

HRPM

Hall-Effect Rotary Position Sensor with integrated connector



DESCRIPTION

The HRPM Series of Hall-effect Rotary Position Sensors is a cost-effective, non-contacting position sensing solution for applications in harsh environments such as transportation and industrial.

This compact sensor with integrated AMP superseal connector is based on a touchless concept with separate housings for electronics and magnet. The magnet is mounted on the actuated axis and without wear and tear due to radial forces, the reliability and lifetime are increased significantly.

Fully sealed and flanged mounted for easy positioning, the sensor is versatile with configurable angular ranges from 50 to 360 degrees, option for a bare or housed magnet, different pin-outs and support for low and high-voltage power supply.

KEY FEATURES



True touchless operation

Without any internal or external gears or linkages the sensor is easily assembled and calibrated and free from wear and tear over lifetime.



360 degree absolute position feedback

Endless mechanical rotational angle without dead band, keeps the position on power loss with configurable electrical angles from 50 to 360 degrees.



Made for harsh environments

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



Unlimited mechanical life

The separation of electronics and magnet module allows for a virtually unlimited lifetime independent of number of revolutions.

APPLICATIONS

Industrial

- ► Warehouse automatic guided vehicles
- ▶ Valve monitoring
- ► HVAC systems

Heavy-duty transportation vehicles

- ► Steering wheel angle
- ▶ Pedal position for off-road vehicles
- ► Suspension/height detection
- Fork height and mast tilt
- ▶ Bucket position
- ► Hitch position
- ► Transmission gear shift



Hall-Effect Rotary Position Sensor with integrated connector

MECHANICAL SPECIFICATION	PECIFICATIONS	
Rotational life	Virtually unlimited	
Mechanical range	360° (endless rotation)	
Mating connector	AMP Superseal 282087-1	
Air Gap	3mm ±1mm	
Mounting screw sizes		
Sensor to mounting surface	non-magnetic, stainless steel M4 X 0.7 screws and 8 mm 0D washers	
Housed magnet to actuator mounting shaft		

ELECTRICAL SPECIFICATION	SPECIFICATIONS		
Output Protocol	Analog (Ratiometric)		
Supply voltage	5V ±10%	7V to 32V	
Supply current	12 mA	14 mA	
Overvoltage protection	+10V	+36V	
Reverse voltage protection	-10V	-30V	
Output standard	10% to 90% Vdc (CW)		

	inverted	
	Absolute linearity / Accuracy error ¹	± 1% (0,5% on request)
	Resolution	Up to 12 bit
	Self-diagnostic features	yes

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

ENVIRONMENTAL SPECIFIC	IVIRONMENTAL SPECIFICATIONS	
Operating temperature	-40° to +125°C	
Shock	50g	
Vibration	5-2000 Hz; 20g; Amax 0,75 mm	
Sealing	IP67, IP69K	

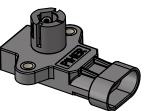
HRPM

Hall-Effect Rotary Position Sensor with integrated connector

DIMENSIONS (MM)

HRPM-A (housed magnet)



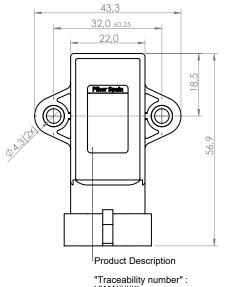


 \odot

(16,0)

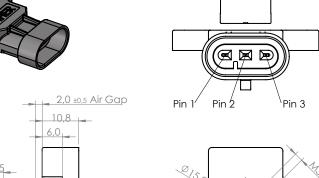
0,85

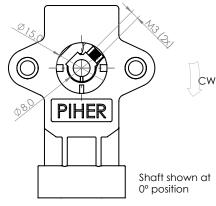
17,7



"Traceability number" : YWW#### Y: Year ("N" = 2023, "O" = 2024...) WW: Week

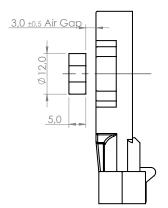
####: Sensor number

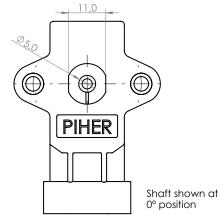


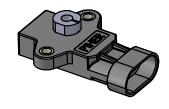




HRPM-M (bare magnet)







PIN	European Pinout	American Pinout
1	Ground	Power supply
2	Power Supply	Ground
3	Signal output	Signal output

CONNECTION SCHEME