

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

BENTLY NEVADA

330703-000-090-50-02-00

3300 XL 11 MM METRIC PROXIMITY PROBE

Used with the applicable 3300 XL 11 mm system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official pages follow this cover with source pagination retained.

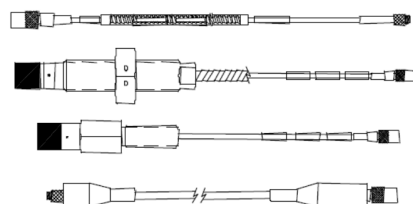
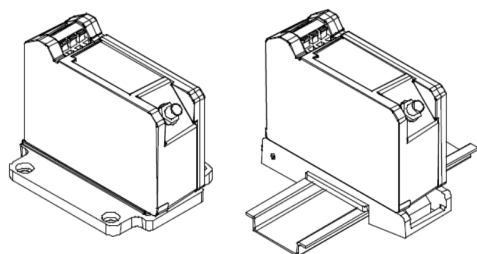
146256 Rev. T

3300 XL 11 mm Proximity Transducer System

Datasheet

Cordant™

146256 Rev. T



Description

Transducer System

The Bently Nevada™ 3300 XL 11 mm Proximity Transducer System consists of:

- 3300 XL 11 mm probe
- 3300 XL 11 mm extension cable
- 3300 XL 11 mm Proximitor Sensor¹

The 3300 XL 11 mm Proximity Transducer System has a 3.94 V/mm (100 mV/mil) output for non-contacting vibration and displacement measurements on fluid film bearing machines. The large 11 mm tip enables this transducer system to have a longer linear range compared to our standard 3300 XL 8 mm Transducer System. It is primarily used in the following applications where the longer linear range is necessary:

- Axial (thrust) position measurements
- Ramp differential expansion measurements on steam turbines
- Rod position or rod drop measurements on reciprocating compressors
- Tachometer and zero speed measurements
- Phase reference (Keyphasor) signals

The 3300 XL 11 mm Proximitor Sensor is designed to replace the 7200-series 11 mm and 14 mm Transducer Systems. When upgrading from the 7200-series system to the 3300 XL 11 mm system, every component must be replaced with 3300 XL 11 mm components. In addition, the monitoring system must be updated. If using a 3500 Monitoring System, an updated version of the configuration software that lists the 3300 XL 11 mm Transducer System as a compatible option is required.



Existing 3300 Monitoring Systems may need a modification. Contact your local sales and service representative for assistance.



The 3300 XL 11 mm Proximity Transducer is designed for measuring position or vibration within a frequency range of 0 to 8 kHz. Typical applications of this system include radial vibration and position, axial position and Keyphasor measurements.

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

Proximitor Sensor

The 3300 XL 11 mm Proximitor Sensor has the same advanced features found in the 3300 XL 8 mm Proximitor Sensor. Its thin design allows it to be mounted in either a high-density DIN-rail installation or a more traditional panel mount configuration. Improved RFI/EMI immunity allows the 3300 XL Proximitor Sensor to achieve European CE mark approvals without any special mounting considerations. This RFI immunity also prevents the transducer system from being adversely affected by nearby high frequency radio signals. SpringLoc terminal strips on the Proximitor Sensor require no special installation tools and facilitate faster, highly robust field wiring connections.

Proximity Probe and Extension Cable

The 3300 XL 11 mm probe comes in varying probe case configurations, including armored and unarmored $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, M14 X 1.5 and M16 X 1.5 probe threads. The reverse mount 3300 XL 11 mm probe comes standard with either $\frac{3}{8}$ -24 or M10 X 1 threads. All components of the transducer system have gold-plated brass ClickLoc connectors. ClickLoc connectors lock into place, preventing the connection from becoming loose. The patented TipLoc molding method provides a robust bond between the probe tip and the probe body. The probe cable

is securely attached to the probe tip utilizing our patented CableLoc design that provides 330 N (75 lb) pull strength.

3300 XL Probes and Extension Cables can also be ordered with a FluidLoc cable option. This option prevents oil and other liquids from leaking out of the machine through the cable's interior. The connector protector option provides additional protection of the connectors in a humid or moist environment. Connector protectors are recommended for all installations and provide increased environmental protection². Additionally, the 3300 XL 11 mm probe comes standard with a locknut with pre-drilled safety wire holes.

Notes:

1. Proximitor Sensors 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 XL 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 \(108M1756\)](#).

For additional technical documentation, please log in to bntechsupport.com and access the Bently Nevada Media Library.

3300 XL 11 mm Proximity Probes

330701 3300 XL 11 mm Probe, 1/2-20 UNF thread, without armor

330702 3300 XL 11 mm Probe, 1/2-20 UNF thread, with armor

330707 3300 XL 11 mm Probe, 5/8-18 UNF thread, without armor

330708 3300 XL 11 mm Probe, 5/8-18 UNF thread, with armor

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

A: Unthreaded Length Option



Unthreaded length must be at least 1.0 inch less than the case length.

Order in increments of 0.1 in
Length configurations:

Maximum unthreaded length:
8.9 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: 1.0 in

Example: **2 4** = 2.4 in

C: Total Length Option

10	1.0 meter (3.3 feet)
50	5.0 meters (16.4 feet)
90	9.0 meters (29.5 feet)



Five meter probes are designed for use with the five meter Proximitor Sensor only.

D: Connector and Cable-Type Option

01	Miniature coaxial ClickLoc connector with connector protector, standard cable
02	Miniature coaxial ClickLoc connector, standard cable
11	Miniature coaxial ClickLoc connector with connector protector, FluidLoc cable
12	Miniature coaxial ClickLoc connector, FluidLoc cable

E: Agency Approval Option

00	Not required
05	Multiple Approvals

3300 XL 11 mm Proximity Probes, Metric

330703 3300 XL 11 mm Probe, M14 x 1.5 thread, without armor

330704 3300 XL 11 mm Probe, M14 x 1.5 thread, with armor

330709 3300 XL 11 mm Probe, M16 x 1.5 thread, without armor

330710 3300 XL 11 mm Probe, M16 x 1.5 thread, with armor

Part Number-AAA-BBB-CC-DD-EE

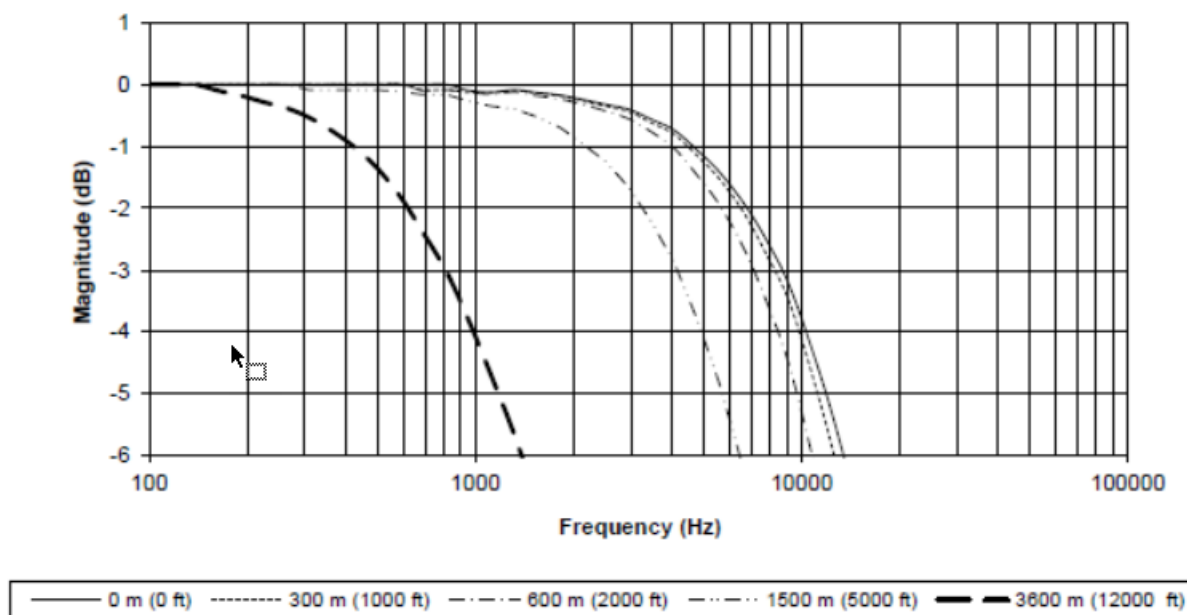


Figure 9: Frequency Response, magnitude of typical 3300 XL 11 mm System
with various lengths of field wiring, no barriers

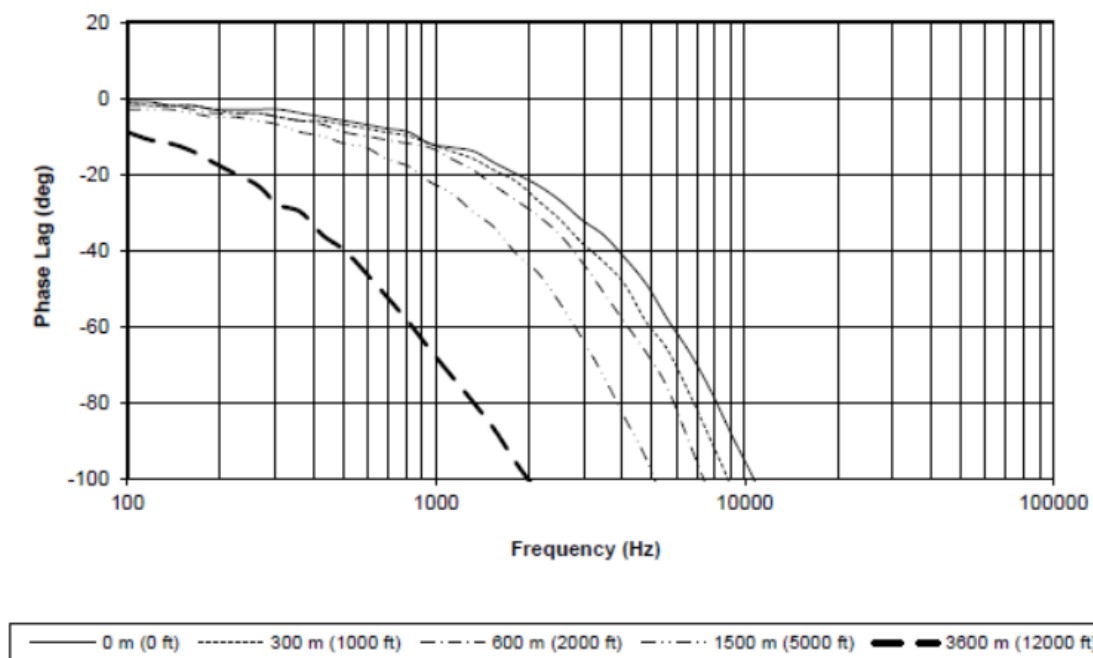


Figure 10: Frequency Response, phase change of typical 3300 XL 11 mm System
with various lengths of field wiring, no barriers