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
• 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 mm^2 *[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*

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

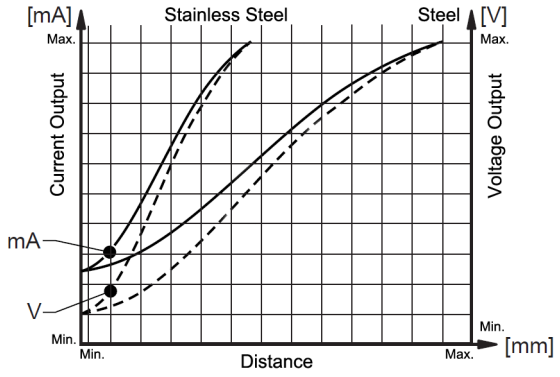
Environment

• 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

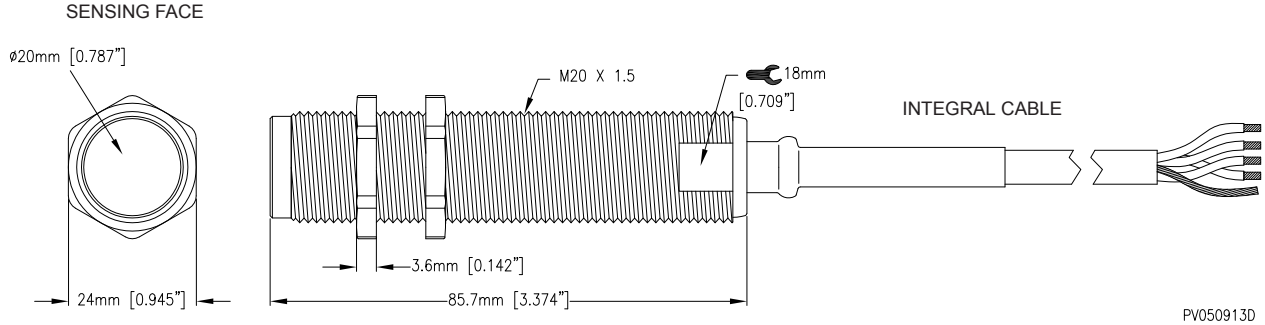
• Sensor Body	Chrome-plated brass
• Sensing Face	Polyamide-imide

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.

Dimensions



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