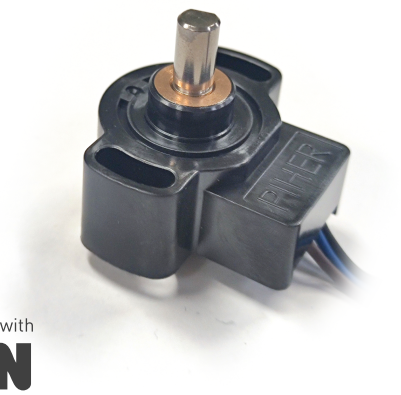
Enabling the Electronics Revolution

PIHER sensing systems
an Amphenol® company

PSCM

Absolute Hall-Effect Multiturn Sensor



Available with CAN

The PSCM is a non-contacting multiturn rotary position sensor based on Hall-effect technology and a cost-effective alternative for absolute encoders. It is also "ideal for replacing wire actuated encoders by converting linear motion to angular position. In the event of a power loss, the sensor will maintain its last measured position.

This compact and rugged sensor is configurable with angular ranges between 720 and 11.520 degrees (up to 32 revolutions). Connector assemblies are available on request.

The high level of ingress protection, vibration and temperature resistance makes it well suited for extreme environments of industrial, off-highway and transportation applications.

KEY FEATURES

Non-contacting

True, contactless operation
Without any gears or mechanical interfaces the sensor is easily assembled and calibrated and subject to limited wear and tear over lifetime.

32x Multiturn Sensor

Up to 32 turn absolute position feedback
Keeps the last position on power loss with configurable electrical angles from 720 to 11.520 degrees.

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

50 million Long life

Durable and robust design
The non-contacting design allows for an extra-long product lifetime of up to 50 million cycles.

Fully customizable

Adaptable to your requirements
Programmable transfer function and switch outputs as well as different output protocols and redundancy levels available.

EXAMPLE APPLICATIONS

- Industrial / Machine tool
- Off-Highway Vehicles
- Material Handling

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Absolute Hall-Effect Multiturn Rotary Sensor

MECHANICAL SPECIFICATIONS

Rotational life	Up to 50.000.000 cycles
Mechanical range	360° (endless rotation)
Shaft diameter	6mm

ELECTRICAL SPECIFICATIONS

Linearity[1]		±1% (up to ±0.1% upon request)
Electrical angular range		Configurable from 720° to 11520° degrees (2 to 32 turns)
Output protocols[2]		Analog (ratiometric)
Output curve[2]	Standard Inverted Redundant	05% to 95% Vdc (CW) 95% to 05% Vdc (CCW) 05% to 95% Vdc (CW and CCW)
Switch		Upon request
Resolution		Up to 12 bit
Supply voltage[3]		5V ±10%
Supply current	Single version Redundant version	Typ 32.7 mA Typ 41.2 mA

[1] Ferromagnetic materials close to the sensor (i.e. shaft, mounting surface) may affect the sensor's linearity.
[2] Other output protocols / specifications available upon request
[3] Please note: Sensor saves last position if power is turned off, but does not count turns if not powered. For application instructions please reach out to Piher.

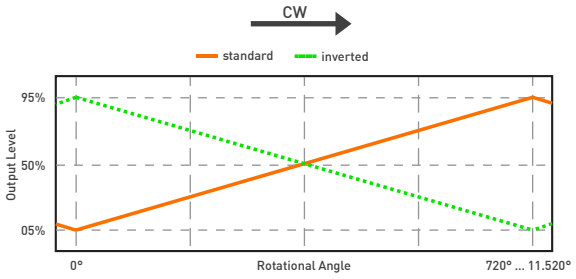
ENVIRONMENTAL SPECIFICATIONS

Operating and storage temperature[1]	-40° to +85°C
Shock	50g
Vibration	10-2000 Hz; 10g; Amax 0,75 mm

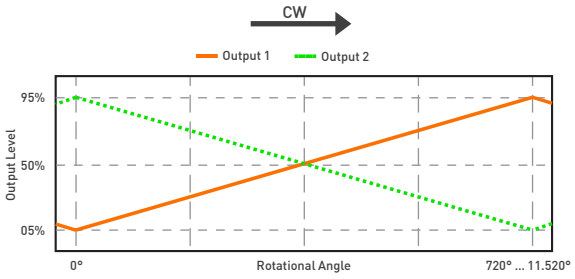
[1] Higher upon request.

OUTPUT CURVE

Simple



Redundant



Custom output functions available upon request.

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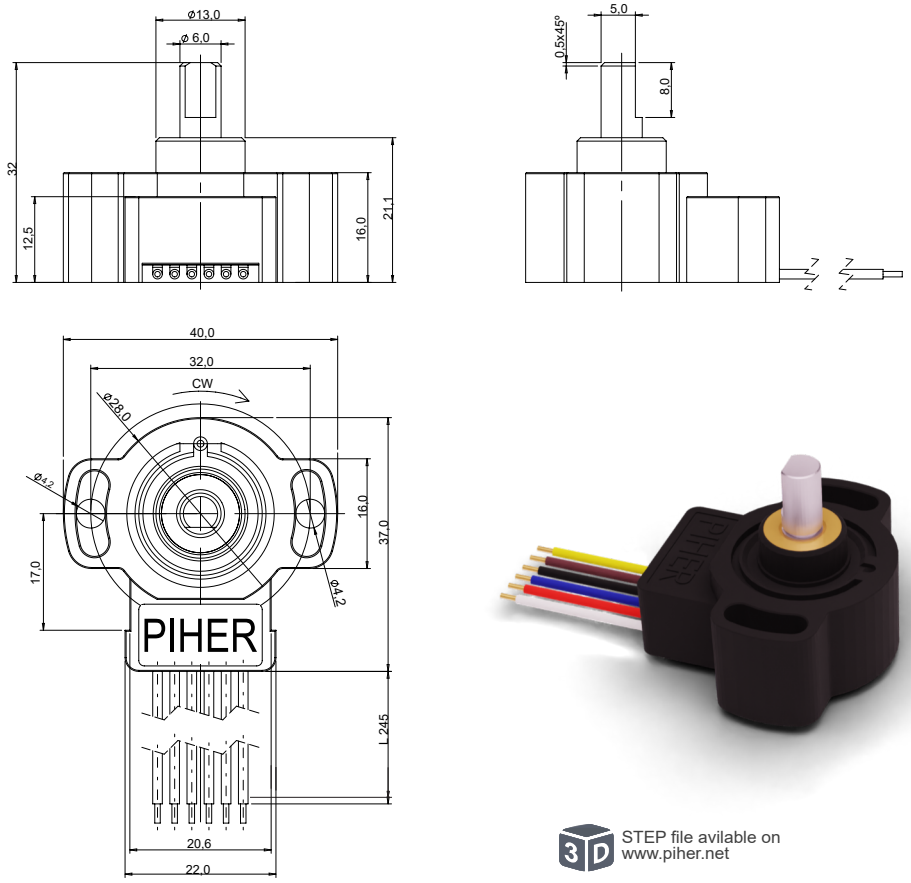
DIMENSIONS (MM)



The sensor is delivered at random position. Connector assembly on request.

CONNECTION SCHEME

Color	Simple output	Redundant output
Brown	Power supply	Power supply
Blue	Ground	Ground
Grey	Set to 0 (connect to power supply after calibration)	Set to 0 (connect to power supply after calibration)
Black	n/a	Output 2
White	Output	Output 1

More instructions of use on www.piher.net

MOUNTING INSTRUCTIONS

1. Place the component on a flat surface.
2. Fit the actuator onto the shaft avoiding any mechanical play/wobble.
3. Fasten the two M4 screws (M4 washers are recommended).
4. To define the 0-degree position connect black wire to Ground for more than 100 ms.

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HOW TO ORDER (Example: PSCM-A-16S-05)

PSCM	-	A	-	__	_	-	05
Series		**Output protocol**[1]		**Number of turns**[2]	**Output function**[3]		**Voltage supply**
		A = analogic		02 03 06 10 16 24 32	S = standard / CW I = inverted / CCW		05 = 5V ±10%

1 Other output protocols upon request. The analog output is ratiometric, proportional to input voltage.
2 Others upon request.
3 Redundant and other output functions available upon request.

Please always use the latest updated datasheets and 3D models published on our website.

CONTACT

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