MTS®
SENSORS

Temposonics®

Absolute, Non-Contact Position Sensors

The New E-Series

The Measurable Difference

MTS®
SENSORS

Temposonics® E-Series Sensors…

…are the right choice whenever standard measurement performance is required. In price-sensitive applications, such as plastics processing, wind turbines, textile industry, woodworking, or in material handling and packaging machines, they have been the cost-effective alternative to wear-prone position measurement systems for years. They are an affordable solution not only for their initial purchase price, but also for the overall life cycle costs!

E-Series sensors provide continuous, non-contact position feedback ensuring an optimum price-performance ratio when a reliable and cost-effective solution is needed. Therefore, magnetostrictive displacement measurement can be used economically in standard applications where the highest performance is not necessary.

E^2 - Effective and Efficient

Now MTS has developed the next generation E-Series sensors. They are a landmark for cost-effective and efficient sensor use. With the E-Series you get the optimal performance for your application – no more and no less. Therefore, you can benefit from the advantages of magnetostriction at optimum costs. Like all Temposonics® sensors, the E-Series transducers measure absolute position without wear, contact, or recalibration for years.

Naturally, all new models provide backward compatibility with the previous versions of the E-Series. All dimensions of the sensors are either the same or smaller and utilize the same mounting points. The connectivity has been updated to standard M12 connectors available at reasonable prices. For M16 connection retrofits, adapter cables are available as an accessory.

Highlights of the New Series

The redesign of the entire Temposonics® E-Series product family incorporates the latest advances in magnetostrictive technology. All models have received a complete mechanical redesign and the latest electronics with a focus on consistent performance features. As a result of advancements in waveguide technology and enhanced sealing of electronics, all E-Series sensors can now reliably achieve a minimum protection class of IP67, 100 g shock and 10 g vibration resistance.

The new E-Series sensors are now available with defined stroke lengths from 50 mm up to 2500 mm featuring analog interface or digital Start/Stop output. For further reduction in cost and space, the analog models are capable of reporting two simultaneous positions when using two position magnets.

All E-Series sensors offer a good resolution and repeatability of 0.01 mm and 0.03 % F.S. linearity deviation. If higher precision is required, advanced sensors models such as the R-Series are available in the Temposonics® product line.

At a Glance

- New sensor model with ultralow profile design
- Very compact dimensions
- Outputs: Current, Voltage, Start/Stop
- Measuring range from 50 mm up to 2500 mm
- M12 connector: cost-effective connection with prefabricated cables
- Measurement of 2 simultaneous positions with 1 analog sensor
- High protection class up to IP69K
- Position magnet can move over the electronic head (EP)

EH - Rod Sensor up to IP69K

The Temposonics® Model EH sensor features a pressure proof sensor rod for direct stroke measurement inside hydraulic cylinders. With its minimized sensor head and either a 7 m or 10 mm tube, it is the ideal solution when space is critical. For long strokes, the EH is now available with measuring ranges up to 2500 mm.

The new sealed stainless steel housing of the EH offers long life position measurement for rugged environments. Installed with the appropriate connector, it features protection up to IP69K, is corrosion resistant and protects against dirt and water.

EP - Profile Sensor

The Temposonics® Model EP profile sensor with rugged aluminum housing provides its reliable service in the harsh environment of industrial applications. Mounted in parallel to the moving axis, it detects positions either via a magnet slider, which moves over the profile bar, or with a free running U-shaped or block magnet.

As an innovative product, the EP operates with the magnet floating over the sensor's electronic head. This is perfect if the movement axis is longer than the measuring range.

ER - Rod-and-Cylinder Sensor

The Temposonics® Model ER sensor - shaped like an aluminum cylinder with a guided driving rod - is well suited for easy mounting to the machine. It can now be installed flexibly in any orientation for measuring lengths of up to 1500 mm. The position detection is via the solid driving rod, which contains the position magnet and extends or retracts into the housing.

Due to the enhanced sealing of the sensor electronics and the sensing element inside the housing, the ER offers a protection rating of IP67 and is ideally suited for long-term operation in the world of automation.

EL - Ultralow Sensor

The brand new sensor of the E-Series, the Temposonics® Model EL, includes a low profile aluminum housing. The slim low-profile version has specially been developed for applications where tight mounting space is a critical factor.

With a housing height of only 25 mm at the head and 15 mm along the measuring range, it fits into the tightest areas. The position magnet moves freely or guided along the profile.

Editorial

Dear Business Partner,

In these difficult economic times, MTS has chosen to not cut back short-sightedly, but has positioned itself for a successful upswing. We have continued to invest in the technology of Temposonics® sensors.

The result is once again impressive - a complete new generation of the E-Series sensor family!
Like their predecessors, the new sensors are enabled for economic use of magnetostrictive position measurement in standard applications. Their performance, as well as the costs, match the requirements of cost-sensitive position monitoring tasks.

As a result of the redesigned tried and trusted series, you will benefit from compact housing styles, upgraded protection and enhanced measuring ranges - without paying more. Altogether the new E-Series sensors show up E squared.
E² - that is **E**ffective and **E**fficient.

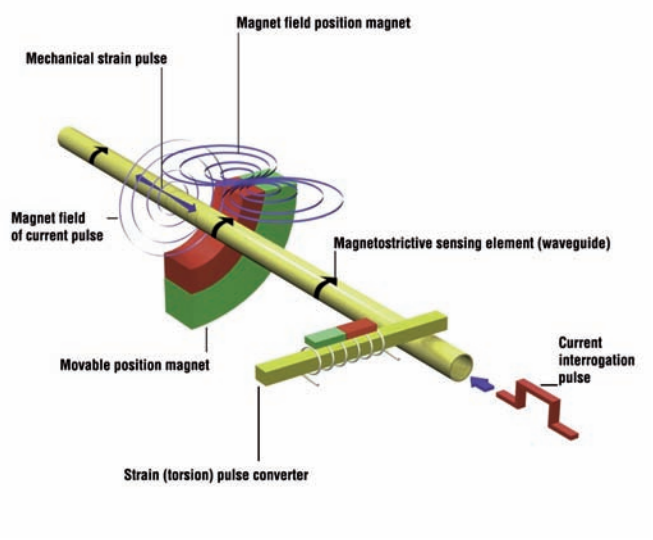
With kind regards from Lüdenscheid
Yours,

Hanserdmann von Biedersee
(Technical Marketing Manager Industrial Sensors)

Wear-free Measuring Principle

The major advantage of all Temposonics® sensors is their magnetostrictive measuring principle. They detect positions via magneto-mechanical effects, which means completely without contact and wear-free.

The sensing element is embedded inside the sensors housing. The sensor head accommodates the complete electronics for active signal processing. A free running or guided magnet moves without contact over the sensor housing and marks the current position through its wall.



To determine the position, the sensor electronics send an electric pulse through the sensing element. In the area of the position magnet, a partial twist of the sensing element generates a torsional wave, which travels to the ends of the sensing element. A special signal converter converts the impulse into standard output signals. Exact determination of the magnet position is achieved by runtime measurement, by the time elapsed between the start of the current pulse and the return of the electric reply signal.

Pictures: MTS und Fa. Bekum

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