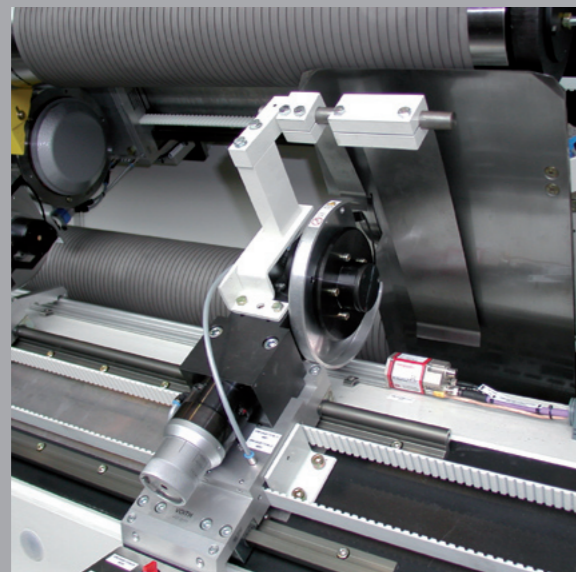
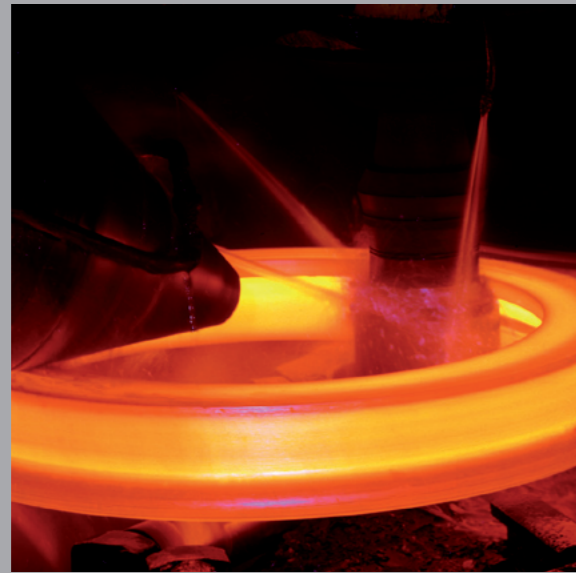


# Temposonics®

## Absolute, Non-Contact Position Sensors



### INDUSTRIES SERVED

#### Magnetostriction: The best choice for your application

You are under constant pressure to improve your products, reduce your costs and maintain a competitive edge. The choice you make must provide accuracy and repeatability. You need modular solutions that can adapt to your specific application and you need a price/performance ratio that delivers value. By choosing MTS Temposonics sensors, you're choosing the leader in magnetostrictive sensors. And that means you have a huge competitive advantage.

#### Increased productivity through innovation

MTS sensors do more than just measure position. Intelligent electronics move some control functions to the sensor, dramatically increasing productivity. When needed, MTS can tailor application-specific software to meet your needs.



### OTHER APPLICATION AREAS

#### Temposonics® C-Series

Compact construction, a reasonable price for large-series production, complete functionality and modularity: the C-Series position transducers provide persuading solutions for all requirements of the OEM-market.

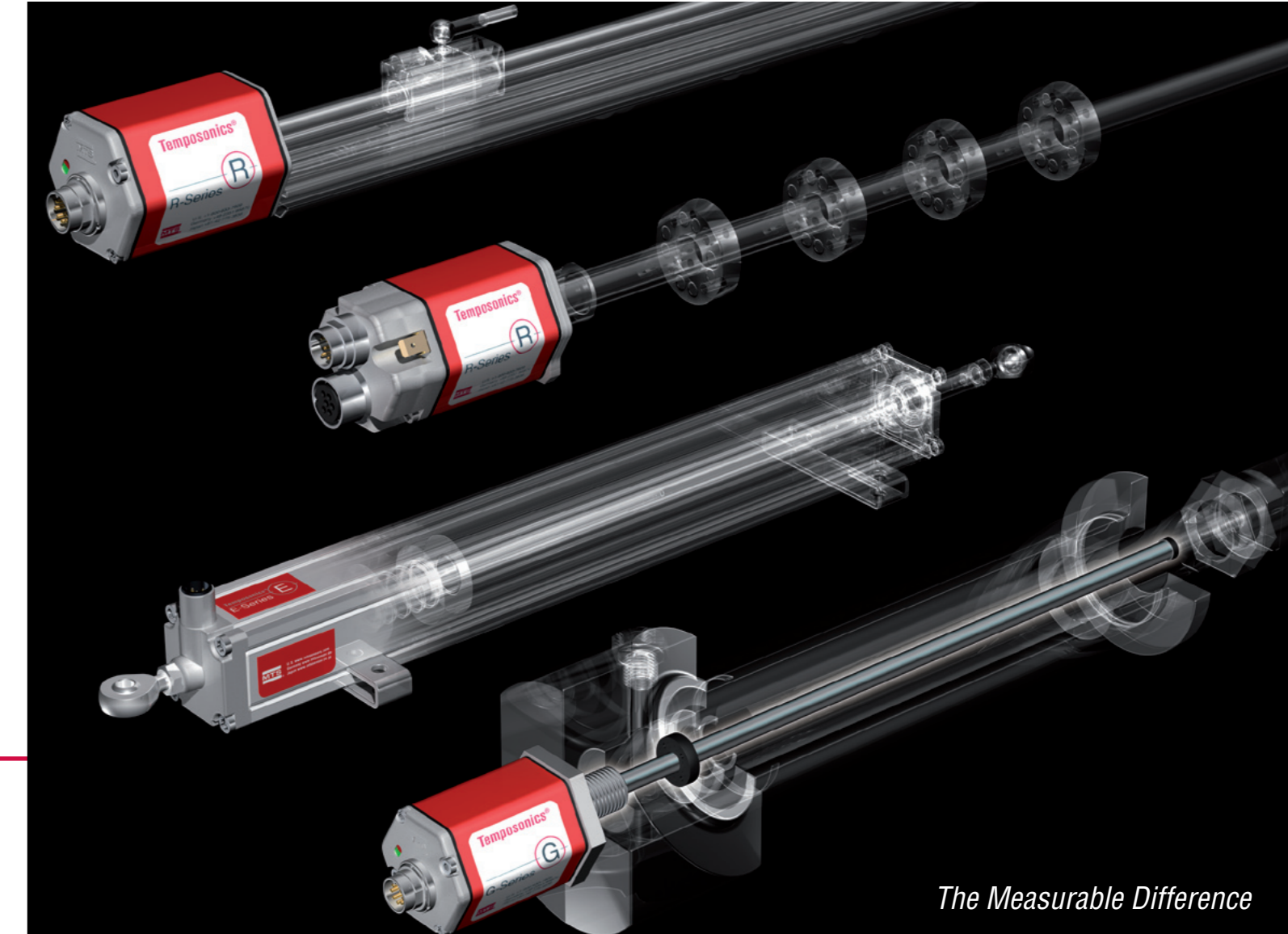
#### Temposonics® M-Series

Integrated in the hydraulic cylinder, the compact Temposonics position sensors for mobile off-road agricultural and construction machinery measure displacement and velocity safely even in an extremely harsh environment.

#### LEVEL PLUS®

Level Plus liquid level transmitters utilize the inherent advantages of magnetostrictive technology to provide the product level, interface level, and temperature measurement of a tank from one process opening. Accurately measuring multiple process variables from one opening lowers the installed costs of adding feedback to a storage tank or process vessel.

## Product Overview Industrial Sensors



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### THE COMPANY

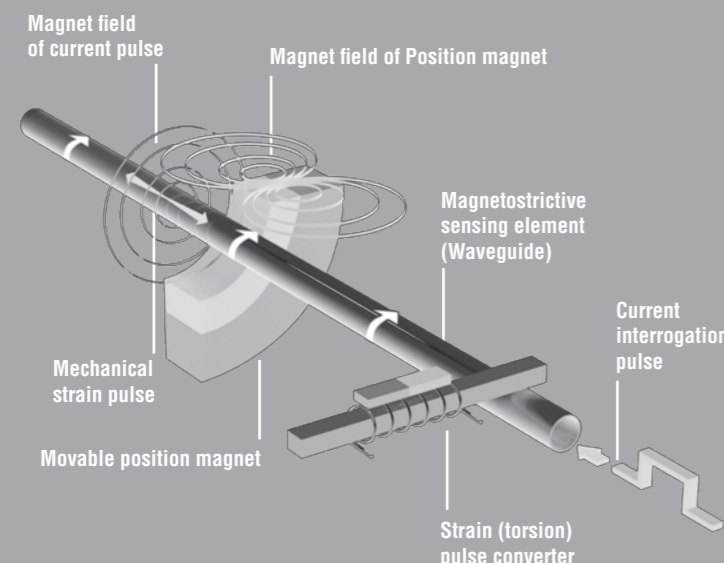
#### The World of MTS - Precision and Reliability

Following the founding of MTS Systems Corporation in 1951, the company rapidly developed into a leading supplier of intelligent hardware and software products in the fields of test and simulation systems and in measuring and automation technology. Today MTS Systems Corporation has over 2000 employees worldwide – 280 of whom are employed by MTS Sensors at three sites in the **USA (Cary, N.C.)**, **Germany (Lüdenscheid)** and **Japan (Tokyo)**. At MTS, intensive basic research is efficiently merged with a consistent focus on practical requirements. The results are innovative solutions for a wide range of potential industrial and non-industrial applications.

### THE PRINCIPLE

#### Magnetostriction - A Milestone in Measurement Technology

The heart of MTS sensors is the ferromagnetic measuring element, also known as the waveguide, and a movable position magnet that generates a direct-axis magnetic field in the waveguide. When a current or interrogation pulse passes through the waveguide, a second magnetic field is created radially around the waveguide. The interaction between the magnetic field in the waveguide and the magnetic field produced by the position magnet generates a strain pulse which travels at a constant ultrasonic speed from its point of generation, the measurement point, to the end of the waveguide where it is transformed into an electric pulse in the sensor element. The resulting signal is processed by the specialized electronics of the Temposonics sensor. With our extensive know-how of ferromagnetic materials, magnetic effects and ultrasonic processes, MTS remains unrivalled in performance standards for non-contacting position measurement of the highest precision.



	R-SERIES					G-SERIES				E-SERIES			
<b>Sensor Model</b>	<b>RH</b> Pressure-resistant stainless steel rod sensor for fluid technology	<b>RP</b> Robust aluminum profile for industrial manufacturing	<b>RF</b> Multifunctional industrial sensor with flexible measuring rod	<b>RD4</b> Compact sensor for Hydraulic cylinder and industrial manufacturing	<b>RS</b> Position sensor in IP69K protective housing	<b>GH</b> Pressure-resistant stainless steel rod sensor for automation	<b>GP</b> Aluminum profile, perfect sensor for mechanical engineering	<b>GB</b> Pressure-resistant rod version for hydraulic cylinders	<b>GT2 / GT3</b> Redundancy for high reliability	<b>EH</b> Compact rod version designed for installation into hydraulic cylinders	<b>EP</b> Aluminum profile for industrial automation technology	<b>EL</b> Aluminum profile for industrial automation technology	<b>ER</b> Profile sensors with "Rod & Cylinder" actuation and integral electronics
<b>Output</b>	<b>Voltage:</b> 0...10 V; 10...0 V; -10...+10 V Additional output ranges available between -10 and +10 V.					<b>Voltage:</b> 0...10 V; 10...0 V; -10...+10 V; +10...-10 V				<b>Voltage:</b> 0...10 V and 10...0 V			
	<b>Current:</b> 0/4 ...20 mA; 20...4/0 mA Additional output ranges available between 0 and 20 mA.					<b>Current:</b> 0/4...20 mA; 20...4/0 mA				<b>Current:</b> 4...20 mA or 20...4 mA (min/max. load: 0/500 Ohm)			
	<b>SSI:</b> Gray- or Binary-Format; Data length selectable; synchronous / asynchronous measurement; optional Parity- and Error Bit.					-				<b>SSI:</b> Gray or Binary; 25 or 24 Bit, synchronous and asynchronous measurement			
	<b>Fieldbus:</b> CANbus; CANOpen; Profibus DP-V1; DNet; EtherCAT; EtherNet/IP					-				-			
<b>Measuring Range</b>	25-7600 mm	25-5000 mm optional up to 6200 mm	0,15-20 m larger length upon request	25 - 5000 mm	50 - 7600 mm	<b>Analog:</b> 50-2500 mm <b>Digital:</b> 50-7600 mm	<b>Analog:</b> 50-2500 mm <b>Digital:</b> 50-5000 mm	<b>Analog:</b> 50-1500 mm <b>Digital:</b> 50-3250 mm	50 - 2900 mm	50-2500 mm	50...2500 mm	50...2500 mm	50-1500 mm
	<b>Analog:</b> 16 Bit; 0,0015 %					<b>Analog:</b> infinite, controller dependent and restricted by output ripple (0,01 %)				<b>Analog:</b> Infinite			
<b>Resolution</b>	<b>Digital:</b> CAN 2 µm; Profibus, EtherCAT u. EtherNet/IP 1 µm; SSI 0,5 µm					<b>Digital:</b> 5 µm dependent on controller				<b>Digital:</b> 10 µm			
	<b>Digital:</b> 10 µm dependent on controller					-				-			
<b>Feature</b>	<b>Velocity Measurement</b>					-				Position, two or three output channel			
	<b>Simultaneous Multi Magnet Measurement</b> Analog 2 positions; CANopen up to 4 positions; EtherCAT up to 20 positions; Profibus, CANbus up to 30 positions, SSI differentiation measurement of 2 positions					<b>Simultaneous Multi Magnet Measurement on Start / Stop; Analog 2 measurements</b>				-			
	-					-				-			
<b>Diagnostics</b>	Measuring range and sensor parameters are programmable.					Measuring range programmable.				-			
	<b>Diagnostics LEDs</b> for general information and troubleshooting. Sensor parameters can be diagnosed and changed with programming tool. Programmable sensor parameters.					-				<b>Diagnostics LEDs:</b> Diagnostic data online via programming tool.			