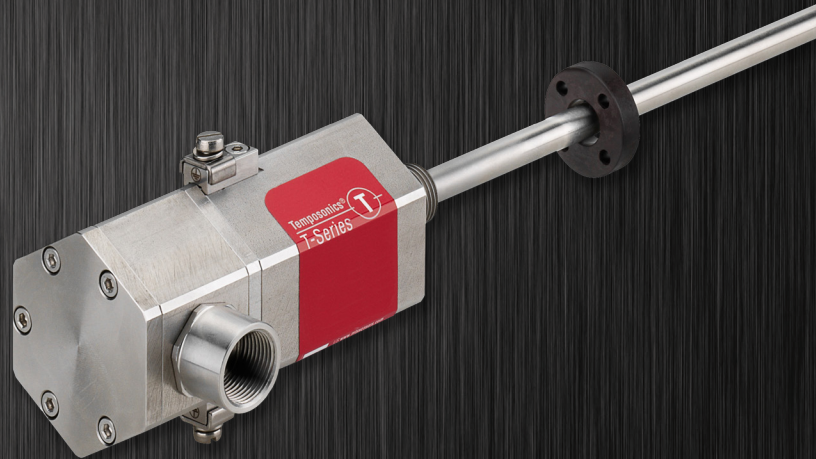


T-Series TH SIL 2 Capable Product Brief

- ▶ **ATEX / IECEx & CEC / NEC certified**
- ▶ **Flameproof / Explosionproof / Increased safety**
- ▶ **Internal diagnostics check safety relevant parameters within the hardware**
- ▶ **Continuous operation under harsh industrial conditions**



The Temposonics® T-Series TH position sensor designed for use in hazardous and safety area applications is ATEX, IECEx, CEC and NEC certified for use in Class I, II, III Division 1, Division 2 and Zone 0/1, Zone 1, Zone 2, Zone 21 and Zone 22. Additionally, this sensor meets Safety Integrity Level (SIL) 2 standards according to IEC 61508.

MTS Sensor's proprietary Temposonics® magnetostrictive technology provides extremely accurate position measurement and is highly suited for use in the most demanding applications. Sensors based on this non-contact technology are highly resilient to vibrations, shock and extreme pressures. Since these sensors are not reliant on moving parts, they have prolonged operational lifespans, with no maintenance or recalibration required.

The sensor head contains active signal conditioning and a complete integrated electronics interface. The rugged sensor rod is capable of withstanding high pressures such as those found in hydraulic cylinders. The sensor is available in an all stainless steel design 1.4305 (AISI 303) and a highly corrosion-resistant stainless steel version 1.4404 (AISI 316L).

THE SAFETY FUNCTION

Functional safety is an active approach to preventing and mitigating unsafe situations that can harm personnel, damage equipment or destroy capital property. Functional safety systems go beyond the safe operation of individual components or the requirements of the environment to include diagnostic and supervisory functions and known reliabilities.

The T-Series safety sensor continuously outputs a position signal proportional to the magnet position, and the internal diagnostic function will check safety relevant parameters within the hardware. The sensor will report an output error signal in the event of a failure. The electronic control unit (ECU) receives the provided signals. In the event of a failure, the ECU must react in an appropriate manner in order to manage the emergency function. Using this information from the sensor, the system will shut off or operate in emergency mode.

TYPICAL APPLICATIONS

Overfill protection, critical fuel monitoring and control, hazardous chemical, petrochemical, grain processing, automatic shutdown and process safety demanding industries.

Features

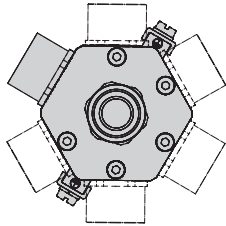
Current	4...20 mA, 20...4 mA (minimum / maximum load 0 / 500 Ω)
Resolution	16 bit; 0.0015 % (minimum 1 μm)
Cycle time	2.0 ms
Linearity ¹	< ±0.01 % F.S. (minimum ±50 μm)
Shock test	100 g (single hit) / IEC standard 60068-2-27
Stroke length	25...1500 mm (1...60 in.)

1/ With position magnet # 201 542-2

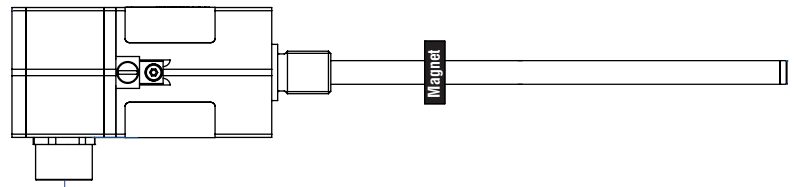
Connection Options

Side connection

N01 - M20×1.5 thread
C01 - 1/2" NPT thread
M01 - M16×1.5 thread



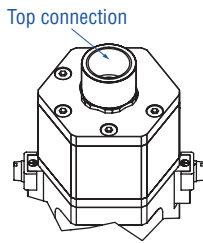
Connector on 6 different positions at 60° each



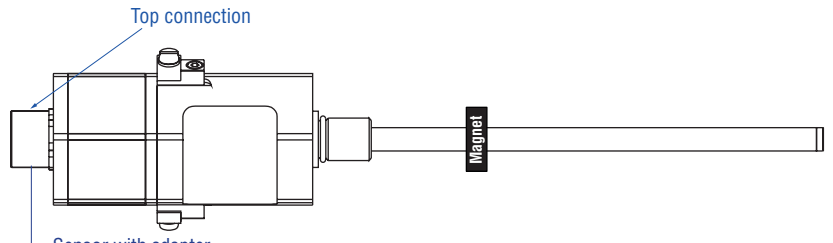
Sensor with adapter

Top connection

N10 - M20×1.5 thread
C10 - 1/2" NPT thread
M10 - M16×1.5 thread



Top connection



Sensor with adapter

Document Part Number:

551620 Revision B (EN) 06/2016

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