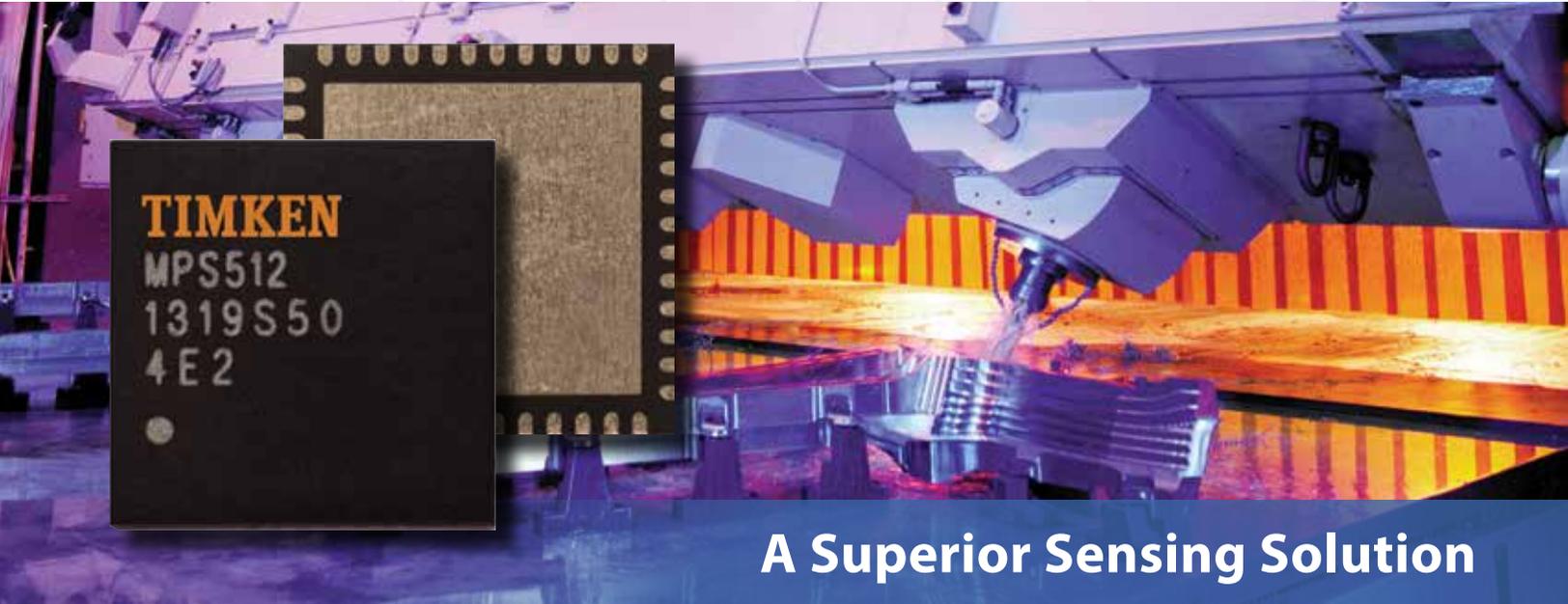


TIMKEN

MPS512 MULTIPLYING ENCODER ASIC

Timken® magnetic encoder technology offers clear operational and cost benefits over other commonly used technologies. Our superior sensing products provide reliable speed and position data even in harsh operating environments.



A Superior Sensing Solution

The latest addition to Timken® magnetic encoder products, MPS512 Multiplying Encoder ASIC, offers a compact design, combined with magnetic technology that easily functions without any light or line-of-sight. The new encoder can be readily adapted, increasing the flexibility of the application without having to consider an entirely different chip or encoder. The flexible programming can result in lower costs for manufacturers.

Durability

Featuring a sensor that remains functional even with debris or liquid in the sensor gap, the Timken MPS512 encoder withstands extreme temperatures, high levels of shock and vibration, and tolerates interference from stray magnetic fields.

Timken Design

The Timken design includes direction-sensing Hall Effect signals to provide optical encoder resolutions. The encoder creates quadrature feedback in off-axis

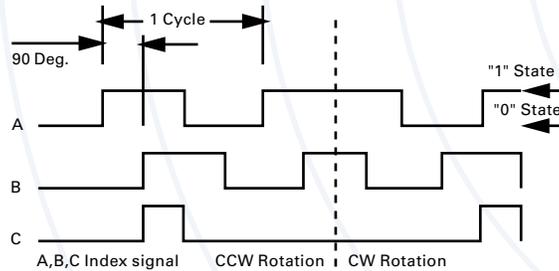
magnetic encoders. This approach allows Timken magnetic encoders to operate without light or line-of-sight, working effectively where optical encoders are insufficient.

Customized Solutions

Customers interested in a customized solution can rely on Timken application engineers to provide expertise and experience. They help customers tailor the electronic aspects and physical configuration of the encoder to enhance both function and performance for end users.

More details regarding specifications,
installation and instructions available at www.timkenencoders.com

Incremental Mode Quadrature Signals



The Attraction of Magnetic Encoders

- Unaffected by liquid or solid particulate in sensor-to-target gap
- Withstands high temperatures
- Small footprint (7mm x 7mm)
- Shock load protection up to 100g
- Vibration resistant
- Very high programmable resolutions
- Programmable output signal up to 512 times the pole pair count on the sensors multi-pole target
- Highly accurate off-axis sensing
- Independent Hall for redundancy
- 2.4MHz/channel (9.6MHz data rate) quadrature mode and 4MHz SPI data rate
- Large air gap (to 3mm)
- System on a chip (power in, processed signal out)

Optimum Applications

- Brush and brushless servomotors
- Closed loop stepper systems
- Rotary and linear positioning
- General-purpose motion control
- AC and DC motor internal speed control
- Motion control/sensing in industrial equipment

Specifications and Features

Electrical

- DC supply voltage: 4.5 to 5.5V
- Supply current: 95mA ABS mode
70mA incremental mode
- Max frequency: 4MHz SPI data
- Max magnetic input frequency: 18kHz
- Line driver output current (A, B, Z):
8mA source, 10mA sink
- QFN48 package

Environmental

- Shock load protection up to 100g
- Vibration resistant
- Variable air gap up to 3mm (incremental) 1mm (absolute)
- Unaffected by liquid or solid particulate in sensor-to-target gap
- Operating temperature: -40° to 125°C*
- Electrostatic discharge protection up to 2kV
- Excellent EMI performance
- Rejection of common mode magnetic fields
- RoHS compliant

* For information on higher temperatures contact Timken

Resolution

- Interpolator/Multiplier from 4 to 512 edges per magnetic pole pair
- Minimum linear resolution: 3.3 Microns

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets mechanical components, including bearings, gears, chain and related mechanical power transmission products and services.

Stronger. Commitment. Stronger. Value. Stronger. Worldwide. Stronger. Together. | Stronger. By Design.

www.timken.com