Analog Displacement Sensor for Mounting in Hydraulic Cylinder

FEATURES

- Conductive plastic potentiometer technology. Infinite resolution
- Precious metal multi-contact wiper
- Light alloy profiled support
- Wire or connector outputs

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.

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 GΩ at 500 V_{CC}
Output smoothness	≤ 0.05 %

MECHANICAL SPECIFICATIONS	
PARAMETER	
Mechanical travel	TET + 1.5 mm
Driving force	≤ 1 N typical
Backlash	< 10 µm
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.

For technical questions, contact: mcbfixedresistors@vishay.com

ORDERING INFORMATION / DESCRIPTION

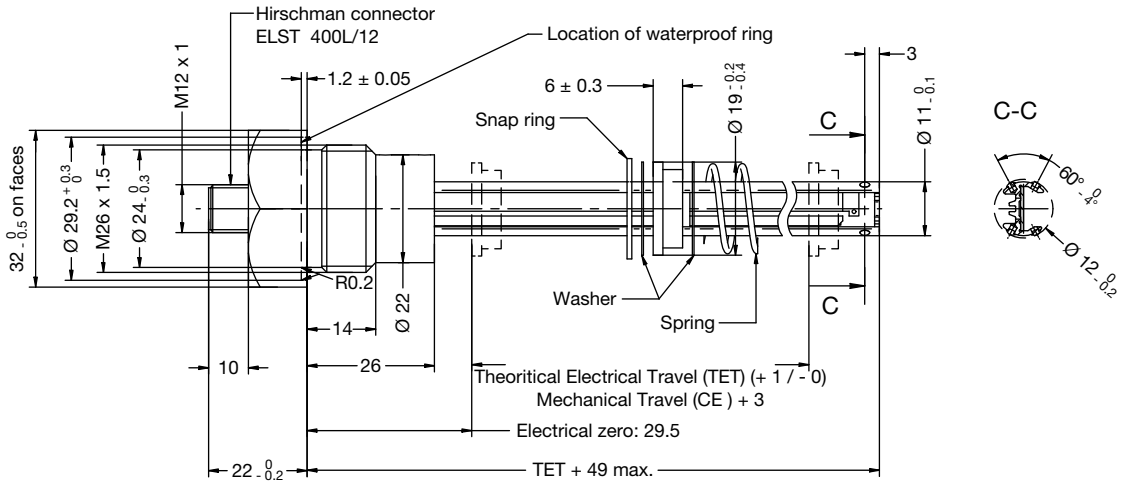
PRHY	12	100	.....
SENSOR TYPE	DIAMETER	THEORETICAL ELECTRICAL TRAVEL (TET) IN mm (See Electrical Specifications)	SPECIAL FEATURE OR OPTION (Plain language)

CONNECTIONS

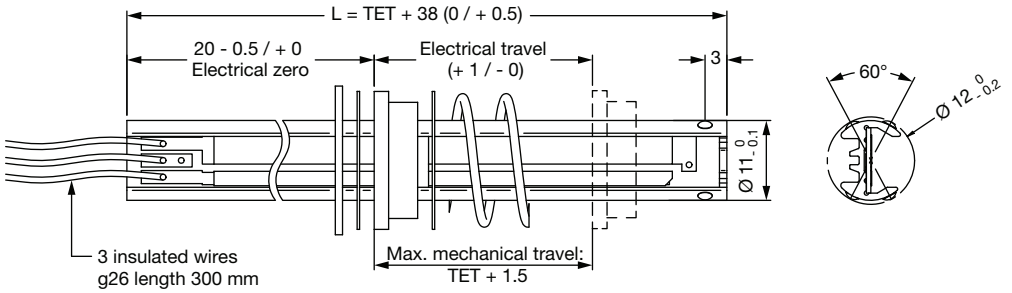
Design 1: Standard version with connector inserted in interface flange
Design 2: Sensor with wire outputs without sealed feed-through and flange
Design 3: Sensor equipped with a sealed feed-through and a wire output cylinder interface flange

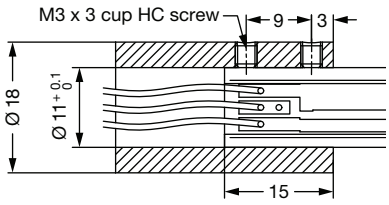
DIMENSIONS in millimeters

DESIGN 1 (STANDARD VERSION)

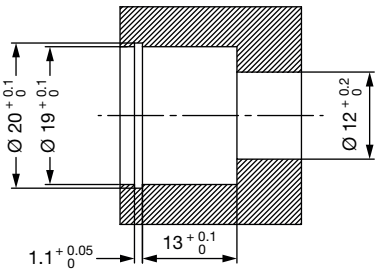


DESIGN 2 (ON REQUEST)





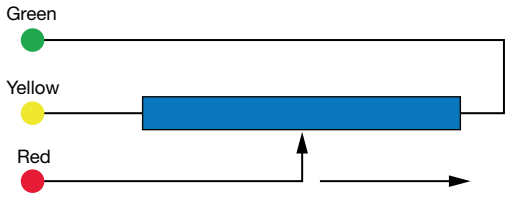
CYLINDER ROD BORING



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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