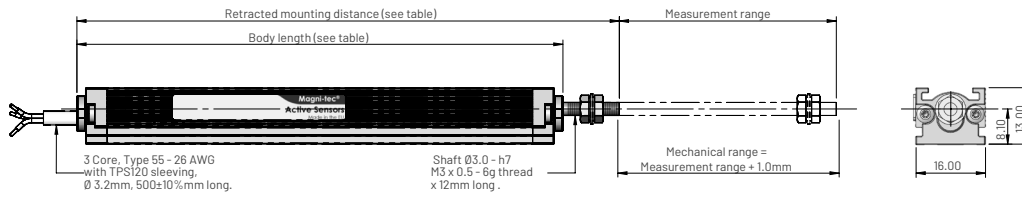


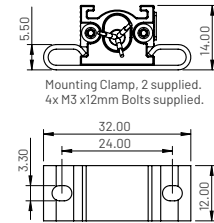
# MHL1300 Series - Magnetic Hall linear position sensor (Measurement range 50 - 150mm)

Square-bodied. Body clamp mounting. Shaft operated or Side operated carriage.

## Dimensions for MHL1321 - Shaft operated



## Clamping information



## Ordering information

MHL1321 XV-XX

Output option (see graph)

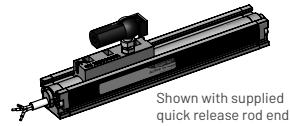
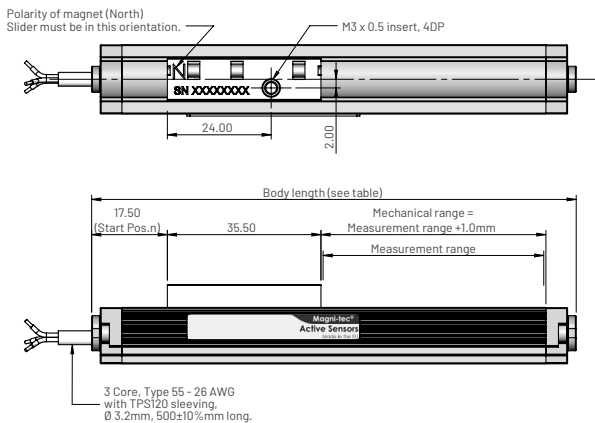
L = Retracted output increases

R = Extended output increases

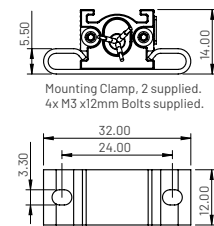
Measurement range in mm

Measurement range	Body length	Retracted mounting distance	Approx. weight (grams)
50	112	125	55
75	137	150	60
100	162	175	65
125	187	200	70
150	212	225	75

## Dimensions for MHL1324 - Side operated carriage



## Clamping information



## Ordering information

MHL1324 XV-XX

Output option (see graph)

L = Retracted output increases

R = Extended output increases

Measurement range in mm

Measurement range	Body length	Approx. weight (grams)
50	112	55
75	137	60
100	162	65
125	187	70
150	212	75

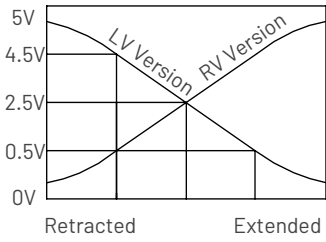
Electrical and mechanical specification for MHL1300

Parameters	Values		Units
Input specification			
Supply voltage (Vs)	5.0±5% regulated	8 to 30 unregulated	VDC
Over voltage protection	Up to 50		VDC
Supply current	During power on settlement <100, nominal operation <45		mA
Reverse polarity protection	Up to -50		VDC
Power on settlement time	<250		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)	0 to Vs	0 to 5	VDC
Line regulation	Ratiometric with Vs	<0.01	%FS
Monotonic range	1 to 99% measurement range		
Load resistance	>10K		Ohms
Output noise	<5		mV RMS
Performance specification			
Resolution	0.025		% of measurement range
Sensitivity (Note 2)	Ideal span (5000mV) / Measurement range(mm)		mV/mm
Sensitivity tolerance	<±2.5		%FS
Non-Linearity (Note 5)	<±0.5		%FS
Temperature coefficient (Vout)	<±0.003	<±0.011	%FS/°C
Update rate (nominal)	800		Hz
Max operating speed	1000		mm/s
General specification			
IP rating	IP68 and IP69K		
Shaft operation force (typical)	20		grams
Life (shaft in bush bearing)	>20 million cycles		dependent on environment
Dither life	Contactless - no degradation		
Operational temperature	-40 to +125	See de-rating graph	°C
Storage temperature	-55 to +150		°C
Materials	Sensor	Case - Anodised aluminium, Shaft - Stainless steel 316	
	Clamps	Steel BZP	
	Rod ends	Body: Anodised aluminium, Spherical Ball: Nickel plated steel	
	QR ball joints	Body: Nylon, Ball Joint: Steel BZP	

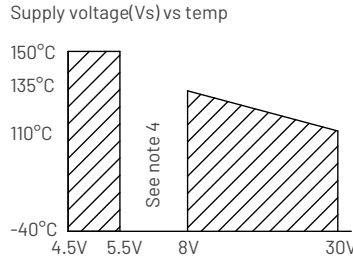
Notes

1. Incorrect wiring may cause internal damage.
2. Sensitivity and non-linearity are calculated from least squares best fit method.
3. Due to the Hall effect technology used in this device, close proximity of ferrous materials and magnetic fields may influence output.
4. Do not operate sensor between 5.5V and 8V.
5. General dimension tolerance is ±0.25mm.

**Output characteristics**



**Temperature de-rating**

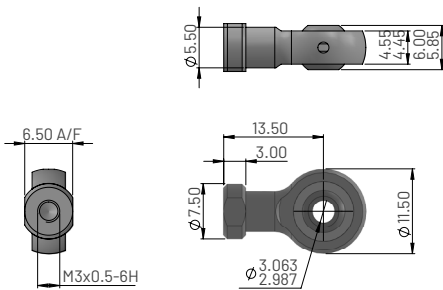


**Electrical connections (see note 1)**

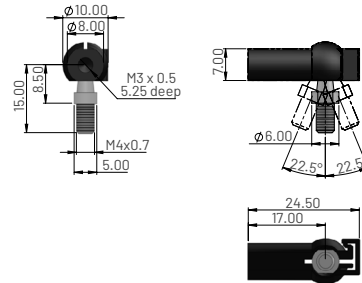
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground

**Accessories**

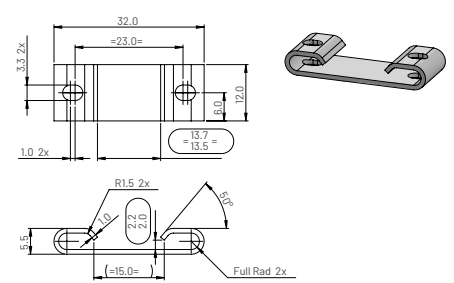
**3mm rod end**



**Quick release ball joint**



**Base clamp**



**Ordering code**

PT0952-0104-19

Material	
Housing	Aluminium alloy, anodised black
Ball	Steel BS970 230M07, electroless nickel plated
Race	Gr nylon

**Ordering code**

SA0950-4104

Material	
Body	PA66, black
Ball stud	Hardened carbon Steel: zinc plated, clear passivate

**Ordering code**

PT1300-6109

Material	
Plain carbon steel	
Finish: Bright zinc plate	