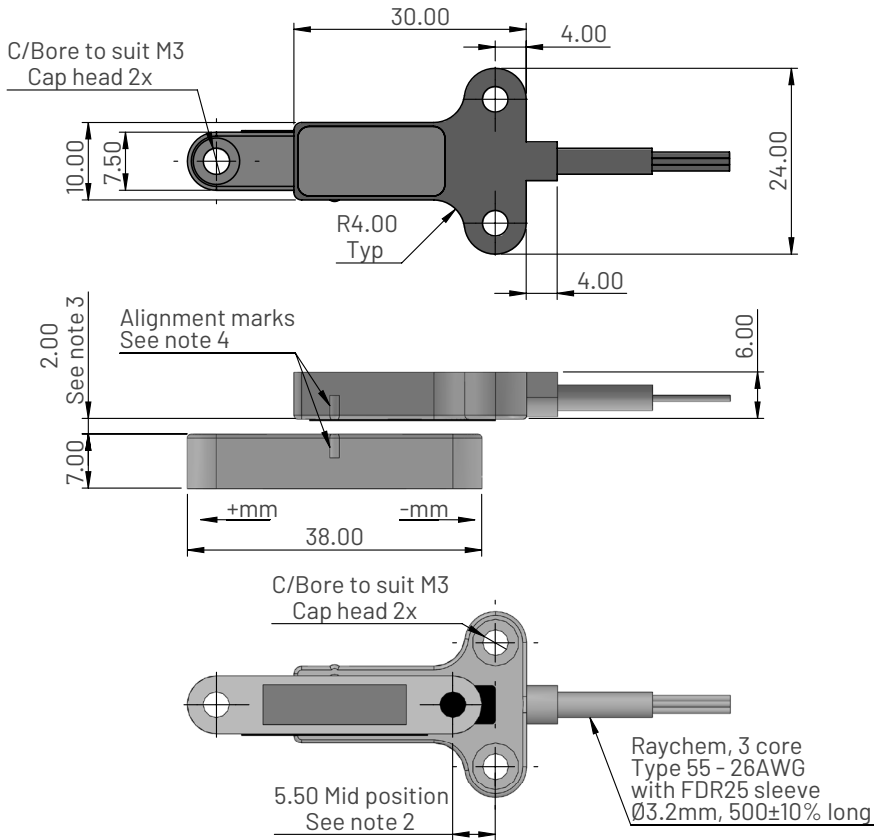


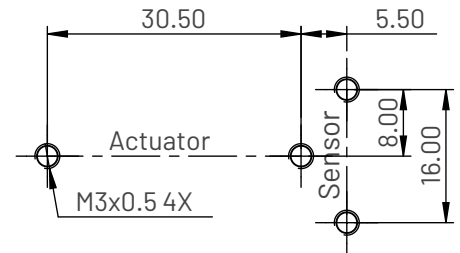
# MHL1000 Series - Magnetic Hall linear position sensor (10mm to 50mm range)

Contactless Technology

## Dimensions for MHL1011 - 10mm to 25mm measurement range



## Mounting template - mid position



Secure using 4 x M3x10 cap head screws (supplied)

## Ordering information

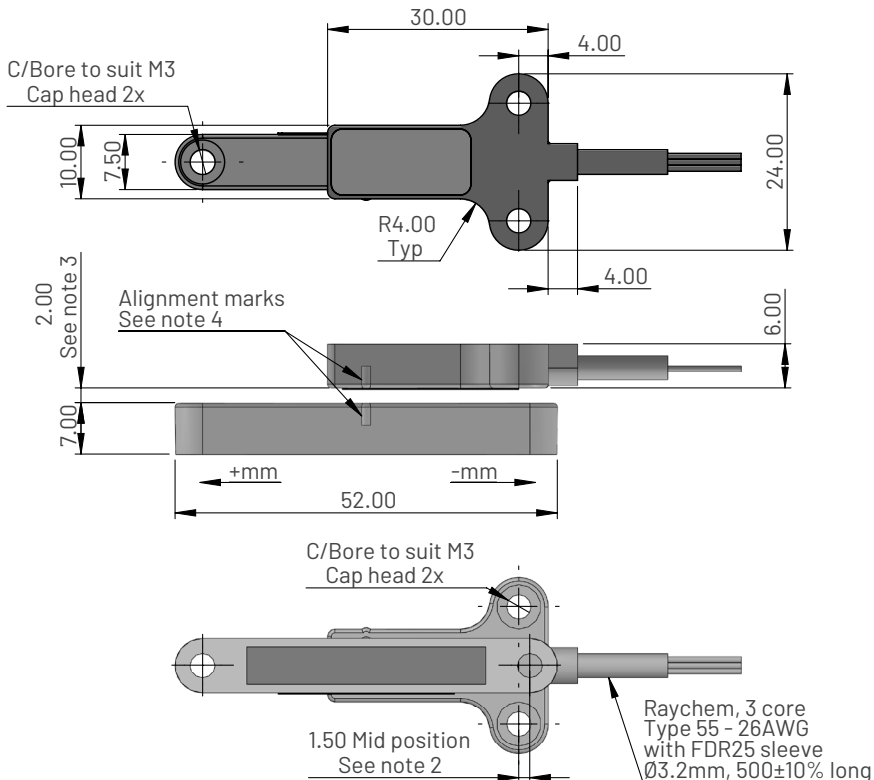
### MHL1011 XV-XX

Output option (see graph)

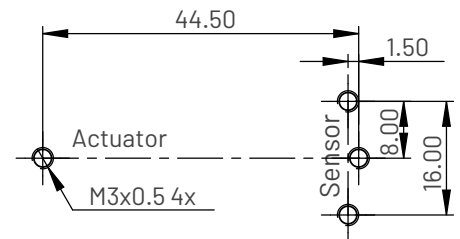
- L = Retracted output increases
- R = Extended output increases

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

Input Specification		
Supply voltage (Vs)	5.0±10% regulated	8 to 30 unregulated
Over voltage protection	Up to 50	
Supply current	<15	
Reverse polarity protection	Up to -10	
Power on settlement time	<100	
Input voltage rise time	0.25 minimum	

Output Specification		
Output type	Analogue voltage	
Output direction	See output characteristics graph	
Voltage output (Vout)	10-90% Vs	0.5 - 4.5
Line regulation	Ratiometric with Vs	<0.01% FS
Monotonic range	0 - 100% measurement range	
Load resistance	>10K	
Output noise	<5	

Performance Specification		
Measurement range	10 to 25 in 1mm increments	mm
Measurement range	26 to 50 in 1mm increments	mm
Resolution	0.025	% of measurement range
Sensitivity tolerance (see note 6 and 7)	<±2.5	%FS
Non-linearity (see note 7)	<±1	%FS
Temperature coefficient (Vout)	<±0.003	<±0.011
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
Storage temperature	-55 to +150	
Materials	Sensor and Actuator - Glass filled polymer	
Weight MHL1011 (approx)	12	grams
Weight MHL1012 (approx)	15	grams
Max torque screw setting	1	Nm

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.

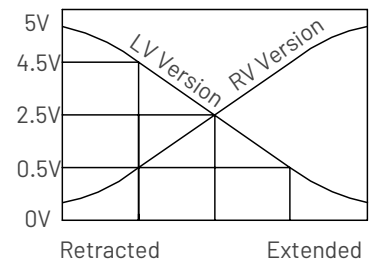
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Electrical connections (see note 1)

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

Output characteristics



Temperature de-rating

