Industrial Automation

Overview

Automation Industrial Applications

PIHER sensing systems
an Amphenol® company

Gembal camera

Robot Arm Position

Joystick controls

Valve Position

Autonomous Mobile Robots

Industrial Gears

PIHER sensing systems
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Contactless Rotary and Linear Position Sensors

Inductive and Hall-effect Technology

Industry 4.0

Contactless Position Sensors

Piher Sensing Systems Named a 2023 Best of Sensors Awards Finalist

"Real time tracking and control of industrial components such as robotic arms, conveyor systems, and actuators and other movable parts is crucial for ensuring optimal motion control, efficiency and safety.

Contactless Position Sensors

Hall-effect Position Sensors

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Non-contacting

360° Endless Rotation

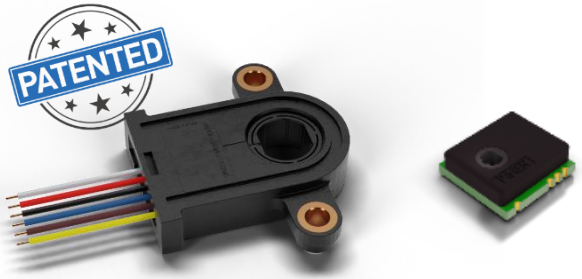
50 million Extra-long life

Available with CAN

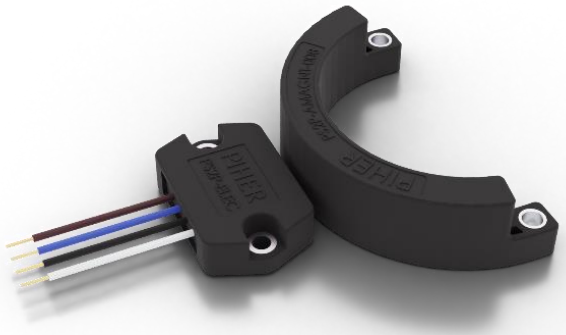
End-of-shaft sensors

Touchless sensors

Through shaft sensors



Play resistant



Position sensors in industrial robots are used to determine the current location of the robot arm and its attachments. Our non-contact magnetic position sensors are highly accurate and can be placed in robot pivot joints where angle or linear position feedback is needed.

Contactless Position Sensors

Miniature Hall-effect Rotaru Position Sensors

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Non-contacting

360° Endless Rotation

50 million Extra-long life

Available with CAN

Applications

- Embedded OEM motion control applications
- Throttle/EGR valve and gear position sensor
- Medical devices
- Industrial automation displacement sensor
- Joysticks and hand controls
- Automatic guided vehicles (AGVs) steering sensor
- HVAC monitoring & control

AUTONOMOUS WAREHOUSE ROBOTICS

JOYSTICK CONTROL

Touchless Position Sensors

Rotary and Linear Hall-effect Position Sensors

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Touchless sensors

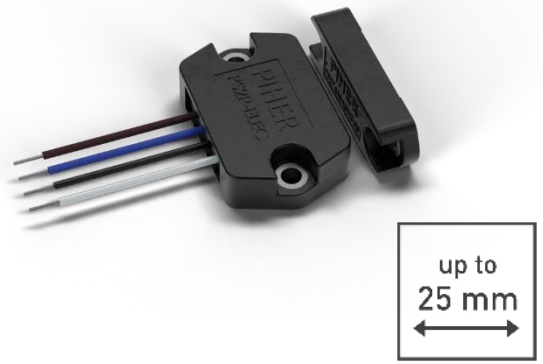
- Separate sensing element and magnet
- Virtually **unlimited mechanical life**
- **Truly touchless**, no need for gears or bearings
- Easy to assemble with low sensitivity to radial and axial play
- Compact, **fully sealed modules**

Customization options

- Magnet mounting
- Linear stroke up to 40mm

PS2P-LIN

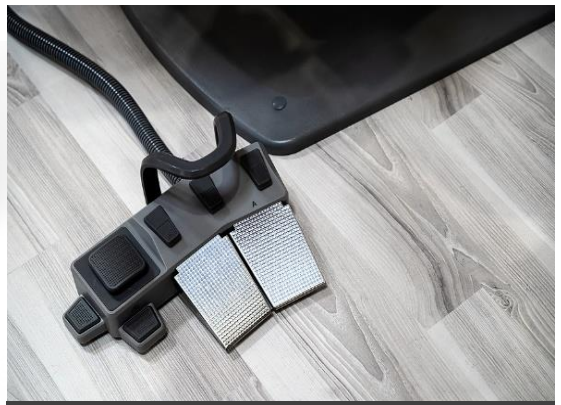
Available with CAN



HRPM

PS2P-CON

Gears shift



Pedals

Play Resistant Arc Position Sensor

2-piece design immune to radial and axial play

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Available with CAN

Play resistant

IP67 IP69K

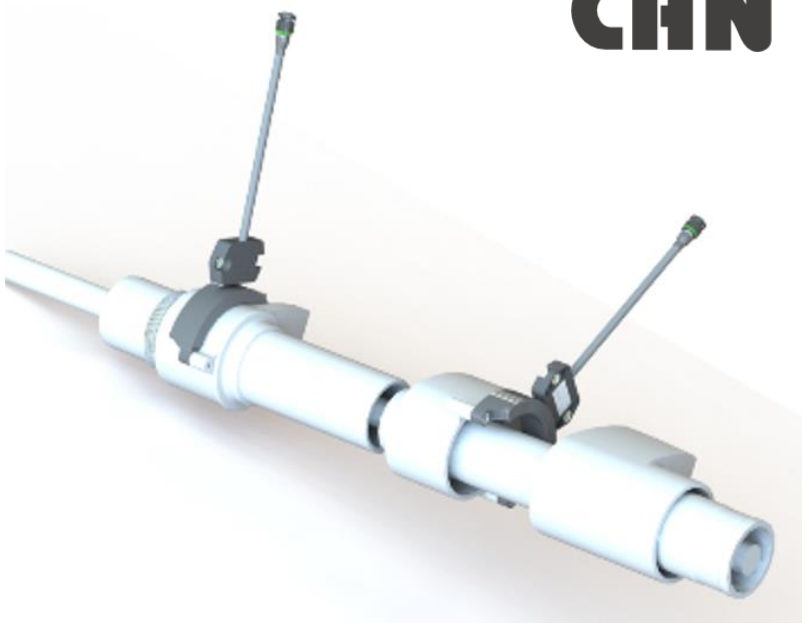
Compact size

Virtually unlimited life

Play resis+ant

- **Immune to radial and axial play**
- Virtually **unlimited mechanical life**
- **Air gap** distance between sensor and target can be customized
- Also available based on inductive technology

PS2P-ARC



Radial / Torsion monitoring in cylinders

Contactless Position Sensors

Inductive Position Sensors

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Available with CAN

- Excellent accuracy
- Reliable **non-contacting** position feedback in compact packaging
- High performance in **harsh environmental conditions**
- Suitable for environments with **electromagnetic strayfields**

PSAI

Rotary Sensors

Linear Sensors

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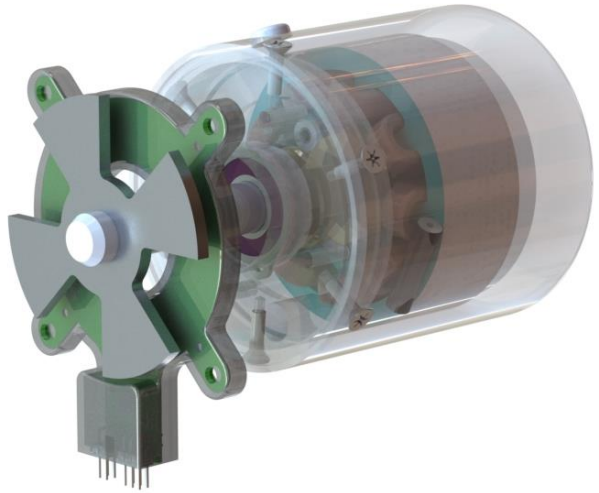
Inductive eMotor Rotor Position Sensor

Industry 4.0



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Inductive eMotor Rotor Position Sensors

Alternative to conventional resolvers

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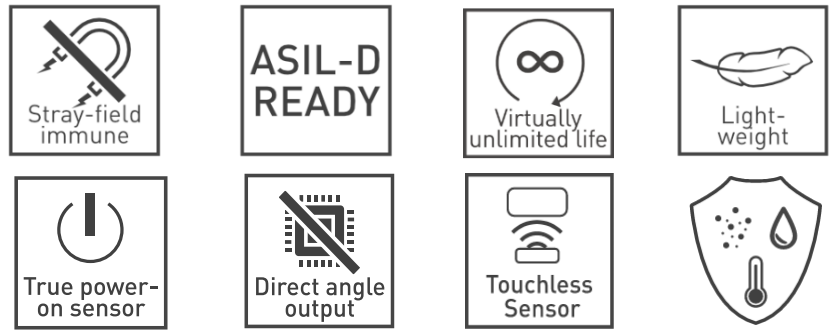
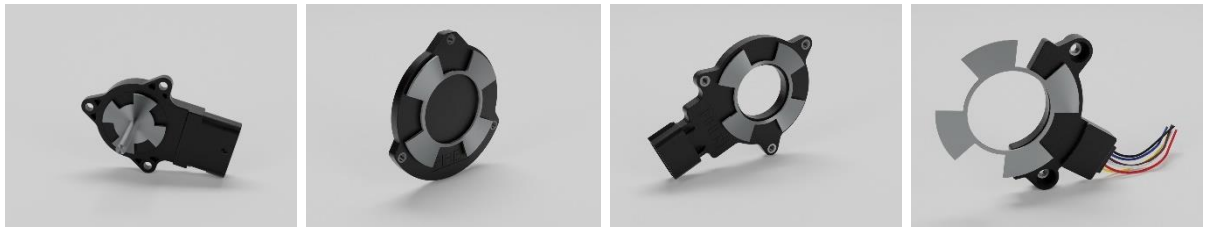


- **Key Features**

- Rotor position sensor for high-speed and low motor commutation
- Up to 600.000 rpm (if only 1PP)
- Low power consumption
- Cost efficient and lightweight by design
- Stray field immune
- Flexible design (end of shaft, through shaft and arc):



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Speed Sensors

Industry 4.0

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Gear Speed Sensors

Hall-effect Speed and Direction Sensors

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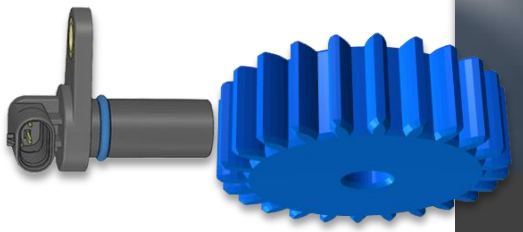
- Speed and direction feedback
- Solid state sensor based on Hall effect working principle
- Resistant for harsh industrial environments



Gear speed & direction

Industrial conveyors

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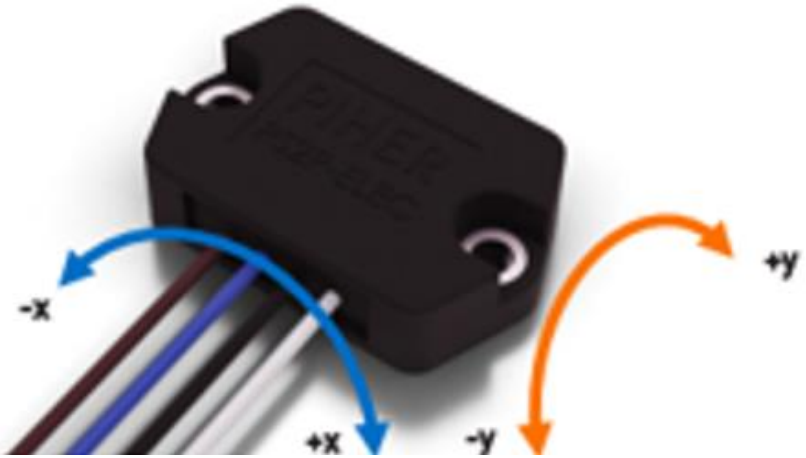
Tilt Sensors

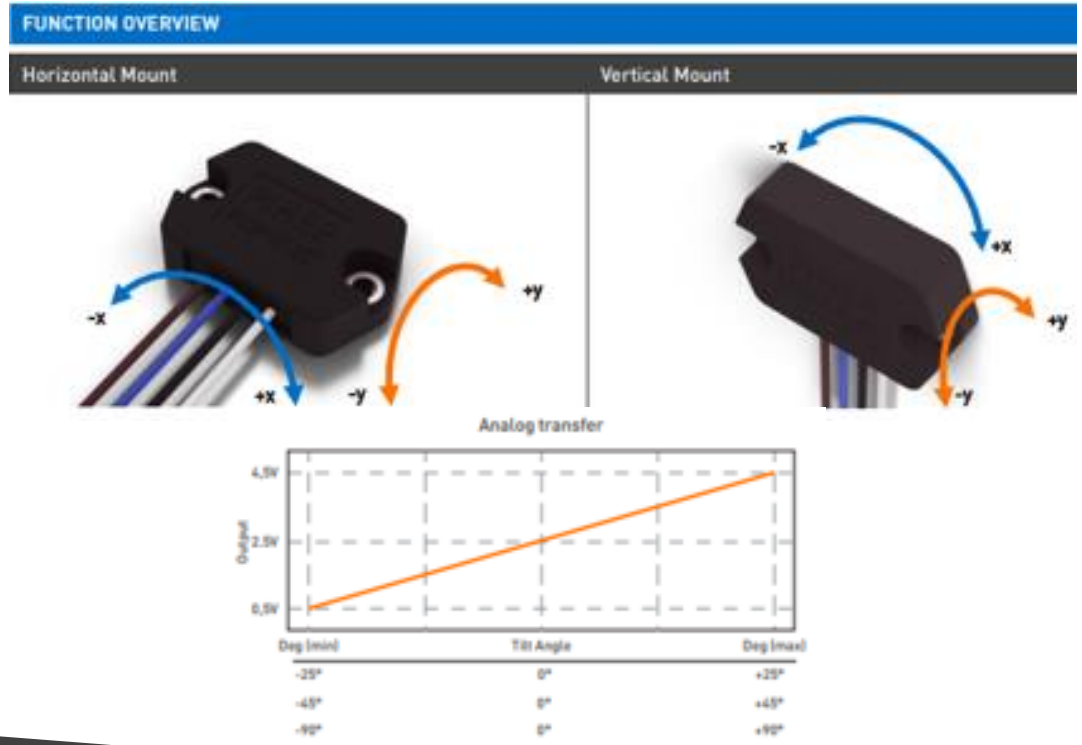
Industry 4.0

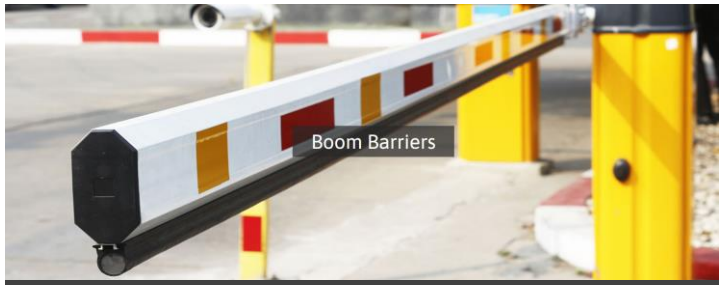


Tilt sensors

Dual axis MEMS inclinometer

- Reliable and wear-free MEMS technology
- Dual axis combined gyroscope and accelerometer
- Analog and CAN output





Gate barriers

Solar trackers

Industrial devices monitoring

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Trimmer & Control Potentiometers

Industry 4.0

Control Potentiometers

PCB mounting

- Through hole potentiometers

- SMD potentiometers

Application Examples

Detection

Timer and control Relays

Industrial actuators

Highly customizable rotary control

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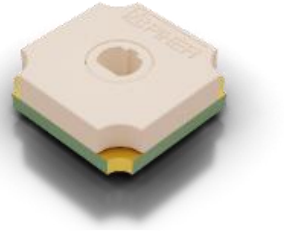

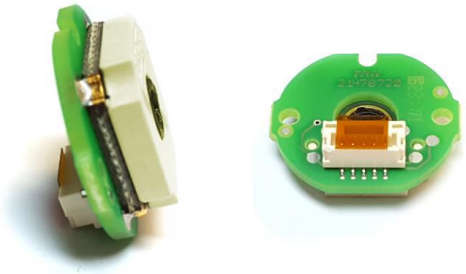

Key Features

- SMD or Through-hole mount
- Excellent performance (3% linearity)
- Up to 2.000.000 life cycles
- Endless rotation with 340° electrical angle
- Low profile (4.4 mm) and footprint (15 mm)
- Embossed tape packaging according to IEC

Also available as 6-pulse incremental encoder or mechanical switch with up to 12 positions.

N-15

360° Endless Rotation

Up to 2 million Ultra-long life

IP54

Application Examples

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Panel Controls

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Magnetic Non-contact types available

Panel Controls

Push-To-Turn Panel Controls / HMI

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Key Features

- Selectors with added value top features:
  - Dual shaft control with two functions in a single knob
  - Boost angle range
  - Curves, detents, end stops, shaft
- Output options:
  - Gray code/incremental encoder

Application Examples

CNC machines use various control interfaces such as working mode selection or speed selection. Our panel-mount potentiometers features a mechanical packages where the rotary movement can be combined with robust detent mechanisms to obtain a high number of mechanical stops.

Thank you!

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