SENTURION EDDY CURRENT PROBES

PROTECTED SIDE VIEW – PRSV04 BEAM - Ø10mm SHIELDED TIP

- Measurement range of 2.0mm with high linearity.
- Target focused, eliminating side view effects.
- Can be mounted flush to machine case.
- Non-contact measurement of static or dynamic surfaces
- Robust stainless steel threaded case
- Polymer resin filled tip capable of high pressure operation
- Suitable for operation in highly corrosive environments
- Operating temperature range -30°C to +180°C
- Applications include Thrust bearing wear, shaft vibration & position monitoring

Sensonics range of SENTURION eddy current probes are designed to be the most robust and reliable units available, and are ideally suited to a vast range of industrial applications.

The PRSV04 BEAM has been developed specifically for providing accurate relative position measurements in restricted space applications, where standard proximity probes would be substantially affected by side target views. The fully flush tip arrangement eliminates side views completely and utilising a unique head arrangement permits the probe to be mounted flush with the machine case if required with minimal effect on performance.

The probe is also suitable for ‘blind-hole’ applications where calibration of the probe installed position is not possible. The sensor is normally calibrated against a 4140 steel target, but can be factory calibrated to customer specific targets to assist with this type of application.

The probe is intended for use within a system comprising of the probe, an extension cable (if required) and a driver unit. The probes are supplied in tuned lengths, and can be connected directly to the driver or via the extension cable in total lengths of 2, 5, 7, 9 or 14 metres.
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STRAIGHT MOUNT TYPE – PRSV04

SPECIFICATION

Body material .......................................................... Stainless steel
Tip material ............................................................... Flush arrangement, polymer resin filled.
Tip pressure rating ....................................................... 300bar
Cable specification ...................................................... RG179 PTFE insulated
Linear range ±1% of reading ........................................ 0.2 to 1.7mm
-5% of full scale ......................................................... 1.7 to 2.2mm
Sensitivity ................................................................. 8mV/µm
Temperature sensitivity - Probe ..................................... <2% variation at 90°C (0.5mm to 1.5mm gap)
Output impedance ...................................................... <50Ω
Interchangeability ....................................................... <5%
Calibration range ....................................................... ±5% or greater
Operating temperature - Probe ..................................... -30°C to +180°C
- Driver ................................................................. -30°C to +90°C
Survival temperature ................................................... as operating temperature
Power supply ............................................................. 24Vdc at 30mA nominal
Power supply tolerance .............................................. -18Vdc to -30Vdc (linear range will be affected)
Frequency range ...................................................... DC to 10kHz
Resolution (restricted by noise, drift & stability) .............. 0.002mm
Effect of side view (flush fitting) ................................... <0.5% at 2.0mm target distance
Effect of target magnetism ........................................... <0.2% at 1.0mm target distance

Note: Total system lengths must add up to
2, 5, 7 or 9m (2m systems cannot include
extension cables). Probe system length
may be up to 0.7m longer than stated.

ORDERING INFORMATION

PRSV04/ 1.0 U 1 0 0

Cable length
0.5 – 0.5m
1.0 – 1m
2.0 – 2m
5.0 – 5m
7.0 – 7m
9.0 – 9m
14 – 14m (not 4mm range)

Cable protection
U – Unarmoured (standard)
A – Armoured

Connector gender
0 – Female SMC (for direct driver connection)
1 – Male LEMO (f.u.w. extension cable)
2 – Male SMC coaxial jack (f.u.w. extension)

Thread type
0 – 1/2”-20UNF
1 – M12x1.25 (standard)

Thread length is 50mm on standard units,
but can be between 25mm and 115mm
Please specify separately.

Range (sensitivity)
0 – 2.0mm (8mV/µm)

EXC/ 4.0 A 0

Cable length
3.0 – 4m
4.5 – 4.5m
6.0 – 6m
6.5 – 6.5m
8.0 – 8m
8.5 – 8.5m
9m

Cable protection
A – Armoured
U – Unarmoured

Connector type
0 – SMC
1 – LEMO 00

ECD04/ 5 0 0

Total system cable length
2 – 2m
5 – 5m
7 – 7m
9 – 9m
14 – 14m

Range (Sensitivity)
0 – 2m (8mV/µm)

Mounting
0 – Std plate
1 – 35mm DIN rail

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