

PSE-290

Compact Panel Mount Hall-Effect Rotary Sensor with Mechanical Stop

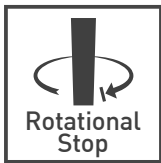


KEY FEATURES



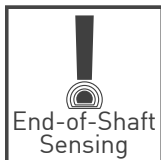
Non-contacting technology

Without any internal gears or mechanical interfaces there are no contacting parts in the sensor subject to mechanical failure.



Mechanical stop

Reliably stops the rotary movement at a maximum rotational travel of 290 degrees.



Integrated shaft

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



Made for harsh environments

Protection from dust, moisture, vibration and extreme temperatures allows the use 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.

By integrating a mechanical stop at 290 degrees unintentional over travel is mechanically prevented. This makes the PSE-290 especially suitable for human machine input.

Custom versions with different shafts, mechanical or electrical rotational angle can be delivered on request.

APPLICATIONS

Off-Highway

- ▶ Cab controls

Industrial

- ▶ Paint spray systems
- ▶ Test and measurement equipment
- ▶ Machine tool control

Medical

- ▶ Equipment control

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MECHANICAL SPECIFICATIONS

Mechanical Angular Range ¹	290° ±5°
Connection	Fly leads, connector assembly on request
Rotational life	50.000.000 cycles
Shaft diameter	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	270°
Output Protocol	Analog (Ratiometric), PWM
Resolution	12 bits
Output Range ²	standard 10% to 90% Vdc inverted 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

HOW TO ORDER

Standard Configuration: PSE290-A-ERA270S-05

PSE	290	-	A	-	ERA 270	S	-	05	-	----
Series	Mechanical rotational angle ¹ 290		Output ² A = analogic P = PWM		Electric rotational angle ¹ ERA270	Output function ³ S = standard I = inverted		Voltage supply 05 = 5V ±10%		PWM Frequency Hz. ⁴ F250

¹ Other mechanical and/or electrical angular ranges available on request.

² The analog output is ratiometric, proportional to input voltage.

³ Other output functions available on request. Enter X as long as the new output function is not defined.

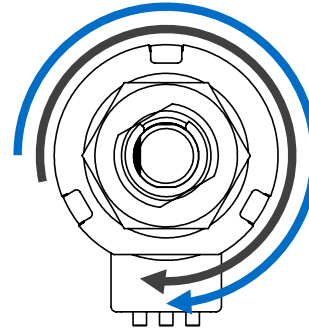
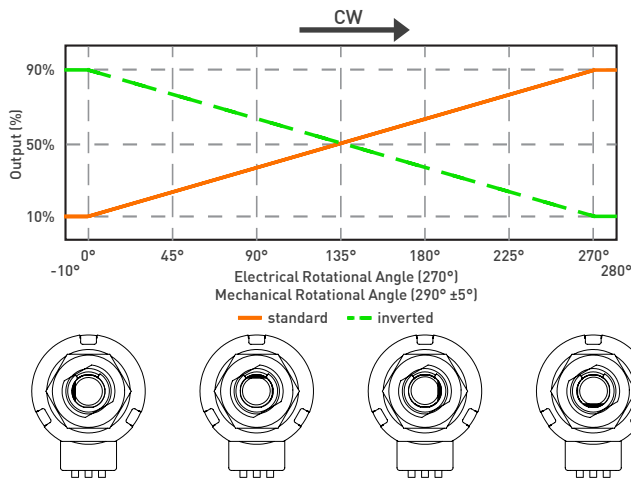
⁴ Leave empty if not applicable. Others available on request.

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TYPICAL OUTPUT CURVE

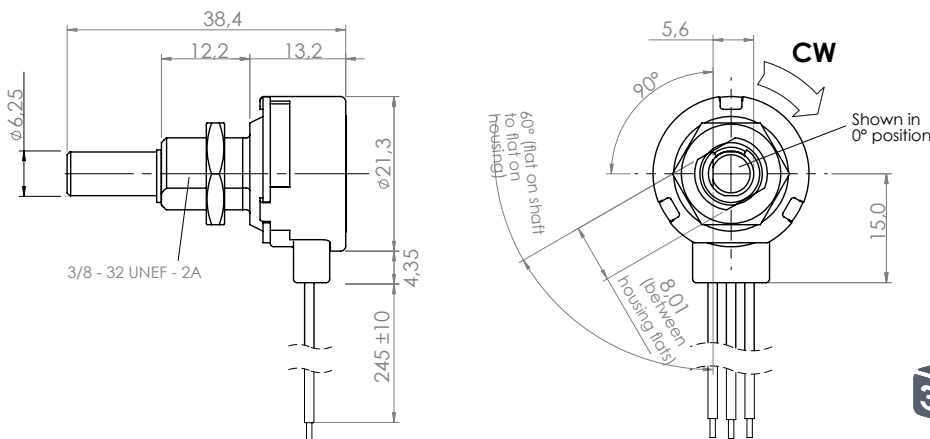
ERA-270



ERA 270°
MRA 290°

Custom output functions available on request.

DIMENSIONS (IN MM)



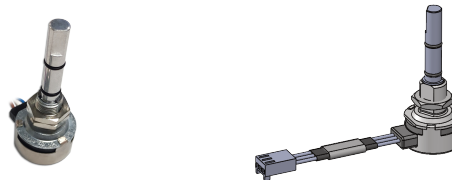
Cable color	Function
Brown	Vcc
Black	Out
Blue	Gnd

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.

MECHANICAL CUSTOMIZATION OPTIONS

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



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

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