

PSE-360

Compact Panel Mount Hall-Effect Rotary Sensor

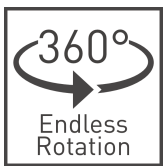


KEY FEATURES



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.



360 degree absolute position feedback

Endless mechanical rotational angle without dead band, keeps the position on power loss with programmable electrical angles from 15 to 360 degrees.



Integrated shaft

The magnet is securely fastened to the shaft and acts as only moving component in the sensor.



Made for harsh environments

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



Adaptable to your requirements

Custom mechanical design, programmable transfer function as well as different output protocols and redundancy levels available.

DESCRIPTION

Piher Sensing Systems' PSE Series Rotary Position Sensors are based on contactless hall-effect technology and deliver high accuracy and linearity in a compact package. Increased rotational life and robustness against humidity, vibration and shock make them perfectly suited for harsh industrial and transportation environments. These absolute sensors will not lose its values even after a power failure.

The PSE-360 is an end-of-shaft sensor with 360 degree endless rotation and programmable electrical angles from 15 to 360 degrees (without deadband). Custom versions with different shafts and customer specific output curves can be delivered on request.

APPLICATIONS

Industrial

- ▶ Autonomous warehouse robotics
- ▶ Robotics and automation feedback
- ▶ Valve monitoring
- ▶ Conveyor operation
- ▶ Test and measurement equipment
- ▶ Machine tool control

Transportation

- ▶ Steering wheel angle
- ▶ Pedal Position
- ▶ Suspension/height detection
- ▶ Fork height and mast tilt
- ▶ Bucket position
- ▶ Hitch position
- ▶ Transmission gear shift
- ▶ Cab controls

Marine

- ▶ Steering and shifter sensor

Home and Building Automation

- ▶ HVAC systems

Medical

- ▶ Equipment control

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MECHANICAL SPECIFICATIONS

Mechanical Angular Range ¹	360° (endless rotation)
Connection	Fly leads, connector assembly on request
Rotational life	50.000.000 cycles
Shaft diameter ¹	6,25mm
Mounting Method	Panel mount
Rotational torque	≤1Ncm

¹ Other specifications on request

ELECTRICAL SPECIFICATIONS

Linearity ¹	±1% absolute (±0.5% upon request)	
Electrical Angular Range ²	360°, 270°, 180°, 120°, 90°, 50°	
Output Protocol	Analog (Ratiometric), PWM	
Resolution	12 bits	
Output Range ²	standard inverted	10% to 90% Vdc 90% to 10% Vdc
Supply Voltage ²	5V ±10%	
Supply Current	Typ 8.5 mA	
Voltage Protection	±18V	
Self-diagnostic features	yes	

¹ Ferromagnetic materials close to the sensor (i.e. shaft, mounting surface) may affect the sensor's linearity.

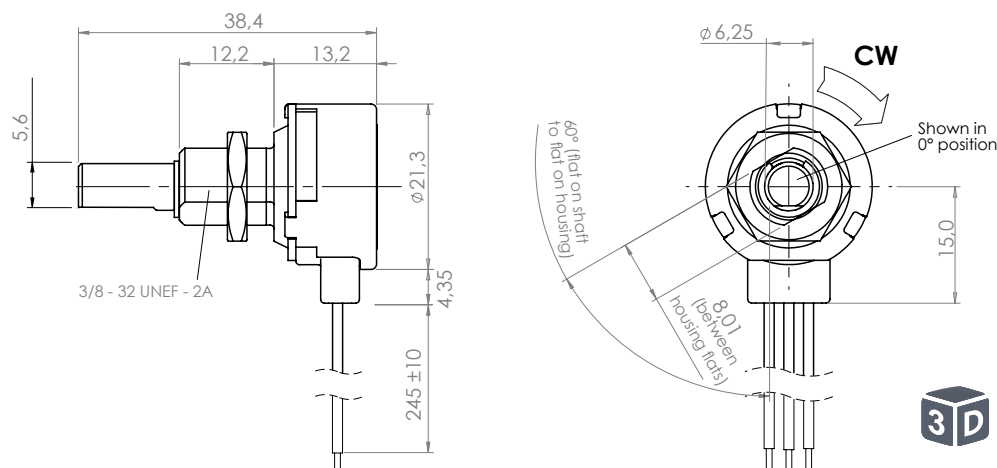
² Other specification on request

ENVIRONMENTAL SPECIFICATIONS

Operating temperature ¹	-40° to +80°C
Shock	according to SHOCK MIL-STD-202F Method 213B Test Condition C
Vibration	according to MIL-STD-202F Method 204D Test Condition B
Humidity	according to MIL-STD-202F Method 103B Test Condition A
EMI / ESD	according to UNE-EN 61000-4-2:2010 +/-6kV DC; +/-8kV AC

¹ Other specifications available

DIMENSIONS (IN MM)



Cable color	Function
Brown	Vcc
Black	Out
Blue	Gnd



Download the STEP file here:
www.pihernet.net

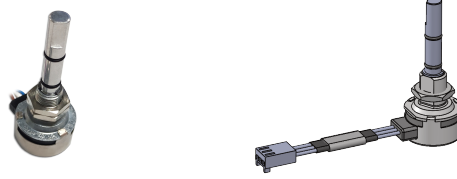
Sensor shipped with one nut installed at base. Assembled washer and extra nut available on request. Other shafts available on request.

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MECHANICAL CUSTOMIZATION OPTIONS

- Different shaft sizes
- Additional O-rings
- Connector assembly
- Heat shrink wire protectors



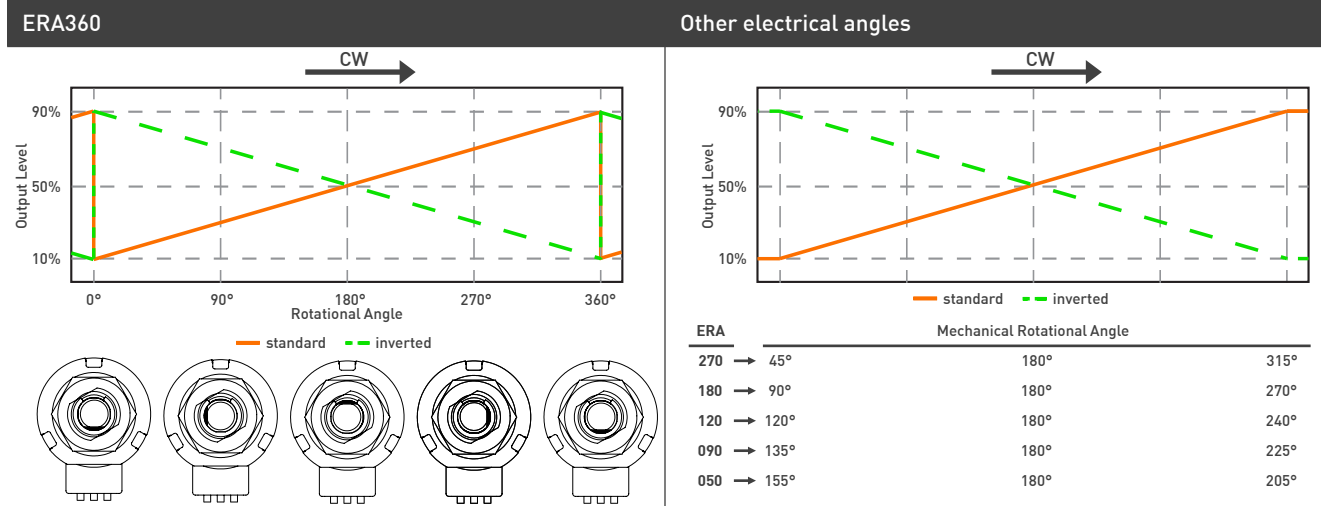
HOW TO ORDER

Standard Configuration: PSE360-A-ERA360S-05

PSE360	-	-	-	ERA	---	-	-	05	-	----
Series	Output¹		Electric rotational angle²			Output function³		Voltage supply	PWM Frequency Hz.⁴	
	A = analog P = PWM		ERA360 ERA270 ERA180 ERA120 ERA090 ERA050			S = standard I = inverted		05 = 5V ±10%	F250	

- 1 The analog output is ratiometric, proportional to input voltage.
- 2 Other electrical angular ranges available on request.
- 3 Other output functions available on request. Enter X as long as the new output function is not defined.
- 4 Leave empty if not applicable. Others available on request.

TYPICAL OUTPUT CURVE



Custom output functions available on request.



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

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