electrical shock and explosion hazards according to UL no. 2PD0.

In accordance with UL 1203 standard.

Only with UL approved cable glands

**Operating conditions**

Operating temperature

-40…+75 °C (-40…+167 °F)

Humidity

90 % relative humidity, no condensation

Ingress protection

IP68 (only with IP68 approved cable gland)

Magnet movement velocity

Any

**Design/Material**

Sensor rod

Stainless steel 1.4404 (AISI 316L)

Cable gland threads

M20×1.5 or ½" NPT

Stroke length

50…7500 mm

**Mechanical mounting**

Mounting flange

M18×1.5 or ¾" - 16UNF - 3A

Mounting instructions

Please consult the technical drawings and the operation manual (document no.: 551751)

**Approved sensors**

Temposonics® position sensors

G-Series Analog+Digital

R-Series Profibus

R-Series CANBUS

R-Series DeviceNet

R-Series V Analog

R-Series V SSI

1/ T_{+}^{\text{max}} \text{ is limited to max } T_{+}^{\text{max}} \text{ of used sensor } -10 ^\circ \text{C }(-14 ^\circ \text{F})
TECHNICAL DRAWING

Fig. 1: HPH housing

Controlling design dimensions are in millimeters and measurements in ( ) are in inches.
MOUNTING DISCRITPION

1. Open the housing by turning the top counter clockwise. When opening after a sensor is installed, it is very important to completely loosen the cable gland in order to protect the cable against twisting and physical damage. The normal way is that the sensor and the HPH housing are in one order and then MTS Sensors supply the sensor mounted in the WPH housing. Go to step 7.

2. To simplify the connection, the basic sensor can be pulled out of the HPH housing after loosening the two or three fastening screws, depending on the configuration.

3. Cable gland

3.1 Insert the cable through the gland

3.2 Insert the connector through the top.

3.4 Connect to the sensor and assemble the top and bottom turning clockwise.
3.5 Tighten firmly until the top and bottom flanges come together.

3.6 Tighten gable gland according to the manufacturer’s specifications.

4. Side mounted cable gland(s)

4.1 Enter the cable through the gland without tightening.

4.2 For cable sizes larger than 7mm or very rigid cables, you may need to remove the outer insulation jacket from inside the cable gland to the connector.

4.3 Insert and fasten the sensor.
4.4 Make the connections.

4.6 Assemble the top and bottom turning clockwise and tighten firmly until top and bottom flanges come together. (see fig. 11) Tighten the cable glands according to manufacturer’s specifications.

5. Mount the grounding cable.

6. Tighten the lock screw with min. 1.5 Nm torque.
### FREQUENTLY ORDERED ACCESSORIES – Additional options available in our Accessories Guide 551444

<table>
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<tr>
<th>Position magnet</th>
<th>Connector</th>
<th>Cable</th>
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| **Ring magnet OD33**  
Part no. 201 542-2 | **M16 female connector (6 pin), straight**  
Part no. 370 423 | **PUR cable**  
Part no. 530 052 |
| Material: PA ferrite GF20  
Weight: Approx. 14 g  
Surface pressure: Max. 40 N/mm²  
Fastening torque for M4 screws: 1 Nm  
Operating temperature: −40…+105 °C (−40…+221 °F) | Material: Zinc nickel plated  
Termination: Solder  
Cable Ø: 6…8 mm (0.24…0.31 in.)  
Operating temperature: −40…+100 °C (−40…+212 °F)  
Ingress protection: IP65/IP67 (correctly fitted)  
Fastening torque: 0.6 Nm | Material: PUR jacket; orange  
Features: Twisted pair, shielded, highly flexible, halogen free, suitable for drag chains, mostly oil & flame resistant  
Cable Ø: 6.4 mm (0.25 in.)  
Cross section: 3 x 2 x 0.25 mm²  
Bending radius: 5 x D |

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<tr>
<th><strong>Spanner tool</strong></th>
<th><strong>Cable glands</strong></th>
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</table>
| **Spanner tool**  
Part no. DIN 1018A AMF 80-90 mm | **M20×1.5**  
Part no. CG-816679  
Type no. ADE1F-4  
Material: Stainless steel  
Cable Ø: 4…8.5 mm (0.16…0.33 in.) | **M20×1.5**  
Part no. CG-816609  
Type no. ADE1F-6  
Material: Stainless steel  
Cable Ø: 8.5…16 mm (0.16…0.63 in.) |
| **½” NPT ATEX/CSA US, 180 °C (356 °F)**  
Part no. 403 042 | **HPH rotation adapters** |
| **For M18, M30×1.5**  
Part no. RTA-M18 | **For 3/4” UNF; 1 1/16”**  
Part no. RTA-3/4” UNF-2 | **For 3/4” UNF; 1 ¼”**  
Part no. 253 961 |
| **Material: Stainless steel**  
Cable Ø: 4…8.4 mm (0.16…0.33 in.) | **Material: Nickel plated brass**  
Cable Ø: 4…8.4 mm (0.16…0.33 in.) | **Material: Stainless steel**  
Cable Ø: 8.5…16 mm (0.16…0.63 in.) |