Penny & Giles

# Linear Position Sensors

MLS130

- **Compact body to stroke length**
- **Choice of mountings, including metal rod ends**
- **Sealed to IP66 with optional protective sleeve**
- **Integrally moulded rear cable with ‘DR25’ sheath**
- **A preferred range of configurations are available from stock in the UK**
- **CE approved**

The SLS and MLS series of linear position sensors are designed to provide maximum performance benefits within an extremely compact size. Using the proven benefits of Hybrid Track Technology and including a number of innovative design features, these position sensors are ideally suited to applications where high performance and reliability matched by competitive pricing and rapid despatch are of paramount importance.

The hybrid track comprises a high resistivity conductive plastic film bonded to a precision wire-wound element. The conductive plastic film is wiped by a precious metal contact. The technology provides infinite resolution and a very long life (since the majority of the current still flows in the wire, the carbon content of the conductive plastic film is low, and the film is therefore very hard). Track linearity is very good, temperature coefficient of resistance is low and predictable and resistance stability with change in humidity is excellent.

A wide choice of mounting options are available and include self-aligning bearings, body clamp kits and flange mounting kits. Spring loaded shaft operation is offered on models SLS130 and SLS220.

## SPECIFICATIONS

| PERFORMANCE | | | | | | | |
|---|---|---|---|---|---|---|---|
| ELECTRICAL STROKE E | 10 | 20 | 30 | 40 | 50 | 75 | 100 |
| RESISTANCE +10% | 0.4* | 0.8 | 1.2 | 1.6 | 2.0 | 3.0 | 4.0 |
| INDEPENDENT LINEARITY | 0.5 | 0.35 | 0.25 | 0.25 | 0.25 | 0.15 | 0.15±% |
| POWER DISSIPATION AT 20°C | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.5 | 2.0w |
| APPLIED VOLTAGE – MAXIMUM | 8.9 | 17.9 | 26 | 40 | 44 | 67 | 64Vdc |
| RESOLUTION | Virtually Infinite | | | | | | |
| HYSTERESIS (REPEATABILITY) | Less than 0.01mm | | | | | | |
| OPERATIONAL TEMPERATURE | -30 to +100°C | | | | | | |
| OUTPUT SMOOTHNESS | To MIL-R-39023 grade C 0.1% | | | | | | |
| INSULATION RESISTANCE | Greater than 100MΩ at 500Vdc | | | | | | |
| OPERATING MODE | Voltage divider only | | | | | | |
| WIPER CIRCUIT IMPEDANCE | Minimum of 100 x track resistance or 0.5MΩ, (whichever is greater) | | | | | | |
| SLIDER OPERATING FORCE – MAX | | | | | | | |
| SEALED | 300 in horizontal plane | | | | | | |
| UNSEALED | 100 in horizontal plane | | | | | | |
| LIFE | 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 option | | | | | | |
| SHAFT SEAL LIFE | 20 million operations (10 x $10^6$ cycles) | | | | | | |
| SHAFT VELOCITY MAXIMUM | 2.5M/S | | | | | | |
| VIBRATION | RTCA 160D 10Hz to 2kHz (random) @ 4.12g (rms) - all axe | | | | | | |
| SHOCK | 40g 6mS half sine | | | | | | |

*±15% for SLS 095/10

## PREFERRED CONFIGURATIONS

MLS130: 25-200mm, M4 Stud Mount, No Sleeve

| Code | Length(mm) |
|---|---|
| MLS130/0025/S/N | 25 |
| MLS130/0050/S/N | 50 |
| MLS130/0075/S/N | 75 |
| MLS130/0100/S/N | 100 |
| MLS130/0125/S/N | 125 |
| MLS130/0150/S/N | 150 |
| MLS130/0175/S/N | 175 |
| MLS130/0200/S/N | 200 |





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