

Analog Displacement Sensor for Mounting in Hydraulic Cylinder



This sensor is designed to be integrated into a hydraulic cylinder. Due to its small diameter, it can be fitted in the rod of small cylinders. The geometry of the profile and wiper is perfectly suited to operation at an optimum speed under all oil viscosity conditions encountered in the temperature range.

FEATURES

- Conductive plastic potentiometer technology. Infinite resolution
- Precious metal multi-contact wiper
- Light alloy profiled support
- Wire or connector outputs
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



QUICK REFERENCE DATA

| | |
|------------------|----------------------------|
| Sensor type | LINEAR, conductive plastic |
| Output type | Wires and connector |
| Market appliance | Industrial |
| Dimensions | Diameter 12 mm |

ELECTRICAL SPECIFICATIONS

| PARAMETER | |
|-------------------------------------|---|
| Theoretical electrical travel (TET) | 100 mm to 1000 mm |
| Independent linearity standard | ± 0.1 % |
| Independent linearity optional | ± 0.05 % |
| Total resistance (R_n) | 425 Ω /cm (350 Ω /cm to 4000 Ω /cm optional) |
| Tolerance on R_n | ± 20 % |
| Temperature coefficient | -300 ± 300 ppm/°C |
| Power rating at +25 °C | 0.3 W/cm of travel |
| Power rating at +125 °C | 0 W/cm |
| Wiper current | ≤ 1 mA |
| Recommended load impedance | ≥ 1000 R_n |
| Dielectric strength | 1000 V_{RMS} , 50 Hz, 1 min |
| Insulation resistance | ≥ 10 G Ω at 500 V_{CC} |
| Output smoothness | ≤ 0.05 % |

MECHANICAL SPECIFICATIONS

| PARAMETER | |
|----------------------------|----------------------|
| Mechanical travel | TET + 1.5 mm |
| Driving force | ≤ 1 N typical |
| Backlash | < 10 μ m |
| Maximum displacement speed | 1.5 m/s (32 cst oil) |

PERFORMANCE

| PARAMETER | |
|-----------------------------|---|
| Operating temperature range | -40 °C to +125 °C |
| Storage temperature range | -55 °C to +125 °C |
| Life | 20M cycles for TET ≤ 300 mm 10M cycles for 300 mm < TET ≤ 600 mm 5M cycles for TET > 600 mm |
| Operating pressure | 350 bar in continuous mode (600 bar at peak) |

Note

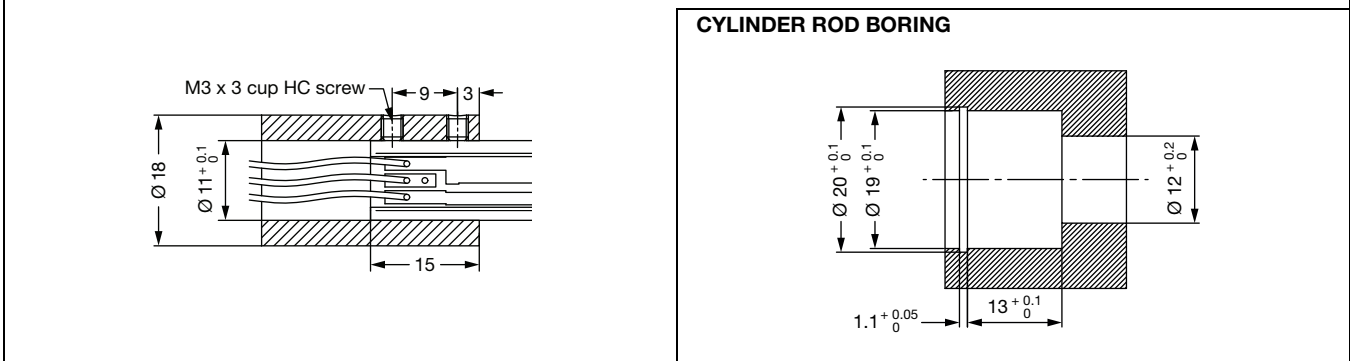
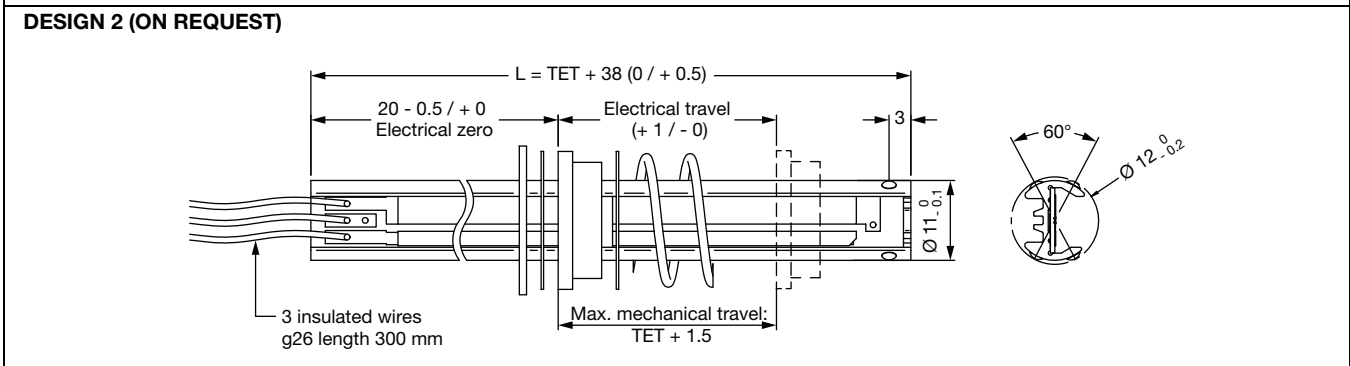
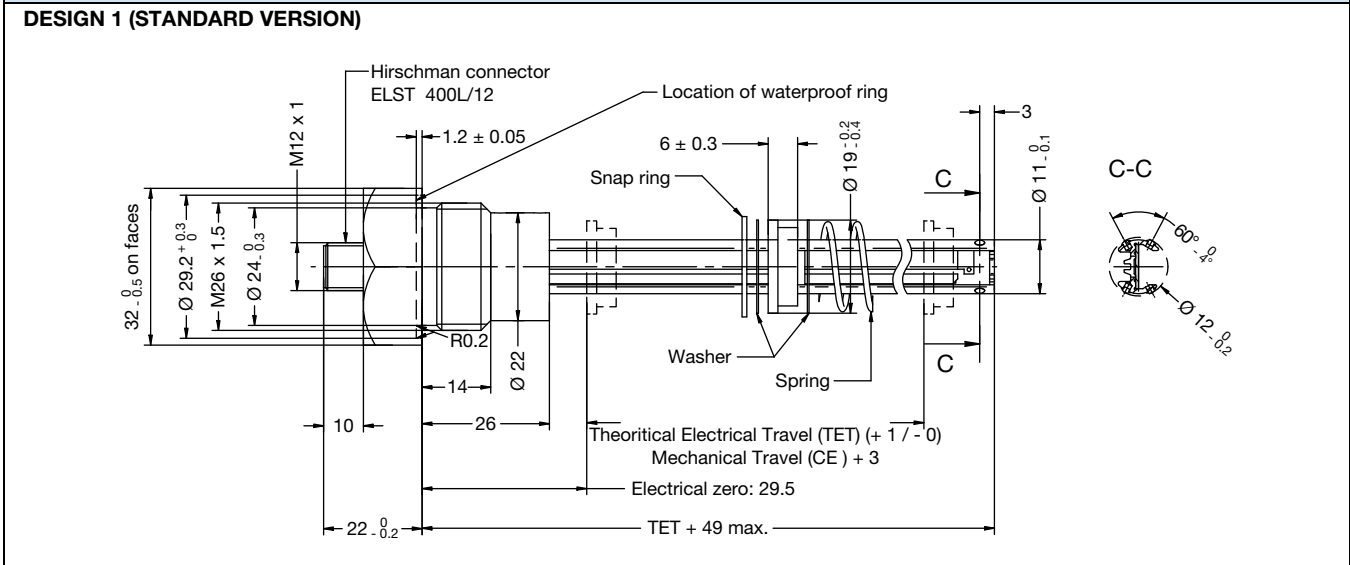
- Nothing stated herein shall be construed as a guarantee of quality or durability.

| SAP PART NUMBERING GUIDELINES | | | | | |
|-------------------------------|----------|-------------|-------------|-----------|-----------|
| MODEL | DIAMETER | LENGTH (mm) | VALUE | LINEARITY | PACKAGING |
| PRHY | 12 | 107 | 9631 = 9K6 | D = 0.1 % | B = box |
| | | 177 | 1592 = 15K9 | | |
| | | 527 | 4742 = 47K4 | | |

CONNECTIONS

Design 1: Standard version with connector inserted in interface flange
Design 2: Sensor with wire outputs without sealed feed-through and flange
Design 3: Sensor equipped with a sealed feed-through and a wire output cylinder interface flange

DIMENSIONS in millimeters

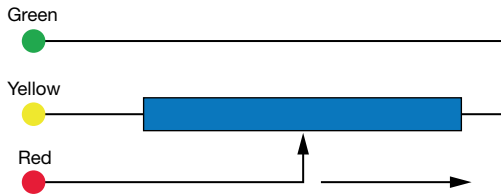


DIMENSIONS in millimeters

DESIGN 3 (ON REQUEST)



ELECTRICAL DIAGRAM



OPTIONS (on request)

- Other ohm value (R_n) - see Electrical Specifications
- Other linearity - see Electrical Specifications
- Special equipment
- Other diameter: 6 mm



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