

Series Selector Guide

Magnetostrictive Linear Position Sensors



– TRUST THE EXPERTS –

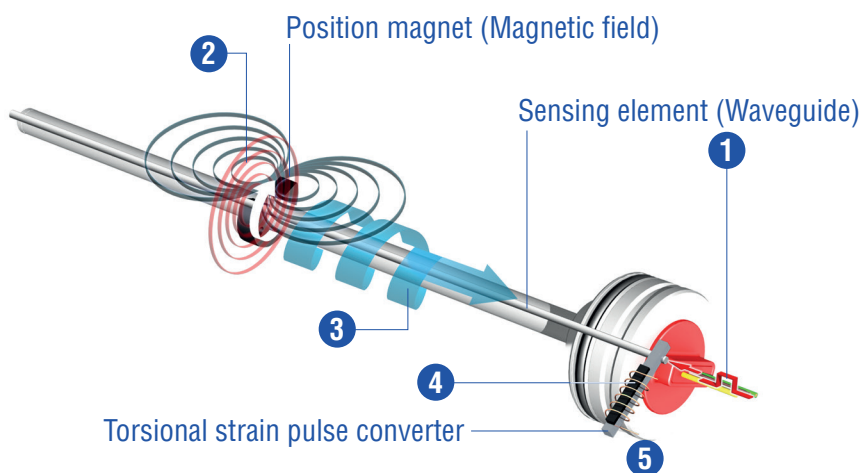
MAGNETOSTRICTION AND ITS ADVANTAGES

Our absolute, linear position sensors are based on the proprietary **Temposonics® magnetostrictive technology** and capture position by measuring the time of flight of an acoustic wave. We measure time in picoseconds within a waveguide that we design, manufacture, and control – this makes our measurement more precise, reliable, and durable.

The speed of sound – **tempo** – is embedded in our name.

-  **Absolute, non-contact measurement**
-  **No recalibration required**
-  **Highest sensor reliability**

-  **No mechanical wear**
-  **Robust and durable**



Measurement cycle

- 1 Current pulse generates magnetic field
- 2 Interaction with position magnet field generates torsional strain pulse
- 3 Torsional strain pulse propagates
- 4 Strain pulse detected by converter
- 5 Time-of-flight converted into distance

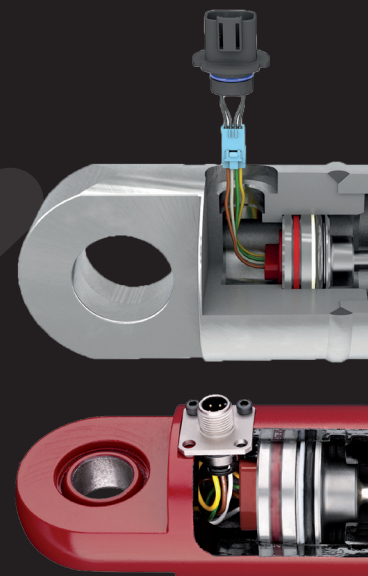
IN PRACTICE ...



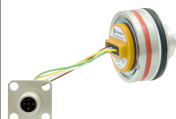
EASY SERVICEABILITY & CONNECTOR ASSEMBLY

Our MH- and C-Series sensor solutions are specifically engineered to master the challenges of mobile working machinery and vehicles. Designed to enhance motion reliability, productivity, operator comfort, and safety, they ensure optimal performance even in the toughest environments.

Featuring quick click-connection systems (M12 & DT), flexible integration options (embedded or external), and sensor designs that enable fast electronic replacement and maintenance (e.g., FLEX & XTERNAL MOUNT), our solutions help keep your machines operating at their best.



SERIES QUICK GUIDE

MH-Series										C-Series					
SERIES QUICK GUIDE															
	EMBEDDED	SLIM	XTERNAL MOUNT	SAFETY	COMPACT	RAIL	MXR	REDUNDANT	THREADED	FLEX SAFETY	OFF-HIGHWAY	CORE	M1 HOUSING	H2 HOUSING	
	FEATURES														
	Velocity measurement	•		•	•	•				•	•				
	Position measurement	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M12 Connector (IP69K)	•	•		•	•	•	•	•	•	•	•	•	•	•
	DT Connector (IP67K&IP69K)	•	•	•	•				•						
	Embedded installation	•	•	•	•	•	•		•			•	•		
	Threaded version		•							•	•			•	
	Replaceable electronics			•							•				
External mounting			•				•								
Ø Pressure pipe	7 mm/10 mm	10 mm	5 mm/7 mm	10 mm	7 mm	7 mm/10 mm		10 mm	7 mm/10 mm	12,7 mm	5 mm	4 mm	8 mm	4,8 mm	
SIL2 capable				•						•					
Redundancy								•							
5 VDC Operating voltage							•					•	•	•	
12 VDC Operating voltage	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
24 VDC Operating voltage	•	•	•	•	•	•	•	•	•	•	•				
STROKE LENGTH															
Specific*											max. 275 mm	max. 250 mm	max. 250 mm	max. 250 mm	
100...600 mm		•					•								
50...2500 mm	•		•	•	•	•		•	•						
50...5000 mm	•			•											
250...10500 mm										•					
OUTPUT															
Analog	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
CANbus	•	•	•	•	•		•		•	•					

* The following stroke lengths are available: 72, 109, 128, 148, 162, 186, 194, 217, 250, 275 mm

SAVE YOUR TIME FOR THE THINGS YOU LOVE! – TRUST THE EXPERTS –



MARKETS



APPLICATIONS

- 1 Automated return to tool position
- 2 Tilt control
- 3 Boom extension
- 4 Lift control
- 5 Cabin suspension
- 6 Steering automation
- 7 Stabilizer

and more ...

- Autonomous vehicles
- Ride height control
- Grade/slope control
- Bucket positioning
- Blade control
- Propeller control
- Spoiler lifting control
- Damping control
- Closing devices
- Tank level

INDUSTRY DIVERSITY WITH A CLEAR FOCUS



Temposonics magnetostrictive position sensors for industrial applications enable precise measurements for controlled, dynamic movements, ensuring efficient and trouble-free automation. They guarantee maximum productivity and reliability across a wide range of applications such as rolling mills, injection molding machines, sawmills, paper cutting machines, and in the field of renewable energy.

Key benefits:

- ✓ **Versatile designs:** Developed to meet diverse application requirements.
- ✓ **Flexible installation:** Can be directly integrated into the hydraulic cylinder or mounted externally.
- ✓ **Large measuring range:** From 25 mm up to 20 m.
- ✓ **Future-Proof with Industry 4.0:** Additional operating data via TempoLink® and TempoGate® enable predictive maintenance and increased machine availability.



The magnetostrictive level transmitters of the **Level Plus® LP- and LL-Series** are designed for automatic level measurement in above-ground storage tanks and process vessels – ideal for the oil, gas, chemical and pharmaceutical industries.

Key benefits:

- ✓ **5-in-1 measurement:** A single sensor captures level, interface, temperature, volume, and high-level alarm – space-saving and efficient.
- ✓ **Versatile designs:** Tailored to diverse application requirements.



Temposonics – Pioneer and innovator in magnetostrictive sensing technology

For more than 50 years, Temposonics has been setting standards in performance and reliability. With decades of expertise in this field, the broadest portfolio of sensor solutions, and a consistent focus on our core technology, we deliver unmatched application know-how and first-class service. We operate production facilities in Lüdenscheid and Dortmund (Germany) and Cary, NC (USA), along with direct sales offices and authorized distributors worldwide.



Document Part Number:

552239 Revision A (EN US) 10/2025

temposonics.com

UNITED STATES

Temposonics, LLC
3001 Sheldon Drive,
Cary, NC, 27513
Phone: +1 919 677-0100
E-Mail: info.us@temposonics.com

GERMANY

Temposonics GmbH & Co. KG
Auf dem Schüffel 9
58513 Lüdenscheid
Phone: +49 2351 9587-0
E-Mail: info.de@temposonics.com