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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical stroke E (mm)</td>
<td>25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350</td>
</tr>
<tr>
<td>Resistance ±10% (kΩ)</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14</td>
</tr>
<tr>
<td>Independent linearity guaranteed</td>
<td>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, 0.15</td>
</tr>
<tr>
<td>Independent linearity typical</td>
<td>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</td>
</tr>
<tr>
<td>Power dissipation at 20°C (W)</td>
<td>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</td>
</tr>
<tr>
<td>Applied voltage maximum (Vdc)</td>
<td>22, 44, 67, 74, 74, 74, 74, 74, 74, 74, 74, 74, 74</td>
</tr>
<tr>
<td>Electrical output</td>
<td>Minimum of 0.5% to 99.5% applied volts</td>
</tr>
<tr>
<td>Resolution</td>
<td>Virtually infinite</td>
</tr>
<tr>
<td>Hysteresis (repeatability)</td>
<td>Less than 0.01mm</td>
</tr>
<tr>
<td>Operational temperature (°C)</td>
<td>-30 to +100 (tested to +130 for 12 hours duration)</td>
</tr>
<tr>
<td>Output smoothness</td>
<td>To MIL-R-39023 grade C 0.1%</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>Greater than 100MΩ at 500Vdc</td>
</tr>
<tr>
<td>Operating mode</td>
<td>Voltage divider only - see Circuit Recommendation below</td>
</tr>
<tr>
<td>Wiper circuit impedance</td>
<td>Minimum of 100 x track resistance or 0.5MΩ (whichever is greater)</td>
</tr>
<tr>
<td>Operating force maximum</td>
<td>500 in horizontal plane</td>
</tr>
<tr>
<td></td>
<td>250 in horizontal plane</td>
</tr>
<tr>
<td>sealed</td>
<td>Typically greater than 100 million operations (50 x 10⁶ cycles) at 25mm stroke length</td>
</tr>
<tr>
<td>unsealed</td>
<td>200 million operations (100 x 10⁶ cycles) at ±0.5mm, 60Hz</td>
</tr>
<tr>
<td>Life at 250mm per second</td>
<td>IP50 standard - IP66 see options</td>
</tr>
<tr>
<td>Dither life</td>
<td>20 million operations (10 x 10⁶ cycles) - replaceable</td>
</tr>
<tr>
<td>Sealing</td>
<td>10</td>
</tr>
<tr>
<td>Shaft seal life</td>
<td>RTCA 160D 10Hz to 2kHz (random) @ 12.6g (rms) - all axes</td>
</tr>
<tr>
<td>Shaft velocity maximum (m/s)</td>
<td>Less than 0.04% output change @ 2500g - all axes</td>
</tr>
<tr>
<td>Vibration</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Options

- Compact shaft
- Integral shaft seal - IP 66
- Extended cable length
- Mounting
- Protective sleeve

### 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
110.5 135.5 160.5 210.5 235.5 260.5 285.5 310.5 335.5 360.5 385.5 435.5 460.5 485.5

Between centres D mm
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 mm
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 g
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.
www.pennyandgiles.com

Penny & Giles
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Innovation In Motion