

# SSH-G01

## Hall-Effect Gear Tooth Speed and Direction Sensor

The flange mount gear tooth speed and direction sensors of Piher Sensing Systems are designed to precisely calculate speed and direction of ferrous gears in demanding environments such as vehicle transmissions. The hall-effect sensor measures the variation in flux found in the airgap between the magnet and the passing teeth. Based on its touchless technology and rugged design the SSH-G01 sensor provides true long-term reliability.



### KEY FEATURES

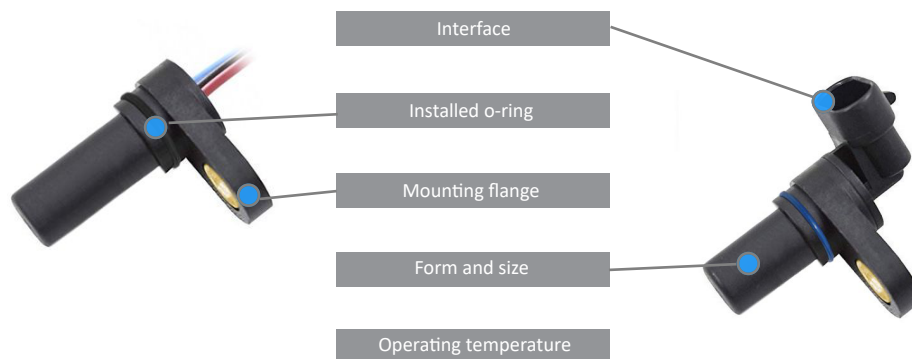
- ▶ Speed and direction feedback
- ▶ Operating temperature of 125°C (higher on demand)
- ▶ Fast and near zero speed sensing capable
- ▶ Compact and rugged for automotive & industrial areas
- ▶ Sealed for harsh environments: IP67
- ▶ Resistant to moist and high vibration environments such as engines, transmissions, brakes and chassis systems
- ▶ ESD protection
- ▶ Easily customizable cable or connector interface

### APPLICATIONS

- ▶ Vehicle transmission speed and direction
- ▶ Wheel speed and direction
- ▶ Hoist and engine speed and direction
- ▶ Anti-lock braking system
- ▶ Pump speed feedback
- ▶ Industrial control

### CUSTOMIZATION POSSIBILITIES

Custom product design can easily be provided to meet any form, fit and function including the choice of wire harness and interface connector.



# SSH-G01

## Gear Tooth Speed and Direction Sensor

### ENVIRONMENTAL SPECIFICATIONS

	Two Wire Current Source	A/B Signal
Operating temperature	-40° to +125°C*	
Storage temperature	-40° to +125°C*	
Shock	50g	
Vibration	5-2000 Hz; 20g; A <sub>max</sub> 0,75 mm	
Sealing	IP67	
Bulk current injection	Tested to ISO 11452-4 (2011) 1MHz to 400MHz; 100mA	Tested to GMW3097 level 2
Conducted immunity	Tested to ISO 7637-2 (2011)	Tested to ISO 7637-2: level IV
ESD	Tested to ISO 10605 (2008) ±8kV	12kV
Conducted emissions	CISPR 25 (2008)	-
Capacitive coupling clamp	-	Tested to ISO 7637-3:2008

\*Others available on request

### MECHANICAL SPECIFICATIONS

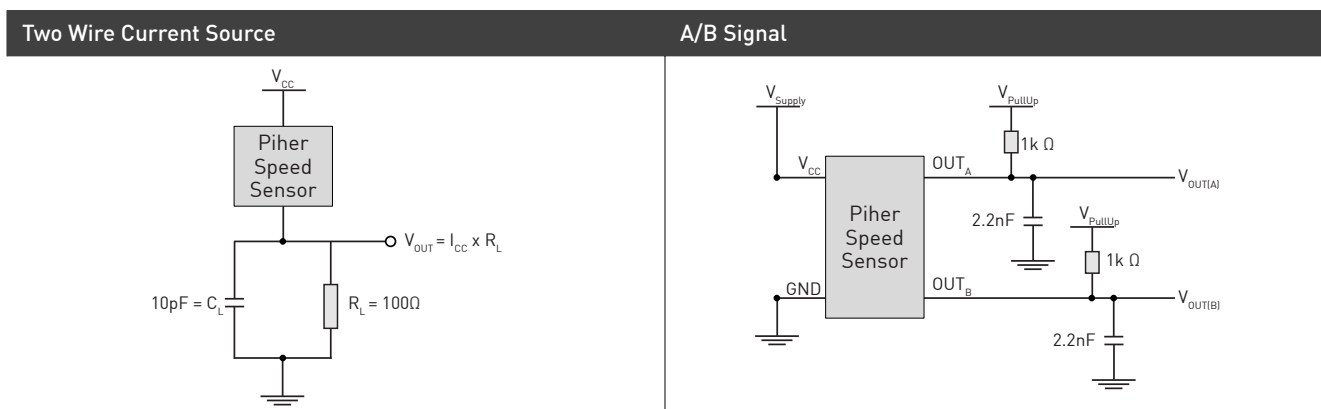
	Two Wire Current Source	A/B Signal
Air gap	1.5mm	
Max. installation torque	5.6 Nm (for 1/4-20 bolt or M6 x 1)	
Maximum speed	12 kHz (forward) / 7 kHz (reverse)	40 kHz

### ELECTRICAL SPECIFICATIONS

	Two Wire Current Source	A/B Signal
Operating voltage range	4-24 VDC	
Reverse supply voltage	-18 VDC	
Supply current	Low state: 5.9-8 mA High state: 12-16 mA	Typ. 10 mA
Power-on time	1 ms	
Output risetime	10 µs	5 µs
Output falltime	10 µs	5 µs

Other specifications available. Contact [info@piher.net](mailto:info@piher.net)

### RECOMMENDED CONNECTIONS

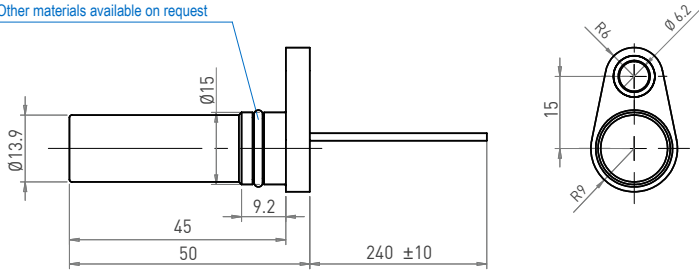


# SSH-G01

## Gear Tooth Speed and Direction Sensor

### DIMENSIONS (MM)

O-ring Material EPDM 70  
Other materials available on request



Download the STEP file at: [www.piher.net](http://www.piher.net)

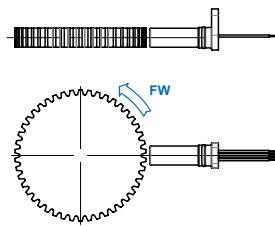
### CONNECTION SCHEME

Color	A/B Signal	Current Source
Brown	Vcc	Vcc
Blue	Ground	n/a
Black	Signal output A	n/a
White	Signal output B	n/a
Yellow	n/a	Signal output

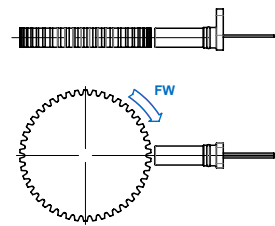
Connector assembly available on request.

### TYPICAL MOUNTING

#### SSH-G01-002-AB and SSH-G01-002-CP



#### SSH-G01-002-CP-R



### HOW TO ORDER

Series	Output
SSH-G01-002-AB	A/B signal
SSH-G01-002-CP	two wire current source - CCW
SSH-G01-002-CP-R	two wire current source - CW (reverse)



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

#### Disclaimer:

The product information in this catalog is for reference purposes. Please consult for the most up to date and accurate design information. Piher Sensors & Controls S.A., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Piher"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product described herein. Piher disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Piher's terms and conditions of sale, including but not limited to the warranty expressed therein, which apply to these products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Piher. The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Piher products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Piher for any damages arising or resulting from such use or sale. Please contact authorized Piher personnel to obtain written terms and conditions regarding products designed for such applications. Product names and markings noted herein may be trademarks of their respective owners. Information contained in and/or attached to this catalogue may be subject to export control regulations of the European Community, USA, or other countries. Each recipient of this document is responsible to ensure that usage and/or transfer of any information contained in this document complies with all relevant export control regulations. If you are in any doubt about the export control restrictions that apply to this information, please contact the sender immediately. For any Piher Exports, Note: All products / technologies are EAR99 Classified commodities. Exports from the United States are in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited.

### CONTACT

**Piher Sensing Systems**  
Polígono Industrial Municipal  
Vial T2, N°22  
31500 Tudela  
Spain

[sales@piher.net](mailto:sales@piher.net)

Tel: +34 948 820 450

Rev.08072024 © Piher Sensors & Controls S.A.