01 INSTALLATION & COMMISSIONING

Bently Nevada 330903-00-06-05-02-05

01 / PLAN THE NSv CHANNEL

Equipment covered

Bently Nevada 330903-00-06-05-02-05 is an unarmored M8 x 1 proximity probe with a 0.5 m standard lead for the 3300 XL NSv system. Its ClickLoc connection and selected NSv extension feed a matching 5 m or 7 m Proximitor for shaft vibration and position measurements.

Read the complete model

330903	NSv probe; M8 x 1; without armor
AA00 / BB06	Retained fully threaded mechanical execution
CC05	0.5 m total probe length
DD02	Standard cable and ClickLoc; no included protector
EE05	Multiple Approvals; inspect actual marking

Select the total electrical length

5 m NSv system	0.5 m probe + 4.5 m extension + matching 5 m Proximitor
7 m NSv system	0.5 m probe + 6.5 m extension + matching 7 m Proximitor

01 Establish the work boundary

Identify the machine, shaft and channel before disconnection. Follow the site isolation and protection procedure, preserve circuit labels and retain the existing target-calibration record.

02 Assess the intended measurement

Identify whether the channel is intended for radial vibration or position measurement. Review the target and mounting clearances before ordering replacement parts; the sensing-family name does not prove every machine geometry is suitable.

Related Bently Nevada monitoring portfolio

Bently Nevada 330103-00-02-10-02-05	Related component; verify full configuration

Connect with ApterPower

Phone: +86 180 3023 5313

Email: sales13@apterpower.com

www.apterpower.com

02 / FIT AND ROUTE THE M8 PROBE

03 Confirm the mounting interface

Check the M8 x 1 internal fit, selected AA00 / BB06 execution and maximum 12 mm thread engagement. Do not force a binding mount. Use the M8 case-torque row; do not borrow the larger M10 mounting limits.

Torque by interface

M8 forward mount	5.1 N m recommended; 7.3 N m maximum
ClickLoc connection	Finger tight; 0.56 N m maximum

04 Support the unarmored lead

Maintain the 25.4 mm minimum bend radius and protect the jacket from crushing or sharp edges. Keep the service junction accessible and relieve continuous pull from the ClickLoc connector.

05 Protect the connection

DD02 specifies standard cable and a miniature coaxial ClickLoc connector without an included protector. Protect the exposed junction according to the installed environment. The stated condensing-humidity capability requires protected connectors and does not allow submersion; standard cable does not imply FluidLoc sealing.

06 Review local temperatures

The probe and extension operate and store at -52 to +177 deg C. The conditioner operates at -52 to +100 deg C and stores at -52 to +105 deg C. Sustained probe exposure below -34 deg C may cause premature pressure-seal failure. Assess each installed location and containment requirement separately.

Handle without tensile loading

The documented maximum rated tensile strength is 220 N from case to lead and at the probe-to-extension connection. Support the cable independently, and never use the connector or lead to pull the probe into position. Treat this strength rating as a limit, not a continuous service load.

Related Bently Nevada monitoring portfolio

Bently Nevada 330105-02-12-10-02-00	Related component; verify full configuration

Connect with ApterPower

Phone: +86 180 3023 5313

Email: sales13@apterpower.com

www.apterpower.com

03 / VERIFY ELECTRICAL CONNECTIONS

Component reference checks

Nominal Probe DC Resistance	4.0 +/-0.5 ohm; center to outer conductor
Standard Probe Cable	75 ohm coaxial; FEP insulated
Probe Tip Material	Polyphenylene sulfide (PPS)
Probe Case Material	AISI 304 stainless steel

07 Test the isolated probe

Disconnect the probe from the powered channel under the machine procedure. Measure center-to-outer resistance and compare with 4.0 +/-0.5 ohm for this 0.5 m execution. Record the component result separately from the complete-channel response.

Companion power circuit

Without barriers	-17.5 to -26 VDC
With barriers	-23 to -26 VDC
Maximum Proximitor consumption	12 mA
Conditioner output resistance	50 ohm

08 Restore the chosen length

Confirm that the 4.5 m or 6.5 m NSv extension completes the selected 5 m or 7 m system. Check the Proximitor marking, and do not splice an undocumented coaxial segment into the route.

09 Check the monitor wiring

The Proximitor-to-monitor circuit is separate from the probe-plus-extension length. Use 0.2 to 1.5 mm2 conductors, or 0.25 to 0.75 mm2 with ferrules. Three-conductor shielded triad is recommended. The documented maximum run is 305 m; use the response curves to evaluate high-frequency rolloff for the actual field wiring.

Supply headroom

A supply more positive than -23.5 VDC can reduce linear range. Review the measured supply and barrier arrangement before diagnosing a gap or range discrepancy.

Connect with ApterPower
Phone: +86 180 3023 5313
Email: sales13@apterpower.com
www.apterpower.com

04 / CHECK GEOMETRY, GAP AND RESPONSE

10 Establish target conditions

Published reference conditions use an NSv Proximitor, extension and probe at 0 to +45 deg C, altitude no greater than 2000 m, -24 VDC supply and 10 kohm load. The Bently Nevada AISI 4140 target is at least 31 mm in diameter and the gap is 1.0 mm. A different target calibration changes the applicability of the accuracy and interchangeability figures.

11 Review target and counterbore

For a flat target, minimum diameter is 8.9 mm and the recommended minimum is 13 mm. The counterbore minimum is 9.5 mm, with 13 mm recommended. Smaller targets or counterbores can alter scale factor and usable range; consult the geometry response curves before adopting a nominal calibration.

12 Check adjacent probes

The standard X-Y configuration has a 30 mm minimum shaft diameter. A 20 mm shaft requires the documented 23 mm axial offset. Maintain at least 25 mm tip separation for axial-position measurements or 23 mm for radial vibration to limit cross-talk. Radial measurements below 20 mm shaft diameter generally change average scale factor by more than 10%.

Channel commissioning values

Matched System Linear Range	1.5 mm; approximately 0.25 to 1.75 mm
Radial Vibration Gap Setting	1.0 mm; recommended gap
Nominal System Scale Factor	7.87 V/mm (200 mV/mil)
System Frequency Response	0 to 10 kHz; +0 / -3 dB typical

13 Complete the functional test

Use the recommended 1.0 mm gap with the correct target calibration and intended measurement role. Verify static response, dynamic signal and monitor interpretation using the machine procedure. A satisfactory resistance reading alone does not establish functional acceptance.

Related Bently Nevada monitoring portfolio

Bently Nevada 330104-00-05-05-02-CN	Related component; verify full configuration
Bently Nevada 330101-00-12-10-02-CN	Related component; verify full configuration

Connect with ApterPower
Phone: +86 180 3023 5313
Email: sales13@apterpower.com
www.apterpower.com

05 / RECORD AND RELEASE THE CHANNEL

Installation acceptance record

Identity	Full probe, DD02 and EE05 marking recorded
Length	NSv probe + extension equals conditioner length
Mounting	M8 fit, support and 12 mm engagement limit checked
Routing	Unarmored lead supported; bend radius maintained
Component check	Isolated 0.5 m probe resistance recorded
Channel check	Target, gap, geometry and response accepted

14 Confirm approval suitability

EE05 is the Multiple Approvals ordering selection. Read the actual supplied component marking, certificate conditions and installed circuit requirements. A shared mechanical interface or matching electrical length does not establish hazardous-area suitability.

Does the probe temperature limit of 330903-00-06-05-02-05 also cover its conditioner?

The probe operates and stores at -52 to +177 deg C. The Proximitor operates to +100 deg C and stores to +105 deg C. These are separate component limits, and sustained probe exposure below -34 deg C also requires pressure-seal assessment.

Related Bently Nevada monitoring portfolio

Bently Nevada 330104-00-24-50-02-00	Related component; verify full configuration
Bently Nevada 330104-00-13-10-01-CN	Related component; verify full configuration

Manufacturer references

3300 XL NSv Proximity Transducer System, 147385 Rev. R: component resistance and system performance p. 3; target geometry p. 4; materials and torque p. 5; engagement and temperature p. 6; probe and extension ordering pp. 11-13. Site checks organize these facts for the installed machine procedure.

Connect with ApterPower
Phone: +86 180 3023 5313
Email: sales13@apterpower.com
www.apterpower.com