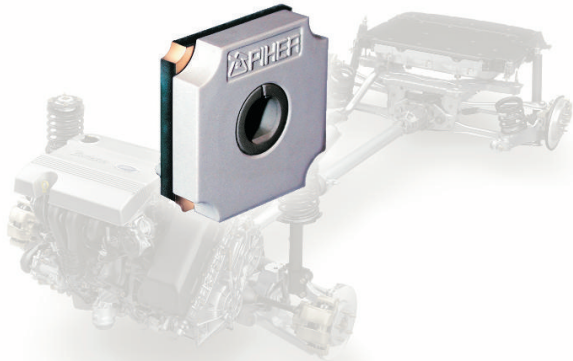


# 15mm rotary sensor for demanding applications

# Z-15

Targeted for Powertrain and other Critical applications, the Z-15 has been specifically designed to be integrated within the existing final application (throttle body, air-intake valve...) to avoid the duplication of costs associated with the standard "bolt-on" alternatives that prevail in the marketplace.

Moreover, because of the cost effectiveness of the Z-15 solution, TRUE redundancy can be achieved employing two or more ganged Z-15's.



## Features

- Long Life (2M cycles)
- Conceived and designed for customisation
- SMD or Through-hole Mount
- Endless Rotation (360°)
- Functional Electrical Angle: 90°
- Working Temperature Range (-40°C to +120°C)
- Low Profile (4.4 mm)
- Linearity 3% (standard)
- Embossed Tape or Bulk packaging
- Shaft insertable from both sides
- Polarised "T" rotor (European Home Appliance standard)
- All PT/ PTC 15 shafts compatible

## Standard specifications

- Resistance values\*: 5K
- Tolerance: 30%
- Nominal Power: 0.15 W @ 50°C
- Linearity (absolute): 3%
- Taper: Linear
- Mechanical Life: 2M cycles
- Temperature Range: -40°C to +120°C
- Mechanical Angle: 360°
- Electrical Angle: 110° 10°
- Rotational Torque: ≤ 20 mN.m
- Max. Voltage\*\*\*: 27 VDC (5K value)

(\*) Others upon request  
 (\*\*\*) Max. voltage can not exceed 250VDC and is dependent on nominal power and resistance value.

**Mechanical Life: 2M cycles**  
**Op. Temp. Range: -40°C to +120°C**

Long life PCR's examples:  
 Long Life PCR's examples:



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PIHER

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**MEGGITT**  
 smart engineering for  
 extreme environments

# Contactless position sensors

The PSC-360 is a Hall-effect magnetic sensor that is designed to overcome the limitations of potentiometer-based devices in a wide range of applications. The performance of magnetic sensors has traditionally been limited by their poor tolerance to thermal and magnetic fluctuations. And although these limitations can be overcome by careful circuit design, the complexity this has entailed has often discouraged OEMs from designing with these sensors.

The technology used by Piher is only sensitive to the flux density coplanar with the IC surface. This allows to precisely feedback the absolute position from 0 to 360 degrees. It enables the design of low-cost high performance non-contacting rotary position sensors for both automotive and industrial applications without the limitations of potentiometric solutions (wear, limited electrical angles...). A configurable switch output is integrated within the sensor too.

Furthermore full redundancy can be achieved by employing a dual core version or the simple placement of two sensors within the housing.

The robust PSC360 is sealed and flange mounted for easy positioning when necessary. It provides high stability under harsh environment conditions such as vibration, shock, extreme temperatures / humidity, dither, moisture or dirt. Featuring a modular architecture, electrical & mechanical characteristics can be fully customised to customer's needs as well as connector configurations. Panel mount package for bush mounting is also available.

This product shows Piher's competences in sensors for use in harsh environments and custom product tailoring for use on Tier One and OEM platforms.



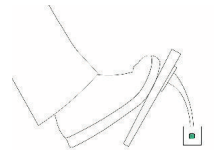
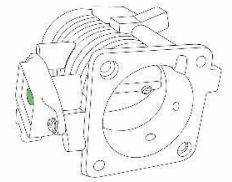
## Main features

- Low cost
- Linearity: 1% absolute (0.5% upon request)
- Simple & Robust Magnetic Design
- Programmable Angular Range up to 360 Degrees (without dead band)
- Programmable Linear Transfer Characteristic (some positive slopes & one negative slope can be programmed in the same transfer characteristic; up to 4 programmable points)
- Selectable Analog (Ratiometric), PWM, Serial Protocol
- Programmable switch output
- Angular Resolution:
  - Analog & PWM: 12 bits
  - Serial Protocol (SPI): 14 bits
- Full Redundant option upon request
- 40 bit ID Number
- Self-Diagnostic features
- Rotational life: >50.000.000 cycles (depending on application and mounting)
- Operating temperature: -40°C to +150°C
- +20V over voltage protection and -10V reverse voltage protection
- Supply voltage: 5V ±10% (others upon request)
- IP 65 (others upon request)

## Application examples

- Non-Contacting long life angle/position sensor
- Absolute Rotary Position Sensor
- Pedal Position Sensor
- Throttle/EGR Valve and Gear Position Sensor
- Height & suspension Sensor
- Non-Contacting Potentiometer
- Float-Level Sensor
- Motor-shaft Position Sensor
- Precision Robotics, industrial equipment and HVAC monitoring & control...

*The pursuit of the most cost-effective total solution for your needs is firmly embedded in our business philosophy, so whatever your requirements may be, be sure that Piher will deliver.*



*Limitations of potentiometric solutions such as wear and limited electrical angle are overcome by this compact design, robust sensor which enjoys virtually endless mechanical life (maintenance free) and up to 360° electrical angle (without dead band).*



*The angular information output is selectable between Analog (12-bit, 4096 positions), programmable pulse width modulation (12-bits) and Serial Protocol (14-bits signal + diagnostic). Full redundancy can be achieved by employing a dual core version or the simple placement of two sensors within the housing.*

