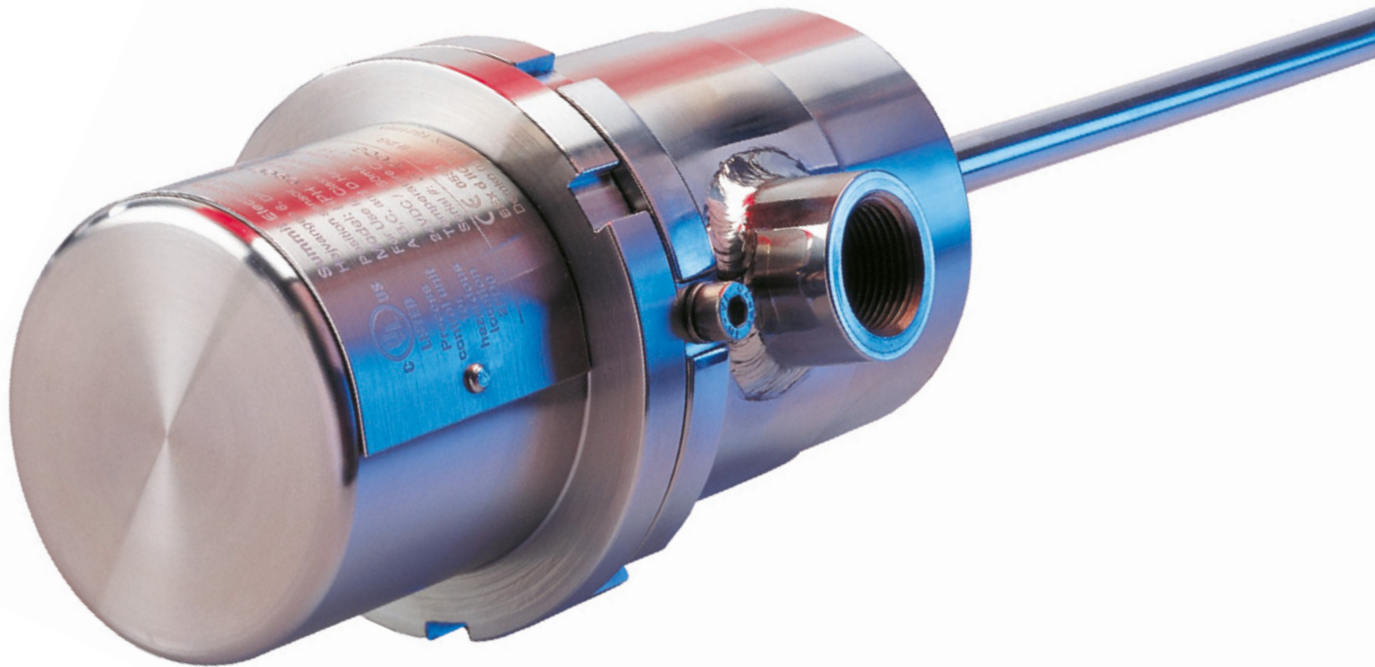


Temposonics®

Magnetostrictive Linear Position Sensors

High Pressure Housing (HPH) Operation Manual



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.






Safety Instructions

The sensor must only be used according to the Ex certificates listed below. See product name plate for actual approvals.

To reduce risk of ignition in hazardous atmospheres, disconnect the equipment from the supply circuit before opening. Keep assembly tightly closed when in operation. For use according to UL-listing, conduit seals must be installed within 18" distance of the inclosure sensor must be connected to a Class 2 power supply. The housing parts must be kept as one unit.

They are not interchangeable with parts from similar housings. Only tools applicable for use in explosive atmosphere must be used. When mounting the rod in "ZONE 0" it is necessary to prevent any leakage between "ZONE 0" and the surrounding environment. The sensor house must be connected to an equipotential bonding system or an earthing system.

TECHNICAL DATA

ATEX/IECEx	 II 2G Ex db IIC T5 Gb  II 2D Ex tb IIIC T100°C Db $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +75^{\circ}\text{C}$ ATEX Certificate: ExVeritas 16 ATEX 0192X IECEx certificate: IECEx EXV 16.0014X Compliance with EN IEC 60079-0, EN IEC 60079-1 EN IEC 60079-26, EN IEC 60079-31
	
	
UL/cUL	Class 1, Division 1, Groups A, B, C, D UL/cUL-Certificates: USA: FTRV.E234045 Canada: FTRV7.E234045 In accordance with UL 1203 standard.
	
Material	Stainless steel AISI 316L (1.4404)
Cable Gland Threads	M20×1.5 (only with ATEX and IECEx approved cable glands (Ex db)) ½" NPT (only with UL and cUL approved cable glands)
Ingress protection code	IP68 (only with professionally assembled and IP68 approved cable gland)
Approved sensors	G-Series Analog + Digital R-Series Analog R-Series Profibus R-Series CANbus R-Series SSI Max. power consumption: U = 24 VDC, I = 150 mA, P = 3.6 W
Mounting flange	M18×1.5 or ¾" - 16UNF - 3A
Pressure rating	350 bar
Peak Pressure	530 bar
Magnet type	Ring magnets
Level measurement	Float on request
Operating temperature	$-40 \dots +75^{\circ}\text{C}^1$ $^1T_{\text{amb}} +$ is limited to max T_{amb} of used sensor -10°C

TECHNICAL DRAWING



All dimensions in mm

MOUNTING DISCRPTION

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.

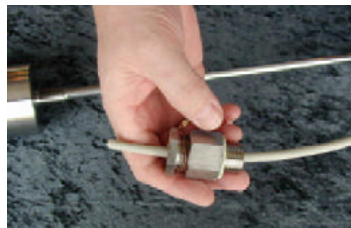


2. Remove rod or profile from the sensor. Separate the plastic tube from the sensor.



3. Cable gland

- 3.1 Insert the cable through the gland



- 3.2 Insert the connector through the top.



- 3.3 Connect to the sensor and insert a bag of Desiccant in the top.



-
- 3.4** Assemble the top and bottom turning clockwise.



-
- 3.5** Tighten firmly until the top and bottom flanges come together.



-
- 3.6** Tighten cable gland according to the manufacturer's specifications.

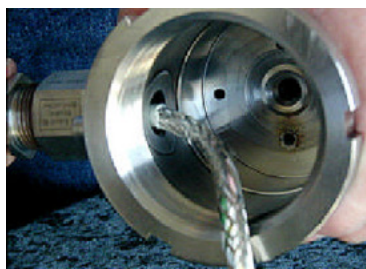


4. Side mounted cable gland(s)

- 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.



- 4.5** Insert a bag of Desiccant in the top.



- 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.



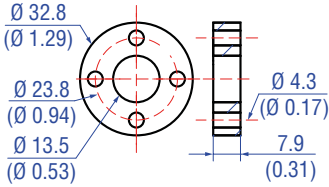
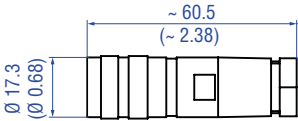
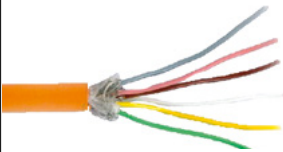
- 5.** Mount the grounding cable.



- 6.** Tighten the lock screw with min. 1.5 Nm torque.



ACCESSORIES

Position magnet			
Cable glands ATEX			
			
Ring magnet OD33 Part no. 201 542-2 Material: PA ferrite GF20 Weight: ca. 14 g Operating temperature: -40...+100 °C Surface pressure: max. 40 N/mm ² Fastening torque for M4 screws: max. 1 Nm	M20 × 1,5 Part no. CG-816679 Type no. ADE1F-4 Material: stainless steel Cable Ø: 4...8,5 mm	M20 × 1,5 Part no. CG-816609 Type no. ADE1F-6 Material: stainless steel Cable Ø: 8.5...16 mm	½" NPT cable gland ATEX/CSA US, 180 °C; Part no. 403 042 Type no. A3LF/16 ½ NPT Material: nickel plated brass Cable Ø: 4...8.4 mm
Spanner tool Part no. DIN 1018A AMF 80-90 mm			
HPH rotation adapters			
For M18, M30×1,5 Part no. RTA-M18	For ¾" UNF; 1 1/16 Part no. RTA-¾" UNF-2	For ¾" UNF; 1 ¼" Part no. 253 961	
Cable connectors			
 			
Female, straight, 6 pin Part no. 370 423 Housing: zinc nickel plated Termination: solder Contact insert: silver plated Cable clamp: PG9 Cable Ø: 6...8 mm	Female, straight, 6 pin with 10 m PUR cable Part no. MTS-A-370423-1000-530052		

See document "551 444" for further accessories.

UNITED STATES 3001 Sheldon Drive
MTS Systems Corporation Cary, N.C. 27513
Sensors Division Phone: +1 919 677-0100
Americas & APAC Region E-mail: info.us@mtssensors.com

GERMANY Auf dem Schüffel 9
MTS Sensor Technologie 58513 Lüdenscheid
GmbH & Co. KG Phone: +49 2351 9587-0
EMEA Region & India E-mail: info.de@mtssensors.com

ITALY Phone: +39 030 988 3819
Branch Office E-mail: info.it@mtssensors.com

FRANCE Phone: +33 1 58 4390-28
Branch Office E-mail: info.fr@mtssensors.com

UK Phone: +44 79 44 15 03 00
Branch Office E-mail: info.uk@mtssensors.com

SCANDINAVIA Phone: +46 70 29 91 281
Branch Office E-mail: info.sca@mtssensors.com

CHINA Phone: +86 21 2415 1000 / 2415 1001
Branch Office E-mail: info.cn@mtssensors.com

JAPAN Phone: +81 3 6416 1063
Branch Office E-mail: info.jp@mtssensors.com

Document part number:
551751 Revision B (EN) 10/2019



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