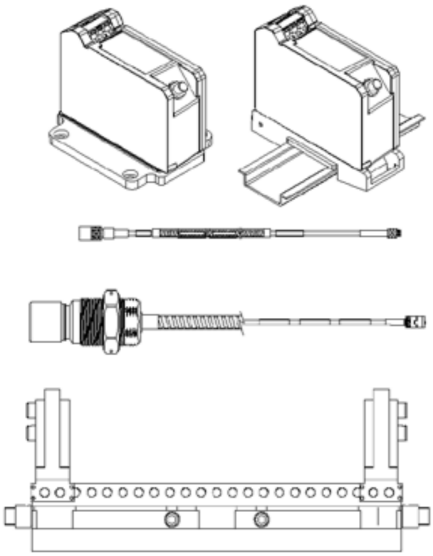
3300 XL Proximity Transducer System

Datasheet

Cordant™

163236 Rev. M



Description

The 3300 XL 25 mm Transducer System consists of a separate 25 mm probe, an extension cable, and a 3300 XL 25 mm Proximitor Sensor. The 0.787 V/mm (20 mV/mil) output gives this system a linear range of 12.7 mm (500 mils). Based on this linear range, the 3300 XL 25 mm Transducer System is suitable for measuring differential expansion (DE) on mid-size to large steam turbine generators caused by the difference in growth rates between the turbine rotor and the machine stator (casing).

Measuring Differential Expansion (DE)

The Differential Expansion measurement is made by two proximity transducers observing a collar or ramp some distance from the thrust bearing. Typical transducer mounting arrangements are:

- Two transducers observing the same side of a collar.
- Two complementary input transducers observing opposite sides of a collar, effectively doubling the measurable DE range.

Two transducers with at least one transducer viewing a ramp on a rotor and the second transducer viewing either a separate ramp or a different location on the rotor to compensate for radial movement. This arrangement adds some error to the measurement, but can measure a longer total DE distance than the complementary measurement.

The criteria for selecting a mounting method are the size of the available target, the expected amount of rotor axial movement and the type of DE target that exists in the machine (collar versus ramp). If sufficient collar height is available, two transducers observing the same side of a

Baker Hughes

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	
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

Standard case types are options 01 through 04.

B: Unthreaded Length Option	
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

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.

C: Overall Case Length Option	
Metric Case Types **Order in increments of 2 mm**	

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.

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 Proximitor 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 Proximitor 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

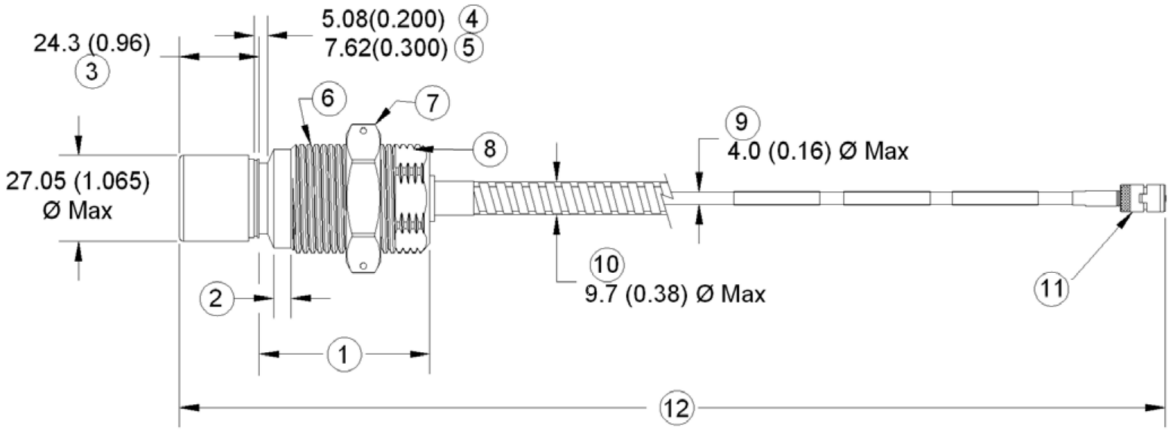


Figure 12: 330851, 3300 XL 25mm Proximity Probe, threaded Cases

1. Case Length
2. Unthreaded Length
3. Probe Tip
4. Case Options –01 and –02
5. Case Options –05 and –06
6. Case thread
7. Hex Nut w/Safety Wire Holes
8. Wrench Flats
9. 75 ohm FluidLoc Cable
10. Optional Stainless Steel Armor
11. Removable Nut Connector 5.3 (0.21) Diameter w/Nut Removed
12. Total Length +30%, -0% for 1m Probes and +20%, -0% for 5m and 9m Probes

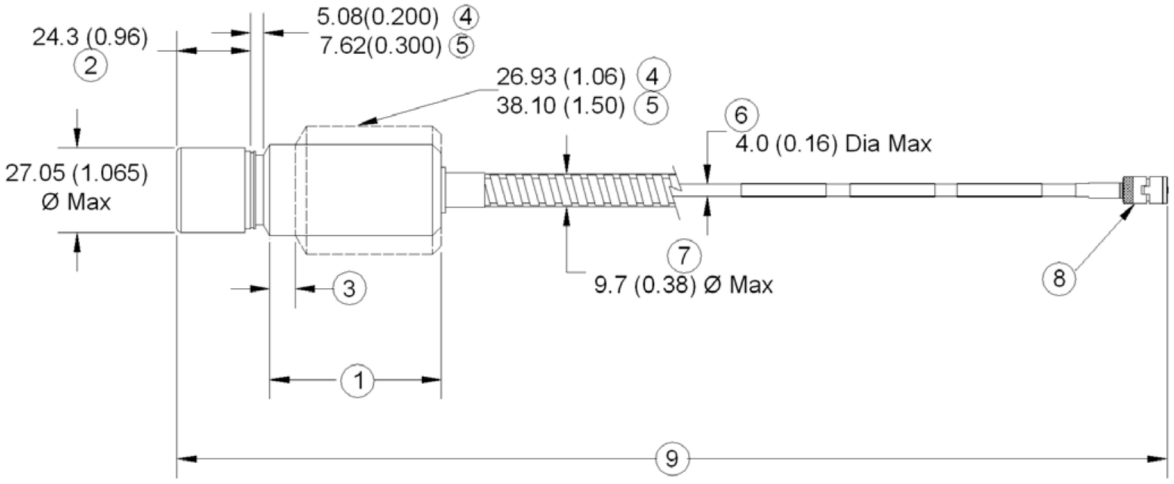


Figure 13: 330851, 3300 XL 25mm Proximity Probe, Smooth Cases

1. Case Length
2. Probe Tip
3. Case Option –07 only
4. Case Option –03 only
5. Case Option –07 only
6. 75 ohm FluidLoc Cable
7. Optional Stainless Steel Armor
8. Removable Nut Connector 5.3 (0.21) Diameter w/Nut Removed
9. Total Length +30%, -0% for 1m Probes and +20%, -0% for 5m and 9m Probes

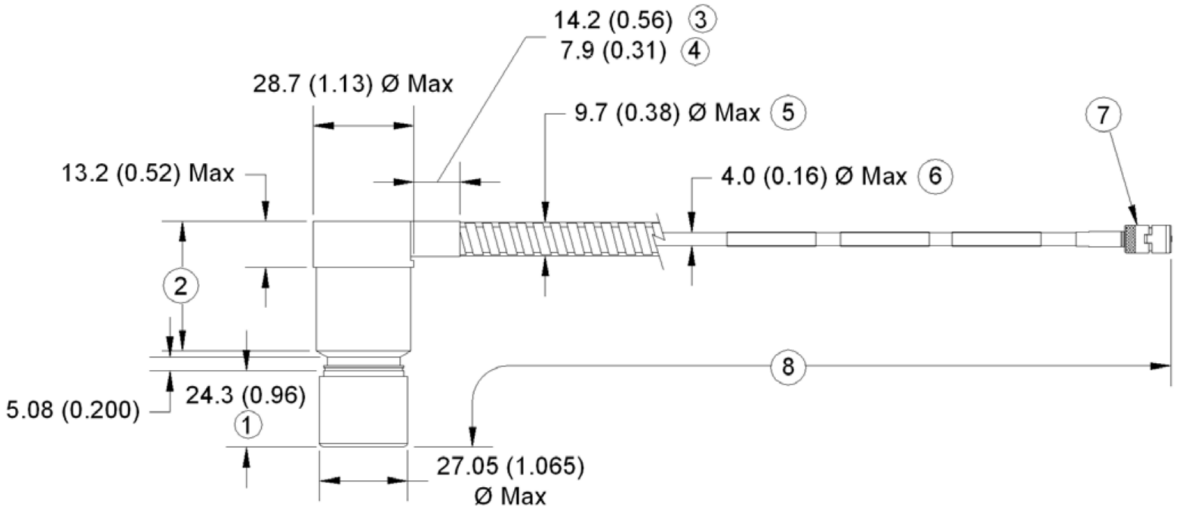


Figure 14: 330851, 3300 XL 25mm Proximity Probe, Smooth 1.06 in Dia. Side Exit Case

1. Probe Tip
2. Case Length
3. Dimension with SST Armor
4. Dimension without Armor
5. Optional Stainless Steel Armor
6. 75 ohm FluidLoc Cable
7. Removable Nut Connector 5.3 (0.21) Diameter w/Nut Removed
8. Total Length +30%, -0% for 1m Probes and +20%, -0% for 5m and 9m Probes

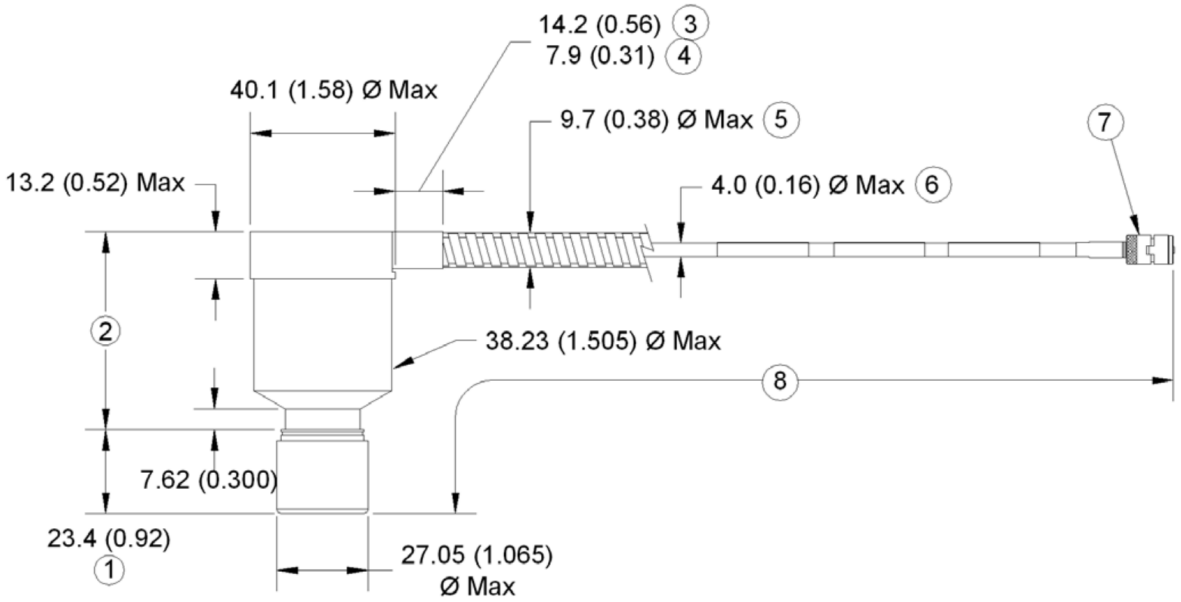


Figure 15: 330851, 3300 XL 25mm Proximity Probe, Smooth 1.50 in Dia. Side Exit Case

1. Probe Tip
2. Case Length
3. Dimension with SST Armor
4. Dimension without Armor
5. Optional Stainless Steel Armor
6. 75 ohm FluidLoc Cable
7. Removable Nut Connector 5.3 (0.21) Diameter w/Nut Removed
8. Total Length +30%, -0% for 1m Probes and +20%, -0% for 5m and 9m Probes

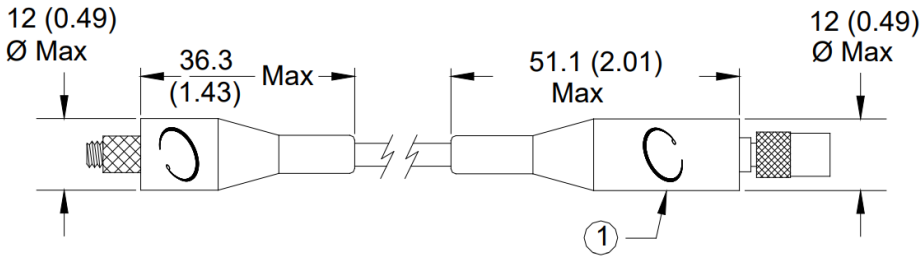


Figure 16: Installed Connector Protectors

1. Connector Protector (Fluorosilicone Material)