

APTER POWER PRODUCT MANUAL

330876-01-10-00-00

Bently Nevada 3300 XL 50 mm proximity probe

The 330876-01-10-00-00 is a Bently Nevada 3300 XL 50 mm non-contacting eddy-current proximity probe with a 1/2-20 threaded straight-exit case, a 1.0 m high-temperature FluidLoc cable without armor, and no agency approval option.

With a 4.0 m 330877 extension cable and a 5.0 m 330878 Proximitar Sensor, it forms the 50 mm system that measures large axial displacement. Its 27.9 mm linear range is intended principally for differential expansion or rotor expansion on large steam turbine-generators, using one or two probes aimed at a collar or ramp target.

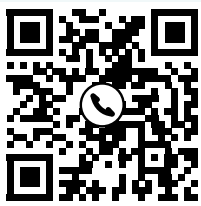
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|--------------|---------------------------------------|
| Manufacturer | Bently Nevada                         |
| Prepared by  | Apter Power                           |
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| Revision     | R1                                    |
| Issue date   | 2026-08-20                            |

APTER POWER SALES TEAM

INDUSTRIAL AUTOMATION PRODUCT SUPPORT

One-metre probe. Twenty-seven-point-nine millimetres of expansion range.

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SCAN FOR PRODUCT & QUOTE

330876-01-10-00-00

# 1. Product Overview and Identity

The 330876-01-10-00-00 is a Bently Nevada 3300 XL 50 mm non-contacting eddy-current proximity probe with a 1/2-20 threaded straight-exit case, a 1.0 m high-temperature FluidLoc cable without armor, and no agency approval option.

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## Model Configuration

| Code   | Official configuration                         |
|--------|------------------------------------------------|
| 330876 | 3300 XL 50 mm proximity probe.                 |
| 01     | 1/2-20 threaded straight-exit case.            |
| 10     | 1.0 m total probe length.                      |
| 00     | High-temperature FluidLoc cable without armor. |
| 00     | No agency approvals ordered.                   |

## Key Features

- The 1.0 m probe combines with a 4.0 m extension cable to form the required 5.0 m electrical system.
- The 27.9 mm linear range supports large differential-expansion measurements.
- Front and rear seals plus FluidLoc cable resist moisture entry at demanding turbine locations.
- The straight-exit 1/2-20 case uses a locknut with safety-wire holes.

## 2. Technical Specifications

Only manufacturer-published information is stated. A value absent for the exact complete suffix is identified rather than inferred.

| Parameter                       | Verified value                                            |
|---------------------------------|-----------------------------------------------------------|
| Product Type                    | 3300 XL 50 mm proximity probe                             |
| Case Type                       | 1/2-20 threaded straight exit                             |
| Total Probe Length              | 1.0 m (3.3 ft)                                            |
| Cable                           | High-temperature 75 ohm triaxial PFA FluidLoc, no armor   |
| Approval Option                 | 00 - no approvals                                         |
| Probe Case Diameter             | 62.2 mm (2.45 in) maximum for straight-exit case          |
| Matched-System Linear Range     | 27.9 mm (1100 mil)                                        |
| Linear Region                   | Approximately 1.3 to 29.2 mm gap                          |
| Nominal Average Scale Factor    | 394 mV/mm (10 mV/mil)                                     |
| Recommended Minimum Flat Target | 102 mm (4.0 in) diameter                                  |
| Probe DC Resistance             | 6.4 +/-0.5 ohm for 1.0 m probe                            |
| Probe Tip Material              | Polyphenylene sulfide (PPS)                               |
| Probe Case Material             | AISI 304 stainless steel                                  |
| Minimum Cable Bend Radius       | 25.4 mm (1.0 in)                                          |
| Maximum Thread Engagement       | 0.750 in for 1/2-20                                       |
| Probe Temperature               | -35 C to +200 C continuous; +250 C for less than 24 hours |
| Published Exact Probe Weight    | Not separately published                                  |

### Verification Note

Use only a matched 1 m probe plus 4 m extension plus 5 m sensor. Verify 1/2-20 engagement, target and collar geometry, full axial travel, cable protection, and option-00 status.

## 3. Functions, Applications and Components

### Core Functions

- Measures large non-contacting axial displacement against a collar or ramp target.
- Supports differential-expansion measurement between turbine rotor and casing.
- Supports rotor-expansion measurement with a suitable long-range monitor channel.
- Provides a proportional voltage through the matched 330878 Proximitor Sensor.

### Application Areas

| Application                          | System role                                                                                                 |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Steam Turbine Differential Expansion | Measures rotor-to-casing growth differences over a long linear range.                                       |
| Rotor Expansion                      | Tracks large axial growth of turbine-generator rotors.                                                      |
| Collar Targets                       | Supports one or two probes observing the same side of a collar.                                             |
| Complementary Input DE               | Two probes on opposite sides can extend the total measurable range.                                         |
| High-Temperature Interiors           | The probe and FluidLoc cable tolerate elevated turbine-case temperatures.                                   |
| Legacy 7200 Upgrades                 | The 3300 XL 50 mm family can replace prior 7200 50 mm systems only when every system component is replaced. |

### Compatible Components

- One 4.0 m 330877-040 extension cable so the probe plus cable equals the 5.0 m system length.
- One 5.0 m 330878-50 or 330878-51 Proximitor Sensor with the approval option appropriate to the installation.
- A 102 mm or larger AISI 4140 flat target for published performance conditions.
- A Bently Nevada monitor channel configured for 394 mV/mm (10 mV/mil) 50 mm-system output.

### Lifecycle Status

Baker Hughes currently publishes Datasheet 174014 Rev. L and lists every ordering option used in 330876-01-10-00-00. No separate lifecycle phase is published for this suffix.

## 4. Installation Precautions

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- Use a 4.0 m 330877 extension cable and 5.0 m 330878 sensor; do not mix 5 m and 9 m components.
- Limit 1/2-20 thread engagement to 0.750 in and follow the official mounting, locknut, and safety-wire instructions.
- Maintain a 25.4 mm cable bend radius and keep every ClickLoc connection clean, protected, and free of mechanical load.
- Verify the 102 mm target, collar height, expected axial movement, mounting geometry, and full-range movement before commissioning.
- Do not infer hazardous-area approval: final option 00 orders no agency approval.

STOP - Verify before installation

Use only a matched 1 m probe plus 4 m extension plus 5 m sensor. Verify 1/2-20 engagement, target and collar geometry, full axial travel, cable protection, and option-00 status.

Use the physical nameplate and current Bently Nevada documents as the controlling records.

## 5. Official Source and Use Notice

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### Official source

Baker Hughes / Bently Nevada 3300 XL 50 mm Proximity Transducer System Datasheet 174014 Rev. L - <https://dam.bakerhughes.com/m/8164bf26bda9534/original/3300-XL-50mm-Proximity-Transducer-System-Datasheet-174014-pdf.pdf>

### Apter Power product page

<https://www.apterpower.com/Bently-Nevada/330876-01-10-00-00>

### Use Notice

This original Apter Power product-specific reference is prepared from the named Bently Nevada source. It is not a Bently Nevada publication and does not replace the original datasheet, nameplate, certificate, installation drawing, safety instructions, or machine-builder documentation.

### ASK FOR QUOTE

For availability and quotation details, visit [www.apterpower.com](http://www.apterpower.com) or contact [sales13@apterpower.com](mailto:sales13@apterpower.com).