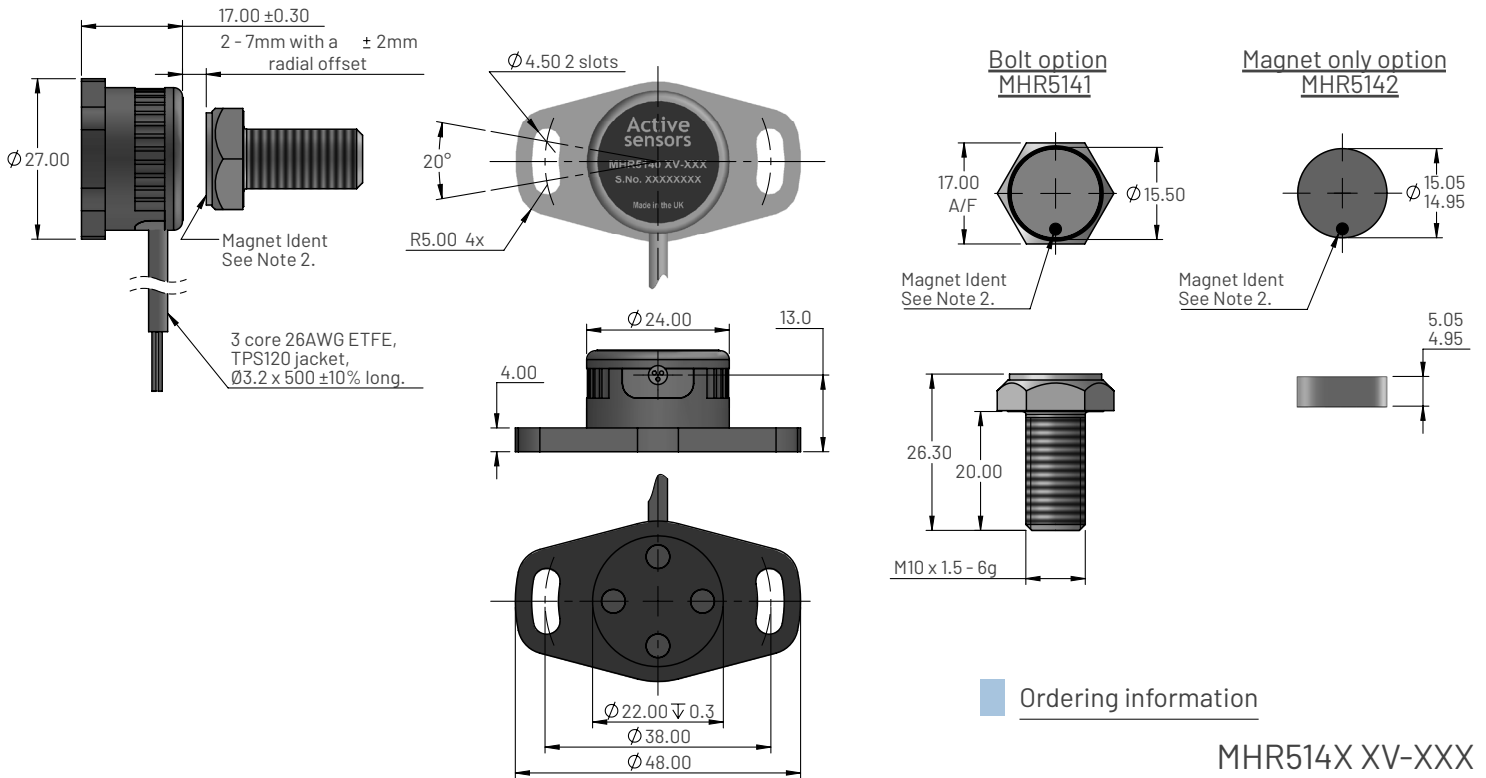


MHR5140 Series - Magnetic-Hall rotary position sensor

General-purpose series

Dimensions for MHR5141 and MHR5142 - Flange mounting - magnet options



Ordering information

MHR514X XV-XXX

- Magnet holder option
 - 1 = Bolt option
 - 2 = Magnet only option
- Output direction (viewed on shaft)
 - C = Clockwise
 - A = Anticlockwise
- Electrical angle in degrees

Electrical and mechanical specification

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.)	15	grams
Protection/sealing	Electronic housing IP68 and IP69K	
Life	Virtually infinite	
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	Glass filled polymer
	Magnet bolt	Stainless steel
Max torque for fixing screw (M4 with washer)	1.8	Nm

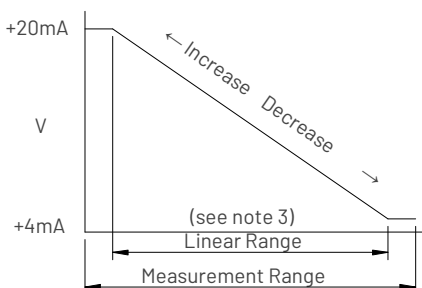
Notes

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)

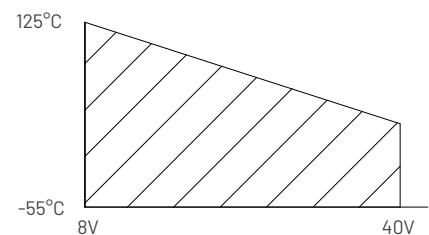
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground

Typical output



Input voltage de-rating graph

Input volts vs temperature



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