



# 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  $\mu$ A/mil]  
1.67 V/mm [42.3 mV/mil]
- Accuracy: According to correction factor  $\pm$  5%
- Repeatability:  $\pm$  5%
- Bandwidth: DC to 1000 Hz (-3dB)
- Load at Current Output: 500  $\Omega$  max.
- Load at Voltage Output: 10 k $\Omega$  min.
- Temperature Drift: < 10%
- Short Circuit Protection: Built-in
- Certification: GOST Russia - Pattern approval certificate for measuring instruments

#### Power Requirements

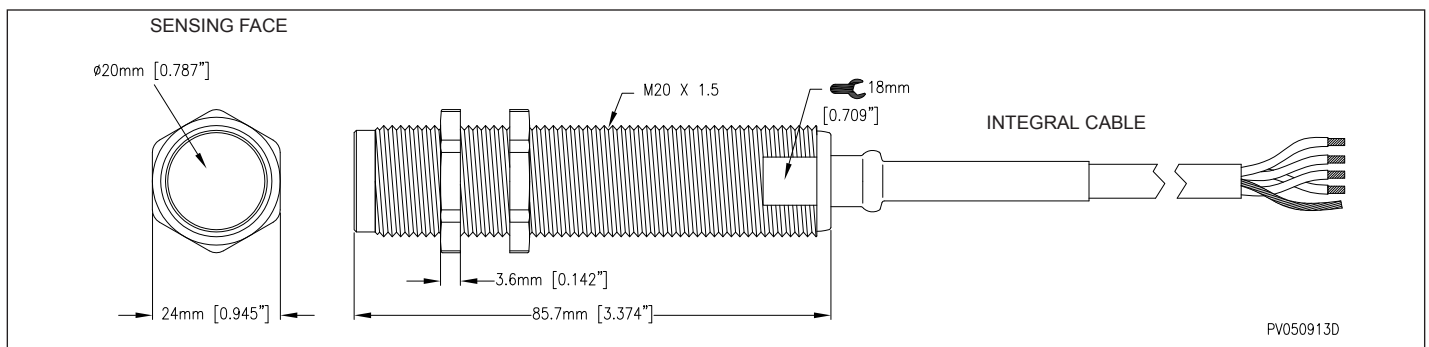
- Voltage: 15 to 30 Vdc
- Consumption: 30 mA max.
- Voltage Reversal Protection: Built-in
- Warm-Up Time: 5 minutes

#### Connection

- Integral Cable: 4-wire x 0.34 mm<sup>2</sup> [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



PV050913D

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

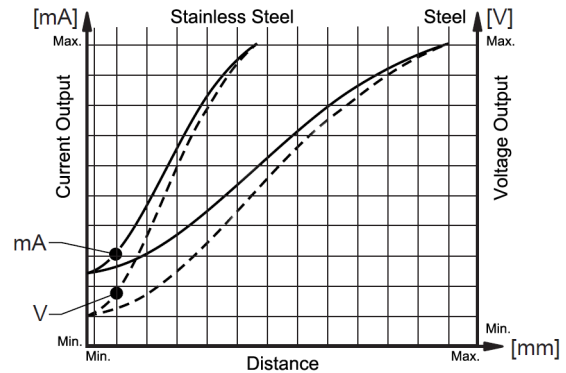
#### Environment

- 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.