

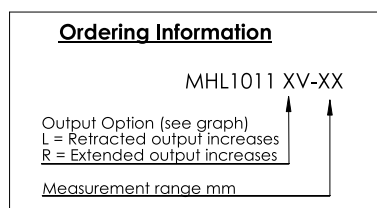
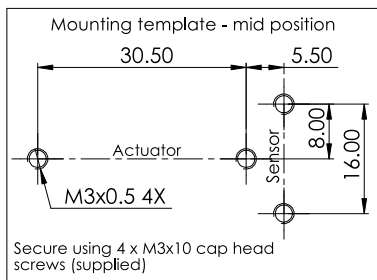
MHL1000 Magni-Hall® linear position sensors are compact and robust, and with the absence of any mechanical linkages, maintenance free. The sensor is suitable for use in harsh environments where debris, fluids and vibration are present. The measurement range is specified by the customer when ordering (in 1mm increments).

### Key Features & Benefits

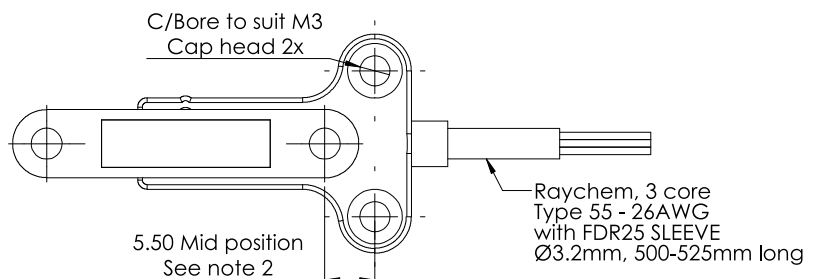
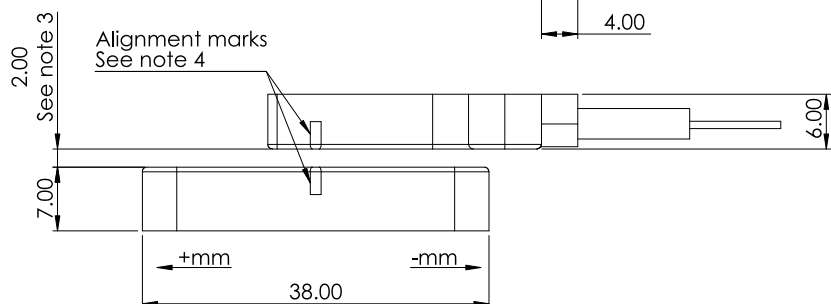
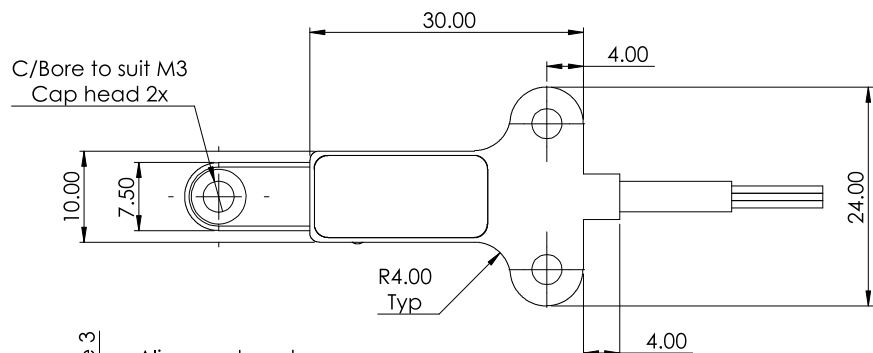
- Measurement range 10 - 50mm (2")
- No mechanical linkages
- Operating temperature up to 150°C (302°F)
- Superior Magni-Hall® contactless technology
- Waterproof - sealed to IP68 & IP69K
- Very slim housing profile
- Mounting fixings supplied



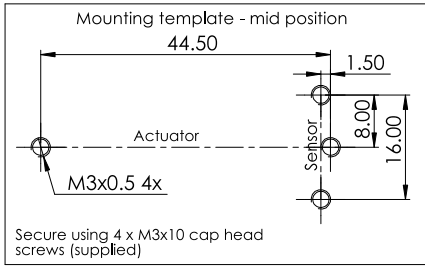
### MHL1011 - Model dimensions and mounting for 10 - 25 mm measurement



Electrical Connections (see note 1)	
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground



# MHL1012 - Model dimensions and mounting for 26 - 50 mm measurement



**Ordering Information**

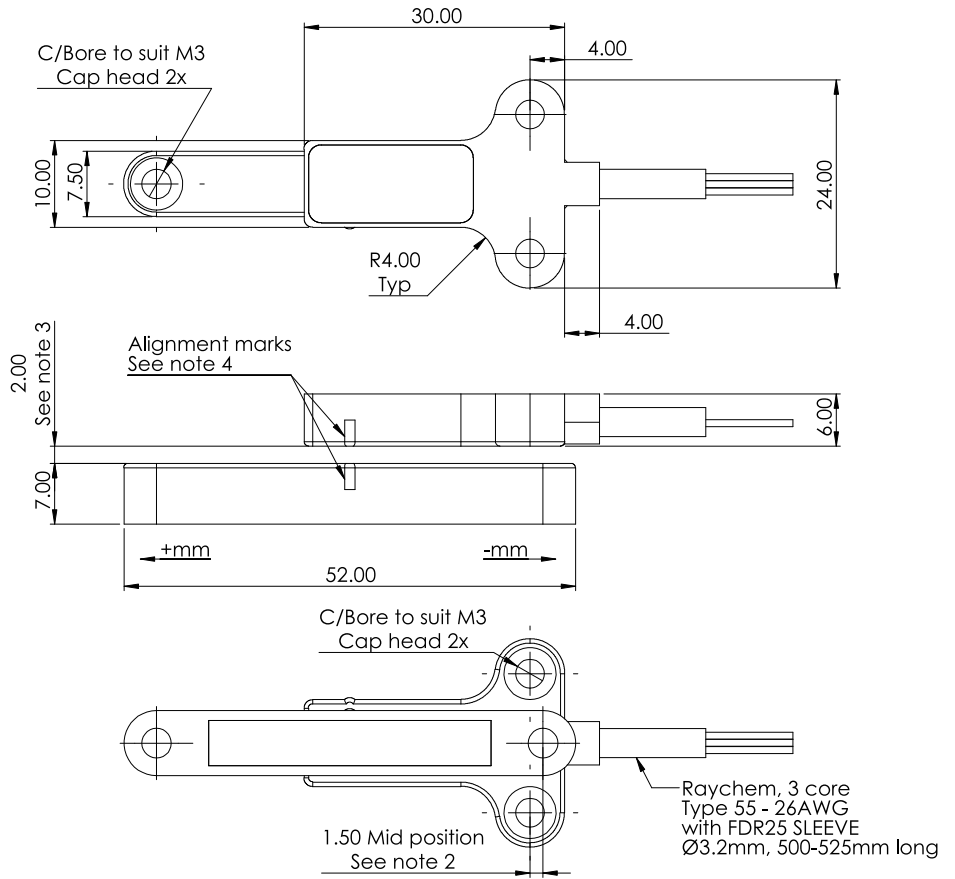
MHL1012 XV-XX

Output Option (see graph)  
L = Retracted output increases  
R = Extended output increases

Measurement range mm

**Electrical Connections (see note 1)**

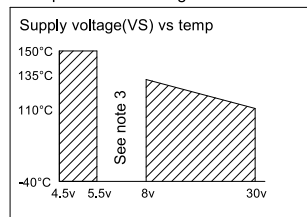
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground



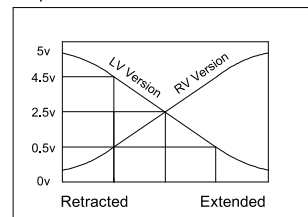
## MHL1000 - Electrical & mechanical specification

Input Specification			
Supply voltage (Vs)	5.0±10% regulated	8 to 30 unregulated	V DC
Over voltage protection	Up to 50		V DC
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		
Output direction	See output characteristics graph		
Voltage output (Vout)	0.5 - 4.5	0.5 - 4.5	V DC
Line regulation	Ratiometric with Vs	<0.01% FS/V	
Monotonic range	0 - 100% measurement range		
Load resistance	>10K		Ohms
Output noise	<5		mV rms
Performance Specification			
Measurement range	10mm to 50mm in 1mm increments		mm
Resolution	0.025		% of measurement
Sensitivity tolerance (see note 6 & 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	1		m/S
General Specification			
IP rating	IP68 & IP69K		
MTBF	166 million cycles		hours@55°C
Dither life	Contactless - no degradation		
Operational temperature	-40 to +150	See de-rating graph	°C
Storage temperature	-55 to +150		°C
Materials	Module and Actuator - Glass filled polymer		
Weight	15		
Max torque screw setting	1		Nm

Temperature de-rating



Output characteristics



Notes:

1. Incorrect wiring may cause internal damage.
2. When the sensor is positioned as shown the instrument is mid-travel (2.5±100mV output).
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 may influence output.

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