



PES-305™

Sealed Eddy Current Proximity Sensor

The PES-305 eddy current proximity sensor is designed for non-contact measurements of relative vibration, displacement and axial positioning. It is sealed to be fully operational in oil-filled environments and equipped with built-in conditioning circuitry allowing it to be directly connected to processing instrumentation.

General Specifications

Operation

- Measurement Type: Non-contact proximity, eddy current
- Measuring Range*: 0 to 5 mm [0 to 197 mils]
- Outputs*: 6.67 to 20 mA
1.67 to 10 V
- Sensitivity*: 2.67 mA/mm [67.7 μA/mil]
1.67 V/mm [42.3 mV/mil]
- Accuracy: According to correction factor ± 5%
- Repeatability: ± 5%
- Bandwidth: DC to 1000 Hz (-3dB)
- Load at Current Output: 500 Ω max.
- Load at Voltage Output: 10 kΩ min.
- Temperature Drift: < 10%
- Short Circuit Protection: Built-in
- Certification: GOST Russia - Pattern approval certificate for measuring instruments

Power Requirements

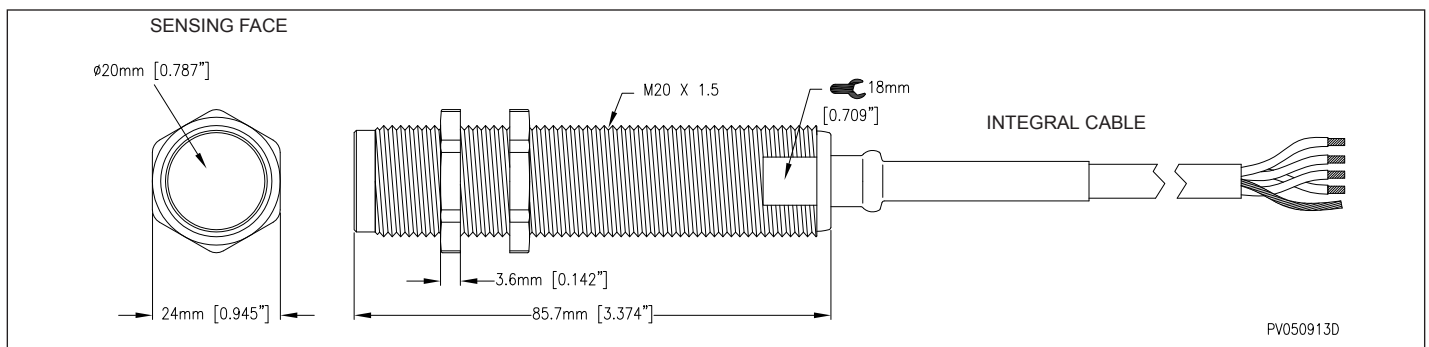
- Voltage: 15 to 30 Vdc
- Consumption: 30 mA max.
- Voltage Reversal Protection: Built-in
- Warm-Up Time: 5 minutes

Connection

- Integral Cable: 4-wire x 0.34 mm² [22 AWG], shielded
- Outer Jacket Material: PUR (polyurethane)
- Outer Jacket Diameter: 5.9 mm [0.232 in]
- Length: 30 m [98.4 ft]
- Min. Bending Radius: 60 mm [2.36 in]

*Target material: FE360 steel

Dimensions



- Max. Cable Length (Integral + Extension):
 - For Current Output: 300 m [984 ft]
 - For Voltage Output: 100 m [328 ft]

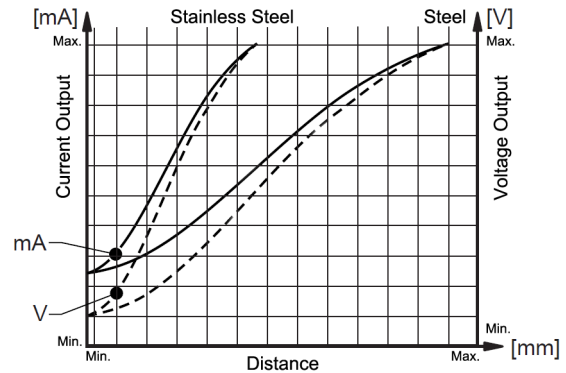
Environment

- Temperature Range:
 - Operating: 0 to 70 °C [32 to 158 °F]
 - Storage: -25 to 70 °C [-13 to 158 °F]
- Max. Submersible Pressure: 10 Bar [150 PSI]
- Protection Rating: IP69

Physical Characteristics

- Sensor Body: Chrome-plated brass
- Sensing Face: Polyamide-imide

Typical Response Comparison (Steel vs. Stainless Steel)



Warning: Response of inductive sensors varies with target material, as shown in the graph above. A site calibration is required to calculate the appropriate correction factor to be applied.