

01 / PLAN THE NSv CHANNEL

01 Identify the installed function

Record whether the channel measures radial motion, thrust position, speed, zero speed or phase reference. The sensor chain and monitor configuration must agree with that function before changing the probe.

Read the exact selected execution

Base 330907	NSv reverse-mount probe; M10 x 1
Fixed code 05-30	Reverse-mount case configuration; preserve the code
CC = 10	1.0 m total electrical probe length
DD = 02	Standard cable and miniature ClickLoc
EE = 00	Agency approval not required

02 Choose the matched electrical length

5 m NSv system	1 m probe + 4 m NSv extension
7 m NSv system	1 m probe + 6 m NSv extension

03 Review any legacy upgrade

An upgrade from a 3300 RAM system may retain its existing probe, extension and monitoring system with an NSv Proximitor. A 3000-series or 7000-series 190 upgrade requires NSv probe, extension and conditioner replacement. Neither statement grants blanket interchangeability with an XL 8 mm chain or proves that every mechanical probe execution fits an existing position.

Configuration release

Record Full model and target	Match NSv length and companions	Approve Equipment-specific channel plan
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Before moving to the machine

Retain the existing channel baseline and determine the maintenance state required by the machine procedure. The -00 code is approval not required; assess the installation requirements independently of other agency-approved entries in the family.

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02 / FIT THE REVERSE-MOUNT ASSEMBLY

04 Check the receiving M10 x 1 interface

Inspect the receiving thread, support arrangement and probe access against the equipment drawing. Keep the fixed 05-30 reverse-mount code in the installation record. Avoid binding caused by excessive engagement or an incorrect internal-thread fit.

05 Apply the interface-specific limits

Reverse-mount case torque	7.5 N m recommended; 22.6 N m maximum
ClickLoc joint	Finger tight recommended; 0.56 N m maximum
Minimum cable bend radius	25.4 mm
Case-to-lead tensile rating	220 N maximum rated
Lead-to-extension joint tensile rating	220 N maximum rated
Protector and armor selections	Unavailable on reverse-mount NSv probes

06 Route the unarmored cable

Keep bends at or above the specified minimum and arrange support so movement does not pull on the probe or coaxial junction. Maximum tensile ratings describe component strength; they are not recommended continuous loading or installation pulling targets.

07 Protect the coaxial service joint

Join clean, dry and undamaged ClickLoc contacts finger tight. Reverse-mount probes do not offer the factory connector-protector option. Select environmental and electrical protection for the actual installation rather than assuming an included cover.

Can silicone tape protect the junction of 330907-05-30-10-02-00 when turbine oil is present?

Silicone tape is not recommended where the probe-to-extension connection is exposed to turbine oil. Select a suitable environmental-protection arrangement for the installed connection.

Mechanical acceptance

Confirm correct thread, reverse-mount support, cable routing, mating contact engagement and appropriate connection protection before applying conditioner power.

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03 / CHECK THE ELECTRICAL CHAIN

08 Check probe and conditioner data

Isolated 1 m probe resistance	4.2 +/- 0.5 ohm, center to outer conductor
Probe / extension impedance	75 ohm coaxial
Conditioner output resistance	50 ohm
Conditioner maximum demand	12 mA
Supply without barriers	-17.5 to -26 VDC
Supply with barriers	-23 to -26 VDC

Isolated resistance measurement

Disconnect the probe from the energized chain before checking its center-to-outer-conductor resistance. Use the 1 m probe row; the joined extension and monitor circuit will not give that component value.

09 Extension-cable resistance by selected length

4 m extension, calculated from per-metre nominal data	Center conductor 0.880 ohm; shield 0.264 ohm
6 m extension, calculated from per-metre nominal data	Center conductor 1.320 ohm; shield 0.396 ohm

Calculation boundary

The extension values above are nominal arithmetic from the published 0.220 and 0.066 ohm/m data. They are not added manufacturer tolerance limits or an acceptance band for a completed channel.

10 Inspect the separate field circuit

The sensor-to-monitor circuit accepts 0.2 to 1.5 square-mm conductors (16 to 24 AWG), or 0.25 to 0.75 square-mm conductors with ferrules. A three-conductor shielded triad is recommended. Up to 305 m is documented; check Figures 16 and 17 for magnitude and phase rolloff at the actual field-wiring length.

Electrical acceptance

Confirm sensor supply polarity and loaded voltage, correct cable length, clean mating contacts and the intended field-wiring reference. These checks support commissioning but do not prove the dynamic response by themselves.

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04 / GAP AND FUNCTIONAL ACCEPTANCE

11 Establish the operating point

Matched-system linear span	1.5 mm; target distance approximately 0.25 to 1.75 mm
Voltage across stated span	Approximately -1 to -13 VDC
Recommended probe gap	1.0 mm
Nominal scale factor	7.87 V/mm (200 mV/mil)

12 Evaluate the actual geometry

Target and mounting geometry are calibration inputs. Axial targets below 13 mm generally change scale factor; radial shafts below 20 mm generally change the average scale factor by more than 10%. Counterbores below 13 mm can affect far-gap scale factor. Review the appropriate NSv curves and reduced working range before accepting the installed reading.

Conditions to document at acceptance

Target	Material, surface condition and measurement geometry
Chain	Probe, selected extension and conditioner electrical length
Environment	Temperatures of probe, extension and conditioner
Channel	Monitor scaling, assigned function and approved baseline
Functional result	Static gap plus the appropriate dynamic or reference response

Performance basis

System specifications use an NSv Proximator, extension and probe between 0 and +45 deg C, at a maximum altitude of 2000 m, with a -24 VDC supply, 10 kohm load, AISI 4140 steel target at least 31 mm in diameter and 1.0 mm probe gap, unless noted otherwise. The stated accuracy and interchangeability do not automatically apply to calibration for another target material.

13 Review the intended target motion

A centered static gap does not guarantee adequate motion allowance for every application. Inspect the working range under the actual geometry and restore the machine-specific monitor and protection state only after its acceptance checks pass.

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05 / SERVICE AND RESTORATION

Symptom guides the next check

Unstable or intermittent gap	Inspect connector seating, lead strain, target motion and supply
Stable gap but unexpected amplitude	Review target geometry, NSv chain length and monitor scale
Closely mounted probe channels interfere	Review tip separation and the NSv cross-talk curves
Long field circuit changes dynamic response	Compare actual wiring with magnitude and phase curves
Seal or media concern	Isolate the process and apply independent containment

Temperature review

Probe and extension are rated -52 to +177 deg C, while the conditioner has a separate -52 to +100 deg C operating limit. Sustained probe exposure below -34 deg C may cause premature pressure-seal failure.

Related NSv models

Bently Nevada 330907-05-30-05-02-CN	Compare full NSv code
Bently Nevada 330907-05-30-10-02-05	Compare full NSv code
Bently Nevada 330905-00-07-10-02-05	Compare full NSv code
Bently Nevada 330905-00-11-05-02-00	Compare full NSv code

Return-to-service record

Retain the exact model, system length, target, channel function and observed functional test result. Recommendations do not authorize changing an installed probe type or approval without engineering review.

Manufacturer reference

3300 XL NSv Proximity Transducer System | Datasheet 147385 Rev. R. Applications and migration: pp. 1-2; electrical and target behavior: pp. 3-4; materials and handling: pp. 5-6; pressure sealing: p. 7; exact reverse-mount ordering: p. 12; construction note: p. 33. These organized facts and field checks do not replace the machine installation procedure.

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