Bently Nevada 330851-02-000-030-10-00-00

01 Function and selected configuration

Product function

Bently Nevada 330851-02-000-030-10-00-00 supports non-contact observation of rotor growth relative to the turbine casing. The compact threaded case places the sensing face close to a turbine differential-expansion target, while its short lead connects into a separately matched extension-cable chain.

Selected configuration

The M30×2 probe has a 30 mm overall case length, a zero unthreaded-length selection and a 1.0 m total lead. The selected 00 armor option uses an unarmored lead. PEEK forms the probe tip, AISI 304 stainless steel forms the case, and the 75 Ω triaxial FluidLoc cable uses PFA insulation.

Functional path

Rotor collar / ramp	1.0 m 25 mm probe	Matched cable / Proximitor	DE monitor channel

Case interface	M30×2 threaded construction
Integral lead	1.0 m unarmored FluidLoc cable
Matched-system output	0.787 V/mm nominal

The 1 m probe lead combines with the appropriate 4 m or 8 m extension cable to form a 5 m or 9 m system using the matching 3300 XL 25 mm Proximitor Sensor. Disconnected probe resistance from center to outer conductor is 6.2 ± 0.5 Ω. Cable and conditioner selection must preserve the complete electrical length.

330851-02-000-030-10-00-00 / Technical operating envelope

02 Technical operating envelope

Transducer family	3300 XL 25 mm
Mounting thread	M30×2
Overall case length	30 mm
Unthreaded-length selection	0 mm
Total probe lead	1.0 m
Lead armor	None

Probe resistance, center to outer	6.2 ± 0.5 Ω
Probe tip / case material	PEEK / AISI 304 stainless steel
Cable construction	75 Ω triaxial, PFA-insulated FluidLoc
Matched-system scale factor	0.787 V/mm nominal
Matched-system linear range	12.7 mm under specified calibration conditions
Probe continuous temperature	-35 to +200 °C

Range and sensitivity describe the matched transducer system. The probe itself is passive; DC supply and conditioned output belong to the Proximitor Sensor. Use the 1 m probe resistance before adding extension-cable resistance.

Output loading

Reference performance uses a 10 kΩ load. Sensor output resistance is 50 Ω; assess the receiving channel and field wiring together.

Temperature conditions

Continuous probe operation is -35 to +200 °C. Short-term exposure up to +250 °C is limited to less than 24 hours.

330851-02-000-030-10-00-00 / System integration and applications

03 System integration and applications

Short-lead system assembly

Verify the 1 m probe and the selected 4 m or 8 m extension as one 5 m or 9 m electrical-length chain.

Turbine collar observation

Measure differential rotor-to-casing growth with a correctly aligned and gapped matched transducer chain.

Complementary DE channels

Use opposing collar faces only with the intended two-channel arrangement and corresponding monitor configuration.

Controlled displacement verification

Move the probe mounting relative to the target and compare the electrical indication with a mechanical movement reference.

System and supply context

This 1.0 m probe is one component of the 3300 XL 25 mm transducer chain. The Proximitor Sensor, any required extension cable, brackets and monitor are separate unless itemized.

Application boundary

Differential-expansion performance depends on the collar or ramp geometry, target material and configured channel arrangement. Mechanical fit alone does not establish electrical or calibration compatibility.

Why is 330851-02-000-030-10-00-00 suited to differential-expansion measurements?

In a matched 25 mm system, the nominal scale factor is 0.787 V/mm and the linear range is 12.7 mm. That range supports observation of turbine rotor growth relative to the casing; the target and mounting arrangement still determine the usable measurement geometry.

330851-02-000-030-10-00-00 / Engineering selection decisions

04 Engineering selection decisions

Which electrical-length combinations work with 330851-02-000-030-10-00-00?

The integral lead is 1.0 m. Use the appropriate 4.0 m or 8.0 m extension cable to complete a 5 m or 9 m calibrated system with the corresponding 3300 XL 25 mm Proximitor Sensor.

What resistance check is appropriate for the lead of 330851-02-000-030-10-00-00?

For the 1.0 m probe, resistance from the center conductor to the outer conductor is 6.2 ± 0.5 Ω. Measure the disconnected probe path under the maintenance procedure and keep it separate from extension-cable resistance.

How should the ClickLoc connection on 330851-02-000-030-10-00-00 be protected from moisture?

Use the supplied connector protectors and keep the connector clean during assembly. The front and rear probe seals and FluidLoc lead help block moisture migration, but the connected system is non-submersible.

How can the measurement chain containing 330851-02-000-030-10-00-00 be checked mechanically?

Move the installed transducer arrangement relative to the shaft collar to simulate displacement and compare the indicated change with a mechanical reference. An appropriate sliding bracket keeps the probe aligned during this verification.

Separate torque limits	Do not apply probe-body tightening torque to the electrical connector; connector maximum is 0.565 N·m.
Observe thermal boundaries	Apply probe, cable and Proximitor Sensor temperature limits separately; avoid treating short-term exposure as continuous service.

330851-02-000-030-10-00-00 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support phase of 330851-02-000-030-10-00-00 is unconfirmed. Confirm the exact hardware configuration and available service route before planning a replacement.

Replacement assessment

Match the complete probe configuration and electrical length. Upgrades from 7200 or 25 mm DE Integral equipment require replacement of the probe, extension cable and Proximitor Sensor as a matched 3300 XL 25 mm system.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

Technical basis

Bently Nevada 3300 XL 25 mm Proximity Transducer System, 163236 Rev. M.

Related product navigation

- Bently Nevada 330851-04-000-023-10-01-05
- Bently Nevada 330851-02-000-070-90-00-05
- Bently Nevada 330851-05-000-040-50-01-05

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries