

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

BENTLY NEVADA

330851-04-000-040-10-01-00

SELECTED MANUFACTURER TECHNICAL REFERENCE

Used with the applicable Bently Nevada 3300 XL 25 mm Proximity Transducer System Datasheet 163236 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Bently Nevada 3300 XL 25 mm Proximity Transducer System Datasheet 163236

Specifications

Unless otherwise noted, the following specifications are for a 3300 XL 25 mm Proximitor Sensor, extension cable and probe between 0°C and +45°C (+32°F to +113°F) at a maximum altitude of 2000m, with a -24 Vdc power supply, a 10 k Ω load, a Bently Nevada supplied AISI 4140 steel target that is 61 mm (2.4 in) diameter or larger, and a probe gap of 7.0 mm (275 mils). The system accuracy and interchangeability specifications do not apply when using a transducer system calibrated to any target other than a Bently Nevada AISI 4140 steel target.

Electrical

Proximitor Sensor Input	Accepts one noncontacting 3300 XL 25 mm Proximity Probe and Extension Cable.
Power	Requires -17.5 Vdc to -26 Vdc without barriers at 12 mA maximum consumption, -23 Vdc to -26 Vdc with barriers. Operation at a more positive voltage than -23.5 Vdc can result in reduced linear range.
Supply Sensitivity	Less than 2 mV change in output voltage per volt change in input voltage.
Output resistance	50 Ω

Probe dc Resistance

Probe Length (m)	Resistance from the Center Conductor to the Outer Conductor (R_{PROBE}) (ohms)
1.0	6.2 $\pm$ 0.5
5.0	7.5 $\pm$ 0.8
9.0	8.8 $\pm$ 1.1

Extension Cable dc Resistance

Length of Extension Cable (m)	Resistance from Center Conductor to Center Conductor (R_{CORE}) (ohms)	Resistance from Coaxial Conductor to Coaxial Conductor (R_{JACKET}) (ohms)
4.0	1.0 $\pm$ 0.25	0.3 $\pm$ 0.1
8.0	2.0 $\pm$ 0.5	0.6 $\pm$ 0.2

Extension cable capacitance	69.9 pF/m (21.3 pF/ft) typical
Field wiring	0.2 to 1.5 mm ² (16 to 24 AWG) [0.25 to 0.75 mm ² (18 to 23 AWG) with ferrules]. Recommend using three-conductor shielded triad cable. Maximum length of 305 metres (1,000 feet) between the 3300 XL Proximitor Sensor and the monitor. See the frequency response graph for signal rolloff at high frequencies when using longer field wiring lengths.
Linear Range	12.7 mm (500 mils). Linear range begins at approximately 0.63 mm (25 mils) from target and is from 0.63 to 13.33 mm (25 to 525 mils) (approximately -1.5 to -11.5 Vdc).
Average Scale Factor (ASF)	0.787 V/mm (20 mV/mil) nominal
Deviation from best fit straight line (DSL)	Less than $\pm$ 0.31 mm ($\pm$ 12 mils)

System performance over extended temperatures	Over a probe temperature range of -35°C to +120°C (-31°F to +248°F) with the Proximitor Sensor and extension cable between 0°C to +45°C (+32°F to +113°F), the DSL remains within ±0.92 mm (±36 mils). Over a Proximitor Sensor and extension cable temperature range of -35°C to +65°C (-31°F to +149°F) with the probe between 0°C to +45°C (+32°F to +113°F), the DSL remains within ±0.92 mm (±36 mils).
Frequency Response	0 to 2.7 kHz: +0, -3 dB typical, with up to 305 metres (1000 feet) of field wiring.
Recommended Minimum Target Size	61 mm (2.4 in) diameter (flat target)

Effects of 60 Hz Magnetic Fields Up to 300 Gauss (5 metre system)

Output voltage in mil pp/gauss

Gap	Proximitor Sensor	Probe	Ext. Cable
0.6 mm (25 mil)	0.224	0.008	0.002
7.0 mm (275 mil)	0.223	0.033	0.004
13.3 mm (525 mil)	0.225	0.076	0.023
Electrical Classification		Complies with the European CE mark.	

Mechanical

Probe Tip Material	Polyetheretherketone (PEEK).
Probe Case Material	AISI 304 stainless steel (SST).
Probe Cable Specifications	75 Ω triaxial, perfluoroalkoxyethylene (PFA) insulated FluidLoc probe cable in the following total probe lengths: 1, 5 or 9 metres.
Extension Cable Material	75 Ω triaxial, perfluoroalkoxyethylene (PFA) insulated FluidLoc cable.
Proximitor Sensor Material	A380 aluminum
Sliding Bracket Material	Anodized aluminum and stainless steel

Sliding Bracket Adjustment Range

Short bracket horizontal	±25.4 mm (±1.0 in)
Long bracket horizontal	±76.2 mm (±3.0 in)
Probe adapter vertical adjustment	25.4 mm (1.00 in) total travel
System Length	5 or 9 metres including extension cable
Probe and Extension Cable Armor (optional)	Flexible AISI 302 SST with PFA outer jacket.
Tensile Strength (maximum rated)	330 N (75 pounds) probe case to probe lead. 270 N (60 pounds) at probe lead to extension cable connectors.

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 25 mm Proximity Probe

330851-AA-BBB-CCC-DD-EE-FF

A: Probe Case Type Option

 Standard case types are options 01 through 04.

01	1 ¼ - 12 thread
02	M30x2 thread
03	Smooth 1.06 in dia. - Rear Exit
04	Smooth 1.06 in dia. - Side Exit
05	1 ½ - 12 thread
06	M39x1.5 thread
07	Smooth 1.5 in dia. - Rear Exit
08	Smooth 1.5 in dia. - Side Exit

B: Unthreaded Length Option

 Standard unthreaded length is 0.0 mm or 0.0 in. There is an additional charge for non-standard unthreaded lengths.

 Unthreaded length must be at least 26 mm or 1.0 in less than the case length. Unthreaded length option is 0.0 for smooth case probe types.

Metric Case Types Order in increments of 2 mm

Maximum Unthreaded Length	224 mm
Minimum Unthreaded Length	0 mm
Example	050 = 50 mm

English Case Types Order in increments of 0.1 in

Maximum Unthreaded Length	8.9 in
Minimum Unthreaded Length	0.0 in
Example	025 = 2.5 in

C: Overall Case Length Option

 Standard case lengths are 26, 40, 60, 80, 100 and 250 mm for Metric cases and 1.0, 2.0, 3.0, 4.0, and 9.9 in for English cases. There is an additional charge for non-standard lengths.

Metric Case Types Order in increments of 2 mm

Maximum Unthreaded Length	250 mm
Minimum Unthreaded Length	26 mm
Example	050 = 50 mm

**English and Smooth Case Types
Order in increments of 0.1 in**

Maximum Unthreaded Length	9.9 in
Minimum Unthreaded Length	1.0 in (1.5 in for side exit case types)
Example	020 = 2.0 in

D: Total Length Option

10	1.0 metre (3.3 feet)
50	5.0 metres (16.4 feet)
90	9.0 metres (29.5 feet)

 Five metre probes are designed for use with the five metre Proximity Sensor ONLY.

E: Armor Option

00	No Armor
01	with SST Armor

 When ordering SST Armor, the minimum probe length is 28 mm or 1.1 in

F: Agency Approval Option

00	No Approvals
05	Multiple Approvals



For a shorter delivery time, order commonly stocked multi-approvals probes.

Currently, stocked probes consist of the following part numbers:

330851-01-000-020-10-00-05
330851-01-000-030-10-00-05
330851-02-000-040-10-00-05
330851-02-000-080-10-00-05
330851-04-000-015-10-00-05
330851-04-000-020-10-00-05

3300 XL 25 mm Proximity Sensor

330850-AA-BB

A: Total Length and Mounting Option

5 0	5.0 metres (16.4 feet) system length, panel mount
5 1	5.0 metres (16.4 feet) system length, DIN mount
9 0	9.0 metres (29.5 feet) system length, panel mount
9 1	9.0 metres (29.5 feet) system length, DIN mount

B: Agency Approval Option

0 0	No Approvals
0 5	Multiple Approvals