

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

BENTLY NEVADA

144181-51-05

3300 XL PROXIMITOR SENSOR

Used with the applicable 3300 5 mm Transducer System system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official pages follow this cover with source pagination retained.

172036 Rev. T

3300 5 mm Transducer System

Datasheet

Cordant™

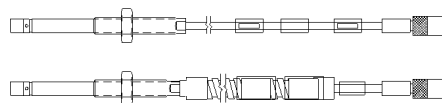
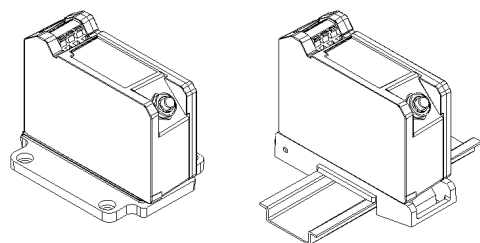
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Description

Transducer System

The 3300 5 mm Proximity Transducer System consists of:

- a 3300 5 mm probe ^{1, 2}
- a 3300 XL extension cable (ref 141194-01)
- a 3300 XL Proximitor Sensor ^{3, 4, 5} (ref 141194-01)



When combined with a 3300 XL Proximitor Sensor and XL extension cable, the system provides an output voltage that is directly proportional to the distance between the probe tip and the observed conductive surface. The system can measure both static (position) and dynamic (vibration) data. Its primary use is in vibration and position measurement applications on fluid-film bearing machines, as well as Keyphasor measurement and speed measurement applications⁶.

The system provides an accurate, stable signal output over a wide temperature range. All 3300 XL Proximity Transducer Systems achieve this level of performance with complete interchangeability of probe, extension cable, and Proximitor sensor, eliminating the need for individual component matching or bench calibration.

Proximity Probe

The 3300 5 mm probe improves upon previous designs. A patented TipLoc molding method provides a more robust bond between the probe tip and the probe body. The 3300 5 mm system is orderable with Fluidloc cable options for preventing oil and other liquids from leaking out of the machine through the cable's interior.



Baker Hughes 

5mm Probe Tensile Strength	222 N (50 lbf) probe case to probe lead. 222 N (50 lbf) probe lead to extension cable connectors
Connector material	Gold-plated brass or gold-plated beryllium copper
Probe case torque	5.1 N·m (45 in·lb) recommended 7.3 N·m (65 in·lb) maximum
Connector-to-connector torque	Refer to the table below: Recommended Torque
Maximum torque	0.565 N·m (0.42 ft·lbf)
Minimum Cable Bend Radius	25.4 mm (1.0 in)

Weight

Total System	0.71 kg (1.6 lb), typical
3300 5mm Probe	323 g (11.39 oz).
XL Extension Cable	34 g/m (0.4 oz/ft) 103 g/m (1.5 oz/ft) (armored)
XL Proximity Sensor	246 g (8.7 oz)

Recommended Torque

Connector Type	Tightening Instructions
2 3300 XL gold "click" type connectors	Finger tight
1 non-XL stainless steel connector and 1 3300 XL connector	Finger tight plus 1/8 turn using pliers

Thread Engagement Limits

Probe Case Thread	Maximum Length of Thread Engagement
1/4-28	0.375 in
M8x1	12 mm



Maximum thread engagement lengths are per the industry standard of 1.5 times the nominal thread diameter. A fit class matching that of the external probe thread is assumed for all internal threads. Applications with thread engagement lengths exceeding the values in the table above may exhibit binding during installation. Contact your Bently Nevada representative if you require probe thread engagement lengths exceeding the values above. Bently Nevada does not replace proximity probes under warranty due to excessive thread engagement lengths.



When drilling and tapping a mounting hole **for a 1/4-28 probe**, a **#3 or larger tap drill** is recommended.

Environmental Limits

Probe Temperature Range	-35°C to +177°C (-31°F to +351°F)
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Exposing the probe to temperatures below -34°C (-30°F) may cause premature failure of the pressure seal.

Extension Cable Temperature Range	-51°C to +177°C (-60°F to +351°F) for standard extension cable. ref 141194-01
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Probe Pressure

3300 5mm probes are designed to seal differential pressure between the probe tip and case. The probe sealing material consists of a fluorocarbon O-ring. We do not pressure test probes prior to shipment. Contact our custom design department if a test of the pressure seal for your application is required.



It is the responsibility of the customer or user to ensure that all liquids and gases are contained and safely controlled should a proximity probe leak. In addition, solutions with high or low pH values may erode the tip assembly of the probe causing media to leak into surrounding areas. Bently Nevada does not be held responsible for any damages resulting from leaking 3300 5 mm proximity probes. In addition, Bently Nevada does not replace 3300 5 mm proximity probes under the service plan due to probe leakage.

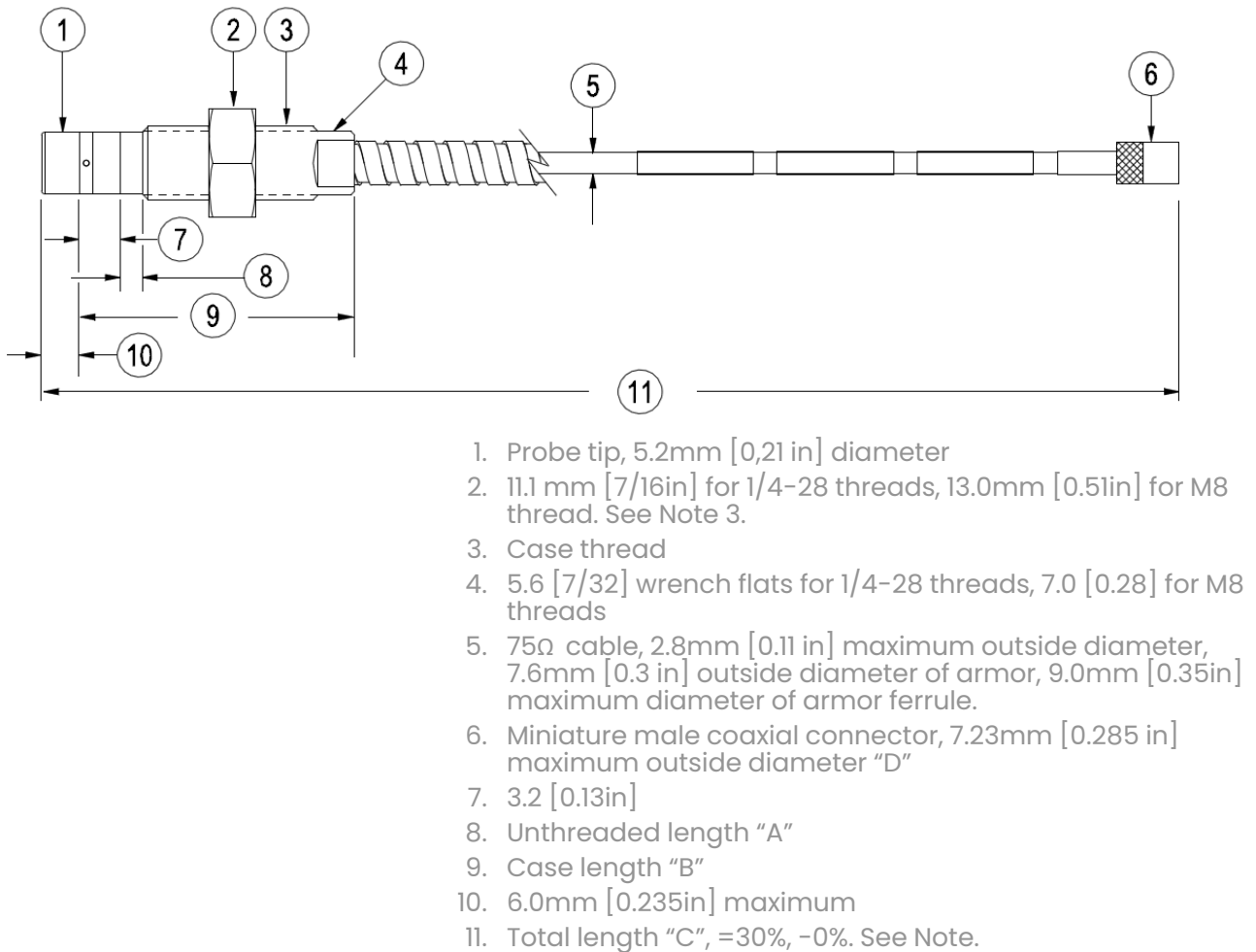


Figure 3: 3300 5mm Proximity Probes, Standard Mount3

330171, 1/4-28 UNF-2A, without armor⁷

330172, 1/4-28 UNF-2A, with armor⁶

330173, M8X1 thread, without armor⁷

330174, M8X1 thread, with armor⁶