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 Pihier is only sensitive to the flux density coplanar with the IC surface. This allows to enable the design of automotive

In combination with the appropriate signal processing, the magnetic flux density of a small magnet (diameter-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 (e.g. BX and BY). Then an output signal proportional to the decoded angle is produced. The output is selectable between Analog, PVM 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

Meggitt MBV1010

Hollow shaft

MTS-360

MTS-360PCB

End of shaft

PSC-360IC

PSC-360

PSC-360U

Output

Analog (radiometric), PVM, SPI

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Analog (radiometric), PVM, SPI

Analog (radiometric), PVM, SPI

Resolution*

Analog/PVM, 12 bits Serial (SPI): 14 bits

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Linearity

±1% absolute (15°C, input request)

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Supply voltage

±5 V ±0.5%

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Supply current

Typ 8.5 mA for single version.

Typ 7.5 mA for redundant version.

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Typ 7.5 mA for redundant version.

Voltages protection

+10V over voltage protection and -10V reverse voltage protection

+20V over voltage protection and -20V reverse voltage protection

+20V over voltage protection and -20V reverse voltage protection

+20V over voltage protection and -20V reverse voltage protection

+20V over voltage protection and -20V reverse voltage protection

Rotational life

Up to 500 cycles

Up to 500 cycles

Up to 500 cycles

Up to 500 cycles

Up to 500 cycles

Switch output

Yes, programmable

Yes, programmable

Yes, programmable

Yes, programmable

Yes, programmable

Angular range

Up to 360° (no dead band)

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Up to 360° (no dead band)

Redundancy

Yes

Yes

Yes

Yes

Yes

Diameter size

 Hollow shaft: 14mm or 17mm

 Hollow shaft: 12mm

 Hollow shaft: 4mm

 Shaft: 5mm

 Shaft: 5mm

Mounting

Flange/Fly keep harness

FPS (electronics)

FPS

FPS

FPS

Sealing**

Depending on electrical angle and rotational speed

Depending on application and mounting

Others upon request

Customer specific to seal the PCB connections

Working proMind the Gap / 2 piece sensor nocpicle

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, with 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 on 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 5 pin (dual output) or 3 pin (single output) Molex 9019 Series mating connectors. The PCB / Sensor assembly can be easily secured with three standard M3 screws. The entire assembly measures just 30mm wide, by 48mm 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-hole 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 models feature a 4mm absolute O flat through-hole and three slotted mounting holes allowing final rotational adjustment at assembly.