Bently Nevada 330171-00-08-10-02-CN

01 Function and selected configuration

Product function

In a matched 3300 measurement chain, Bently Nevada 330171-00-08-10-02-CN senses a conductive shaft without contact while its compact tip fits mechanically constrained probe locations.

Selected configuration

The selected probe configuration uses a 0.8 in overall case with 0.0 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; 0.0 in unthreaded section
Probe case	0.8 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.

330171-00-08-10-02-CN / Technical operating envelope

02 Technical operating envelope

Mounting thread	1/4-28 UNF
Unthreaded length	0.0 in
Overall case length	0.8 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.

330171-00-08-10-02-CN / 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 0.8 in case and 0.0 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

330171-00-08-10-02-CN 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.

How does the fully threaded case of 330171-00-08-10-02-CN fit a short mounting position?

The 00 option gives no unthreaded section and the 08 case option gives 0.8 in overall case length. The mounting arrangement must still provide the required target gap and cable clearance.

330171-00-08-10-02-CN / Engineering selection decisions

04 Engineering selection decisions

Does the 5 mm tip on 330171-00-08-10-02-CN permit closer probe spacing than an 8 mm tip?

No. The smaller package helps with physical installation space, but it does not reduce the side-view clearance or tip-to-tip separation required for the 3300 XL 8 mm arrangement.

What resistance should a disconnected 330171-00-08-10-02-CN probe show?

For its 1.0 m probe lead, the center-to-outer-conductor resistance is 7.59 ±0.50 ohm. This checks continuity; it does not establish the complete measurement chain calibration.

Does 330171-00-08-10-02-CN include a connector protector under option 02?

Option 02 selects a miniature coaxial ClickLoc connector on standard cable without the factory-fitted protector. Protect the connection against moisture using a compatible protection arrangement.

What limits thread engagement when mounting 330171-00-08-10-02-CN?

The maximum engagement stated for the 1/4-28 probe thread is 0.375 in. A longer tapped engagement can bind even when the overall probe case has sufficient length.

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.

330171-00-08-10-02-CN / 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, 0.0 in smooth section, 0.8 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 330130-080-00-00
- Bently Nevada 330130-040-02-05
- Bently Nevada 330130-085-02-05

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

Product enquiries