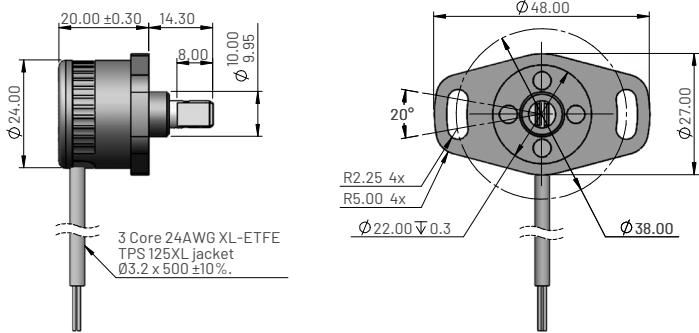


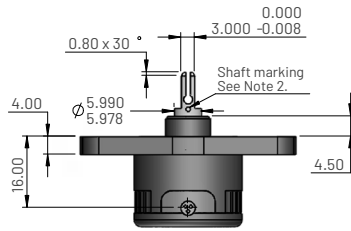
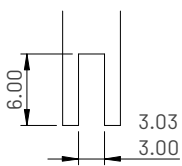
MHR5100 Series - Magnetic-Hall rotary position sensor

General-purpose series

Dimensions for MHR5110 - Flange mounting - sprung shaft



Drive shaft detail

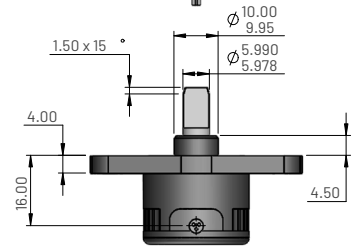
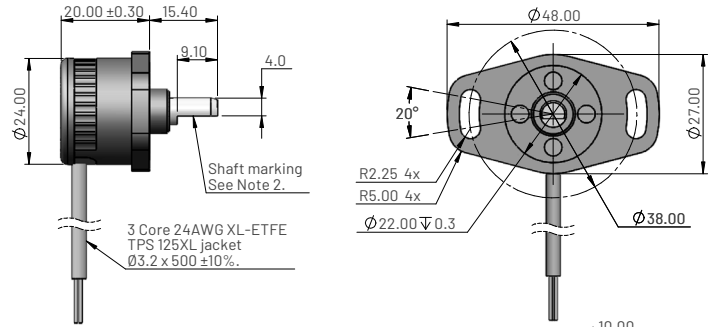


Ordering information

MHR5110 XV-XXX

Output direction (viewed on shaft)
 C = Clockwise
 A = Anticlockwise
 Electrical angle in degrees

Dimensions for MHR5120 - Flange mounting - round shaft

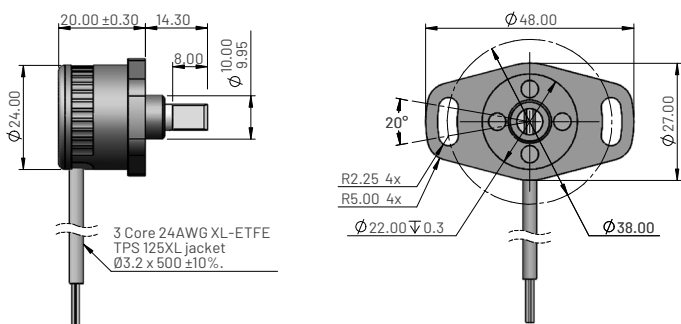


Ordering information

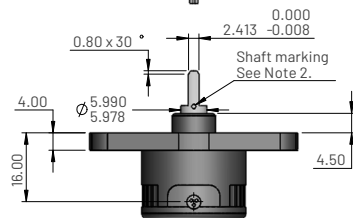
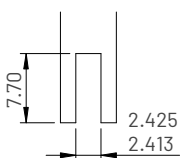
MHR5120 XV-XXX

Output direction (viewed on shaft)
 C = Clockwise
 A = Anticlockwise
 Electrical angle in degrees

Dimensions for MHR5130 - Flange mounting - blade shaft



Drive shaft detail



Ordering information

MHR5130 XV-XXX

Output direction (viewed on shaft)
 C = Clockwise
 A = Anticlockwise
 Electrical angle in degrees

Electrical and mechanical specification for MHR5100

Parameters	Values		Units
Input specification			
Supply voltage (Vs)	5.0±10% regulated	8 to 30 unregulated	VDC
Over voltage protection	Up to 50		VDC
Supply current	<15		mA
Reverse polarity protection	Up to -10		VDC
Power on settlement time	<100		ms
Input voltage rise time	0.25 minimum		V/ms
Output specification			
Output type	Analogue voltage		
Output direction	Clockwise or anticlockwise (specified at time of order)		
Voltage output (Vout)	0-Vs (+5)	0 - 5.0	VDC
Line regulation	Ratiometric with Vs	<0.01%FS	
Monotonic range	Linear range (see note 5)		
Load resistance	>10K		Ohms
Output noise	<5		mV RMS
Performance specification			
Measurement range	20 to 360 in 1° increments		°
Resolution	0.025		% of measurement range
Non-linearity (Note 4)	<±0.025		%FS
Temperature coefficient (Vout)	<±0.003	<±0.011	%FS/°C
Update rate	500 Nom		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	-40 to +150	See de-rating graph	°C
Storage temperature	-55 to +150		°C
Materials	Sensor	Case - Glass filled polymer, Shaft - Stainless steel 316	
	Top cap	GR polymer	
Max torque for fixing screw (M4 with washer)	1.8		Nm

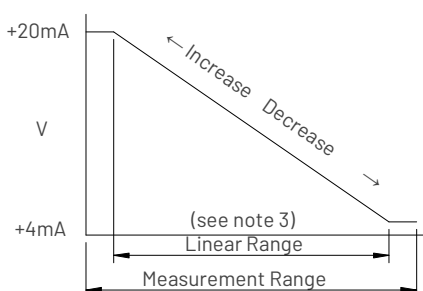
Notes

1. Incorrect wiring may cause internal damage.
2. When shaft marking is facing cable exit, instrument is mid-travel (2.5V output).
3. Do not operate between 5.5V and 8V.
4. Non-linearity is calculated from least squares best fit method over the Linear Range.
5. Linear Range = Measurement range x 0.995 Nom.
6. Due to hall effect technology used in this device, ferrous materials and magnetic fields close to the sensor may influence output.
7. General dimension tolerance is ±0.25.

Electrical connections (see note 1)

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

Typical output



Input voltage de-rating graph

