

SLS095 LINEAR DISPLACEMENT SENSOR

SLS095 is designed to provide maximum performance benefits within an extremely compact body diameter of 9.5mm, with stroke lengths from 10 to 100mm. The miniature size of this sensor makes it ideal for applications in robotics, animatronics, medical equipment and motorsport data acquisition.

PERFORMANCE

Electrical stroke E	mm	10	20	30	40	50	75	100	
Resistance $\pm 10\%$	k Ω	0.4 [†]	0.8	1.2	1.6	2.0	3.0	4.0	[†] $\pm 15\%$ for SLS 095/10
Independent linearity	$\pm\%$	0.5	0.35	0.25	0.25	0.25	0.15	0.15	
Power dissipation at 20°C	W	0.2	0.4	0.6	0.8	1.0	1.5	2.0	
Applied voltage maximum	Vdc	8.9	17.9	26	40	44	67	74	
Resolution		Virtually infinite							
Hysteresis (repeatability)		Less than 0.01mm							
Operational temperature	°C	-30 to +100							
Output smoothness		To MIL-R-39023 grade C 0.1%							
Insulation resistance		Greater than 100M Ω at 500Vdc							
Operating mode		Voltage divider only - see Circuit Recommendation below							
Wiper circuit impedance		Minimum of 100 x track resistance or 0.5M Ω (whichever is greater)							
Operating force maximum									
sealed	gf	300 in horizontal plane							
unsealed	gf	100 in horizontal plane							
Life at 250mm per second		Typically greater than 100 million operations (50 x 10 ⁶ cycles) at 25mm stroke length							
Dither life		200 million operations (100 x 10 ⁶ cycles) at ± 0.5 mm, 60Hz							
Sealing		IP50 standard - IP66 see options							
Shaft seal life		20 million operations (10 x 10 ⁶ cycles)							
Shaft velocity maximum	m/s	2.5							
Vibration		RTCA 160D 10Hz to 2kHz (random) @ 4.12g (rms) - all axes							
Shock		40g 6mS half sine							

CIRCUIT RECOMMENDATION

Hybrid track potentiometers feature a high wiper contact resistance, therefore operational checks should be carried out only in the voltage divider mode. Hybrid track potentiometers should be used only as voltage dividers, with a minimum wiper circuit impedance of 100 x track resistance or 0.5M Ω (whichever is greater). Operation with wiper circuits of lower impedance will degrade the output smoothness and affect the linearity.

OPTIONS

IP 66 sealing
Mounting

Designed to accept integral shaft seal to give IP66 rating
Can be supplied with self aligning bearings or a plain body for use with body clamps or flange mounting kit.

ACCESSORIES

Mounting kits ——— Body clamp kit - SA200841
Flange kit - SA200842

AVAILABILITY

All standard configurations can be supplied rapidly from the factory - check with your local supplier for more details

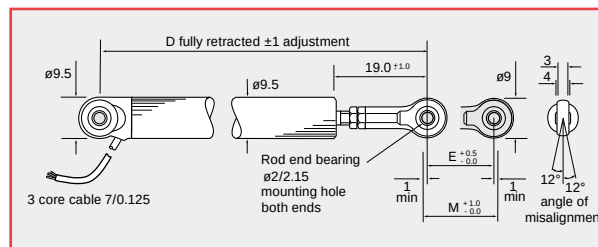
ORDERING CODES

SLS095/...../...../...../.....
Electrical stroke ——— Resistance ——— Sealing 50 = IP50, 66 = IP66
Mounting option R = Self aligning bearing
P = Plain

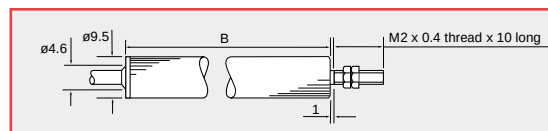
DIMENSIONS AND MOUNTING OPTIONS

Note: drawings not to scale

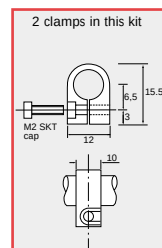
SELF ALIGNING BEARING MOUNTING



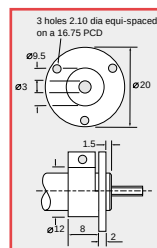
PLAIN BODY MOUNTING



MOUNTING OPTIONS



Body clamp
SA200841



Flange mounting
SA200842

Electrical stroke E	mm	10	20	30	40	50	75	100
Mechanical stroke M	mm	12.5	22.5	32.5	42.5	52.5	77.5	102.5
Body length B	mm	45.5	55.5	65.5	75.5	85.5	110.5	135.5
Between centres D		70	80	90	100	110	135	160
Weight approximate (mounting option R)	g	11	13	14.5	16	17.5	21.5	25.5

ELECTRICAL CONNECTIONS

3 core cable: PUR sheathed 0.3m long with PTFE insulated 7/0.125 cores.

