Bently Nevada 330101-00-24-10-02-05

ENGINEERING GUIDE / installation and commissioning

01 Define the installed chain

Probe	330101-00-24-10-02-05; 3/8-24 case; 1.0 m integral standard cable.
Extension arrangement	Confirm whether the installed 1 m chain uses a direct connection; do not add cable from a neighboring system.
Proximitor	Identify the exact 3300 XL 8 mm matching unit and its configured system length.
Monitor	Record channel assignment, gap-voltage baseline, scale, filters and alarms.
Target	Verify shaft diameter, target material and axial/radial geometry.

Before work starts

Use the approved site isolation procedure. Photograph the complete marking and the existing cable and connector arrangement before removal. Record the stopped and operating readings in the maintenance record.

Order-code checkpoints

Mounting	3/8-24 UNF case without armor
Case configuration	0.0 in unthreaded section; 2.4 in overall case
Integral lead	1.0 m standard cable; miniature coaxial ClickLoc
Agency option	05 CSA/ATEX/IECEx selection; verify supplied marking

02 Mechanical installation sequence

1. Inspect the location	Check the bearing-case thread, penetration envelope and target path against the machine drawing.
2. Prepare the probe	Inspect the PPS tip, case thread, standard cable and miniature ClickLoc for damage.
3. Set insertion	Fit the 2.4 in case without exceeding the documented 3/8-24 engagement.
4. Apply torque	Use the 11.2 N·m recommended forward-mount torque for the documented case.
5. Route the lead	Keep bend radius at least 25.4 mm and protect the triaxial cable from abrasion.
6. Mate the connector	Use the correct ClickLoc connection and inspect sealing; option 02 has no protector.

Component handling limits

Probe tip	Polyphenylene sulfide
Case	AISI 303 or 304 stainless steel
Standard cable	75 Ω FEP-insulated triaxial construction
Nominal 1.0 m probe DC resistance	7.59 ±0.50 Ω
Minimum cable bend radius	25.4 mm
Recommended forward-mount torque	11.2 N·m

Maximum 3/8-24 engagement	0.563 in
Probe operating/storage temperature	−52 to +177 °C

03 Electrical setup and validation

Matched-chain linear range	2.0 mm
Matched-chain incremental scale	7.87 V/mm ±5%, standard 1 m system at 0–45 °C
Recommended radial gap	About 1.27 mm, corresponding to −9 V DC
Matched-chain frequency response	0–10 kHz, +0/−3 dB
Reference target	AISI 4140 steel; verify recalibration for different alloys

Gap-setting logic

Apply the manufacturer gap-setting procedure to the complete installed chain. About 1.27 mm and −9 V DC are reference radial-gap values for the matched 1 m system on its reference target. Establish the approved machine cold setting and check operating travel.

Diagnostic route

Open or implausible gap	Check supply and monitor indication, then connector continuity, probe resistance and target clearance.
Unexpected scale	Confirm target alloy, probe and Proximitor lengths, and channel calibration.
Unstable trend	Inspect tip location, shaft runout, cable motion, shield path and adjacent-probe spacing.
High-frequency loss	Review monitor filters and the complete chain rather than assigning the system response to the bare probe.

04 Commissioning and handover

Identity record	Retain full probe marking, 05 approval option and as-installed equipment list.
Mechanical record	Log insertion depth, case thread, target geometry and connector condition.
Electrical record	Log cable length, Proximitor identity, gap voltage, monitor settings and channel assignment.
Functional proof	Compare vibration or position readings with the approved baseline at a comparable machine state.
Approval check	Use the supplied label and associated drawing for any hazardous-area circuit review.

Further engineer questions

Why can the indicated gap on 330101-00-24-10-02-05 shift after replacement?	Check probe insertion, target surface, extension length and the matched Proximitor. Re-establish the machine-approved cold and hot gap baseline.
How should an open circuit on 330101-00-24-10-02-05 be isolated?	With the channel safely isolated, check connector seating and conductor continuity, then compare probe resistance with the documented 1 m reference. Do not treat a connector check alone as complete diagnosis.

What can attenuate higher-frequency vibration with 330101-00-24-10-02-05?	Check target geometry, cable routing and the monitor bandwidth. The published 0–10 kHz response belongs to the matched transducer chain.
How does a small shaft affect 330101-00-24-10-02-05?	Compare shaft diameter and target flatness with the manufacturer application limits; a small or curved target changes response and may require calibration review.
What must be checked before adding an extension cable to 330101-00-24-10-02-05?	Match the full probe-plus-extension electrical length to the installed Proximitor. The 1 m option is selected as an integral lead; an extra cable cannot be assumed compatible.
How can adjacent probes interfere with 330101-00-24-10-02-05?	Assess tip spacing, shaft geometry and channel output under the actual machine layout. Move sensing points or follow the manufacturer cross-talk guidance where needed.
What does the 05 approval option on 330101-00-24-10-02-05 require at installation?	Verify the actual nameplate and approval drawing, entity parameters and associated circuit. An order-code suffix alone does not approve the finished installation.
How should 330101-00-24-10-02-05 be accepted after exchange?	Record complete marking, installed chain, gap voltage, target condition and trend under a comparable operating state; preserve the as-left settings.

Release decisions

Target alloy change	Recheck scale factor and gap on the actual machine target rather than carrying over the AISI 4140 reference response.
Different system length	Verify matching probe, extension and Proximitor components before comparing trend amplitude.
Probe location change	Retain the machine drawing position and re-establish the channel baseline.
Adjacent probe change	Reassess cross-talk at the installed spacing and monitor configuration.

Measurement chain checks

Before energizing	Check the complete probe/extension/Proximitor identity and monitor wiring against the approved drawing.
At stopped machine	Record gap voltage and compare it with the cold position baseline; verify target clearance.
At operating state	Compare vibration and position with the same speed, load, direction and monitor filter as the reference trend.
After a cable change	Recheck total chain length, connector condition and bias before interpreting any amplitude change.
At handover	Retain the as-left values, temperature state, mounting position and part markings for the next service event.

Source and applicability

Bently Nevada 3300 XL 8 mm Proximity Transducer System, 141194 Rev. AN. Confirm exact installed revision and the approved site drawings.

Discuss the complete installed marking with Apter Power
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