

# PSCI

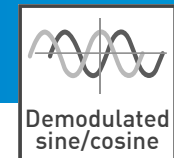
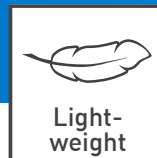
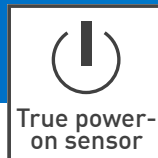
## Inductive eMotor Rotor Position Sensor

Accurate feedback on the angular position, direction, and speed of the rotor shaft is essential to optimize control of the motor inverter and drive the electric engine with the best possible efficiency. The PSCI high speed inductive rotor position sensor can be mounted on the same shaft as the electric machine rotor, is immune to electromagnetic stray fields and provides accurate measurement of rotor position in a compact, light weight and fully sealed package.



### KEY FEATURES

- ▶ Up to 600.000 (el) rpm speed
- ▶ Low weight and compact dimensions
- ▶ Robust to tilt, misalignment and air gap variations
- ▶ True power-on sensor: excellent accuracy and precision
- ▶ Immune to stray fields, no shielding required
- ▶ End-of-shaft sensor for metallic target
- ▶ Standard version available for 6, 8, and 12 poles
- ▶ Suitable for harsh environments (fully sealed, shock, vibration)
- ▶ Cost-effective alternative to conventional resolvers



### ELECTRICAL SPECIFICATIONS

|                          |  |
|--------------------------|--|
| Supply voltage           | 5V ±10%  |
| Supply current           | Max 15mA   |
| Voltage protection       | ±18 V  |
| Accuracy                 | ±1°el  |
| Signal output            | Single-ended demodulated sine/cosine (1.0V to 4.0V)<br>Differential demodulated sine/cosine (-3V to +3V) |
| Resolution               | Infinite   |
| Propagation delay        | <4.2 µsec  |
| Maximum electrical speed | 600.000 rpm  |

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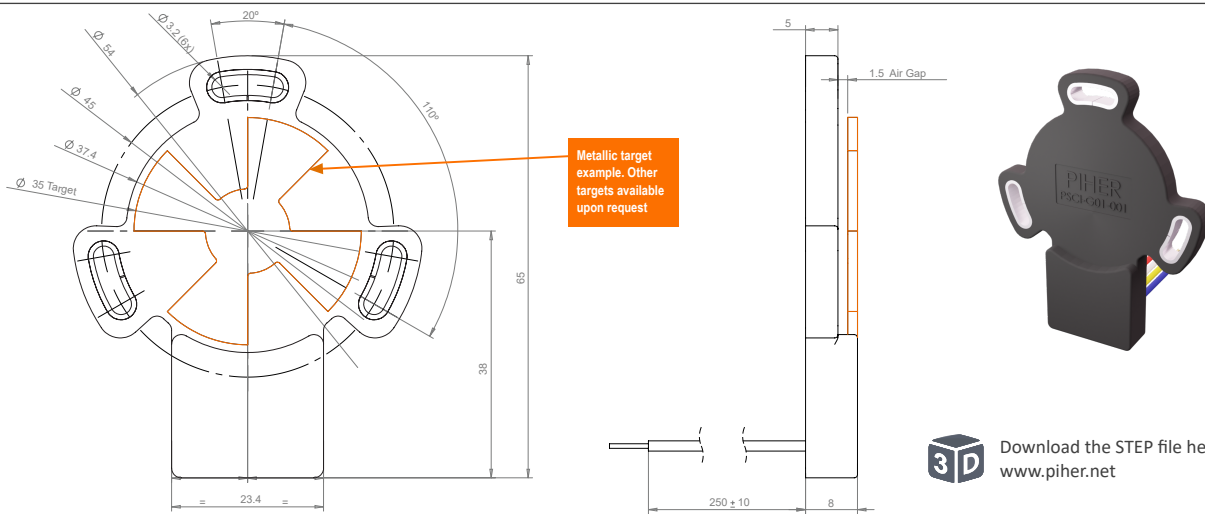
## Inductive eMotor Rotor Position Sensor

### MECHANICAL SPECIFICATIONS

|                          |   |
|--------------------------|---|
| Rotational life          | Unlimited   |
| Max. mounting torque     | 2.2 Nm  |
| Maximum mechanical speed | 200.000 rpm (3-pole pair version)<br>150.000 rpm (4-pole pair version)<br>100.000 rpm (6-pole pair version) |
| Target material*         | Conductive metal  |
| Operating temperature    | -40° to +150°C (coil temperature can be > 150°C)  |
| Sealing                  | IP67, IP69K   |

\*Target not included, for support please contact Piher Sensing Systems

### DIMENSIONS (MM)



### CONNECTION SCHEME

| Color  | Single-Ended | Differential |
|--------|--------------|--------------|
| Blue   | Ground       | Ground       |
| Yellow | Sine (+)     | Sine (+)     |
| White  | n/a          | Sine (-)     |
| Red    | Cosine (+)   | Cosine (+)   |
| Black  | n/a          | Cosine (-)   |
| Brown  | Vcc          | Vcc          |

More instructions of use on [www.piher.net](http://www.piher.net). Connector assembly available on request.

### HOW TO ORDER

| Part number |  |
|-------------|--|
| PSCI-3PP-05 | 3-pole pair (6 poles) differential output  |
| PSCI-4PP-05 | 4-pole pair (8 poles) differential output  |
| PSCI-6PP-05 | 6-pole pair (12 poles) differential output |

Single-ended output sensors available on request.

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## Inductive eMotor Rotor Position Sensor

### TARGET DESIGN

| 3 Pole Pairs | 4 Pole Pairs | 6 Pole Pairs |
|--------------|--------------|--------------|
|              |              |              |

Target not included, for support please contact Piher Sensing Systems



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

#### Disclaimer:

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