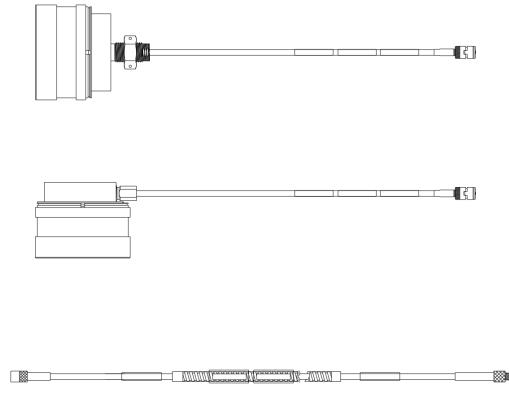


3300 XL 50 mm Proximity Transducer System

Datasheet

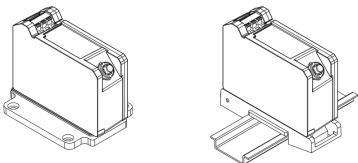
Cordant™

174014 Rev. L



Description

The 3300 XL 50 mm Transducer System consists of a separate 50 mm probe, an extension cable, and a 3300 XL 50 mm Proximity Sensor. The large diameter coil gives this system a maximum linear range of 27.9 mm (1100 mils), the longest linear range of our eddy current transducer line. This linear range makes the 3300 XL 50 mm Transducer System ideal for measuring the differential expansion (DE) or rotor expansion (RX) of large steam turbine generators that results from the difference in growth rates between the turbine rotor and the machine stator (casing).



Measuring Differential Expansion

The Differential Expansion measurement is made by using two proximity transducers that observe a collar or ramp some distance from the thrust bearing. Typical transducer mounting arrangements that require the 3300 XL 50 mm Transducer's long linear range include:

- 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.

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. If the collar height is sufficient and the required total measurement range is less than 27.9 mm 1.1 inches, the preferred configuration for redundant measurements is to use two transducers observing the same side of a collar. When 28 mm to 56 mm (1.1 to 2.2 inches) of total range are required, install the transducers in a complementary fashion



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 50 mm Proximity Probe

330876-AA-BB-CC-DD

A: Probe Case Type Option

0 1	1/2-20 Thread
0 2	M14x1.5 Thread
0 3	Smooth 1.99 in dia - Side Exit

B: Total Length Option

1 0	1.0 meter (3.3 feet)
5 0	5.0 meters (16.4 feet)
	9.0 meters (29.5 feet)
9 0	 Five meter probes are designed for use with the five meter Proximity Sensor only.

C: ArmorOption

0 0	High Temperature FluidLoc Cable
0 1	High Temperature FluidLoc Cable with Armor

D: Agency Approval Option

0 0	No Approvals
0 5	Multiple Approvals

3300 XL 50 mm Proximity Sensor

330878-AA-BB

A: Total Length and Mounting Option

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

B: Agency Approval Option

0 0	No Approvals
0 5	Multiple Approvals

3300 XL 50 mm Extension Cable

330877-AAA-BB-CC



Make sure that the extension cable length and the probe length, when added together, equal the Proximity Sensor total length.

A: Cable Length Option

0 4 0	4.0 meters (13.1 feet)
0 8 0	8.0 meters (26.2 feet)

B: Armor and Cable Option

3 6	FluidLoc cable
3 7	FluidLoc ext. cable w/ armor

C: Agency Approval Option

0 0	No Approvals
0 5	Multiple Approvals

Mounting Brackets

Each Sliding Mounting Bracket comes with:

- One sliding plate
- One base plate
- Sliding plate securing bolts with safety wire holes
- Lock washers



The material used for the mounting brackets is T6061-T6 aluminum. Base plate securing bolts are not provided; recommended bolt size is 3/8in or M8 socket head bolts.

3300 XL 50 mm Sliding Probe Bracket and Clamp

330879-AA-BB

A: Probe Clamp Style

0 1	Left Exit
0 2	Right Exit
0 3	Two clamps (used for CIDE applications) ¹

B: DE Mounting Bracket

0 0	No Mounting Bracket; Clamp Only (4)
0 1	Single DE Mounting Bracket (2)
0 2	Short CIDE Mounting Bracket (3)
0 3	Long CIDE Mounting Bracket (3)



This bracket is recommended for most installations. While any probe may be used, the smooth side exit probe is most often used with this bracket.

- (1) When ordering two clamps, one right exit and one left exit clamp will be provided so that the cables exit from the same side of the CIDE bracket.
- (2) The B01 probe mounting bracket option is only available with the A01 or A02 probe clamp style options.
- (3) The B02 and B03 probe mounting bracket options are only available with the A03 probe clamp style options.
- (4) When replacing 50 mm DE 130713, part number 330879-AA-00 should be ordered. Ordering with BB=00 will prevent unnecessary parts from being ordered with the clamp.

Sliding Mounting Brackets without clamps

131071-01	Single Transducer Mounting Bracket
131030-01	Short Complementary Input Differential Expansion (CIDE) Mounting Bracket
131031-01	Long Complementary Input Differential Expansion (CIDE) Mounting Bracket

Non-sliding Mounting Brackets

167285	Kit, 50 mm Clamp Mount (used with smooth-case side exit or threaded straight exit probes).
167286	Kit, 50 mm Bolt Mount (used only with smooth-case side exit probes).

Verification Kits

Each verification kit comes with:

- a verification kit bracket
- a spindle micrometer with either a 0 to 2 in. or 0 to 50 mm range
- two set screws
- a bracket securing bolt

The material used for the verification kit bracket is T6061-T6 aluminum.

131036-01	Verification Kit, Spindle Micrometer with English Units
131036-02	Verification Kit, Spindle Micrometer with Metric Units

Accessories

173959	3300 XL 50mm User Guide
148722-01	<p>3300 XL Test Plug. The 3300 XL Test Plug has three self-contained test pins attached to three color-coded wires 1 meter in length, each terminated in a banana plug. The three-pin adapter plugs into the test pin holes on 3300 XL-style Proximititor Sensors. It is used to check the performance of the Proximititor Sensor from the test pin holes in the terminal strip without requiring the removal of the field wiring.</p>

Extended Range Micrometer Kit

The extended range micrometer kit contains a precision micrometer and a 100 mm (4 inch) AISI 4140 target and is intended for acceptance testing of Bently Nevada extended range transducers. Bracket options are available to hold 8mm – 50mm probes as well as the 50 mm Integral DE transducer.

330187-AA-BB

A: Probe options

0 1	8 mm to 50 mm probe threaded or smooth cases
0 3	8 mm to 50 mm probe threaded or smooth cases and an adapter for 50 mm Integral DE probes

B: Micrometer Option

0 1	Standard English 0-2 inch micrometer
0 2	Standard metric 0-50 mm micrometer