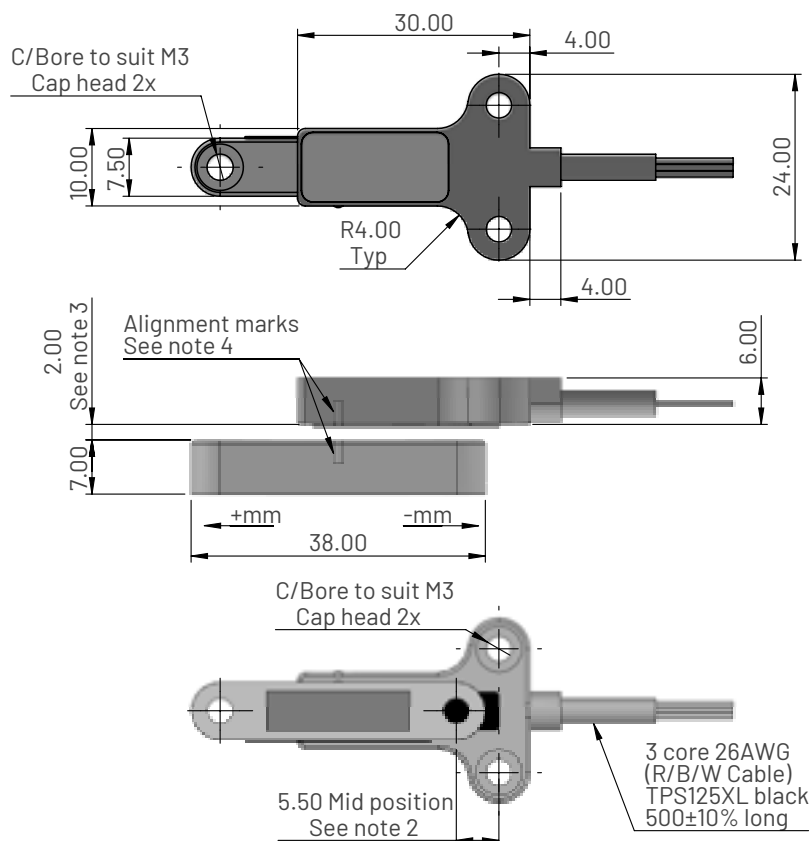


MHL1000 Series - Magnetic Hall linear position sensor (10mm to 50mm range)

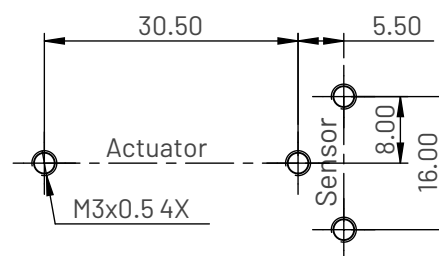
Contactless Technology.

Active
sensors

Dimensions for MHL1011 - 10mm to 25mm measurement range



Mounting template - mid position



Secure using 4 x M3x10 cap head screws (supplied)

Ordering information

MHL1011 XV-XX

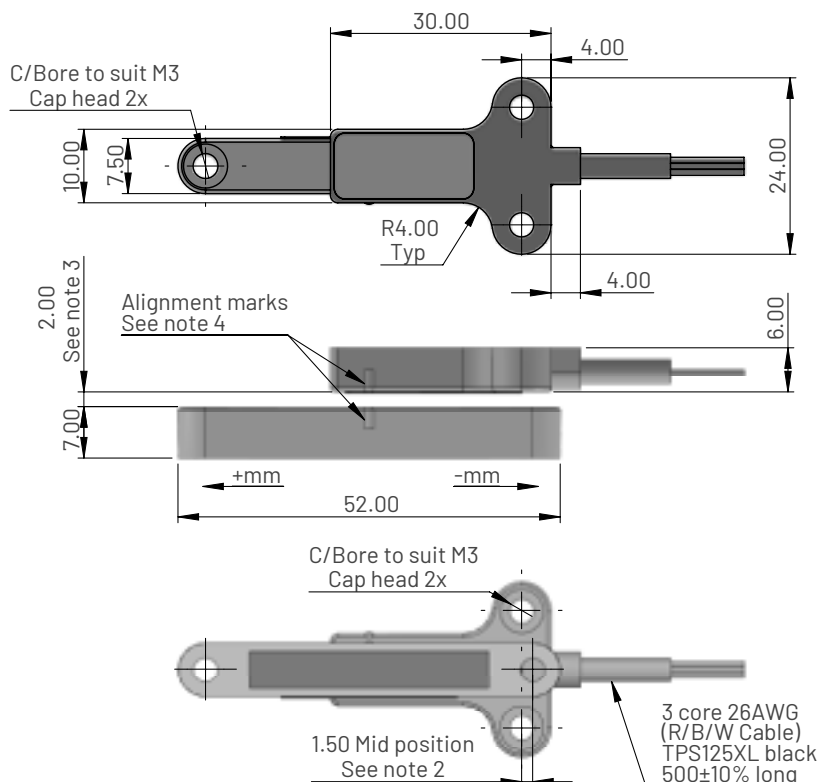
Output option (see graph)

L = Retracted output increases

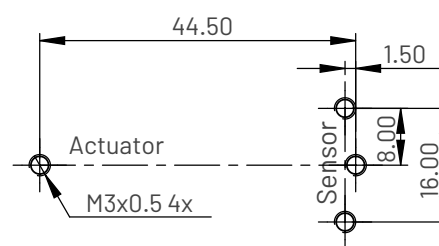
R = Extended output increases

Measurement range in mm

Dimensions for MHL1012 - 26mm to 50mm measurement range



Mounting template - mid position



Secure using 4 x M3x10 cap head screws (supplied)

Ordering information

MHL1012 XV-XX

Output option (see graph)

L = Retracted output increases

R = Extended output increases

Measurement range in mm

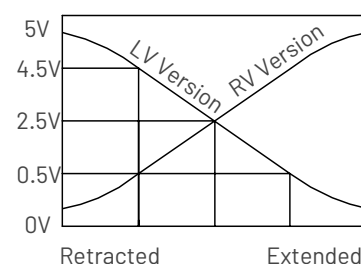
Electrical and mechanical specification for MHL1011 and MHL1012

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	See output characteristics graph		
Voltage output (Vout)	10-90% Vs	0.5 – 4.5	VDC
Line regulation	Ratiometric with Vs	<0.01% FS	
Monotonic range	0 – 100% measurement range		
Load resistance	>10K		Ohms
Output noise	<5		mV RMS
Performance Specification			
Measurement range	10 to 25 in 1mm increments		mm
Measurement range	26 to 50 in 1mm increments		mm
Resolution	0.025		% of MR
Sensitivity tolerance (see note 6 and 7)	<±2.5		%FS
Non-linearity (see note 7)	<±1		%FS
Temperature coefficient (Vout)	<±0.003	<±0.011	%FS/°C
Update rate	500 Nom		Hz
Max operating speed	1000		mm/s
General Specification			
IP rating	IP68 and IP69K		
MTBF	134,000		hours at 55°C
Dither life	Contactless - no degradation		
Operational temperature	-40 to +150	See de-rating graph	°C
Storage temperature	-55 to +150		°C
Materials	Sensor and Actuator – Glass filled polymer		
Weight MHL1011 (approx)	15		grams
Weight MHL1012 (approx)	15		grams
Max torque screw setting	1		Nm

Electrical connections (see note 1)

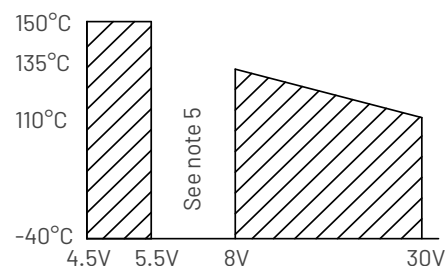
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground

Output characteristics



Temperature de-rating

Supply voltage(Vs) vs temp



Notes

1. Incorrect wiring may cause internal damage.
2. When the sensor is positioned as shown the instrument is mid-travel (2.5±100mV).
3. The output is calibrated to meet the specification with the air gap shown, any variation on this will effect the performance.
4. The sensor should be mounted with the alignment marks as shown to achieve the specified operation.
5. Do not operate between 5.5V and 8V.
6. Ideal sensitivity (mV/mm) is calculated from the ideal span of 4000mV (4.5-0.5V DC) divided by the measurement range in mm.
7. Sensitivity and Non-linearity are calculated from least squares best fit method.
8. Due to hall effect technology used in this device, ferrous materials and magnetic fields close to the sensor may influence output.
9. General dimension tolerance ±0.25mm.