SLS190 LINEAR DISPLACEMENT SENSOR

Penny+Giles
A Curtiss-Wright Company

The SLS190 range is designed to provide maximum performance benefits within a compact package in stroke lengths from 25 to 350mm.
With a choice of mounting options and accessories, this sensor is ideally suited to a wide range of general purpose industrial applications, for medium stroke linear position sensing.

PERFORMANCE

Electrical stroke E	**mm**	***25***	***50***	***75***	***100***	***125***	***150***	***175***	***200***	***225***	***250***	***275***	***300***	***325***	***350***
Resistance ±10%	**kΩ**	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Independent linearity															
guaranteed	**±%**	0.25	0.25	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
typical	**±%**	0.15	0.15	0.15	0.10	0.10	0.07	0.07	0.07	0.07	0.05	0.05	0.05	0.05	0.05
Power dissipation at 20˚C	**W**	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
Applied voltage maximum	**Vdc**	22	44	67	74	74	74	74	74	74	74	74	74	74	74

Electrical output		Minimum of 0.5% to 99.5% applied volts
Resolution		Virtually infinite
Hysteresis (repeatability)		Less than 0.01mm
Operational temperature	**°C**	–30 to +100 (tested to +130 for 12 hours duration)
Output smoothness		To MIL-R-39023 grade C 0.1%
Insulation resistance		Greater than 100MΩ at 500Vdc
Operating mode		Voltage divider only - see Circuit Recommendation below
Wiper circuit impedance		Minimum of 100 x track resistance or 0.5MΩ (whichever is greater)
Operating force maximum		
sealed	**gf**	500 in horizontal plane
unsealed	**gf**	250 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 ±0.5mm, 60Hz
Sealing		IP50 standard - IP66 see options
Shaft seal life		20 million operations (10 x 10^6 cycles) - replaceable
Shaft velocity maximum	**m/s**	10
Vibration		RTCA 160D 10Hz to 2kHz (random) @ 12.6g (rms) - all axes
Shock		Less than 0.04% output change @ 2500g - all axes

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 0.5MΩ (whichever is greater). Operation with wiper circuits of lower impedance will degrade the output smoothness and affect the linearity.

OPTIONS

Compact shaft	Compact shaft will reduce dimension D by 25mm
Integral shaft seal - IP 66	Designed to accept integral shaft seal to give IP66 rating
Extended cable length	10m output cable can be specified
Mounting	Body clamp or flange mounting kits can be supplied
Protective sleeve	For all stroke lengths - self aligning bearings only. See ordering code

ACCESSORIES

Mounting kits
- Body clamp kit - SA59019
- Flange kit - SA59020

Protective sleeve - SA202986**/...../.....**
- Shaft L = long, C = compact
- Electrical stroke (select to match SLS190 sensor)

AVAILABILITY

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

ORDERING CODES

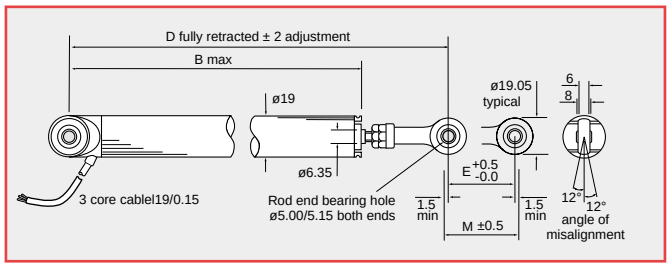
SLS190/...../...../...../...../.....

Electrical stroke
Shaft L = long, C = compact
Protective sleeve N=None, P=Fitted
Cable 1 = 1m, 10 = 10m
Sealing 50 = IP50, 66 = IP66

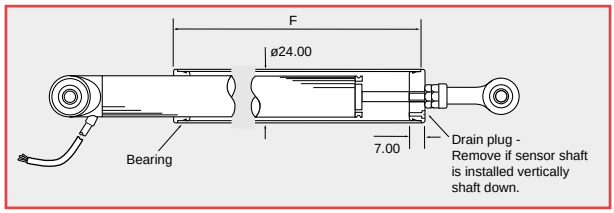
DIMENSIONS AND MOUNTING OPTIONS

Note: drawings not to scale

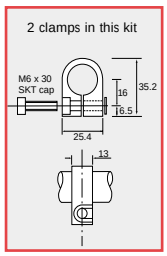
SELF ALIGNING BEARING MOUNTING



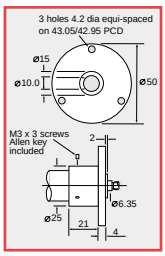
PROTECTIVE SLEEVE OPTION - P



MOUNTING OPTIONS



Body clamp
SA59019

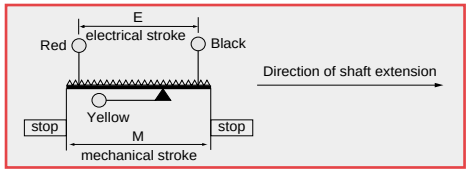


Flange mounting
SA59020

Electrical stroke E	**mm**	***25***	***50***	***75***	***100***	***125***	***150***	***175***	***200***	***225***	***250***	***275***	***300***	***325***	***350***
Mechanical stroke M	**mm**	***29***	***54***	***79***	***104***	***129***	***154***	***179***	***204***	***229***	***254***	***279***	***304***	***329***	***354***
Body length B	**mm**	110.5	135.5	160.5	210.5	235.5	260.5	285.5	310.5	333.5	360.5	385.5	435.5	460.5	485.5
Between centres D															
standard sensor (L)	**mm**	173.6	198.6	223.6	273.6	298.6	323.6	348.6	373.6	398.6	423.6	448.6	498.6	523.6	548.6
compact shaft sensor (C)	**mm**	148.6	173.6	198.6	248.6	273.6	298.6	323.6	348.6	373.6	398.6	423.6	473.6	498.6	523.6
Sleeve length F															
standard sensor (L)	**mm**	100	125	150	200	225	250	275	300	325	350	375	425	450	475
compact shaft sensor (C)	**mm**	75	100	125	175	200	225	250	275	300	325	350	400	425	450
Weight approximate															
standard sensor (L)	**g**	109	126	144	161	179	196	214	231	249	266	284	301	319	336
compact shaft sensor (C)	**g**	103	120	138	155	173	190	208	225	246	260	278	295	316	330

ELECTRICAL CONNECTIONS

3 core cable: PUR sheathed 1m long with ETFE insulated 19/0.15 cores.



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