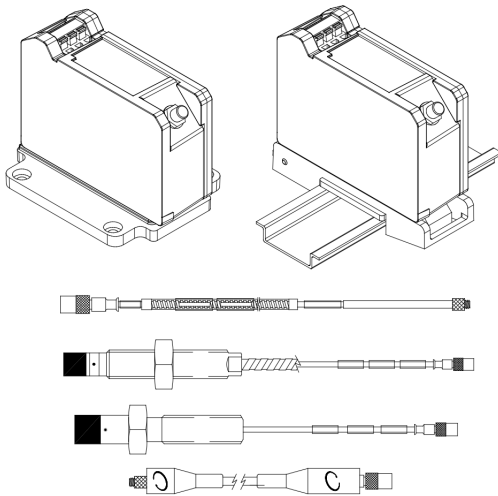


3300 XL NSv Proximity Transducer System

Datasheet

Bently Nevada Machinery Condition Monitoring

147385 Rev. K



Description

The 3300 XL NSv Proximity Transducer system is intended for use with centrifugal air compressors, refrigeration compressors, process gas compressors and other machines with tight installation requirements. The 3300 XL NSv Proximity Transducer System consists of:

- a 3300 NSv probe
- a 3300 NSv extension cable
- a 3300 XL NSv Proximitor Sensor⁽¹⁾

The primary uses for the 3300 XL NSv Transducer System are for areas where counter bore, sideview or rearview restrictions limit the use of standard Bently Nevada 3300 and 3300 XL 5 and 8 mm Transducer Systems. It is also ideal for small target applications, such as measuring radial vibration on shafts smaller than 51 mm (2 in) or axial position on flat targets smaller than 15 mm (0.6 in). It is primarily used in the following applications on fluid-filled bearing machines where a small shaft or reduced side-view is present:

- Radial vibration and radial position measurements
- Axial (thrust) position measurements
- Tachometer and zero speed measurements
- Phase reference (Keyphasor signals)

The 3300 XL NSv Transducer System design allows it to replace both the 3300 RAM Transducer Systems and the 3000-series or 7000-series 190 Transducer System. Upgrades from the 3300 RAM system to the 3300 XL NSv system may use the existing probe, extension cable, and monitoring system with 3300 XL NSv Proximitor Sensor. Upgrades from the 3000-series or 7000-series Transducer System must replace the probe, extension cable and Proximitor Sensor with NSv components.

The 3300 XL NSv Transducer System has an Average Scale Factor of 7.87 V/mm (200 mV/mil), which is the most common output for eddy current transducers. Its enhanced side-view and small target characteristics give it a shorter linear range than the Bently Nevada 3300 XL-series 5 and 8 mm Transducer System. With The 1.5 mm (60 mils) of linear range exceeds the linear range of the 3000-series 190 Transducer System.



Although the terminals and connector on the Proximator Sensor have protection against electrostatic discharge, take reasonable precautions to avoid electrostatic discharge during handling.

Proximator Sensor

The 3300 XL NSv Proximator Sensor has similar features to those found in the 3300 XL 8 mm Proximator Sensor. Its thin design allows the user to mount it in either a high-density DIN-rail installation or a more traditional panel mount configuration. Improved RFI/EMI immunity allows the 3300 XL NSv Proximator Sensor to achieve European CE mark approvals without any special mounting considerations. This RFI immunity also prevents nearby high frequency radio signals from adversely affecting the transducer system. SpringLoc terminal strips on the Proximator Sensor require no special installation tools and facilitate faster, highly robust field wiring connections.

Proximity Probe and Extension Cable

The 3300 NSv probe and extension cable are mechanically and electrically compatible and interchangeable with Bently Nevada's previous 3300 RAM proximity probe and extension cable. The NSv probe has increased chemical resistance compared to the 3300 RAM probe, which allows its use in many process compressor applications. The side-view characteristics of the 3300 NSv probe are also superior to those of the 3000-series 190 probe when gapping the 3300 NSv probe at the same distance from the probe target.

The 3300 NSv probe comes in varying probe case configurations, including armored and unarmored ¼ -28, 3/8 -24, M8 X 1 and M10 X 1 probe threads. The reverse mount 3300 NSv probe comes standard with either 3/8 -24 or M10 X 1 threads. All components of the transducer system have gold-plated brass ClickLocconnectors. ClickLoc connectors lock into place and prevent the connection from loosening. The patented TipLocmolding method provides a robust bond between the probe tip and the probe body. Bently Nevada's patented CableLocdesign provides 220 N (50 lb) of pull strength and securely attaches the probe cable to the probe tip. Connector protectors are recommended for use on the probe-to-extension cable connection, as well as on the cable-to-Proximator Sensor connection. Connector protectors prevent most liquids from entering into the ClickLoc connectors and adversely affecting the electrical signal(2).

Notes:

(1) ProximatorSensors are supplied by default from the factory calibrated to AISI 4140 steel. Calibration to other target materials is available upon request.

(2) Silicone tape is also provided with each 3300 NSv extension cable and can be used instead of connector protectors. Silicone tape is not recommended in applications where the probe-to-extension cable connection will be exposed to turbine oil.

Ordering Information



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from Bently.com.

3300 NSv Proximity Probes

330901 3300 NSv Probe, 1/4-28 UNF thread, without armor

330902 3300 NSv Probe, 1/4-28 UNF thread, with armor

330908 3300 NSv Probe, 3/8-24 UNF thread, without armor

330909 3300 NSv Probe, 3/8-24 UNF thread, with armor

Part Number-AA-BB-CC-DD-EE

A: Unthreaded Length Option



Unthreaded length must be at least 0.7 inch less than the case length.

Order in increments of 0.1 in

Length configurations:

Maximum unthreaded length: 9.2 in

Minimum unthreaded length: 0.0 in

Example: **0 4** = 0.4 in

B: Overall Case Length Option

Order in increments of 0.1 in

Threaded length configurations:

Maximum case length: 9.9 in

Minimum case length: 0.8 in

Example: **2 4** = 2.4 in

C: Total Length Option

0 5 0.5 metre (20 in)

1 0 1.0 metre (39 in)

5 0 5.0 metres (16.4 feet)

7 0 7.0 metres (23.0 feet)

D: Connector and Cable-Type Option

0 1 Miniature coaxial ClickLoc connector with connector protector, standard cable

0 2 Miniature coaxial ClickLoc connector, standard cable

1 1 Miniature coaxial ClickLoc connector with connector protector, FluidLoc cable

1 2 Miniature coaxial ClickLoc connector, FluidLoc cable

E: Agency Approval Option

0 0 Not required

0 5 Multiple Approvals

3300 NSv Proximity Probes, Metric

330903 3300 NSv Probe, M8 x 1 thread, without armor

330904 3300 NSv Probe, M8 x 1 thread, with armor

330905 3300 NSv Probe, M10 x 1 thread, without armor

330910 3300 NSv Probe, M10 x 1 thread, with armor

Part Number-AA-BB-CC-DD-EE

A: Unthreaded Length Option



Unthreaded length must be at least 20 mm less than the case length.

Order in increments of 10 mm.

Length configuration:

Maximum unthreaded length:

230 mm

Minimum unthreaded length:

0 mm

Example:

0 6 = 60 mm

B: Overall Case Length Option

Order in increments of 10 mm.

Metric thread configurations:

Maximum length: 250 mm

Minimum length: 20 mm

Example: **0 6** = 60 mm

C: Total Length Option

0 5 0.5 metre (20 in)

1 0 1.0 metre (39 in)

5 0 5.0 metres (16.4 feet)

7 0 7.0 metres (23.0 feet)

D: Connector and Cable-Type Option

0 1 Miniature coaxial ClickLoc connector with connector protector, standard cable