Bently Nevada 330101-00-08-20-02-05

01 / CONFIGURATION DOSSIER

Bently Nevada 330101-00-08-20-02-05 is an unarmored 3/8-24 UNF proximity probe with a 2 m standard ClickLoc lead. The 3300 XL 8 mm execution uses the CSA, ATEX and IECEx approval selection.

Electrical-length selection

5 m sensor	9 m sensor	1 m sensor
2.0 m probe + 3.0 m extension	2.0 m probe + 7.0 m extension	Excluded for this 2 m probe

Read the selected execution

Base 330101	3/8-24 UNF standard forward mount; no armor
AA00 / BB08	Imperial mounting-case selections retained
CC20	2 m electrical probe length
DD02	Standard ClickLoc; no connector protector
EE05	CSA, ATEX and IECEx approval selection

System position

Target	Probe	Proximitor
Conductive shaft surface	330101 sensing element	Conditioned voltage to monitor

Measurement roles

The completed transducer chain measures static target position and dynamic shaft-relative vibration. It can also supply speed and Keyphasor references when the target and monitor application are configured for that purpose. The different signal uses do not change this probe into an accelerometer.

Approval boundary

The final -05 code selects CSA, ATEX and IECEx approvals. Verify the supplied component markings, area conditions and installed circuit; this ordering selection does not give unrestricted hazardous-area use.

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02 / SIGNAL CHARACTERISTICS

Probe and matched-system data

Probe resistance	7.88 +/- 0.50 ohm, center to outer conductor
Cable impedance	75 ohm triaxial
Cable insulation	FEP, standard execution
Nominal scale factor	7.87 V/mm (200 mV/mil), matched system
Radial gap voltage	-9 VDC nominal
Linear range	2 mm; approximately -1 to -17 VDC
System bandwidth	DC to 10 kHz, +0 / -3 dB
Sensor output resistance	50 ohm
Sensor maximum consumption	12 mA

Reference conditions

The performance basis uses a complete 3300 XL 8 mm probe, extension where required and Proximitor Sensor, an AISI 4140 steel target, a -24 VDC supply and a 10 kohm load, with components between +18 and +27 deg C unless stated otherwise. Target material, temperature and the assembled electrical length affect the achieved calibration. A probe alone does not generate the conditioned monitor voltage.

Sensor power belongs to the conditioning stage

Non-incendive circuit	-17.5 to -26 VDC; installed per drawing 140979
Barrier arrangement	-23 to -26 VDC
More positive than -23.5 VDC	May reduce the usable linear range
Supply sensitivity	Less than 2 mV output change per volt of supply change

Field circuit

The Proximitor-to-monitor circuit is separate from the probe electrical length. The datasheet recommends a three-conductor shielded triad and tinned field wiring; its documented frequency-response curves show the effect of longer monitor wiring. Check the relevant curve before accepting a high-frequency channel.

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Construction by component

Tip	Polyphenylene sulfide (PPS)
Case	AISI 303 or 304 stainless steel
Connector	Gold-plated brass or beryllium copper
Probe lead	Standard FEP-insulated triaxial cable
Connector protector	Not included by option 02; provide suitable joint protection

Connection and case handling

Two XL gold ClickLocs	Finger tight
Maximum connector torque	0.565 N m; do not treat as a target
Standard forward-mount case	11.2 N m recommended; 33.9 N m maximum
First three threads only	7.5 N m recommended; 22.6 N m maximum
Probe case to lead	330 N maximum rated tensile strength
Probe lead to extension joint	270 N maximum rated tensile strength

Junction protection for option 02

This execution does not include a connector protector. Provide suitable protection for the coaxial junction, and keep it electrically insulated from ground. Inspect the fully seated ClickLoc connection before interpreting an energized channel; protection and electrical continuity are separate checks.

Probe temperature and seal

The standard probe operates and stores at -52 to +177 deg C. Pressure-seal failure can occur prematurely below -34 deg C. Companion components carry separate environmental limits.

Pressure containment

The probe seals differential pressure between its tip and case using a Viton O-ring. Units are not pressure-tested before shipment. A separate pressure test is an application requirement when needed; the installation must still contain liquids and gases safely if leakage occurs. Strongly acidic or alkaline media can erode the tip assembly.

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Calibration accuracy has stated conditions

Standard 5 m system	ISF +/-5%; DSL less than +/-0.025 mm, 0 to +45 deg C
Standard 9 m system	ISF +/-6.5%; DSL less than +/-0.038 mm, 0 to +45 deg C
Probe -35 to +120 deg C, 5 m system	ISF within +/-10%; DSL within +/-0.076 mm when sensor and cable remain 0 to +45 deg C
Probe -35 to +120 deg C, 9 m system	ISF within +/-18%; DSL within +/-0.152 mm with the same companion temperature condition

Ratings versus calibration

The standard probe operating-temperature limit is broader than the temperature band used to state the tightest system accuracy. Do not apply the room-temperature accuracy row across the entire operating-temperature range. The selected standard cable is not an extended-temperature-range execution.

Engineering diagnostic map

Unexpected DC gap	Inspect target, set point, connector insulation and sensor supply
DC gap correct; AC response questionable	Verify length pairing, monitor configuration and field-circuit response
Probe resistance outside nominal tolerance	Inspect isolated probe and service connector before reconnecting
Intermittent response	Inspect seating, cable condition, connector protection and mechanical support

Companion environmental conditions

Standard extension cable	-52 to +177 deg C, operating and storage
Proximitor operation	-52 to +100 deg C
Proximitor storage	-52 to +105 deg C

Acceptance scope

These are field-check directions derived from the documented interfaces and measurement limits. They are not automatic fault codes or a substitute for the machine protection and shutdown procedure.

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Can the 2 m lead of 330101-00-08-20-02-05 be used with a 1 m Proximitor?

No. The probe already exceeds the 1 m probe-only system length. Select a 5 m chain with a 3 m extension or a 9 m chain with a 7 m extension and the corresponding conditioner.

What does the final -05 code specify on 330101-00-08-20-02-05?

It selects CSA, ATEX and IECEx agency approvals. Determine the usable installation conditions from the supplied component markings and the required installation drawing; the ordering code alone is not a universal hazardous-area permission.

How can the isolated 2 m probe of 330101-00-08-20-02-05 be checked electrically?

Its nominal center-to-outer-conductor resistance is 7.88 +/-0.50 ohm. Measure the disconnected probe; including an extension changes the resistance being assessed.

Related proximity portfolio

Bently Nevada 330101-00-10-10-02-00	Related 3300 XL probe; compare complete execution
Bently Nevada 330101-00-12-10-11-00	Related 3300 XL probe; compare complete execution
Bently Nevada 330101-00-60-90-01-05	Related 3300 XL probe; compare complete execution
Bently Nevada 330101-00-20-10-02-00	Related 3300 XL probe; compare complete execution

Selection boundary

These linked products belong to the related proximity portfolio. Compare the complete order code, selected cable, mounting interface and required approvals independently. A recommendation does not establish that another probe can replace this execution.

Manufacturer reference

3300 XL 8 mm Proximity Transducer System | Datasheet 141194 Rev. AN. Imperial identity and ordering: p. 13; extension ordering: p. 18; electrical and measurement data: pp. 4-6; materials and installation interfaces: pp. 7-8; environmental and pressure conditions: p. 9. This ApterPower document organizes selected technical facts and field checks; it does not replace the equipment installation instructions.

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