Bently Nevada 330850-51-00

Installation & Commissioning Guide

Bently Nevada 330850-51-00 is a DIN-mounted 3300 XL 25 mm Proximitor Sensor calibrated for a 5.0 m transducer-system electrical length. It converts the matched probe signal into the voltage output used for differential-expansion monitoring.

PRODUCT ROLE AND VERIFIED FEATURES

Feature 1

Matches a 5.0 m 3300 XL 25 mm probe-and-extension-cable electrical path.

Feature 2

Uses a DIN-rail mounting configuration for high-density cabinet installation.

Feature 3

Provides a nominal 0.787 V/mm output across a 12.7 mm linear range.

Feature 4

Uses SpringLoc terminals for field power, common and output wiring.

VERIFIED DATA SNAPSHOT

Transducer family	3300 XL 25 mm
Product role	Proximitor Sensor
System electrical length	5.0 m
Mounting option	DIN rail

SYSTEM RELATIONSHIP

Field device → **Product interface** → **System channel** → **Verified response**

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Pre-installation readiness

READINESS GATE

Identity

Compare the complete marking with the approved work order and installed record.

System match

Confirm the receiving channel, mating components and controlled configuration.

Physical condition

Inspect mounting surfaces, connectors, terminals, cable and support hardware.

Work controls

Apply authorized isolation, bypass, access and restoration procedures.

TECHNICAL PROFILE FOR THE WORK

Transducer family 3300 XL 25 mm	**Product role** Proximitor Sensor
System electrical length 5.0 m	**Mounting option** DIN rail
Agency approval option No approvals	**Power requirement** -17.5 to -26 V DC without barriers; -23 to -26 V DC with barriers
Maximum current consumption 12 mA	**Linear measurement range** 12.7 mm (500 mil)
Nominal scale factor 0.787 V/mm (20 mV/mil)	**Frequency response** 0 to 2.7 kHz, +0/-3 dB typical
Output resistance 50 ohms	**Field wiring distance** Up to 305 m between sensor and monitor
Operating temperature -51 to +100 °C	**Terminal style** SpringLoc terminal strips

IMPORTANT NOTICE Resolve every unmatched interface, configuration or receiving-system condition before removal or installation.

CONFIGURATION AND WORK CONTROLS

Configuration identity	Bently Nevada 330850-51-00
Technical boundary	Apply only the functions and interfaces shown for this product or its identified system family.
Selection control	Match the complete ordering string and installed interfaces before purchase or installation.

Installation sequence

CONTROLLED WORK STEPS

01	Match the complete 330850-51-00 marking to the approved differential-expansion channel before removal.
02	Confirm that the installed probe and extension cable total the required 5.0 m electrical length.
03	De-energize the negative DC supply and place the associated protection channel in its approved maintenance state.
04	Label power, common, output and shield conductors before releasing the SpringLoc terminals.
05	Inspect the probe connector and DIN-rail retention for contamination, damage or incomplete engagement.
06	Keep the signal wiring separated from high-energy conductors and preserve the documented shield termination.
07	Set the probe gap within the calibrated linear region before restoring alarms or trips.
08	Verify bias voltage, polarity, proportional target response and monitor indication before service release.

CONNECTION RECORD

As found	Photograph and label every connection and installed orientation before removal.
Mechanical	Record mounting position, support, clearance and connector engagement.
Electrical	Record polarity, common, shield, channel assignment and cable route.
Configuration	Preserve approved settings, scaling, alarm logic and acceptance limits.
As left	Record the final physical condition and any controlled deviation.



WORK HOLD POINTS

Before removal	Identity, position, wiring, orientation and controlled settings recorded.
Before connection	Mating interfaces, condition and routing reviewed.
Before power-up	Mechanical work, wiring, shielding and configuration independently checked.
Before release	Static value, dynamic response and protection behavior accepted.

Commissioning and functional proof

COMMISSIONING SEQUENCE

Initial state

Observe status at power-up and check for unexpected fault or alarm indication.

Static value

Verify the expected bias, gap, loop, contact or channel value for the application.

Dynamic response

Apply the approved machine or test stimulus and confirm response and scaling.

Protection path

Verify the configured alarm, relay, data or receiving-system behavior.

APPLICATION-SPECIFIC EVIDENCE

Steam-turbine differential expansion

Measures rotor-to-casing growth differences through the extended 25 mm transducer range.

Turbine supervisory instrumentation

Supplies a conditioned proximity signal to a configured TSI monitoring channel.

Long-range axial position

Supports non-contact position measurement where the 12.7 mm linear range is required.

DIN-rail cabinet installation

Fits the sensor into a high-density DIN-rail arrangement near the machine-monitoring wiring.

ACCEPTANCE RECORD

Identity	Complete marking and final installed position recorded.
Physical inspection	Mounting, connectors, terminals and routing checked.
Channel status	Expected status and configured measurement confirmed.
Functional test	Required output or protection response demonstrated.
Restoration	Bypasses removed and operating state approved.

COMMISSIONING QUESTIONS

Which mounting arrangement is specified by Bently Nevada 330850-51-00?	The 51 option specifies a 5.0 m system electrical length with DIN-rail mounting.
How long must the matched transducer chain be for Bently Nevada 330850-51-00?	The probe lead and extension cable must total 5.0 m to match the sensor calibration.
What measurement range does Bently Nevada 330850-51-00 support?	The matched 3300 XL 25 mm system provides a 12.7 mm (500 mil) linear measurement range.
Why is Bently Nevada 330850-51-00 used for differential-expansion monitoring?	Its extended linear range and 0.787 V/mm nominal scale factor support long-range rotor-to-casing displacement measurement.

Release record and technical references

CLOSEOUT QUESTIONS

Which supply should power Bently Nevada 330850-51-00?	The sensor requires -17.5 to -26 V DC without barriers or -23 to -26 V DC when barriers are used, at no more than 12 mA.
Does Bently Nevada 330850-51-00 include an agency-approval selection?	No. The final 00 code identifies the no-approvals option.
How are field conductors connected to Bently Nevada 330850-51-00?	SpringLoc terminal strips accept the power, common and output conductors without special installation tools.
Which commissioning checks confirm Bently Nevada 330850-51-00 operation?	Verify the installed gap, bias voltage, polarity, proportional response, monitor indication and configured alarm path.

RELATED MODELS FOR INSTALLATION PLANNING

Bently Nevada 330851-02-000-080-10-00-05	Installation-planning reference. Review the complete ordering string before selection.
Bently Nevada 330854-080-24-05	Installation-planning reference. Compare the required interface and system position.
Bently Nevada 330980-51-CN	Installation-planning reference. Confirm the execution independently for the intended task.

CONFIGURATION AND FINAL CONTROL

Configuration identity	Bently Nevada 330850-51-00
Technical boundary	Apply only the functions and interfaces shown for this product or its identified system family.
Selection control	Match the complete ordering string and installed interfaces before purchase or installation.

IMPORTANT NOTICE	Release the equipment only after the responsible site authority accepts the recorded result.

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