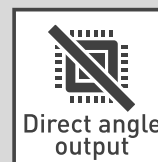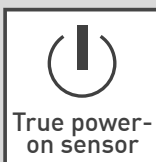# PSCI

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

True power-on sensor	Light-weight	Stray-field immune	Direct angle output

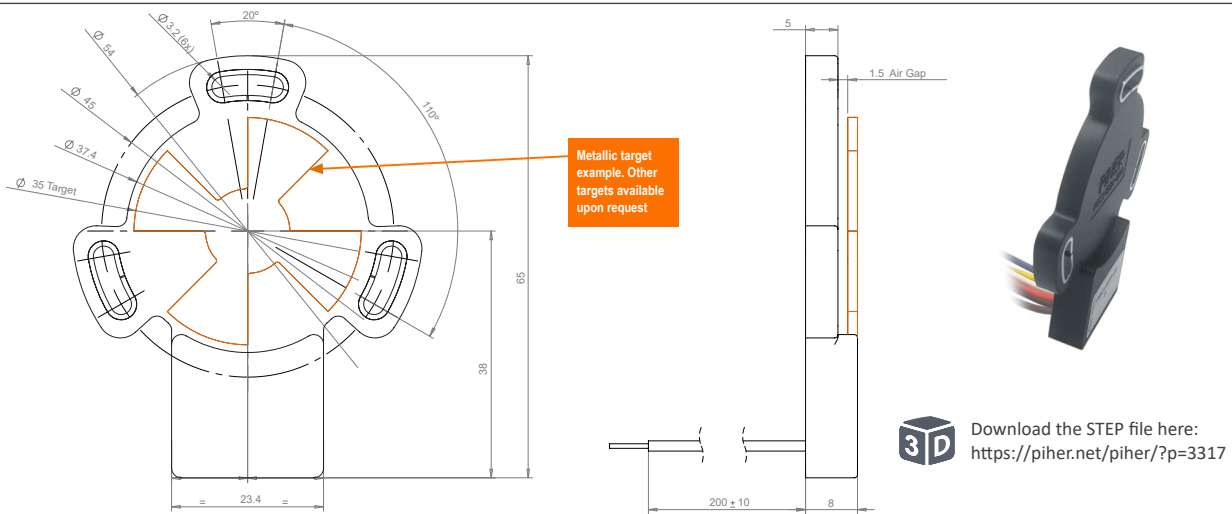| ELECTRICAL SPECIFICATIONS	
Supply voltage	5V ±10%
Supply current	Max 15mA
Voltage protection	±18 V
Accuracy	±1°el
Signal output	Single-ended demodulated sine/cosine (1.0V to 4.0V) Differential demodulated sine/cosine (-3V to +3V)
Resolution	Infinite
Propagation delay	‹4.2 µsec
Maximum electrical speed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

PSCI
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) 150.000 rpm (4-pole pair version) 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)

Metallic target example. Other targets available upon request

Download the STEP file here:
https://piher.net/piher/?p=3317

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. 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.

Amphenol Sensors