

# Inductive Linear Position Sensor

Touchless and precise measurement of linear displacement



## KEY FEATURES



### True touchless operation

Without any internal or external gears or linkages the sensor is easily assembled and calibrated and free from wear and tear over lifetime.



### Long measurement ranges

Precise, touchless linear position measurement for stroke length from 10 mm to 800 mm.



### Immune to magnetic stray fields

No shielding required as inductive technology is not affected by electromagnetic stray fields.



### Unlimited mechanical life

The separation of electronics and metallic target allows for a virtually unlimited lifetime independent of number of revolutions.



### Compact and low profile package

The sensor target can be integrated into the existing application with no mechanical linkages, and comes in a compact and low profile package.



### Made for harsh environments

The rugged package protects the sensor from dust, moisture, vibration and extreme temperatures for usage in the most demanding environments.

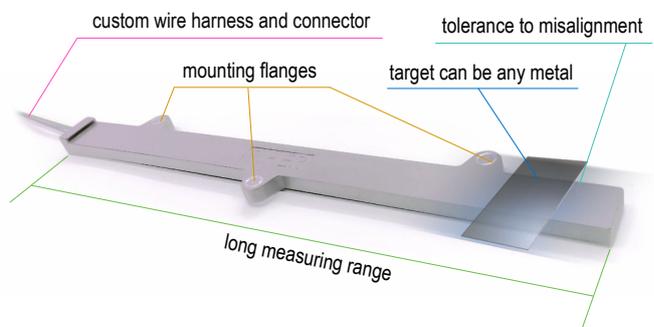
## DESCRIPTION

Piher Sensing Systems develops custom Inductive Linear Position Sensors for applications such as transmissions, suspensions and steering systems in automotive, two-wheelers and off-highway vehicles. We provide custom product design and adaptations to meet any form, fit and function, including the choice of digital or analog output, wire harness and interface connector.

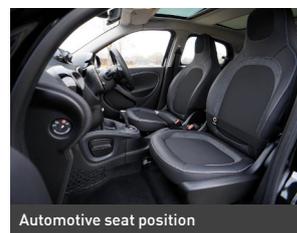
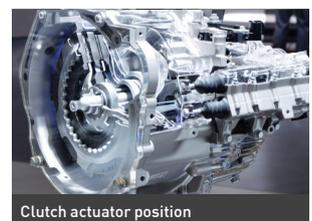
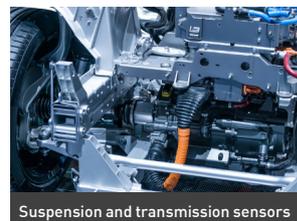
Inductive sensors do not depend on magnets, but detect the position of a solid metallic target that can easily be integrated into the existing machinery structure.

In addition to the sensors' excellent accuracy, up to 14bit resolution, IP67 and IP69K sealing, stray-field immunity and high temperature tolerance make these absolute position sensors an excellent choice for harsh environments typically found in automotive and off-highway applications.

Thanks to the extended measuring range, sensitivity to any metal material, high tolerance to misalignment between the sensor and the target, and low cost, Piher's inductive sensors are the ideal alternative to LVDTs.



## APPLICATION EXAMPLES



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## TECHNICAL SPECIFICATIONS

Signal output	Analog (ratiometric), PWM, SENT, CAN
Resolution	Analog (up to 12 bit) PWM (up to 14 bit) SENT (up to 14 bit)
Linearity	up to $\pm 0,5\%$
Supply voltage	5V $\pm 10\%$
Current consumption	Typ. 14mA (single output)
Voltage protection	+18V over voltage, -18V reverse voltage
Life	Virtually unlimited
Measurement range	10 to 800mm
Operating temperature	-40°C to +150°C
Redundancy available	Yes (redundant and full-redundant)
Sealing	IP67, IP69K

## RELATED PRODUCT

### INDUCTIVE E-MOTOR ROTOR POSITION SENSORS

Piher Sensing Systems' inductive position sensing technology offers a true alternative to conventional resolvers.

The possibility to perfectly customize the sensor to the motor dimensions enables more flexibility in the development of the electric / hybrid powertrain of the future.

- End-of-Shaft, Through-Shaft and Arc
- Max. speed: up to 600.000 rpm (el)
- Resolution: analog: infinite; digital: 14 bit
- Operating temperature: -40°C to +160°C
- Power consumption: < 20mA
- Sealing: IP69K



## OUR ADVANTAGE

- ▶ Leading-edge innovative position sensing solutions
  - ▷ Contactless (Hall-effect and Inductive Technology)
  - ▷ Contacting (Potentiometers, Printed Electronics)
- ▶ Engineering design-in support
- ▶ All our products can be customized to fit target application and customer requirement
- ▶ Capability to move seamlessly from development to true high-volume production
- ▶ A global footprint with global engineering and commercial support
- ▶ One-stop shop not limited to position sensors (temperature, pressure, gas,...) through group collaboration
- ▶ Flexibility and entrepreneurship of a medium-sized company with the backing of Amphenol Corporation



Please always use the latest updated datasheets published on our website.

#### Disclaimer:

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**NEED QUICK HELP?**  
Our AI Virtual Assistant is available 24/7 to provide instant support—visit [chat.piher.info](https://chat.piher.info) to chat now!

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