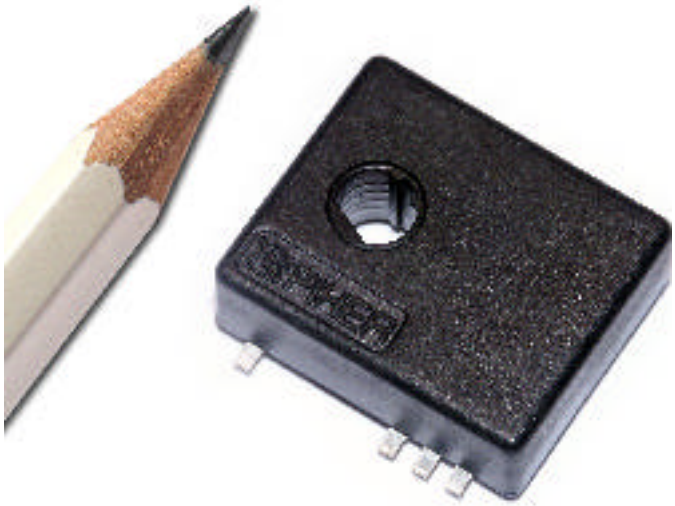
Miniature SMD Rotary Sensor Offers Size and Functionality Breakthroughs



The MTS360 provides a true breakthrough in contactless sensor technology by combining a through-shaft design with 360° absolute position feedback in an ultra miniature size. The result is the smallest fully featured rotary sensor on the market with reliability up to 25 million cycles.
With its tiny size of only 6 x 17 x 18 mm (HxWxL), engineers can now integrate a fully featured rotary sensor directly onto their PCB without the packaging issues that typically accompany encoders or other absolute position devices. The exceptionally low profile fits easily in places that were previously too small for pre-packaged rotary sensors.

The MTS 360 relies on patented Hall effect technology to enable, for the first time, true non-contacting through-hole shaft sensing using standard SMD features. The offset through-hole accommodates the vacuum pick up tool, allowing use in automated SMD assembly systems. The standard model features a 4.0-mm double D-flat shaft and an eight pad SMD footprint that is compatible in most reflow soldering systems.

The new device offers electrical angles up to 360° with no dead band and linearity as low as ±0.5%. Rated for use at -40 to 150°C, the sensor can operate up to 300 rpms and can be programmed with full scale output with angles shorter than 360 degrees. Output is selectable between analog, PWM 12 bits, or serial protocol (SPI) at 14 bits and includes a second output channel to provide a programmable switch signal. A redundant version with a dual core sensor in the same package is also available.

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