01 INSTALLATION & COMMISSIONING

Bently Nevada 330101-00-08-20-02-05

01 / ESTABLISH THE MEASUREMENT CHAIN

Start from this execution

The selected 330101 probe is unarmored, has a standard 2.0 m electrical lead and uses the -02 connector without an included protector. Identify the ordered parts as one system before connecting the monitor. The procedure below describes checks; it does not change any machine shutdown or protection setting.

Choose one length arrangement

5 m sensor	2.0 m probe + 3.0 m extension
9 m sensor	2.0 m probe + 7.0 m extension
1 m sensor	Excluded for this 2 m probe

01 Identify the conditioner

Read the electrical-length marking on the Proximitor Sensor. Choose the matching 3 m extension for a 5 m system or 7 m extension for a 9 m system. This 2 m probe cannot form a probe-only 1 m channel. An extra general-purpose cable is not a substitute for the selected extension.

02 Verify the calibration basis

Confirm the target material used by the existing channel. AISI 4140 steel is the standard reference; accuracy and interchangeability statements do not automatically apply to another target calibration.

03 Check the area approval

The ordered probe ends in -05. Compare the supplied CSA, ATEX or IECEx markings with the area classification and documented circuit before installing. Check any barrier requirements against the installed system, rather than relying on the suffix alone.

Pre-installation decision

Identify	Pair	Release
Full model and companions	Electrical length and target	Correct system selected

Handoff condition

Proceed to the connection stage only when the probe, cable where required, Proximitor length and installed channel role agree. Keep the existing monitor configuration available for the commissioning comparison.

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02 / INSTALL AND PROTECT THE CONNECTION

04 Fit the 3/8-24 UNF receiving interface

Inspect the receiving thread and the support condition before seating the forward-mounted probe. Follow the actual equipment mounting instructions, and distinguish full case support from the reduced support condition at the first three threads.

Torque instruction depends on the interface

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

05 Join the XL coaxial connectors

Keep the contacts clean, dry and undamaged. Two XL gold ClickLoc connectors are joined finger tight. The mixed non-XL/XL connection has a separate finger-tight-plus-one-eighth-turn instruction; it is not the instruction for two XL parts.

06 Protect the service junction

Arrange suitable protection around the -02 junction and insulate the electrical connection from ground. This option does not include the -01 accessory. Keep the unarmored lead supported so pull at the case or service joint does not become a normal installation load.

Cable and junction inspection

Probe lead	Standard FEP cable; unarmored execution
Extension routing	Observe the documented 25.4 mm minimum bend radius

Pressure-bearing positions

The probe seals differential pressure between its tip and case using a Viton O-ring. Units are not pressure-tested before shipment. A separate pressure test is an application requirement when needed; the installation must still contain liquids and gases safely if leakage occurs. Strongly acidic or alkaline media can erode the tip assembly.

Connection acceptance

The probe is securely supported, the correct mating connector is fully engaged, the selected junction protection is in place and the lead has no damage or persistent strain. Mechanical acceptance precedes an energized reading.

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03 / VERIFY ELECTRICAL CONDITIONS

Conditioning-stage checks

Non-incendive sensor supply	-17.5 to -26 VDC when connected per drawing 140979
Supply with barriers	-23 to -26 VDC
Maximum sensor demand	12 mA
Output resistance	50 ohm
Isolated 2.0 m probe resistance	7.88 +/- 0.50 ohm

07 Check the isolated probe

Use the documented center-to-outer-conductor resistance as a component-level check. Disconnect the probe from the energized transducer chain before measuring; the nominal probe value is not a resistance limit for every cable and monitor connected in parallel.

08 Inspect the monitor 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.

09 Restore the documented supply

Verify voltage at the conditioning-stage terminals under the installed load. A supply more positive than -23.5 VDC can reduce linear range even within the broader non-incendive supply limits. Keep barrier-specific requirements separate.

Connections and what each proves

Probe coaxial lead	Carries the sensing-element connection to the matched conditioner
Extension cable, if used	Completes the selected electrical system length
Sensor-to-monitor triad	Carries power/reference and conditioned signal according to the installed circuit

Electrical acceptance

A valid supply, intended reference, clean coaxial junction and correct resistance check support commissioning. None of these checks alone establishes the configured dynamic response of the channel.

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04 / SET THE GAP AND TEST THE CHANNEL

10 Establish the DC operating point

For radial-vibration measurements, use the recommended -9 VDC static gap setting. The matched system has a 2 mm linear range corresponding approximately to -1 through -17 VDC; allow the intended target motion to stay inside the applicable calibrated region.

Commissioning sequence

Static check	Compare the DC gap with the selected channel operating point
Dynamic check	Verify response to the intended shaft or reference-target motion
Monitor check	Confirm signal role, scaling and the approved baseline
Protection release	Apply the equipment-specific acceptance and shutdown procedure

11 Judge accuracy under the actual conditions

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.

12 Separate temperature capability from accuracy

A -52 to +177 deg C standard-probe operating limit does not mean the tightest ISF and DSL values apply over that entire span. Check the selected 5 m or 9 m performance row and the temperatures of each transducer-chain component.

Is FluidLoc included with the standard -02 lead of 330101-00-08-20-02-05?

No. DD02 is the standard miniature coaxial ClickLoc connector without a protector. FluidLoc uses separate connector-option codes; do not attribute oil-blocking performance to this standard execution.

What happens when non-XL components are mixed into the channel of 330101-00-08-20-02-05?

Mixing XL and non-XL 3300-series 5 mm or 8 mm components limits performance to the non-XL system specifications. The XL-only accuracy claim cannot be retained for that mixed chain.

Acceptance outcome

A stable static gap plus a credible dynamic response, correct monitor interpretation and the machine-specific functional test form the channel acceptance. Record the system length and target used for that test so a later service comparison has a valid basis.

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05 / FAULT ISOLATION AND SERVICE

Move from symptom to the relevant check

Gap outside the expected region	Check target position and conditioner supply before changing alarm settings
Stable gap but implausible amplitude	Inspect scaling, cable length and dynamic signal path
Intermittent signal during movement	Inspect lead strain, junction seating and protection
Media leakage at the probe position	Isolate the process and use the independent containment procedure

Temperature and seal review

Inspect component temperatures separately. The standard probe and standard extension are rated -52 to +177 deg C; the conditioner has different limits. Below -34 deg C, pressure-seal performance can fail prematurely even though the broad probe temperature rating continues lower.

Does the approval selection of 330101-00-08-20-02-05 change its pressure-containment duty?

The probe tip-to-case seal does not replace independent containment. Probes are not pressure-tested before shipment, so assess any required pressure test and safe containment of liquids or gases separately.

Related proximity portfolio

Bently Nevada 330101-00-60-90-01-05	Related 3300 XL probe; compare complete execution
Bently Nevada 330101-00-20-10-02-00	Related 3300 XL probe; compare complete execution
Bently Nevada 330101-00-16-10-11-05	Related 3300 XL probe; compare complete execution
Bently Nevada 330101-00-35-10-01-05	Related 3300 XL probe; compare complete execution

Manufacturer reference

3300 XL 8 mm Proximity Transducer System | Datasheet 141194 Rev. AN. Imperial identity and ordering: p. 13; extension ordering: p. 18; 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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