# SLS130 LINEAR DISPLACEMENT SENSOR

**The SLS130 range is designed to provide performance benefits within a compact, lightweight package in stroke lengths from 25 to 200mm.**
**With a choice of mounting options and accessories, this sensor is ideally suited to a wide range of industrial applications.**

## PERFORMANCE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Electrical stroke E** | **mm** | ***25*** | ***50*** | ***75*** | ***100*** | ***125*** | ***150*** | ***175*** | ***200*** |
| **Resistance ±10%** | **kΩ** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **Independent linearity** | | | | | | | | | |
| **guaranteed** | **±%** | 0.25 | 0.25 | 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 |
| **Power dissipation at 20˚C** | **W** | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
| **Applied voltage maximum** | **Vdc** | 22 | 44 | 67 | 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, flange or quick release balljoint mounting kits can be supplied |
| **Protective sleeve** | For all stroke lengths - self aligning bearings only. See ordering code |
| **Spring loaded shaft kit** | For stroke lengths 25 to 150mm with /L shaft option and /50 sealing option only |

## ACCESSORIES

Mounting kits — Body clamp kit - SA200264, Flange kit - SA200266; Quick release balljoint (Heim) - SA200337

Protective sleeve - SA202984**/ ..... / .....**
- Shaft L=Long, C=Compact
- Electrical stroke (select to match SLS130 sensor)

Spring loaded shaft kit - SA200265/stroke (For use with option L/50 units only)

## AVAILABILITY

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

## ORDERING CODES

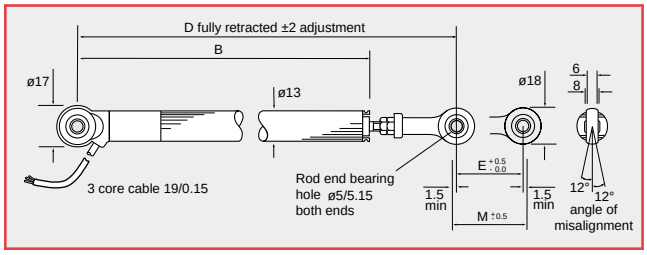
**SLS130/...../...../...../...../.....**

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

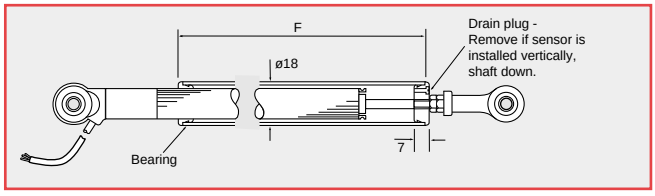
## DIMENSIONS AND MOUNTING OPTIONS

Note: drawings not to scale

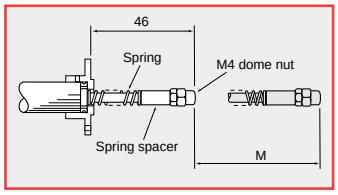
### SELF ALIGNING BEARING MOUNTING




### PROTECTIVE SLEEVE OPTION - P



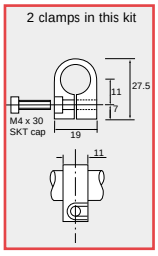

### SPRING RETURN OPTION †



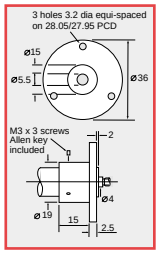

SA200265/stroke

(25 to 150mm stroke lengths and /L/50 options only)

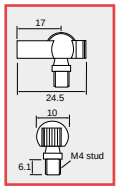
### MOUNTING OPTIONS




**Body clamp**
SA200264




**Flange mounting**
SA200266

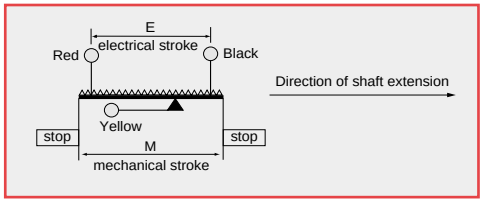



**Quick release ball joint**
SA200337

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Electrical stroke E** | **mm** | ***25*** | ***50*** | ***75*** | ***100*** | ***125*** | ***150*** | ***175*** | ***200*** |
| **Mechanical stroke M** | **mm** | ***29*** | ***54*** | ***79*** | ***104*** | ***129*** | ***154*** | ***179*** | ***204*** |
| **Body length B** | **mm** | 110.5 | 135.5 | 160.5 | 185.5 | 210.5 | 235.5 | 260.5 | 285.5 |
| **Between centres D** | | | | | | | | | |
| **standard sensor (L)** | **mm** | 173.6 | 198.6 | 223.6 | 248.6 | 273.6 | 298.6 | 323.6 | 348.6 |
| **compact shaft sensor (C)** | **mm** | 148.6 | 173.6 | 198.6 | 223.6 | 248.6 | 273.6 | 298.6 | 323.6 |
| **Sleeve length F** | | | | | | | | | |
| **standard sensor (L)** | **mm** | 102 | 127 | 152 | 177 | 202 | 227 | 252 | 277 |
| **compact shaft sensor (C)** | **mm** | 77 | 102 | 127 | 152 | 177 | 202 | 227 | 252 |
| **Weight approximate** | | | | | | | | | |
| **standard sensor (L)** | **g** | 64 | 71 | 78 | 85 | 92 | 99 | 106 | 113 |
| **compact shaft sensor (C)** | **g** | 60 | 67 | 74 | 81 | 88 | 95 | 102 | 109 |

## ELECTRICAL CONNECTIONS

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




† Body clamp or flange mounting options should be ordered seperately