



MLS range

The Motorsport Linear Sensor (MLS) 'super' low-noise linear potentiometer designed for suspension measurement in motorsport data acquisition systems. The new 'long-life' sensor ensures a longer 'noise-free' operating life in severe vibration and high G-force conditions. The MLS sensor, developed in partnership with racecar data engineers utilises the latest potentiometer 'smooth track' technology coupled with 'double-damped' electrical contacts, that creates a shock-pot with exceptional immunity to the electrical noise often seen in standard potentiometer designs. The MLS 'low-noise' sensor is now in stock and available in three 'slim' housing diameters and linear measurement ranges from 0.4" (10mm) to 14" (350mm).

- Measurement range: 10mm (0.4") to 350mm (14")
- Slim 9.54mm (0.4") - 19.0mm (¾") body Ø
- Super low noise output signal
- Sealed as standard
- Raychem cabling
- Choice of mounting
- Very long operational life
- Models available from stock

MLS0950 ultra-slim series

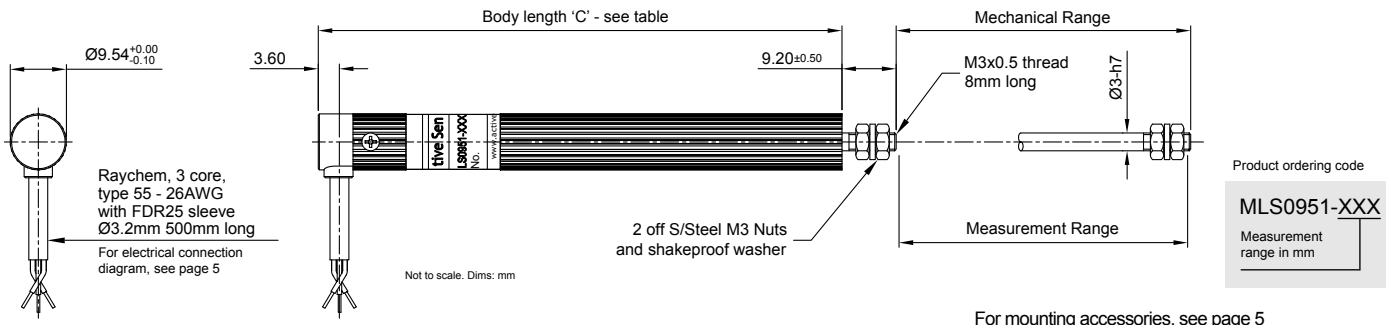
Model features

- Measurement range: 10mm (0.4") to 150mm (6")
- Ultra slim 9.54mm (0.4") body Ø
- Super low-noise output signal
- Sealed as standard
- Raychem cabling
- Choice of mounting



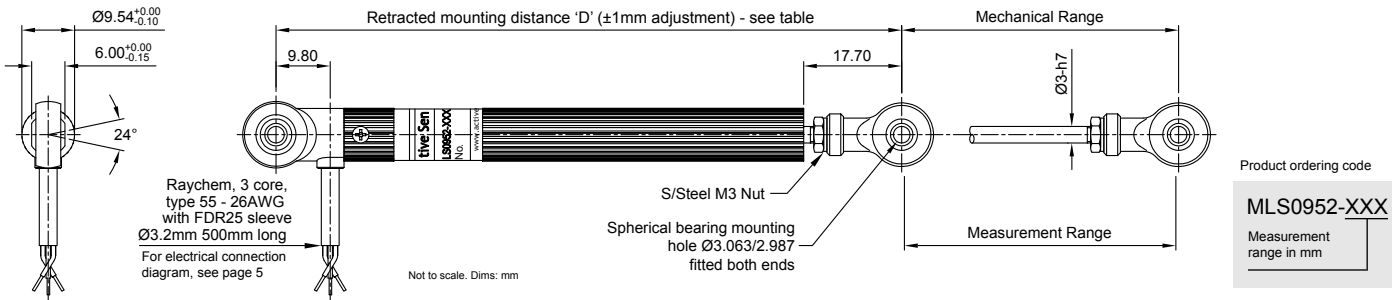
Model dimensions and mounting

MLS0951 - body clamp mounting



For mounting accessories, see page 5

MLS0952 - rod end mounting



For mounting accessories, see page 5

Electrical & mechanical information for MLS0950 range

Measurement range (±0.5mm)	10	20	30	40	50	75	100	125	150	mm
Retracted mounting distance (D)	78	83	93	103	113	138	163	188	213	mm
Body length (C)	54	59	69	79	89	114	139	164	189	mm
Resistance (Typical)	0.4	0.8	1.2	1.6	2	3	4	5	6	kohms
Non-linearity	<±0.25					<±0.15				%
Applied voltage	<9	<18	<27	<36	<45	<68	<90	<112	<135	Volts
Wiper load	>500								>600	kohms
Mechanical range	Measurement range +1									mm
Shaft velocity	<10									m/sec
Insulation resistance (at 500V dc.)	>100									Mohms
Operating temp. range	-30° to +125°									°C
Sealing	IP66									
Shaft operating force	100 (typical)									grams
Weight (approx.)	23.5	25.0	26.5	28.0	30.0	34.0	38.0	42.0	46.0	grams
Materials	Case - Aluminium 6063 - Sulphuric acid anodised Shaft - Stainless steel - 303 series Rod end bearing - Aluminium 6262 housing & Stainless steel ball									

MLS1320 slim bodied series

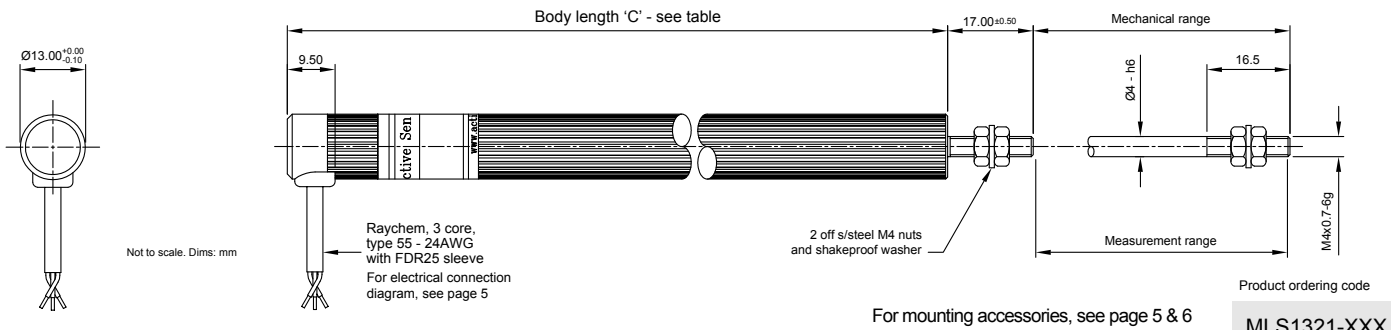
Model features

- Measurement range: 25mm (1.0") to 350mm (14")
- Slim 13.0mm (½") body Ø
- Super low-noise output signal
- Sealed as standard
- Raychem cabling
- Choice of mounting

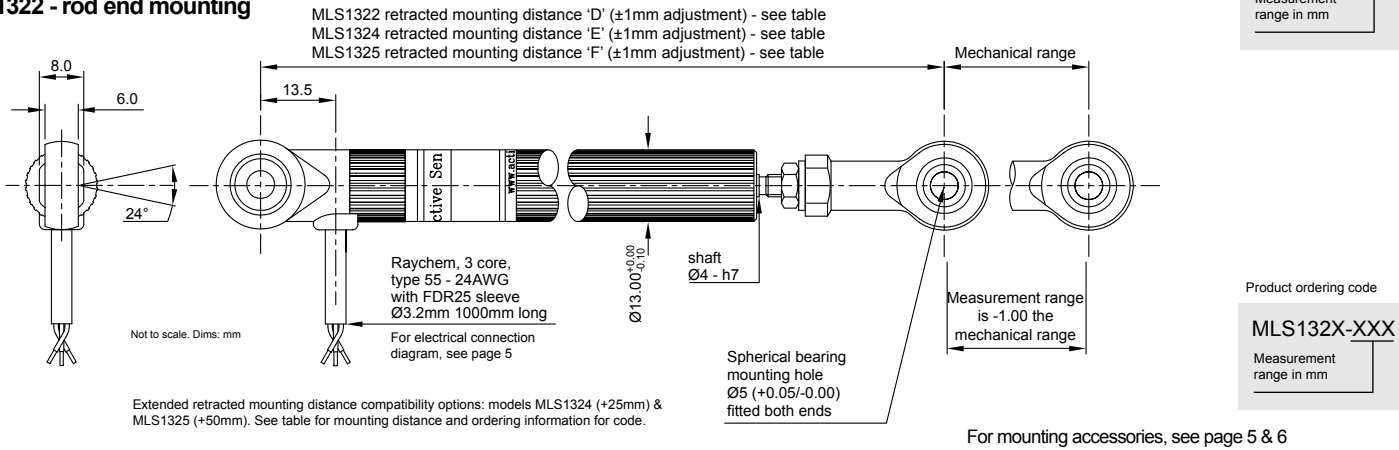


Model dimensions and mounting

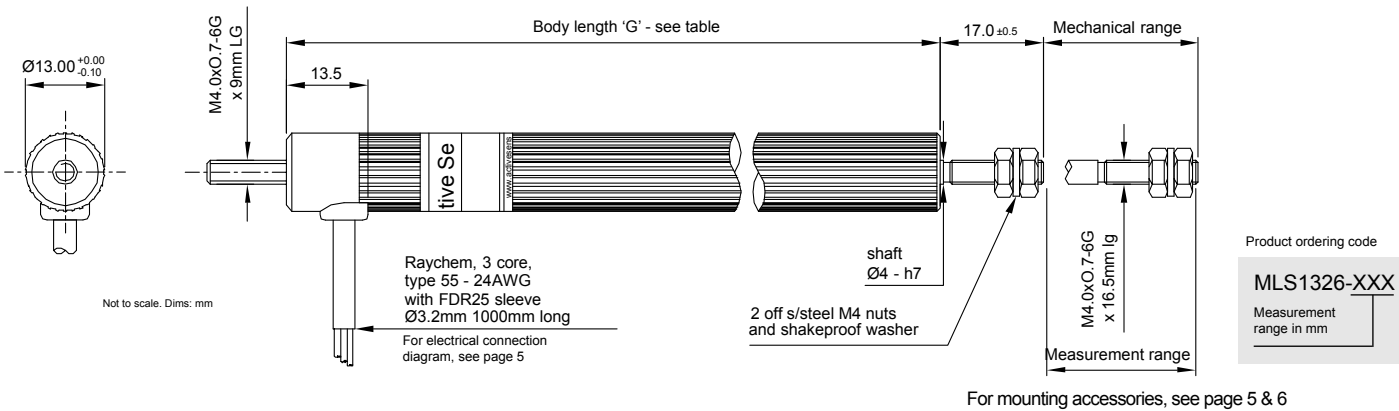
MLS1321 - body clamp mounting



MLS1322 - rod end mounting



MLS1326 - threaded mounting



Electrical & mechanical information for MLS1320 range

Measurement range (±0.5mm)	25	50	75	100	125	150	175	200	225	250	300	350	mm
Retracted mounting distance (D)	123	148	173	198	223	248	273	298	323	348	398	448	mm
Retracted mounting distance (E)	148	173	198	223	248	273	298	323	348	373	-	-	mm
Retracted mounting distance (F)	173	198	223	248	273	298	323	348	373	398	-	-	mm
Body length (G)	85	110	135	160	185	210	235	260	285	310	360	410	mm
Body length (C)	81	106	131	156	181	206	231	256	281	306	356	406	mm
Resistance (Typical)	1	2	3	4	5	6	7	8	9	10	12	14	kohms
Non-linearity	<±0.25			<±0.15									%
Applied voltage	<22	<44	<66	<88	<110	<130						Volts	
Wiper load	>500			>600 >700 >800 >900 >1000 >1200 >1400									kohms
Mechanical range	Measurement range +1												mm
Shaft velocity	<10												m/sec
Insulation resistance (at 500V dc.)	>100												Mohms
Operating temp. range	-30° to +125°												°C
Sealing	IP66												
Shaft operating force	200 (typical)												grams
Weight (approx.)	60	66	73	78	85	90	96	102	108	114	120	126	grams
Materials	Case - Aluminium 6063 - Sulphuric acid anodised Shaft - Stainless steel - 303 series Rod end bearing - Aluminium 6262 housing & Stainless steel ball												

MLS1922 medium stroke range

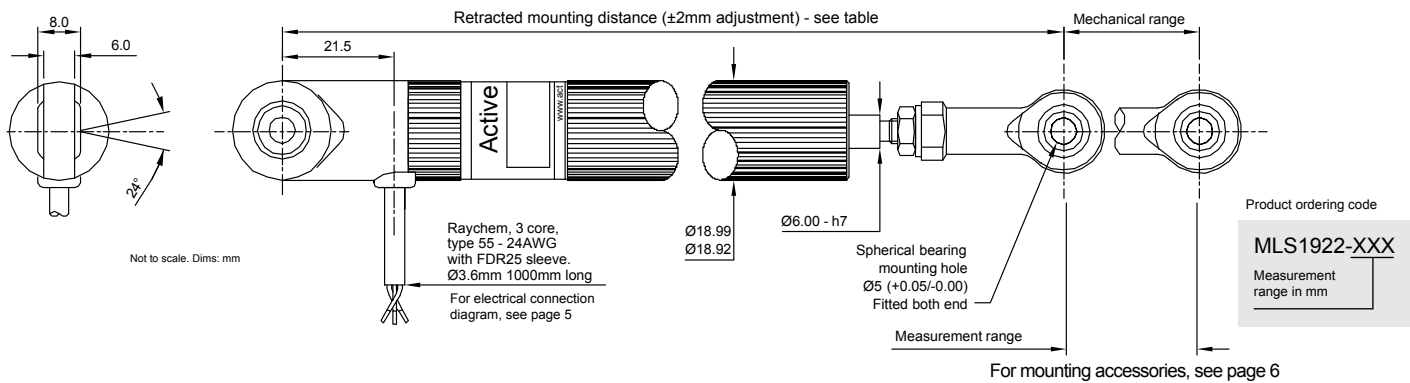
Model features

- Measurement range: 75mm (3") to 350mm (14")
- Robust 19.0mm (¾") body Ø
- Super low-noise output signal
- Sealed as standard
- Raychem cabling
- Choice of mounting



Model dimensions and mounting

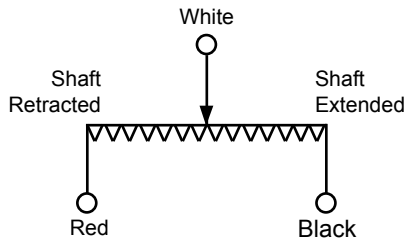
MLS1922 - rod end mounting



Electrical & mechanical information for MLS1922

Measurement range (±0.5mm)	75	100	125	150	175	200	225	250	275	300	325	350	mm
Retracted mounting distance	199	224	249	274	299	324	349	374	399	424	449	474	mm
Resistance (Typical)	3	4	5	6	7	8	9	10	11	12	13	14	kohms
Non-linearity	<±0.15												
Applied voltage	<70	<90	<110	<130									Volts
Wiper load	>500	>500	>500	>600	>700	>800	>900	>1000	>1100	>1200	>1300	>1400	kohms
Mechanical range	Measurement range +1												mm
Shaft velocity	<10												m/sec
Insulation resistance (at 500V dc.)	>100												Mohms
Operating temp. range	-30° to +100°												°C
Sealing	IP66												
Shaft operating force	200 (typical)												grams
Weight (approx.)	139	154	169	185	199	221	242	263	284	305	326	347	grams
Materials	Case - Aluminium 6063 - Sulphuric acid anodised Shaft - Stainless steel - 303 series Rod end bearing - Aluminium 6262 housing & Stainless steel ball												

Electrical connections (all models)



Note 1

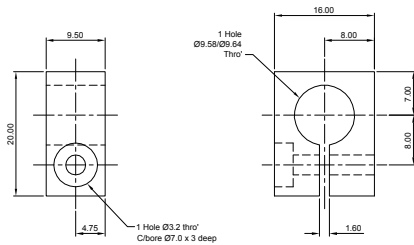
Incorrect wiring may cause internal damage to the sensor.

Note 2

Circuit recommendation: Due to the presence of a high contact resistance, these potentiometers should be used as voltage dividers only. Operation with wiper circuits of low impedance will degrade the output signal.

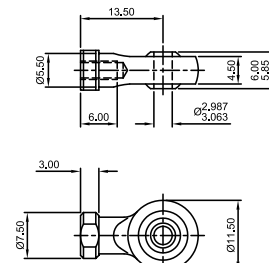
Mounting accessories

MLS0950 Body mounting clamps. Part no: PT0950-0109



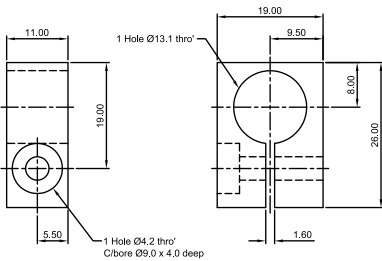
Material:
Aluminium Alloy, anodised black.

MLS0950 3mm rod-end. Part no: PT0952-0104-19



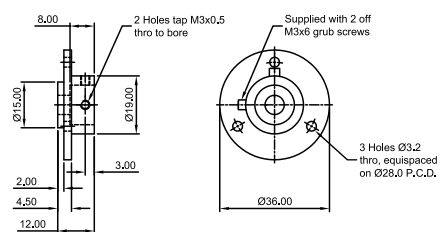
Material:
Housing - Aluminium Alloy, anodised black.
Ball - Steel BS970 230M07, electroless nickel plated
Race - Gr nylo

MLS1320 Body mounting clamps. Part no: PT1300-0109



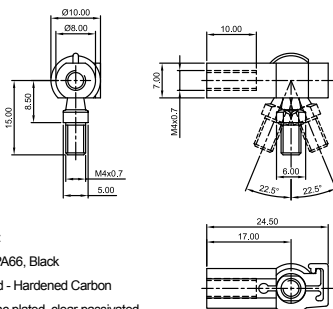
Material:
Aluminium Alloy, anodised black.

MLS1320 Mounting flange. Part no: PT1300-0110



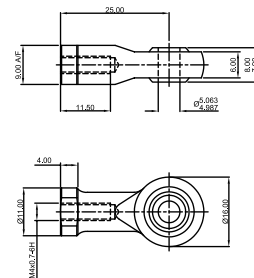
Material:
Aluminium Alloy, anodised black.

MLS1320 Quick release ball joints. Part no: JN029-003



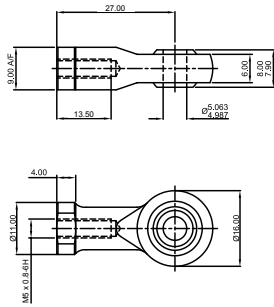
Material:
Body - PA66, Black
Ball Stud - Hardened Carbon
Steel, Zinc plated, clear passivated

MLS1320 5mm rod-end. Part no: PT1322-0104



Material:
Housing - Aluminium Alloy, anodised black.
Ball - Steel BS970 230M07, electroless nickel plated
Race - Gr nylon

MLS1900 5mm rod-end. Part no: PT1922-0104-19



Material:

Housing - Aluminium Alloy, anodised black.

Ball - Steel BS970 230M07, electroless nickel plated

Race - Gr nylon

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