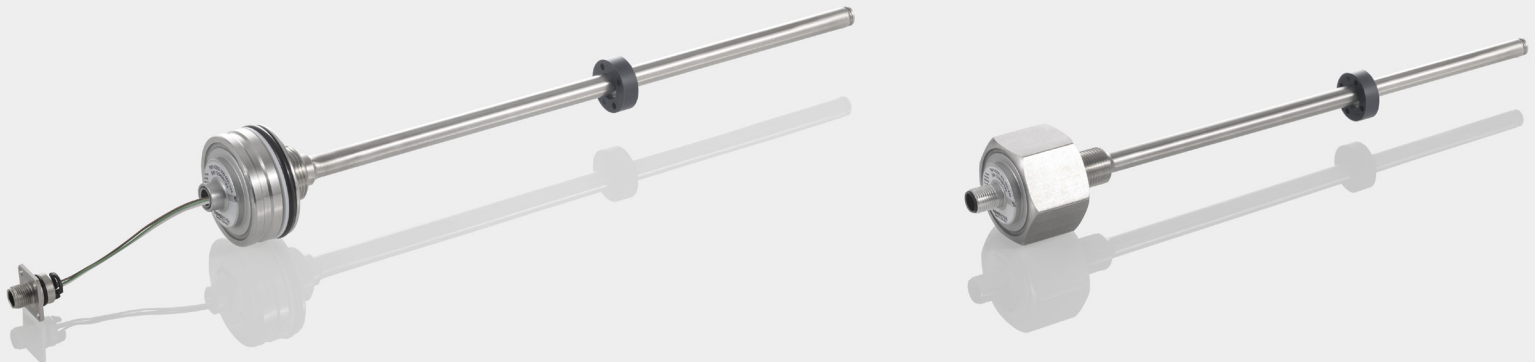


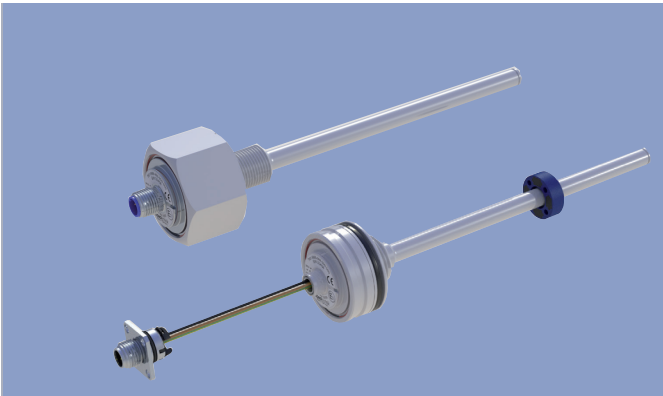
NOVOSTRICTIVE
Transducer
Touchless

TM1



**Fit for Harsh Environmental Conditions -
the new Generation In-Cylinder
Position Sensors for Mobile Hydraulics**

- For integration in pneumatic and hydraulic cylinders
- Touchless magnetostrictive measurement technology
- Operating pressure up to 350 bar, peaks up to 450 bar
- Ring-shaped position marker does not contact sensor
- Unlimited mechanical life
- No velocity limit for position marker
- Absolute output
- Outstanding accuracy performance up to 0.04 %
- Wide range of supply voltage
- Analog (current, voltage) and fieldbus interfaces
- EMC for mobile applications
- Immunity against HF fields up to 200 V/m
- Screw flange M18x1.5 or plug-in flange \varnothing 48 mm
- Optionally connector or cable connection
- Simple integration in cylinders with M12 plug-system



Applications

Hydraulic or pneumatic cylinders in

- Agricultural and forestry machinery
- Construction machines
- Vehicles with loading and unloading devices
- Vehicles with extension arms

External installation

- Manufacturing Engineering
- Level measurement
- Actuators



The absolute position transducer can be used directly in-cylinder and thus enables a compact and cost-effective position measurement. The sensor consists of a stainless steel flange welded to a pressure tight rod and can therefore be used in harsh environments.

The magnetostrictive measuring technology offers excellent accuracy for measuring lengths up to 2000 mm.

The passive ring-shaped position marker allows a mechanically decoupled measurement.

Magnetostrictive Position Measurement

The elastic deformation of the molecular structure of ferromagnetic materials like iron, nickel, cobalt and their alloys under the influence of external magnetic fields is called magnetostriction.

The sensor consists of a ferromagnetic waveguide in the robust housing, an external position marker with integrated magnets for detecting the measuring position and an evaluation electronics.

At the start of a measurement, a current pulse into the waveguide is initiated. The resulting radial magnetic field interacts with the magnetic field of the position marker and generates a mechanical wave. It is propagated in the waveguide at a speed of 2,800 m/s and is detected in the signal converter.

The time between excitation of the electrical pulse and the reception of the mechanical wave is converted in the electronics to an electrical signal corresponding to the current position.

The non-contacting magnetostrictive technology enables an absolute position measurement with excellent repeatability and very good life.

In-Cylinder or External Installation

For easy mounting in a cylinder the linear sensor is provided with a plug-in flange. Especially for external installation the design with hexagonal screw flange and M18 mounting thread is ideally suited for confined spaces. The measuring rod with a diameter of 10 mm is pressure-tight welded to the flange.

- Measuring ranges 50 up to 2000 mm in 25 mm-steps
- Integration in cylinders oder external installation
- Plug-in flange Ø 48 mm or screw flange with mounting thread M18
- Optionally connection with cable, connector M12 or M12 plug-system for tool-free installation

New Generation Mobile Hydraulics Position Sensors

Non-contact magnetostrictive technology provides robust position measurement with 0.1 mm resolution and excellent protection against electromagnetic interference. The sensor signal is either analog as current or voltage output or digital via fieldbus CANopen or CAN SAE J1939.

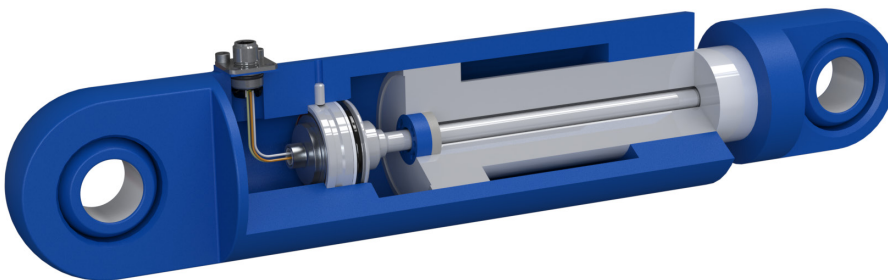
- ISO pulses according to ISO 11452 up to 200 V/m
- Exceeds European E1 requirements
- Models with CE conformity
- Position and speed
- Resolution 0.1 mm
- Supply voltage 12/24 VDC

Operating in harsh environmental conditions

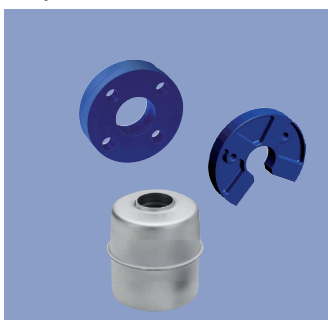
The sensor is engineered to meet the needs of its mobile target market: pressure resistance, tightness, media and temperature resistance.

Unlimited mechanical life is achieved through non-contact measurement with a separate position marker.

- Protection class up to IP6K9K
- -40 ... +105°C
- Operating pressure up to 350 bar, peaks up to 450 bar



Required Accessories



- Ring-shaped position markers
- U-shaped position markers for lateral installation
- Floating position markers for level measurement

Recommended Accessories



- Mating cables and adapter cable M12 in various lengths
- Terminating resistor and splitter/T-connector for CAN-Bus

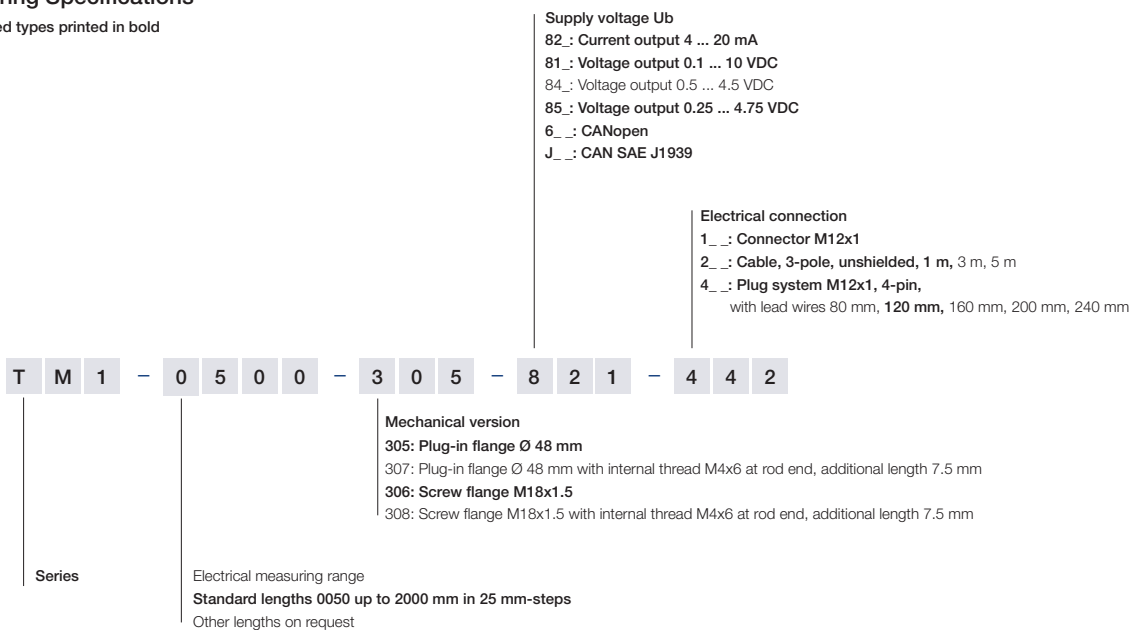
Novotechnik
Messwertaufnehmer OHG
P.O.Box 4220
73745 Ostfildern (Ruit)
Horbstrasse 12
73760 Ostfildern (Ruit)
Phone +49 711 4489-0
Fax +49 711 4489-118
info@novotechnik.de
www.novotechnik.de



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Ordering Specifications

Preferred types printed in bold



For more information and detailed ordering specifications, see <https://www.novotechnik.de/en/products/rotary-sensors-linear-position-transducers/>

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Please do not hesitate to contact the representative for your country or contact us directly:
+49 711 4489-250
support@novotechnik.de