

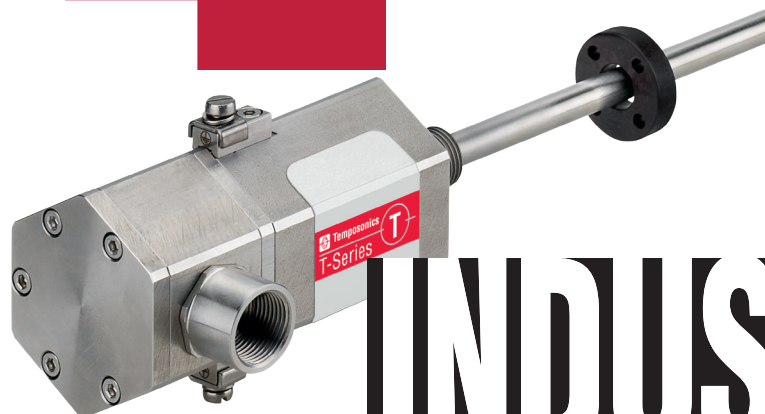


**Temposonics**

AN AMPHENOL COMPANY

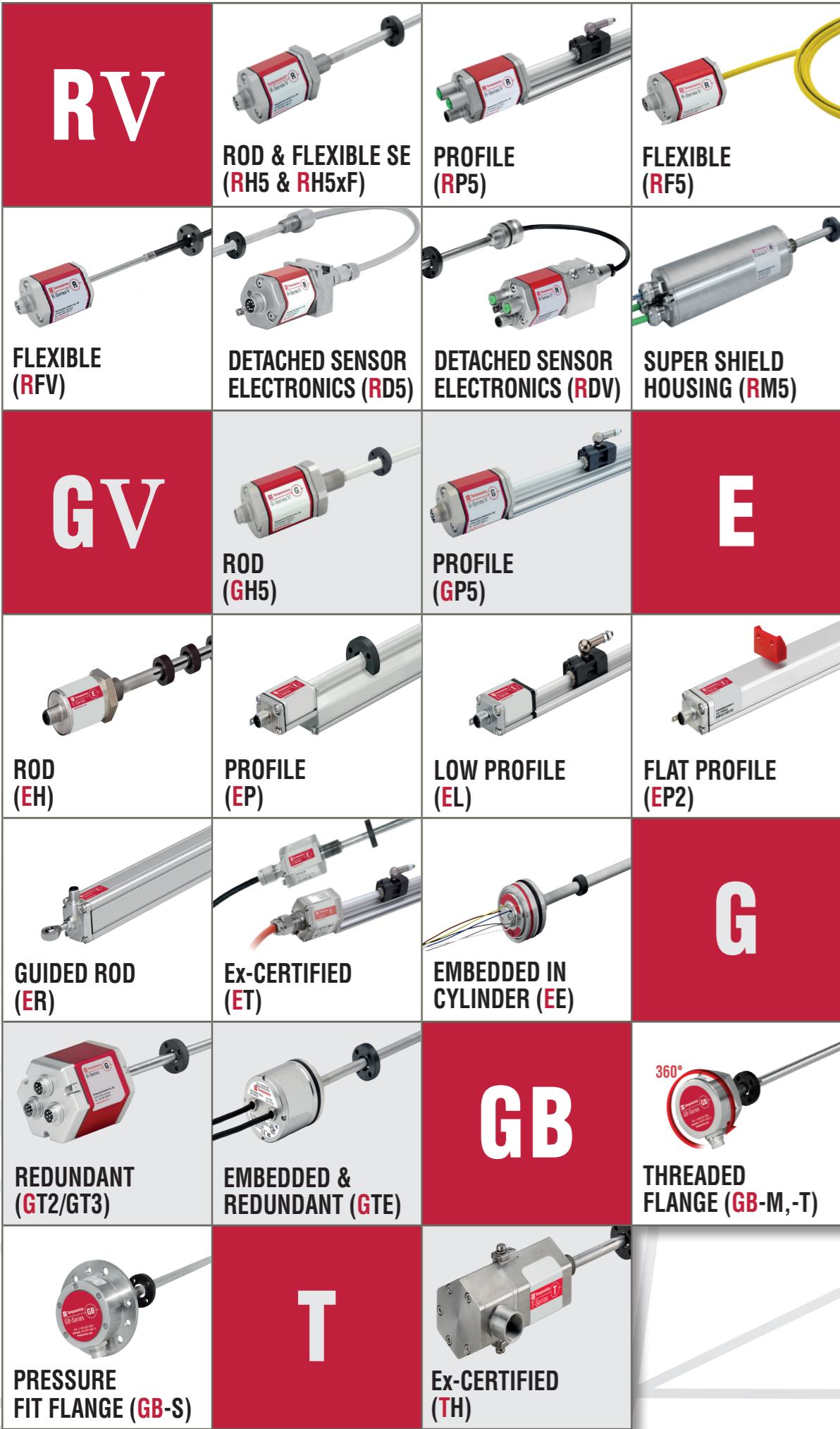
## Series Selector Guide

Magnetostrictive Linear Position Sensors



# INDUSTRIAL

– TRUST THE EXPERTS –



SERIES QUICK GUIDE

R-Series V	G-Series V	E-Series	G-Series	GB-Series	T-Series
<b>MAXIMUM PERFORMANCE</b> with innovative diagnostics	<b>BALANCED PERFORMANCE</b> with backward compatibility	<b>EFFICIENT PERFORMANCE</b> with compact designs	<b>REDUNDANT SENSOR SOLUTIONS</b> for safety-relevant application	<b>COMPACT DESIGN</b> for high temperatures & tight space	<b>CERTIFIED</b> for use in hazardous areas
Metalworking	Lumber processing	Renewable energy	Watergates	Valves	Offshore

TYPICAL APPLICATIONS

FEATURES						
Velocity measurement	•			CANopen, IO-Link		
Multi-position measurement	•	•		EH, EP, EL, EP2		•
Program. sensor parameters	•	•			•	•
Diagnostic LEDs	•	•				
Redundant					•	
Ex-certified				ET	GTE	•
← Sensor assistant	TempoLink®, TempoGate®	TempoLink®				

OUTPUTS						
PROFINET	•					
EtherCAT®	•					
EtherNet/IP™	•					
POWERLINK	•					
SSI	•			EH, EP, EL, EP2, ER, ET	•	•
IO-Link				EH, EP, EL, EP2, ER		
CANBus/CANopen				EH, EP, EL, EP2, ER		•
Analog – Current	•	•	•		•	•
Analog – Voltage	•	•	•	EH, EP, EL, EP2, ER, ET	•	•
Start/Stop		•	•	EH, EP, EL, EP2, ER, ET	•	
PWM		•			•	

MAX. OPERATING TEMPERATURE						
Celsius	+85 °C RD5: +120 °C	+80 °C	+75 °C EE: +85 °C / ET: +105 °C	+75 °C	+100 °C	+75 °C
Fahrenheit	+185 °F RD5: +248 °F	+176 °F	+167 °F EE: +185 °F / ET: +221 °F	+167 °F	+212 °F	+167 °F

MAXIMUM STROKE LENGTH						
1500 mm (60 in.)				ER		
2540 mm (100 in.)				EH, EP, EL, EP2, ET, EE	GTE	
3000 mm (118 in.)				* EP, EL, EP2, ET		
3250 mm (128 in.)						
3500 mm (137.7 in.)					GT2/GT3	
5080 mm (200 in.)	RDV, RD5					
6350 mm (250 in.)	RP5	GP5				
7615 mm (299.8 in.)	RM5					
7620 mm (300 in.)	RH5	GH5				•
20000 mm (787 in.)	RFV, RF5					

\*Start/Stop



R-SERIES V											
RH5	•	•	•								
RP5	•	•	•								
RF5	•	•	•								
RFV	•	•	•								
RD5	•	•	•								
RDV	•	•	•								
RM5	•	•	•								

G-SERIES V											
GH5	•	•	•								
GP5	•	•	•								

E-SERIES											
EH	•	•	•								
EP	•	•	•								
EL	•	•	•								
EP2	•	•	•								
ER	•	•	•								
ET	•	•	•	•	•		•	•			•
EE	•	•	•								

G-SERIES											
GT2/GT3	•	•									
GTE	•	•		•	•		•	•			•

GB-SERIES											
GB	•	•									

T-SERIES											
TH (Analog)	•	•		•	•		•	•	•	•	•
TH (SSI, CANBus)	•	•		•	•		•	•	•	•	•


HPH FOR R-/G-SERIES V											
RH5	•	•		•	•		•	•	•	•	•
GH5	•	•		•	•		•	•	•	•	•

\* SAVE YOUR TIME FOR THE THINGS YOU LOVE!

# 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.

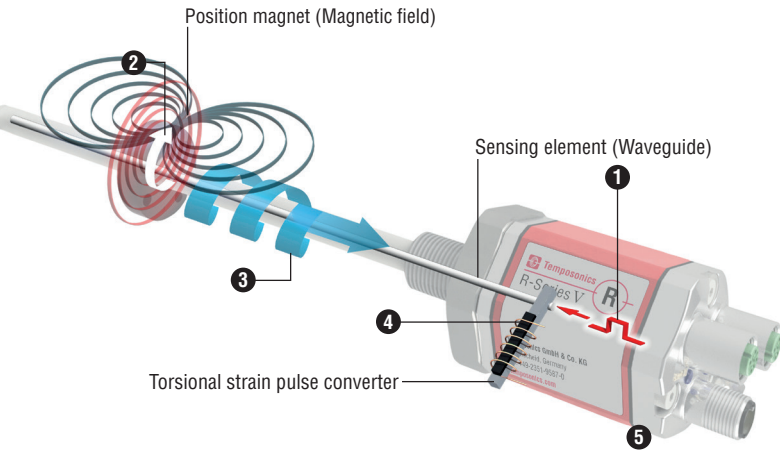
 **Absolute, non-contact measurement**

 **No mechanical wear**

 **No recalibration required**

 **Robust and durable**

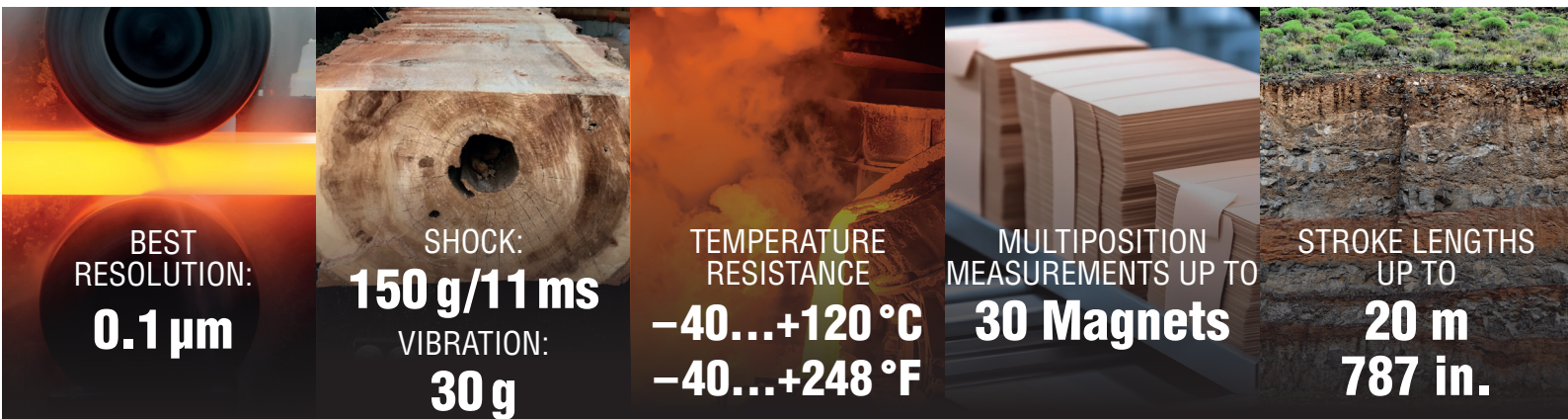
 **Highest sensor reliability**



## 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 position

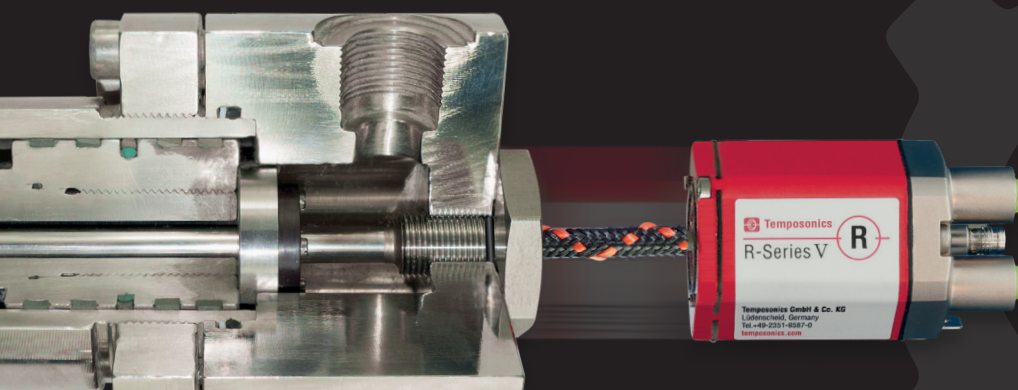
## IN PRACTICE ...



## MODULAR, ENVIRONMENTALLY FRIENDLY DESIGN

The modular sensor design of the R-Series V, G-Series V and GB-Series allows easy replacement of the sensing element and electronics without interrupting the hydraulic circuit. This not only prevents leaks from the cylinder port, but also significantly reduces maintenance costs and downtime.

Temposonics® technology is used in cylinders in almost all industries – from steel and wood to energy production.



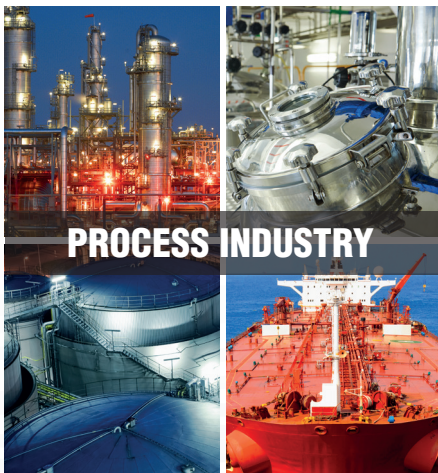
## INDUSTRY DIVERSITY WITH A CLEAR FOCUS



The magnetostrictive position sensors of the **Temposonics® MH- and C-Series** enable highly precise measurements and thus controlled, fast, and smooth movements in mobile working machines, vehicles for logistics and transportation, as well as in the automotive sector.

**Key benefits:**

- ✓ **Versatile designs:** Tailored to a wide range of application requirements.
- ✓ **Flexible installation:** Can be directly integrated into the hydraulic cylinder or mounted externally.
- ✓ **Large measuring range:** From 50 mm up to 10.5 m.
- ✓ **Extremely robust:** Resistant to shock and vibration for maximum safety and comfort for the operator, as well as high 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 processvessels – 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.



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