

Bently Nevada 330103-00-10-10-01-00

COMPLETE PRODUCT INFORMATION

01 / PRODUCT AND APPLICATION MAP

Bently Nevada 330103-00-10-10-01-00 is an unarmored M10 x 1 3300 XL 8 mm proximity probe with a standard 1.0 m lead and a protected ClickLoc connector. It provides the sensing element for static position and dynamic shaft-vibration measurements in a matched transducer system.

Selected identity

Base 330103	Standard-mount M10 x 1 probe without armor
AA = 00 / BB = 10	Metric unthreaded and case selections retained in the full code
CC = 10	1.0 m electrical probe length
DD = 01	ClickLoc connector with protector; standard cable
EE = 00	Agency approval not required

Signal route

Shaft target Position and motion	330103 probe Eddy-current sensing	Proximator / monitor Condition and interpret
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Shaft-relative vibration

Monitor dynamic shaft motion on fluid-film bearing machinery through the selected 3300 XL measurement chain.

Axial position monitoring

Measure the static position of an appropriate conductive target within the calibrated linear region.

Speed reference

Use the matched proximity system to detect the installed speed target under the machine-specific configuration.

Keyphasor reference

Provide a phase-reference signal where the target geometry and monitoring arrangement are engineered for that use.

Connection identity

The -01 option includes the connector protector with standard FEP-insulated cable. The 330103 base identifies the forward-mounted unarmored execution; it is separate from armored 330104 variants.

Channel interpretation

The probe senses target movement; the Proximator conditions that connection into a voltage used by the monitor. Evaluate the complete chain when interpreting a DC position or AC shaft-vibration value.

Application boundary

Position, vibration and reference measurements use the completed transducer chain. Confirm the actual machine channel assignment and target arrangement before transferring an installed configuration.

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Matched-system and probe characteristics

Probe resistance	7.59 +/- 0.50 ohm, center to outer conductor
Cable impedance	75 ohm triaxial
Cable insulation	FEP, standard execution
Nominal scale factor	7.87 V/mm (200 mV/mil), matched system
Radial gap voltage	-9 VDC nominal
Linear range	2 mm; approximately -1 to -17 VDC
System bandwidth	DC to 10 kHz, +0 / -3 dB
Sensor output resistance	50 ohm
Sensor maximum consumption	12 mA

Available electrical-length arrangements

1 m sensor	1.0 m probe; no extension cable
5 m sensor	1.0 m probe + 4.0 m extension
9 m sensor	1.0 m probe + 8.0 m extension

Materials and connection

Tip	Polyphenylene sulfide (PPS)
Case	AISI 303 or 304 stainless steel
Connector	Gold-plated brass or beryllium copper
Probe lead	Standard FEP-insulated triaxial cable
Connector protector	Included by option 01; protect and insulate the joint

Calibration basis

The performance basis uses a complete 3300 XL 8 mm probe, extension where required and Proximitor Sensor, an AISI 4140 steel target, a -24 VDC supply and a 10 kohm load, with components between +18 and +27 deg C unless stated otherwise. Target material, temperature and the assembled electrical length affect the achieved calibration. A probe alone does not generate the conditioned monitor voltage.

Independent signal wiring

The Proximitor-to-monitor circuit is separate from the probe electrical length. The datasheet recommends a three-conductor shielded triad and tinned field wiring; its documented frequency-response curves show the effect of longer monitor wiring. Check the relevant curve before accepting a high-frequency channel.

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01 / Match

Match the 1.0 m probe lead plus extension cable to the selected Proximitor electrical length; do not add an arbitrary lead.

02 / Insulate

Insulate the ClickLoc junction from ground and keep its supplied protector properly seated.

03 / Tighten

Tighten two XL ClickLoc connectors by hand; the 0.565 N m value is a maximum, not a tightening target.

04 / Confirm

Confirm the AISI 4140 calibration basis or use the approved correction for the actual target material.

05 / Set

Set and verify the radial-vibration static gap near -9 VDC before judging the AC vibration signal.

06 / Keep

Keep standard-probe service within -52 to +177 deg C; consider seal failure risk below -34 deg C.

07 / Treat

Treat the -00 approval selection separately from the installation area requirements.

08 / Provide

Provide independent containment for process liquids or gases; these probes are not pressure-tested before shipment.

Handling and temperature limits

Two XL gold ClickLocs	Finger tight
Maximum connector torque	0.565 N m; do not treat as a target
Standard forward-mount case	11.2 N m recommended; 33.9 N m maximum
First three threads only	7.5 N m recommended; 22.6 N m maximum
Standard probe	-52 to +177 deg C, operating and storage
Standard extension cable	-52 to +177 deg C, operating and storage
Proximitor operation	-52 to +100 deg C

Important Notice

The -00 approval option does not establish hazardous-area approval. Protect and electrically insulate the coaxial junction, and assess pressure containment independently of the probe seal.

Engineering note

The 1.0 m probe can operate with the matching 1 m Proximitor Sensor, or with the correct extension cable for a 5 m or 9 m system. The -01 connector option includes a protector; insulate the connection from ground.

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Can 330103-00-10-10-01-00 be connected directly to a 1 m Proximator Sensor?

Yes. The 1.0 m probe-only configuration uses the matching 1 m 3300 XL Proximator Sensor. A 5 m or 9 m system instead requires the proper extension cable to establish that electrical length.

What resistance check applies to the lead of 330103-00-10-10-01-00?

The nominal center-to-outer-conductor probe resistance for the 1.0 m version is 7.59 +/- 0.50 ohm. Perform the check on the isolated probe; this value does not describe the resistance of an assembled monitor circuit.

How does the -01 connection of 330103-00-10-10-01-00 differ from option -02?

Option -01 supplies a miniature coaxial ClickLoc connector with a connector protector and standard cable. Option -02 uses the same standard-cable connector without that protector.

Should a wrench be used on the XL connector of 330103-00-10-10-01-00?

Two XL gold ClickLoc connectors are joined finger tight. A mixed XL/non-XL junction has a different instruction; do not apply that extra turn to two XL connectors.

Why does a correct static reading from 330103-00-10-10-01-00 not verify the whole vibration channel?

Static gap confirms the operating point. Dynamic response also depends on the selected system length, calibrated target and field-wiring frequency response, so channel acceptance includes both static and dynamic checks.

Interpreting the two outputs

DC gap indicates the static position relative to the operating point; the dynamic component carries vibration or reference-target information. A correct DC value does not remove the need for an application-specific dynamic acceptance check.

Document guide

Technical Reference	Configuration, signal data, construction and performance conditions
Installation & Commissioning Guide	Pairing, connection, electrical checks and channel acceptance
Complete Product Information	Public product facts, applications, precautions and questions

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Does 330103-00-10-10-01-00 carry a hazardous-area approval through its -00 code?

The ordering table defines -00 as approval not required. It must not be treated as the multi-approval -05 execution.

Can the pressure seal in 330103-00-10-10-01-00 replace independent process containment?

No. The probe seals differential pressure between tip and case, but probes are not pressure-tested before shipment. Liquids and gases must remain safely contained if a leak occurs.

Is 330103-00-10-10-01-00 a housing-vibration accelerometer?

It is a non-contacting proximity probe. The transducer system measures target distance and therefore supports shaft-relative vibration and static position; it does not directly measure housing acceleration.

Related proximity portfolio

Bently Nevada 330103-12-25-10-01-00	Related 3300 XL probe; compare complete execution
Bently Nevada 330103-00-12-10-01-00	Related 3300 XL probe; compare complete execution
Bently Nevada 330103-00-11-50-02-00	Related 3300 XL probe; compare complete execution
Bently Nevada 330103-00-06-90-02-00	Related 3300 XL probe; compare complete execution

Model selection

Preserve the complete identifier in every request and installation record. A matching base number is only one part of selection; compare the connector/protector execution, electrical length, mounting interface, target and required approval.

Component temperature context

Standard probe	-52 to +177 deg C, operating and storage
Standard extension cable	-52 to +177 deg C, operating and storage
Proximitior operation	-52 to +100 deg C

Practical return-to-service checks

Keep the connector insulated, verify the selected system length and repeat the relevant static and dynamic tests after service. Assess any process containment independently of the probe O-ring. Release the channel under the equipment-specific procedure.

Manufacturer reference

3300 XL 8 mm Proximity Transducer System | Datasheet 141194 Rev. AN. Identity and ordering: pp. 13-14; electrical and measurement data: pp. 4-6; materials and installation interfaces: pp. 7-8; environmental and pressure conditions: p. 9. This ApterPower document organizes selected technical facts and field checks; it does not replace the equipment installation instructions.

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