



# Analog Rectilinear Displacement Sensor



## FEATURES

- Conductive plastic potentiometer technology. Infinite resolution
- Anodized light alloy housing
- Precious metal multi-contact wiper
- Stainless steel floating shaft
- Collar mounting

| QUICK REFERENCE DATA |                                |
|----------------------|--------------------------------|
| Sensor type          | LINEAR, conductive plastic     |
| Output type          | Output by wires                |
| Market appliance     | Avionics, military, industrial |
| Dimensions           | Diameter 1/2" (12.7 mm)        |

| ELECTRICAL SPECIFICATIONS       |   |               |                 |                  |
|---------------------------------|---|---------------|-----------------|------------------|
| PARAMETER                       |   |               |                 |                  |
| Total electrical travel (TET)   | UET - 0 + 0.3 mm                            |               |                 |                  |
| Independent linearity standard  | ± 1 %                                       |               |                 |                  |
| Independent linearity optional  | ± 0.1 %, ± 0.25 %, ± 0.5 %                  |               |                 |                  |
| Tolerance on R <sub>n</sub>     | ± 10 %                                      |               |                 |                  |
| Temperature coefficient         | -300 ppm/°C ± 300 ppm/°C                    |               |                 |                  |
| Power rating at +70 °C          | 0.2 W/cm of travel (see Power Rating Chart) |               |                 |                  |
| Wiper current                   | ≤ 1 mA                                      |               |                 |                  |
| Recommended load impedance      | ≥ 1000 R <sub>n</sub>                       |               |                 |                  |
| Dielectric strength             | 500 V <sub>RMS</sub> , 50 Hz, 1 min         |               |                 |                  |
| Insulation resistance           | ≥ 10 GΩ at 500 V <sub>DC</sub>              |               |                 |                  |
| Useful electrical travel (UET)  | 25 mm                                       | 50 mm         | 75 mm           | 100 mm           |
| Total resistance R <sub>n</sub> | 1 kΩ to 22 kΩ                               | 1 kΩ to 47 kΩ | 2.2 kΩ to 47 kΩ | 4.7 kΩ to 100 kΩ |
| Output smoothness               | ≤ 0.25 %                                    | ≤ 0.1 %       | ≤ 0.1 %         | ≤ 0.1 %          |

| MECHANICAL SPECIFICATIONS           |                |       |       |        |
|-------------------------------------|----------------|-------|-------|--------|
| PARAMETER                           |                |       |       |        |
| Mechanical travel                   | UET - 0 + 3 mm |       |       |        |
| Driving force                       | ≤ 2 N          |       |       |        |
| Driving force with probe (optional) | ≤ 3 N to 7 N   |       |       |        |
| Backlash                            | < 10 μm        |       |       |        |
| Protection class                    | IP 50          |       |       |        |
| Maximum displacement speed          | 1.5 m/s        |       |       |        |
| Useful electrical travel (UET)      | 25 mm          | 50 mm | 75 mm | 100 mm |
| Total weight                        | 18 g           | 23 g  | 28 g  | 33 g   |
| Weight of moving part               | 4.5 g          | 6 g   | 7.5 g | 9 g    |

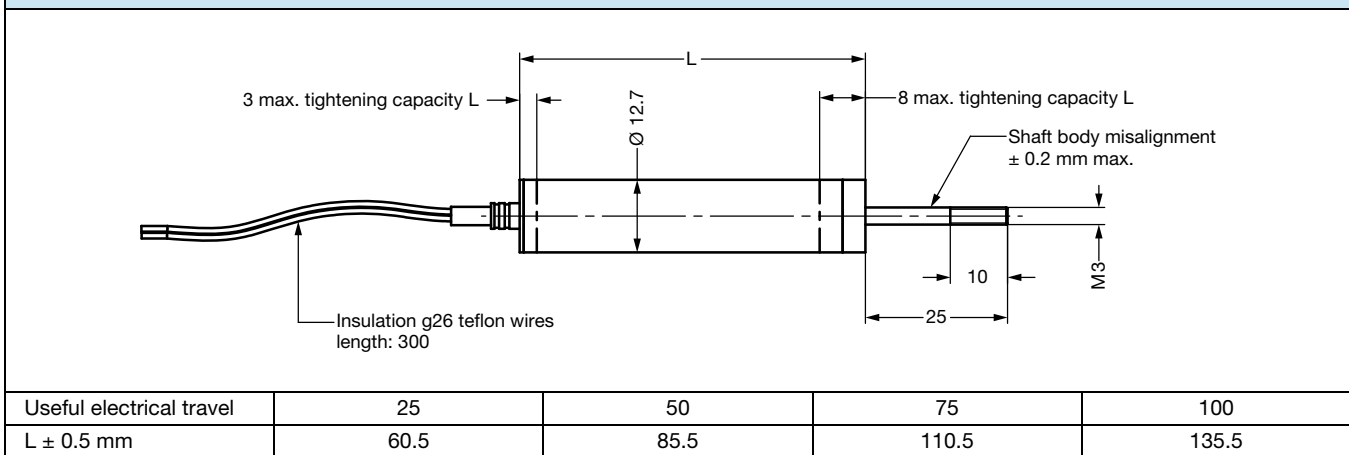
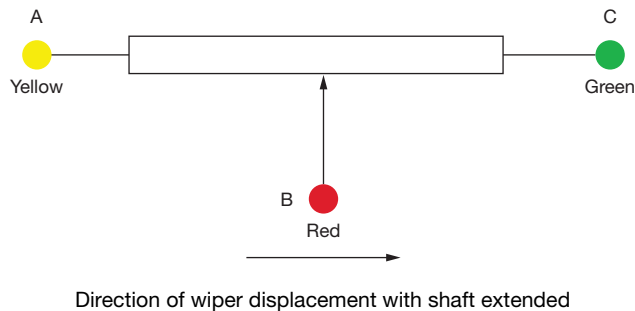
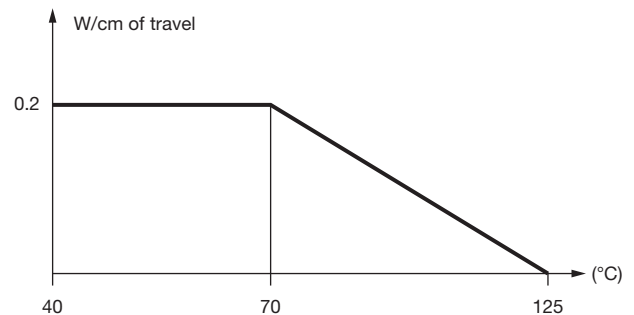
| PERFORMANCE                 |                   |
|-----------------------------|-------------------|
| PARAMETER                   |                   |
| Operating temperature range | -55 °C to +125 °C |
| Life                        | 10M cycles        |

### Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.

**ORDERING INFORMATION / DESCRIPTION**

| POR         | H  | 12                      | 100   | 47  | .....   |
|-------------|--|-------------------------|---|---|---|
| SENSOR TYPE | SENSOR VERSION<br>(H: standard<br>R: reinforced) | DIAMETER<br>(12: 12 mm) | USEFUL ELECTRICAL TRAVEL IN mm<br>(See Electrical Specifications) | OHMIC VALUE $R_n$ IN $k\Omega$<br>(See Electrical Specifications) | SPECIAL FEATURE OR OPTION<br>(Plain language) |

**DIMENSIONS in millimeters**

**ELECTRICAL DIAGRAM**

**POWER RATING CHART**

**OPTIONS (on request)**

- Other ohm value ( $R_n$ )
- Other linearity
- Electrically independent double track
- Guided shaft
- Probe with return spring and tip on request
- Other design including diameter 9.5 mm: version RH9.5
- Specific reinforced version for hard environment conditions (vibrations, shocks, temperature): version RR12



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