Bently Nevada 330171-01-10-10-02-00

01 Function and selected configuration

Product function

Bently Nevada 330171-01-10-10-02-00 combines a short smooth nose with a compact threaded case for positioning the sensing tip near a shaft or thrust surface.

Selected configuration

The selected probe configuration uses a 1.0 in overall case with 0.1 in unthreaded length. Its 1/4-28 UNF mounting thread must match the probe holder, with no more than 0.375 in engagement. The 5 mm tip reduces physical packaging size without reducing the required electromagnetic clearances.

Functional path

Conductive target	5 mm sensing tip	Matched XL cable	Proximitor → monitor

Mounting geometry	1/4-28 UNF; 0.1 in unthreaded section
Probe case	1.0 in overall length, without armor
Connection	1.0 m standard cable; miniature coaxial ClickLoc

The probe, compatible XL extension cable and XL Proximitor Sensor form one measurement chain. Total probe and extension-cable length must match the conditioner; the complete system provides a nominal 7.87 V/mm response over a 2 mm linear range under the specified calibration conditions.

330171-01-10-10-02-00 / Technical operating envelope

02 Technical operating envelope

Mounting thread	1/4-28 UNF
Unthreaded length	0.1 in
Overall case length	1.0 in
Total probe length	1.0 m
Termination	Miniature coaxial ClickLoc; standard cable
Sensing tip diameter	5 mm
Probe cable impedance	75 ohm, FEP-insulated triaxial

Probe resistance at 1 m	7.59 ±0.50 ohm, center to outer conductor
Matched-system linear range	2 mm; approximately 0.25–2.3 mm gap
Nominal system sensitivity	7.87 V/mm (200 mV/mil)
Recommended operating gap	1.27 mm (50 mils)
System frequency response	DC–10 kHz, +0 / -3 dB
Probe temperature range	-35 to +177 °C

The 2 mm span, 7.87 V/mm sensitivity and DC–10 kHz response are complete-system values. Reference conditions include +18 to +27 °C, -24 VDC, a 10 kohm load, an AISI 4140 target and 1.27 mm gap. The probe is not a standalone voltage-output sensor.

Conditioner supply headroom

The compatible XL conditioner requires -17.5 to -26 VDC at up to 12 mA. Operation more positive than -23.5 VDC can reduce the linear range; assess supply at the installed circuit.

Target and probe separation

The flat target minimum is 15.2 mm diameter. The recommended shaft minimum is 76.2 mm; smaller shafts and closely spaced probes require assessment of scale factor and cross-talk.

330171-01-10-10-02-00 / System integration and applications

03 System integration and applications

Radial shaft vibration

Measure changing shaft-to-probe distance on fluid-film bearing machines using a suitable radial mounting position.

Axial position

Observe thrust-surface movement with adequate target area and clearance between adjacent probes.

Constrained mechanical access

Use the 1.0 in case and 0.1 in smooth section where the holder geometry requires this particular reach and thread.

Speed and phase reference

Detect a suitable shaft feature with the appropriate monitoring input and application-specific target arrangement.

System and supply context

330171-01-10-10-02-00 is the probe element; extension cable, Proximitor Sensor and monitor are separate system components. The complete chain must have matching electrical length.

Application boundary

Applications depend on a conductive target, correct probe location and a receiving channel configured for the required vibration, position or timing function.

Where should the operating gap of 330171-01-10-10-02-00 be centered?

The recommended gap is 1.27 mm. Under the specified matched-system conditions, the approximately 2 mm linear span extends from about 0.25 to 2.3 mm from the conductive target.

330171-01-10-10-02-00 / Engineering selection decisions

04 Engineering selection decisions

How much smooth reach does 330171-01-10-10-02-00 provide ahead of its threaded section?

The 01 option specifies 0.1 in of unthreaded length within a 1.0 in case. This leaves 0.9 in nominal threaded length; actual mounting engagement remains subject to the 0.375 in limit.

What temperature belongs to the probe of 330171-01-10-10-02-00, rather than the remote conditioner?

The probe operating range is -35 to +177 °C. The Proximitor Sensor is a separate component with its own environmental limits; the probe rating cannot be applied to the conditioner.

How should the ClickLoc joint on 330171-01-10-10-02-00 be tightened?

A mating pair of XL gold ClickLoc connectors is finger tightened until it engages. The connector maximum is 0.565 N·m; do not use probe-case tightening torque on the coaxial joint.

Can 330171-01-10-10-02-00 provide both shaft position and vibration information?

Yes, in the matched chain the DC component represents average gap and the changing component represents dynamic displacement. The receiving channel determines how these components are displayed and alarmed.

Matched chain	Verify probe and extension lengths against the Proximitor Sensor before connecting the monitor.
Joint protection	Protect the standard ClickLoc joint from moisture; do not assume option 02 includes a connector protector.

330171-01-10-10-02-00 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

Current production and end-of-support status are not confirmed for this exact configuration.

Replacement assessment

Preserve the 1/4-28 UNF thread, 0.1 in smooth section, 1.0 in case, 1.0 m lead and complete order code. Check the target and matched electrical length before replacing an installed probe.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

Technical basis

Bently Nevada 3300 5 mm Transducer System, 172036 Rev. T.

Related product navigation

- Bently Nevada 330130-040-00-05
- Bently Nevada 330130-045-00-05
- Bently Nevada 330130-080-00-CN

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries