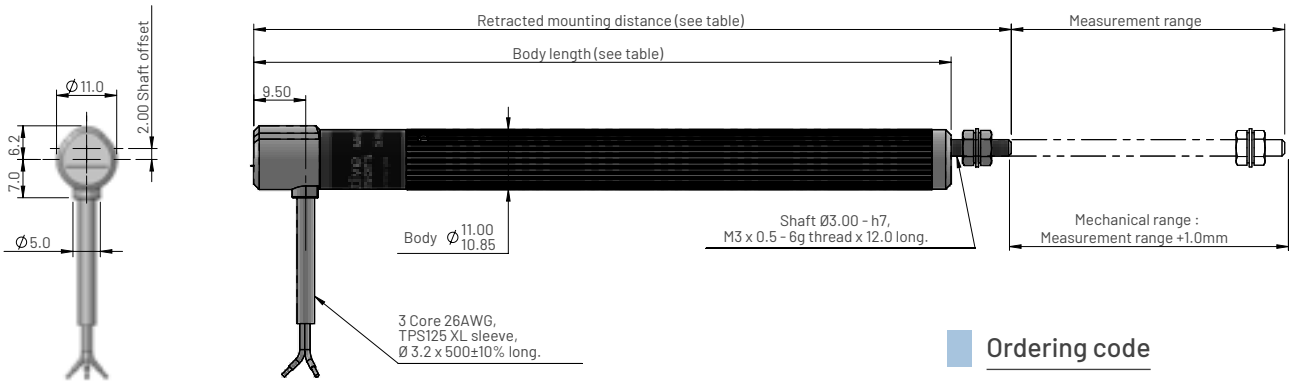
Dimensions for MHL1121 - Body clamp mounting



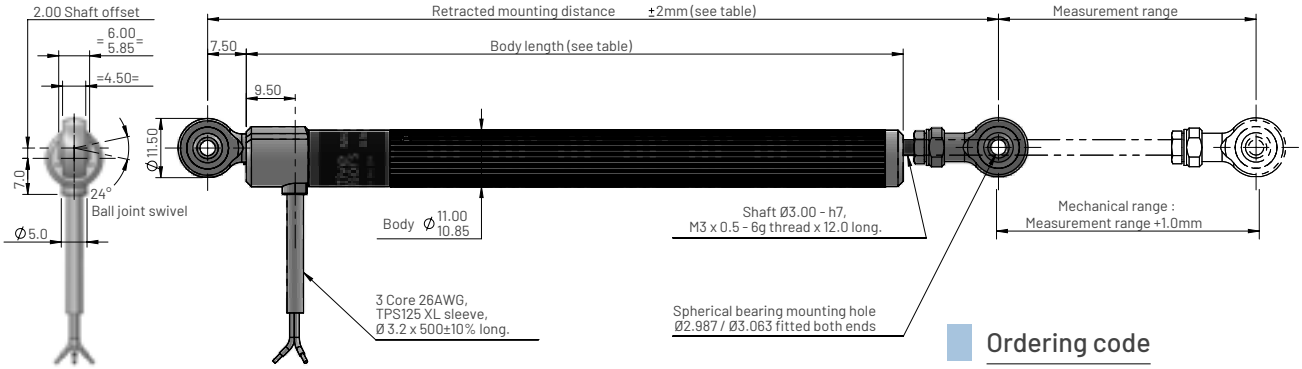
Measurement range	Body length	Mid stroke	Approx. weight (grams)
5 - 25	102.5	126.0	22
26 - 40	117.5	148.5	24

Ordering code

MHL1121 XV-XX

Output option (see graph)
L = Retracted output increases
R = Extended output increases
Measurement range in mm

Dimensions for MHL1122 - Rod end mounting



Measurement range	Body length	Mid stroke	Approx. weight (grams)
5 - 25	102.5	141.0	26
26 - 40	117.5	163.5	28

Ordering code

MHL1122 XV-XX

Output option (see graph)
L = Retracted output increases
R = Extended output increases
Measurement range in mm

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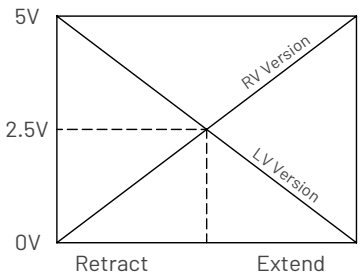
Electrical and mechanical specification for MHL1100

Input specification			
Supply voltage (Vs)	5.0±5% regulated	8 to 30 unregulated	Vdc
Over voltage protection	Up to 50		Vdc
Supply current	<40		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	0 to 100% measurement range		
Load resistance	>10K		Ohms
Output noise	<5		mV RMS
Performance specification			
Measurement range	5mm to 40mm in 1mm increment		mm
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 2)	<±0.5		%FS
Temperature coefficient (Vout)	<±0.003	<±0.011	%FS/°C
Update rate (nominal)	500		Hz
General specification			
IP rating	IP68 and IP69K		
Shaft operation force (typical)	15		grams
Life (shaft in bush bearing)	>20 million cycles		dependent on environment
Dither life	Contactless - no degradation		
Operational temperature	-40 to +150	See de-rating graph	°C
Storage temperature	-55 to +150		°C
Materials – Sensor	Case: Anodised aluminium 6063 T5, Shaft: Stainless steel 316		
Materials – Rod-ends	Body: Anodised aluminium 6026, Spherical ball: Nickel plated steel		
Materials – QR ball joints	Body: Nylon, Ball joint: Steel BZP		

Electrical connections (see note 1)

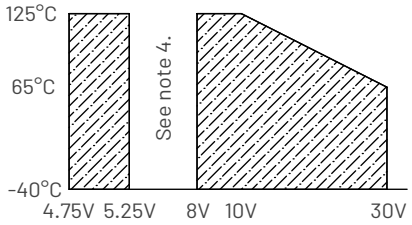
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground (0V)

Output characteristics



Temperature de-rating

Supply voltage (Vs) vs temp.



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 5.25V and 8V.
5. General dimension tolerance is ±0.25mm.

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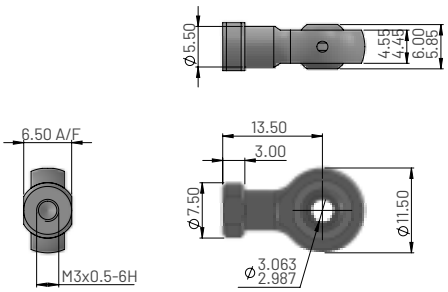
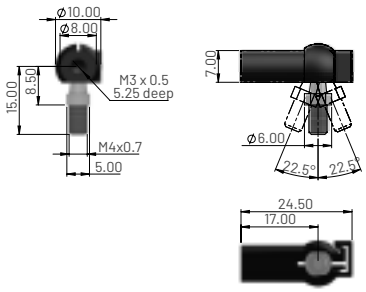
Accessories



3mm rod end

Ordering code: PT0952-0104-19

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



Quick release ball joint

Ordering code: SA0950-4104

Material	
Body	PA66, Black
Ball stud	Hardened carbon Steel, zinc plated, clear passivated

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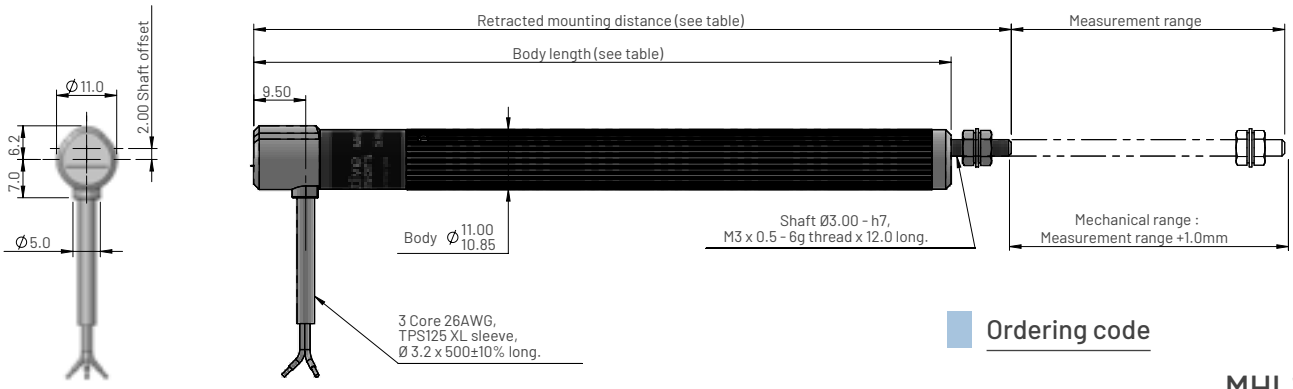
Dimensions for MHL1121 - Body clamp mounting



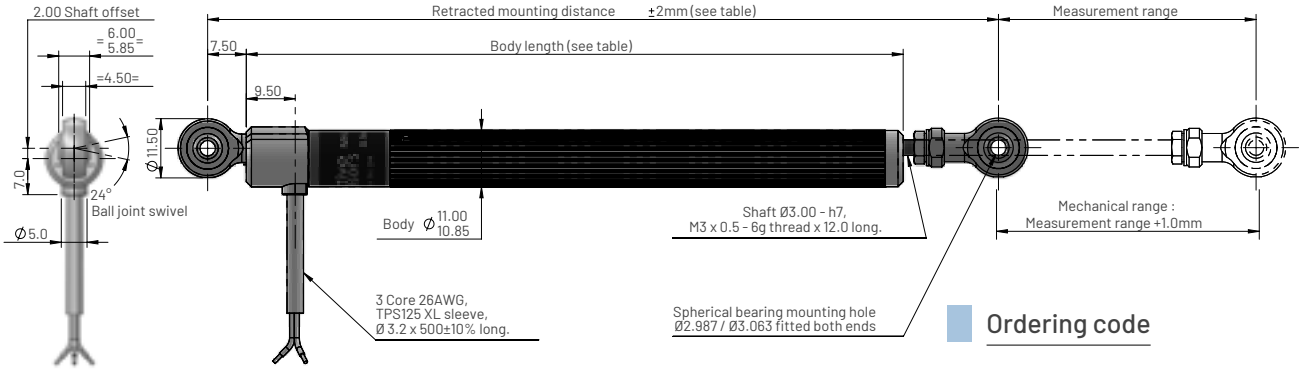
Measurement range	Body length	Retracted mounting distance	Approx. weight (grams)
50	127.5	140.5	25
75	152.5	165.5	27
100	177.5	190.5	29
125	202.5	215.5	31
150	227.5	240.5	33

Ordering code

MHL1121 XV-XXX

Output option (see graph)
L = Retracted output increases
R = Extended output increases
Measurement range in mm

Dimensions for MHL1122 - Rod end mounting



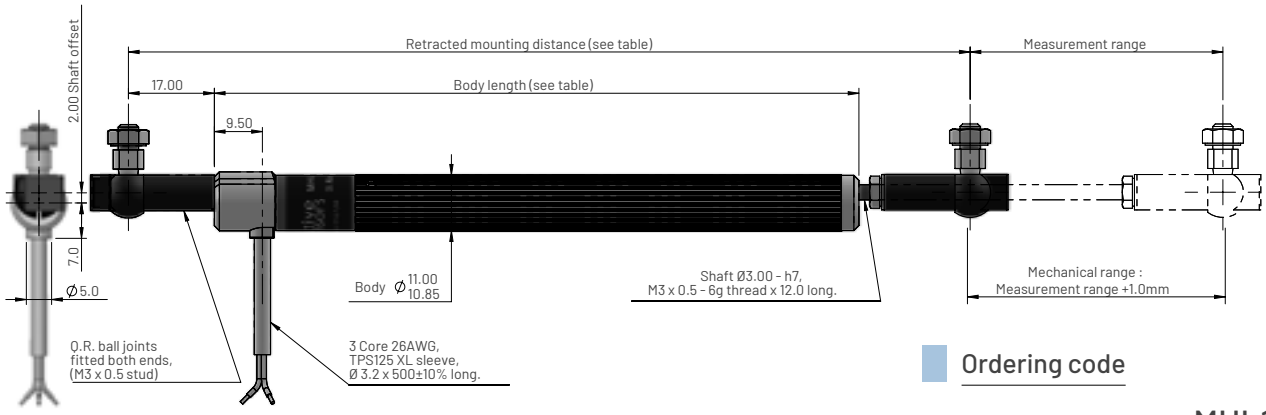
Measurement range	Body length	Retracted mounting distance	Approx. weight (grams)
50	127.5	155.5	31
75	152.5	180.5	33
100	177.5	205.5	35
125	202.5	230.5	37
150	227.5	255.5	39

Ordering code

MHL1122 XV-XXX

Output option (see graph)
L = Retracted output increases
R = Extended output increases
Measurement range in mm

Dimensions for MHL1126 - Quick release ball joint



Measurement range	Body length	Retracted mounting distance	Approx. weight (grams)
50	127.5	168.5	31
75	152.5	193.5	33
100	177.5	218.5	35
125	202.5	243.5	37
150	227.5	268.5	39

Ordering code

MHL1126 XV-XXX

Output option (see graph)
L = Retracted output increases
R = Extended output increases
Measurement range in mm

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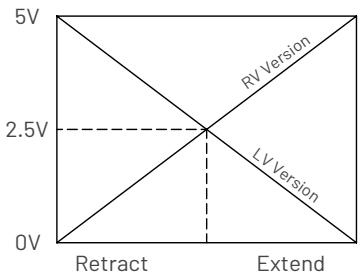
Electrical and mechanical specification for MHL1100

Input specification				
Supply voltage (Vs)		5.0±5% regulated	8 to 30 unregulated	Vdc
Over voltage protection		Up to 50		Vdc
Supply current		<40		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 2)		<±0.5		%FS
Temperature coefficient (Vout)		<±0.003	<±0.011	%FS/°C
Update rate (nominal)		800		Hz
General specification				
IP rating		IP68 and IP69K		
Shaft operation force (typical)		15		grams
Life (shaft in bush bearing)		>20 million cycles		dependent on environment
Dither life		Contactless - no degradation		
Operational temperature MHL1121 & MHL1122		-40 to +125	See de-rating graph	°C
Storage temperature MHL1121 & MHL1122		-55 to +150		°C
Operational temperature MHL1126		-40 to +80	See de-rating graph	°C
Storage temperature MHL1126		-40 to +80		°C
Materials	Sensor	Case: Anodised aluminium 6063 T5, Shaft: Stainless steel 316		
	Rod-ends	Body: Anodised aluminium 6026, Spherical ball: Nickel plated steel		
	QR ball joints	Body: Nylon, Ball joint: Steel BZP		

Electrical connections (see note 1)

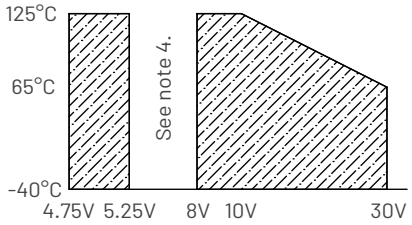
Wire Colour	Function
Red	Supply Voltage (Vs)
White	Output Voltage (Vout)
Black	Ground (0V)

Output characteristics



Temperature de-rating

Supply voltage (Vs) vs temp.



Notes

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5. General dimension tolerance is ±0.25mm.

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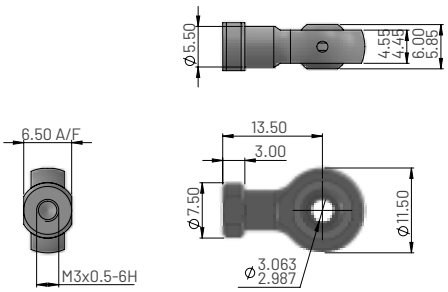

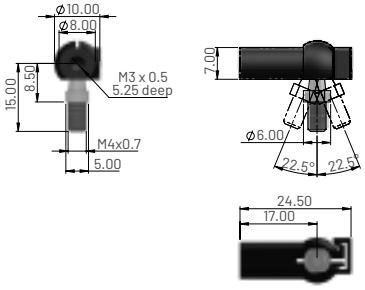

3mm rod end

Ordering code: PT0952-0104-19

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

Quick release ball joint

Ordering code: SA0950-4104

Material	
Body	PA66, Black
Ball stud	Hardened carbon Steel, zinc plated, clear passivated

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