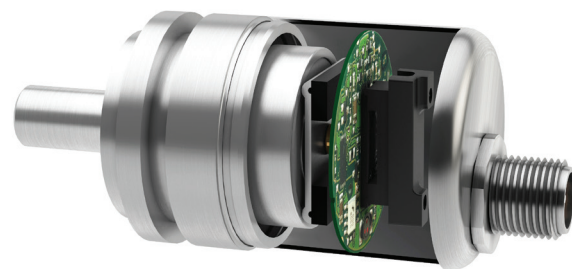


POSITAL

FRABA

The No-Compromise IXARC Rotary Sensor from POSITAL

When designers of motion control systems need to measure the rotation of shafts or other mechanical components, they have had two types of rotary encoders to choose from. Encoders based on optical measurement technologies provide high levels of precision and dynamic response, but are relatively bulky and can be unreliable in damp or dusty conditions. Magnetic encoders are typically more compact and rugged, but with lower levels of precision and dynamic response. POSITAL has eliminated the need for compromise by developing a new generation of magnetic absolute and incremental encoders that match the performance of optical shaft-mounted encoders in all but the most demanding applications.



that magnetic encoders offer exceptional reliability and long service life when compared to traditional mechanical or optical designs. Also, with a microprocessor-centered design, operational characteristics – such as the number of pulses per revolution – can be changed with a simple software update. An off-

the-shelf encoder can be programmed to emulate an older unit, then used as a drop-in replacement.

POSITAL has adopted a highly modular approach to the mechanical construction of the devices. Customers can specify exactly what they need in terms of housing materials, mounting flange, shaft configuration, electrical connector type etc. and the factory will assemble the appropriate product from standardized sub-components. The interval between order acceptance and product delivery is typically within 2 weeks.

The Secret is in the Signal Processing

POSITAL's new magnetic encoders feature highly-optimized signal processing software running on powerful 32-bit microprocessors. This combination improves on earlier-generation magnetic encoders with a four-fold improvement in measurement accuracy and a reduction of latency by a factor of over 100. These new devices offer the best of both worlds: accuracy and dynamic response that rivals high-quality optical encoders combined with the ruggedness and compact form-factor of magnetic encoders.

The new POSITAL encoders provide up to 12-bit accuracy (0.09 degrees) and a multi-turn capability with a range of over four billion rotations. The multi-turn capability is based on an all-electronic rotation counter system that is powered by energy harvested from the rotary motion of the device's shaft. This counter keeps track of the total number of turns that the encoder shaft has experienced, even if these occur while system power is unavailable. As a result, there is no need to re-zero the control system – even when movements take place while the control system is powered down.

Versatility by Design

Thanks to the improved dynamic response of the new technology, it is also possible to build high-performance incremental encoders based on magnetic sensors. The advantage here is

Download our white paper describing the technology behind the new IXARC encoders



POSITAL-FRABA CEO Christian Leeser describes the performance of the new generation IXARC rotary encoders.



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