

# Temposonics®

Magnetostrictive, Absolute, Non-contact  
Linear-Position Sensors

**Industry Applications**



# Wood



**Rugged Sensors for Wood Machinery  
in Harsh Environments**

*The Measurable Difference*

# ***Get Results Using MTS Sensors ...***

## ***Production Efficiency, Versatility and Accuracy***

The wood industry requires a wide range of machinery that must operate under harsh conditions while providing accurate performance. Downtime and lost productivity are expensive, and linear position sensors are critical components in maintaining an efficient operation.

The robustness and reliability of MTS Temposonics® R-Series and G-Series linear-position sensors can greatly reduce maintenance costs, and quite often, can be used to extend the life of older machines.



R-Series and G-Series linear-position sensors provide a cost-effective solution for applications that demand tough, low maintenance position sensors that ensure accuracy and production efficiency.

## ***The Challenge ...***

### ***Cost Effective, Accurate, Reliable Position Feedback for Harsh Environment Applications***

The harsh environment of sawmills and related wood industry applications demand tough sensors with reliable and accurate measurement.

New machine designs put increasing demands on position sensors as the loads and speeds increase for productivity.

Applications in the wood industry need sensors that offer robustness, reliability, and flexibility as well as easy troubleshooting and replacement to effectively meet production requirements.

## ***MTS' Sensors Meet The Challenge***

MTS' Solution - Temposonics® R-Series and G-Series linear-position sensors offer high reliability under harsh environmental conditions. Based on superior technology and continuously improved construction, these magnetostrictive devices not only meet, but exceed the challenges of the wood industry.

The High Vibration Resistance option (HVR) increases the vibration tolerance from 15g to 30g (10-2000 Hz). Available for R-Series Analog, R-Series SSI, and G-Series sensors. The recent enhancements to the HVR design now further increase the longevity of the sensor.

Excellent immunity to contamination and electromagnetic interference ensures smooth sensor operation without control errors and maintenance expenses from downtime, and therefore is the most cost effective position measurement solution for the complete life cycle of the machine.



### ***Application Benefits:***

- **Reliable linear-position feedback**
- **Rod-style sensors for hydraulic cylinders**
- **Shock and vibration resistance**
- **Simultaneous multi-position capability**
- **User friendly status and diagnostic LED display**
- **Field programming capability and remote diagnostics**

## ***Proven Position Sensors for Wood Industry Applications***

### ***Added Benefits of Temposonics Technology***

All R-Series and G-Series rod style sensors have a modular design allowing the sensor cartridge, (consisting of the electronics head and sensing rod), to be removed from it's outer protective pressure pipe assembly. This method, developed by MTS, allows easy exchange of the sensor cartridge while the pressure seal is maintained, avoid possible oil spillage and contamination.

As pioneer and market leader in magnetostrictive measurement MTS has developed product families to meet the needs of an array of application requirements.

## ***MTS' Proven Solution***

***Accuracy, Value + Versatility = Profit***

### ***Advanced diagnostics and programming add a new level of flexibility***

Diagnostic feedback like “normal operation” or “missing Magnet” are indicated by built-in, dual colored LEDs easily seen located beside the sensor connector(s). The diagnostic data installed sensors can be remotely monitored on a hand held programmer or on a PC using the MTS PC Programming Kit. The programming kit may also be used to easily reprogram the output type in the field to switch between voltage and current output of analog, or between Start/Stop and PWM for digital pulse outputs.



The Synchronous Serial Interface (SSI) for R-Series sensors provides a robust, high-speed link between the sensor and the controller. MTS proprietary algorithms provide accurate synchronization with measurement reporting cycles as fast as 0.1 milliseconds to meet the needs

of high performance motion control.

MTS Sensors also offer several models with Multi-position capability that enables a single sensor to measure simultaneous positions of multiple moving parts, such as saw blades, for reduced system cost.

As pioneer and market leader in magnetostrictive measurement, MTS has developed product families to meet the needs of an array of application requirements. You can depend on MTS, the industry's proven standard for more than 25 years.

#### ***Did You Know?***

*All MTS' Linear-Position Sensors are designed with Patented Temposonics® Magnetostrictive Technology and have been benchmarked as the Industry Standard for more than 25 years!*

### ***MTS Product Families Meeting Industry Needs***

#### ***R-Series Sensors:***



***Our highest performing magnetostrictive linear-position sensors available. Rod-style features include:***

- Analog SSI, EtherCAT®, Profibus-DP, DeviceNet, CANbus, and POWERLINK outputs
- Position and velocity with measurement cycles of 100 microseconds
- Non-linearity  $<\pm 0.01\%$  Full stroke
- Repeatability  $<\pm 0.001\%$  Full stroke
- 25 mm (1 in.) to 7620 mm (300 in.)

#### ***G-Series Sensors:***



***Outstanding sensor performance, rod-style features include:***

- Enhanced diagnostics and programmability
- Analog, Start/Stop, and PWM outputs
- Non-linearity  $<\pm 0.02\%$  Full stroke
- Repeatability  $<\pm 0.001\%$  Full stroke
- 50 mm (2 in.) to 7620 mm (300 in.)

#### ***E-Series Sensors:***



***Economic effective magnetostriction alternative performance***

- Cost alternative to potentiometers
- Analog and start/stop outputs
- Non-linearity  $<\pm 0.02\%$  Full stroke
- Repeatability  $<\pm 0.001\%$  Full stroke
- 50 mm (2 in.) to 1525 mm (60 in.)

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