

Contactless Sensors

It all revolves around our thinking

INDUSTRY SECTORS



Automotive



Agriculture



Construction



Material
handling



Industrial



Marine



Medical

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Position sensing solutions that fit

Like all brilliant ideas, there's an exquisite

How we do it

Meggitt businesses are supported by an evolving group infrastructure with strong functional leadership.

This enables us to combine talents and technologies, share services and benefit from a range of centrally managed initiatives. From information technology to strategic sourcing and low-cost manufacturing, all are designed to boost the efficiency of our operations and give customers what they want.

Sensing the position, avoiding contact

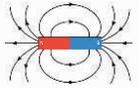
Measurement of angular position using variation of magnetic field amplitude induced by the displacement of a moving magnet has been intensively developed over the last fifteen years. However, these solutions have limits in terms of angular range and temperature influence.

The technology used by Piher is only sensitive to the flux density coplanar decode the absolute rotary (angular) position from 0 to 360 degrees. It high performance non-contacting rotary position sensors for both and industrial applications without the limitations of potentiometric solutions (wear, electrical angle...).



with the IC surface. This allows to enables the design of automotive

In combination with the appropriate signal processing, the magnetic flux density of a small magnet (diametral magnetization) rotating above the IC can be measured in a non-contacting way. The angular information is computed from both vectorial components of the flux density (i.e. BX and BY). Then an output signal proportional to the decoded angle is produced. The output is selectable between Analog, PWM and Serial Protocol. A configurable switch output is integrated within the sensor too.



Advantages

- Custom non-contacting angle sensing
- Ideal in harsh environments
- Through hole and sector sensing solutions
- Robust 360° contactless feedback
- Ideal for Off-Highway, Construction, Agriculture, Marine, Medical and Automotive applications



	Hollow shaft			End of shaft		
	PST-360	MTS-360	MTS-360PCB	PSC-360IC	PSC-360	PSC-360U
Output	Analog (ratiometric), PWM, SPI					
Resolution*	Analog/PWM: 12 bits Serial (SPI): 14 bits					
Linearity	±1% absolute (0.5% upon request)					
Supply voltage	5V ±10%*	5V ±10%	5V ±10%	5V ±10%*	5V ±10%*	5V ±10%*
Supply current	Typ 8.5mA for single version. Typ 17mA for redundant version	Typ 8.5mA for single version. Typ 17mA for redundant version	Typ 8.5mA for single version. Typ 17mA for redundant version	Typ 8.5mA for single version. Typ 17mA for redundant version	Typ 8.5mA for single version. Typ 17mA for redundant version	Typ 8.5mA for single version. Typ 17mA for redundant version
Voltage protection	+10V over voltage protection and -10V reverse voltage protection	+20V over voltage protection and -10V reverse voltage protection	+20V over voltage protection and -10V reverse voltage protection	+10V over voltage protection and -10V reverse voltage protection	+10V over voltage protection and -10V reverse voltage protection	+10V over voltage protection and -10V reverse voltage protection
Rotational life**	Up to 50M cycles					
Switch output	Yes, programmable					
Angular range	Up to 360° (no dead band)					
Redundancy	Yes	Yes	Yes	Yes	Yes	Yes
Diameter size	Hollow shaft: 14mm or 17mm	Hollow shaft: 4mm	Hollow shaft: 4mm	Shaft: 6mm	Shaft: 6mm	Shaft: 6mm
Mounting	Flange/Fly lead harness	SMD mount	Flange/Molex connector	Flange/Delphri connector	Flange/Fly lead harness	Flange/PCB
Sealing***	IP67 (electronics)	IP50	IP50	IP67	IP67	IP67

[*] depends on electrical angle and rotational speed [**] depending on application and mounting
 [***] others upon request [****] customer to seal the PCB connections

Working priMind the Gap / 2 piece sensorsciple

PIHER develops bespoke sensor solutions that creates immunity to radial and axial play on mobile shafts where significant misalignment results in poor operational performance and labour-intensive maintenance programmes. Here, PIHER separates the magnet from the electronics module. An arc magnet (where 360-degree rotation angle is unnecessary) is attached to rotating parts of kit, such as boom loaders, skid steer buckets and hitch arms, and the electronics module to the chassis (or vice versa). Again, over 50 million cycles, stable electrical output and the specified linearity is maintained between both sensor packages despite any radial and axial play of +/-1- to +/- 1.5 millimeters (and upwards) respectively.



EZ-Mount Rotary Position Sensor with Integral PCB

Designed with the sensor directly mounted onto a PCB, the innovative MTS-360 Sensor/PCB Combo package allows engineers to easily install a fully featured rotary sensor without first having to design a printed circuit board for the sensor. The result is time-savings and convenience.



The MTS-360PCB Sensor/PCB assembly is available with either 6 pin (dual output) or 3 pin (single output) Molex 90119 Series mating connectors. The PCB / Sensor assembly can be easily secured with three standard M3 screws. The entire assembly measures just 35mm wide by 36mm long and 7.5mm high, allowing for applications with tight packaging constraints.

The new MTS-360PCB Mechanical Mount sensor model incorporates all the breakthrough sensor technology performance features of the original MTS-360 by merging a through-shaft design with 360° absolute position feedback in a small size package. The result is an extremely small, fully featured rotary sensor with reliability up to 50 million cycles. The MTS-360 relies on patented Hall effect technology to enable true non-contacting through-hole shaft sensing now using a simple three hole mechanical mounting. The standard model features a 4mm double D-flat through-hole and three slotted mounting holes allowing final rotational adjustment at assembly.