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FOR IMMEDIATE RELEASE
November 11, 2009, MTS815



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Magnetostrictive technology provides precise position measurement for linear actuators...

MTS LINEAR POSITION SENSORS INCREASE LINEAR ACTUATOR PERFORMANCE, PRODUCTIVITY

CARY, N.C. (November 11, 2009) – MTS Systems Corp., Sensors Division’s Temposonics® linear-position sensors are being utilized for precise position measurement for linear actuators to increase output by reducing cycle times and non-productive downtimes. They are installed not only in electrical linear motors, but also in pneumatic, hydraulic, ball-screw or power-grip belt drives and wherever high-accuracy, dynamic positioning tasks must be performed. This includes applications such as assembly lines, handling technology, component feed equipment, quick-positioning systems, quick-change systems for work piece holders, machining centers and packaging solutions.

“Productivity pressure, frequent product change-overs and sophisticated machining tasks are an essential challenge to drive technology,” said Matt Hankinson, MTS Sensors marketing manager. “Temposonics position sensors offer optimum performance characteristics for dynamic control in closed loops. Continuous, precise sensor feedback permits position- and velocity-controlled movements at very high or very low speeds.”

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MTS SENSORS INCREASE EFFICIENCY AND PRODUCTIVITY IN ACTUATORS, P. 2

To optimize manufacturing production, MTS' magnetostrictive linear-position sensors offer superior accuracy for improved quality control; unparalleled reliability to maintain high productivity; and high-speed performance for faster control loops. The R-Series' superior response time and accuracy result in higher machine performance and product quality while the reliable construction results in reduced maintenance and down time. MTS linear-position sensors provide a cost-effective method to improve overall system performance.

MTS Temposonics linear-position sensors are a popular choice for linear motors and actuators because they provide absolute position feedback for increased safety and efficiency. The ability to directly measure absolute, linear position at the load has distinct advantages over rotary or incremental feedback techniques. Absolute position means that the sensors can immediately report the correct position without a reference move upon start-up or after a power loss. Measuring linear position at the load, rather than relying on a rotary encoder, improves the positioning accuracy by measuring the impact of backlash or other factors that impact the targeted position.

The magnetostriction technology invented by MTS for Temposonics sensors enables the simultaneous and continuous position measurement of up to 30 different points on an axis, which can eliminate the need for multiple sensors or switches. MTS linear-position sensors are also available in lengths up to 65 feet in a flexible housing that can be coiled for easier shipping and installation.

For applications that demand high-speed performance for motion control, a fast update option provides absolute position updates every 100 microseconds. Available for protocols such as SSI, the controller can read absolute position values from the sensor at an update frequency up to 10 kHz (independent of measuring length) synchronized with an external control clock.

An outstanding resolution as low as 1 micron enables movement at very low speeds of only 0.5 mm/s. Sampling rates up to 10 kHz are assured to track fast movement and cycle times. With a linearity of $< \pm 0.01\%$ F.S. and a typical repeatability of 5 microns, applications can achieve precisely controlled movements.

MTS SENSORS INCREASE EFFICIENCY AND PRODUCTIVITY IN ACTUATORS, P. 3

The MTS R-Series sensor provides high immunity against electromagnetic interference and its robust design protects against shock and vibration. For improved protection, the electronics are double-shielded for EMI immunity, and are also available with NEMA 4X housings for contamination protection and wash down.

Available with many interface choices, including analog, DeviceNet, SSI and Industrial Ethernet, the sensors provide smart programmability, allowing setups to be stored and recalled directly at the PLC / HMI for even faster setup times. For most applications, no adjustments are required for normal sensor installation and operation, but if sensor parameters need to be changed on-site, the sensors are easy to program using one of three options – handheld or cabinet-mounted pushbutton programmers or PC software programming kits depending on the user's needs. Additionally, advanced diagnostics makes troubleshooting fast and simple.

The Temposonics linear-position sensors are available in a variety of configurations for application flexibility, including rod-style for hydraulic applications; profile-style for external machine mounting; remote electronics for tight spaces; flexible sensors for long stroke applications or curvilinear measurement; explosion-proof for Class 1, Division 1 applications; and double or triple redundancy for safety.

For more information on Temposonics Sensors, please contact: MTS Systems Corp, Sensors Division, 3001 Sheldon Drive, Cary, NC 27513. Phone: (919) 677-0100. E-mail: info@mtssensors.com or visit their web site at <http://www.mtssensors.com>.

MTS Sensors, a division of MTS Systems Corp., is the global leader in the development and production of magnetostrictive linear-position and liquid-level sensors. Based on MTS' patented Temposonics[®] technology, the Sensors Division is continually developing new ways to apply magnetostrictive sensing technology to solve critical applications in a variety of markets worldwide. With facilities in the U.S., Germany and Japan, MTS Sensors Division is an ISO 9001 certified supplier committed to providing innovative sensing solutions that deliver customers with reliable, cost effective sensing devices.

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