

The **MHR5100 current output series** is a general purpose magnetic hall rotary position sensor, which is designed to provide a 4 to 20mA output signal for industrial and automotive control applications.

Manufactured with a compact high-grade polymer case, they are available with three different stainless steel shaft options, which include sprung, round or blade.

With an advantage of an integral bearing and fully encapsulated electronics, they are environmentally protected against the ingress of dust and water to IP68/IP69K. They can operate in a variety of fluid conditions.

To ensure the sensors meet the exacting requirements of the customer, the measurement angle is factory programmed between 20° to 360° in 1° increments.

They operate from an unregulated 8 to 40VDC supply.

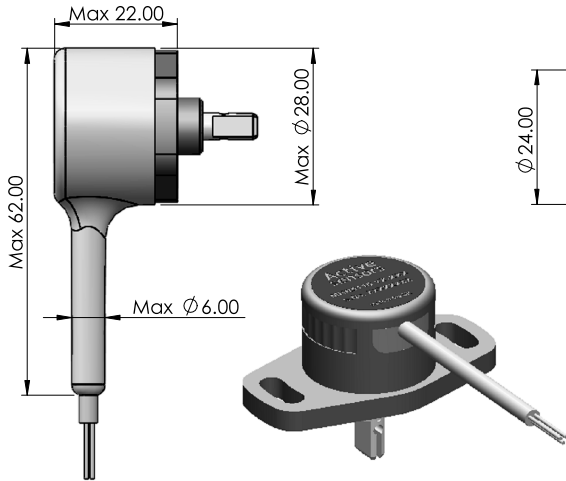
Key features and benefits

- 3-wire, 4 to 20mA output
- Programmable measurement range available from 20° to 360° in 1° increments
- Three stainless steel shaft options, sprung, round or blade
- Maximum operating temperature 125°C (257°F)
- Suitable for vibration and fluid applications
- Superior accuracy of $<\pm 0.25\%$ FS
- Sensor operates from 8 to 40 VDC
- Sealed to IP68/IP69K
- Optional heat shrink boot

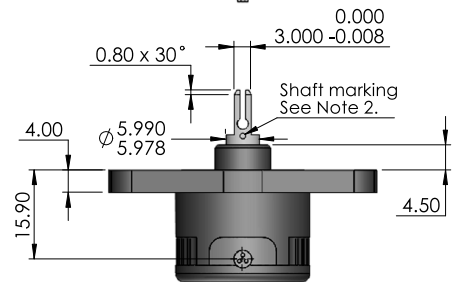
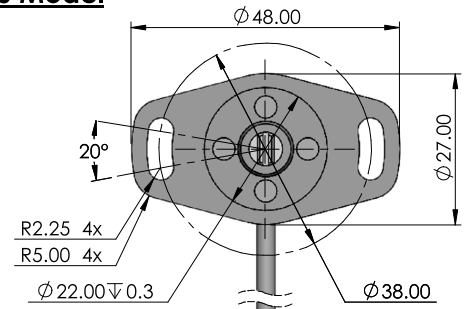
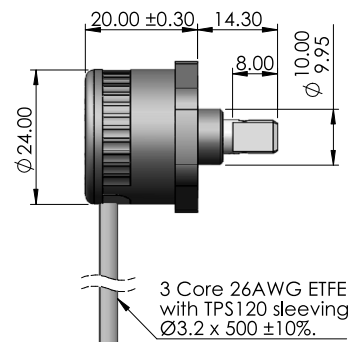


MHR5110 and MHR5111 Current Output - Flange mounting with a sprung shaft

MHR5111 Model



MHR5110 Model

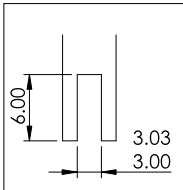


Ordering Information

MHR511X XI-XXX

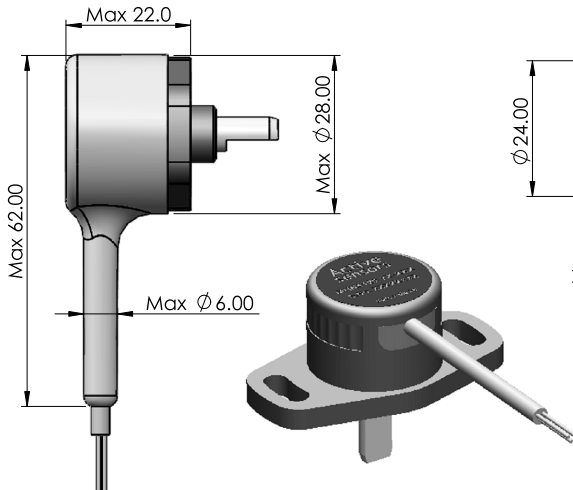
0 = Unbooted
1 = Heatshrink boot
Output Direction (Viewed on shaft)
C = Clockwise
A = Anticlockwise
Electrical angle in degrees

Driving Side Detail

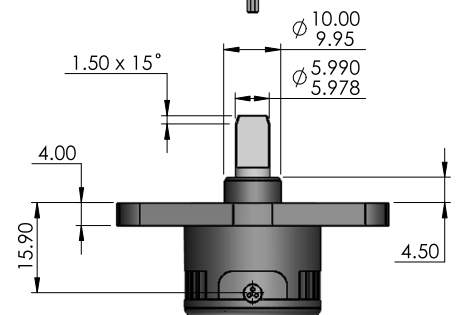
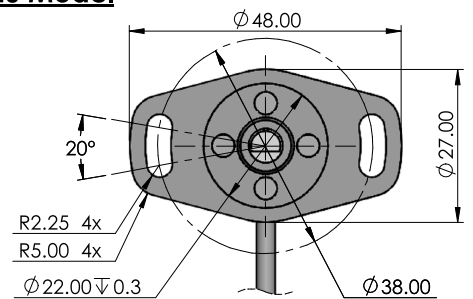
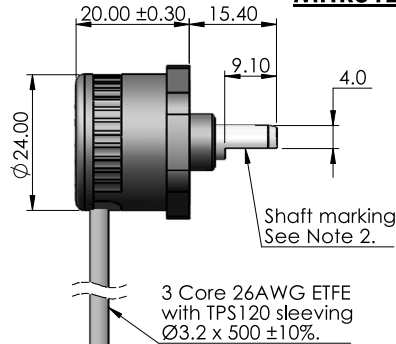


MHR5120 and MHR5121 Current Output - Flange mounting with a round shaft

MHR5121 Model



MHR5120 Model



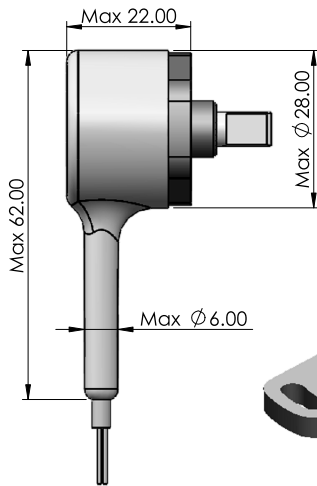
Ordering Information

MHR512X XI-XXX

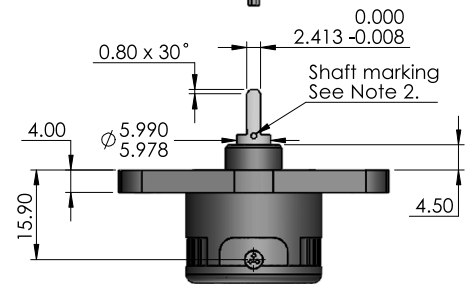
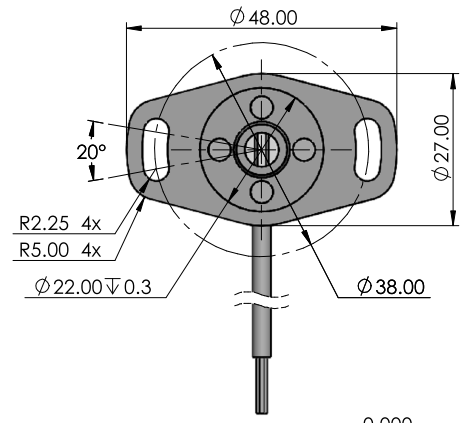
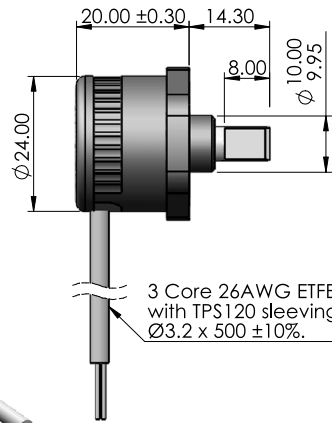
0 = Unbooted
1 = Heatshrink boot
Output Direction (Viewed on shaft)
C = Clockwise
A = Anticlockwise
Electrical angle in degrees

MHR5130 and MHR5131 Current Output – Flange mounting with a blade shaft

MHR5131 Model



MHR5130 Model



Ordering Information

MHR513X XI-XXX

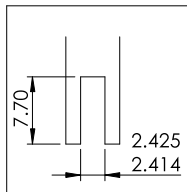
0 = Unbooted
1 = Heatshrink boot

Output Direction (Viewed on shaft)

C = Clockwise
A = Anticlockwise

Electrical angle in degrees

Driving Side Detail



Electrical and mechanical specification for MHR5100 Current Output

Input Specification		
Supply voltage (Vs)	8 to 40 unregulated	VDC
Over voltage protection	Up to 44	VDC
Supply current	<40	mA
Reverse polarity protection	Up to -10 TBD	VDC
Power on settlement time	<100	ms
Input voltage rise time	0.25 minimum	V/ms
Output Specification		
Output type	Analogue current	
Output direction	Clockwise or anticlockwise (specified at time of order)	
Voltage output (Iout)	4 -20	mA
Line regulation	<0.01	% FS
Monotonic range	Linear Range (see note 4)	
Load resistance (max)	Vs/0.022	Ohms
Output noise	<5 TBD	µA RMS
Performance Specification		
Measurement range	20 to 360 in 1° increments	°
Resolution	0.025	% of measurement range
Non-Linearity (see note 3)	<±0.25	%FS
Temperature coefficient (Iout)	<±0.011 TBD	%FS/°C
Update rate (nominal)	500	Hz
Max operating speed	600	RPM
General Specification		
Weight (approx.)	29	grams
Protection/sealing	Electronic housing IP68 and IP69K	
Life (shaft in bush bearing)	>20 million cycles	dependent on environment
Dither life	Contactless - no degradation due to shaft dither	
Operational temperature	See de-rating graph	
Storage temperature	-55 to +150	
Materials	Case - Glass filled polymer Top Cap - GF polymer Shaft - Stainless steel 316	
Max torque for fixing screw (M4 with washer)	1.8	Nm

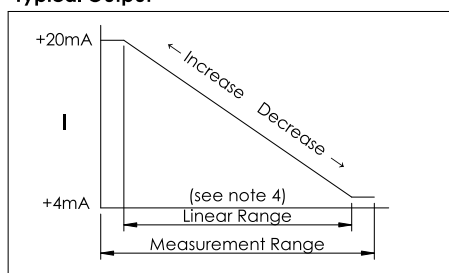
Notes:

1. Incorrect wiring may cause internal damage.
2. When shaft marking is facing cable exit, instrument is mid-travel (12mA output).
3. Non-linearity is calculated from least squares best fit method over the Linear Range.
4. Linear Range = Measurement Range x 0.995 Nom.

Electrical connection (see note 1)

Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output current (Iout)
Black	Ground

Typical Output



Input voltage de-rating graph

