

Hall-effect contactless sensors

It all revolves around our thinking

PIHER Ever closer
SERVICE Collaborative solutions
that really fit your
purpose



INDUSTRY SECTORS



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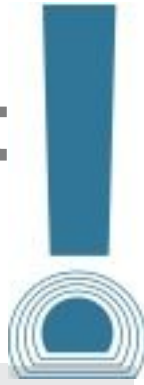
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Open thinking

End-of-shaft sensing



You know the benefits of contactless rotary position sensors—long-life and high accuracy. But finding a drop-in contactless alternative to your existing contacting solution can be a struggle.

To give you the flexibility you need, we've created **Piher Service +**.

We'll customise anything for you from our off-the-shelf magnetic Hall effect range.

- + Any shaft diameter
- + Any dimension
- + Any output protocol
- + Integrated connector or wire harness interface



	PSC-360U	PSC-360	PSC-360IC
Output	Analog (ratiometric), PWM, SPI	Analog (ratiometric), PWM, SPI	Analog (ratiometric), PWM, SPI
Resolution	Analog/PWM: 12 bits Serial (SPI): 14 bits	Analog/PWM: 12 bits Serial (SPI): 14 bits	Analog/PWM: 12 bits Serial (SPI): 14 bits
Linearity	±1% absolute (0.5% upon request)	±1% absolute (0.5% upon request)	±1% absolute (0.5% upon request)
Supply voltage	5V - 12V - 15V	5V - 12V - 15V	5V - 12V - 15V
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
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	Up to 50M cycles	Up to 50M cycles
Switch output	Yes, programmable	Yes, programmable	Yes, programmable
Angular range	Up to 360° (no dead band)	Up to 360° (no dead band)	Up to 360° (no dead band)
Redundancy	Yes	Yes	Yes
Diameter size	Shaft: 6.35mm	Shaft: 6mm	Shaft: 6mm
Mounting	Flange/PCB	Flange/Fly lead harness	Flange/Metripack 150.2
Sealing	IP67	IP69	IP67

Original thinking

Through shaft sensing

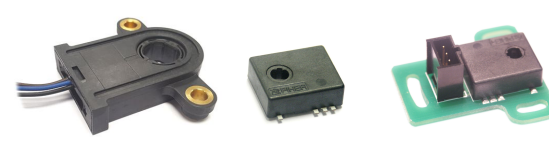


Slimline, low cost, long life
360° sensing for extreme environments using the magnetic Hall effect

Absolute output with linearity up to **+/- 0.5%** for over **50 million cycles**

Off the shelf: 14 and 17mm rotor diameter

- + Any diameter
- + Any shape
- + Any output protocol



	PST-360	MTS-360	MTS-360PCB
Output	Analog (ratiometric), PWM, SPI	Analog (ratiometric), PWM, SPI	Analog (ratiometric), PWM, SPI
Resolution	Analog/PWM: 12 bits Serial (SPI): 14 bits	Analog/PWM: 12 bits Serial (SPI): 14 bits	Analog/PWM: 12 bits Serial (SPI): 14 bits
Linearity	±1% absolute (0.5% upon request)	±1% absolute (0.5% upon request)	±1% absolute (0.5% upon request)
Supply voltage	5V - 12V - 15V	5V	5V
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
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
Rotational life	Up to 50M cycles	Up to 50M cycles	Up to 50M cycles
Switch output	Yes, programmable	Yes, programmable	Yes, programmable
Angular range	Up to 360° (no dead band)	Up to 360° (no dead band)	Up to 360° (no dead band)
Redundancy	Yes	Yes	Yes
Diameter size	Hollow shaft: 14mm or 17mm	Hollow shaft: 4mm	Hollow shaft: 4mm
Mounting	Flange/Fly lead harness	SMD mount	Flange/Molex connector
Sealing	IP69	IP50	IP50

Revolutionary thinking

Play resistant

The **variable gap** sensor creates immunity to radial and axial play on mobile shafts where significant misalignment results in poor operational performance and labour intensive maintenance programmes.

A round or arc magnet (where 360° rotation angle is unnecessary) is attached to rotating parts of kit, such as boom loaders, skid steer buckets and high arms, and the electronics module to the chassis (or vice versa). Here, Piher separates the magnet from the electronics module.

- + Any arc magnet diameter
- + 3 +/- 2 mm air-gap distance
- + Harsh environment sealing
- + Possibility to customise the air-gap distance



	Touchless magnetic hall-effect		
	Variable air gap sensor PS2P-ARC	Rotary concentric sensor PS2P-CON	Linear position sensor PS2P-LIN
Type	Rotary	Rotary	Linear
Output	Analog (ratiometric), PWM, SPI	Analog (ratiometric), PWM, SPI	Analog (ratiometric), PWM, SPI
Resolution*	Analog/PWM: 12 bits; Serial (SPI): 14 bits	Analog/PWM: 12 bits; Serial (SPI): 14 bits	Analog/PWM: 12 bits; Serial (SPI): 14 bits
Linearity	± 1% absolute (0.5% upon request)	± 1% absolute (0.5% upon request)	± 1% absolute (0.5% upon request)
Supply voltage	5V - 12V - 15V	5V - 12V - 15V	5V - 12V - 15V
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
Voltage protection	+10V over voltage protection -10V reverse voltage protection	+10V over voltage protection -10V reverse voltage protection	+10V over voltage protection -10V reverse voltage protection
Life	Virtually unlimited	Virtually unlimited	Virtually unlimited
Switch output	Yes, programmable	Yes, programmable	Yes, programmable
Measurement range	Custom	Up to 360°	12mm
Redundancy	Yes	Yes	Yes
Sealing	Up to IP69	IP69	IP69

[*] depends on electrical angle and rotational speed
 [**] depending on application and mounting
 [***] others upon request

Touchless magnetic

Our touchless sensors feature two independent mechanical modules containing the target magnet and the sensor electronics positioned as an on-shaft configuration. The sensor is a truly contactless sensor due to there is not physical connection between the electronics (stationary element) and the target magnet (moving element). This type of sensor provides the same precision as one piece sensors and allows both **Rotary** and **Linear** sensing strokes.

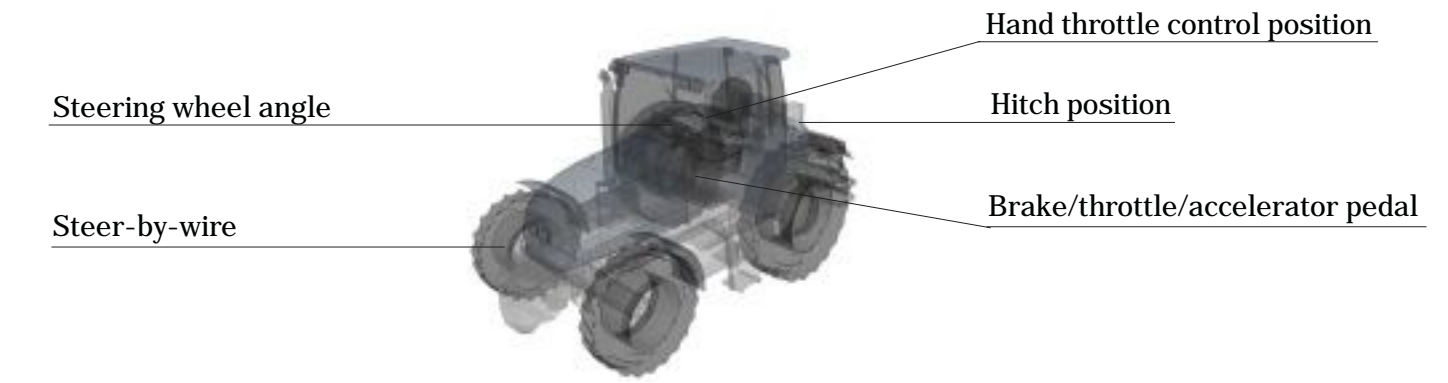
Something that is easy to assemble – less sensitive to the application shaft's axial and radial plays - delivering additional cost reduction on the production assembly.

Designed to be fitted in harsh environment applications such as Off-highway and Marine due to the fully sealed electronics and magnet.

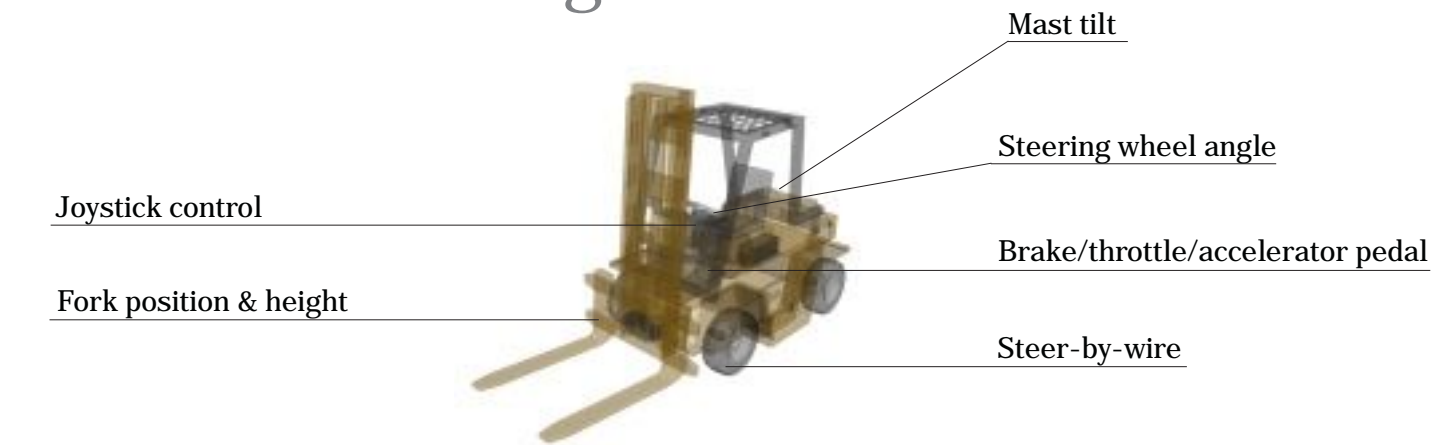
- + Truly contactless
- + Precision and stability
- + Easy to assemble
- + Rotary and linear displacement feedback



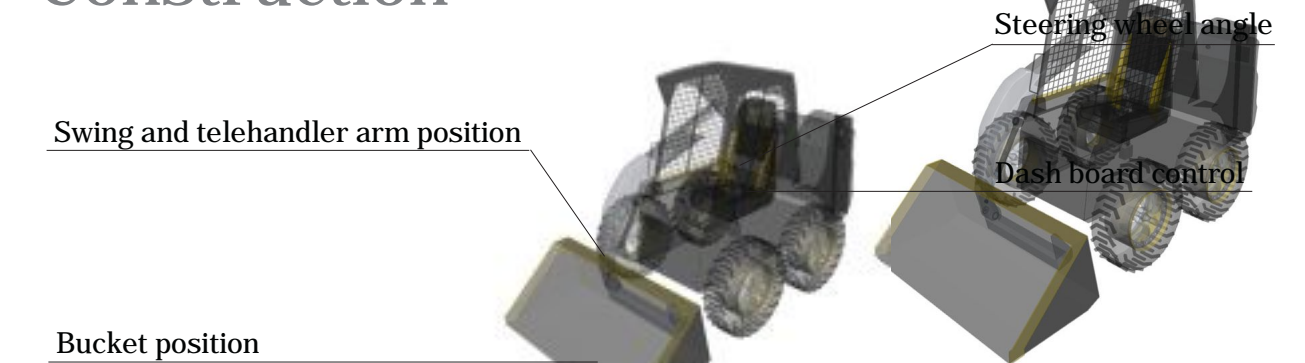
Agriculture & Forestry



Material handling



Construction



Marine

