Integrated proximity measurement

Bently Nevada

330801-28-20-050-03-02

Externally accessible probe adjustment and local signal conditioning form one PROXPAC sensing assembly. The cover-mounted Proximitor sensor sends the conditioned output along the monitor field-wiring run.

Machine shaft / target → Probe and sleeve → PROXPAC cover electronics → Monitoring instrument

Configuration focus	Selected feature
Assembly identity	Metric PROXPAC; full option sequence 28 / 20 / 050 / 03 / 02
Probe and approval selection	3300 XL 8 mm probe with multiple approvals
Conduit entry kit	One M20 fitting and two plugs
Mounting connection	3/4-14 NPT

Accessible service architecture

The sensing element can be accessed and adjusted from outside the machine. The housing supplies local environmental protection while the cover holds the signal-conditioning electronics.

Compiled by Apter Power. This product dossier supports technical selection and preparation; the manufacturer procedures and installed protection design govern field work.

Planning focus: the probe, sleeve, housing and sensor cover form one maintained assembly. Keep the local sensing connection protected while leaving the housing accessible for gap adjustment and service.

Electrical and sensing characteristics

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Parameter	Value
Supply without barriers	-17.5 to -26 V DC
Supply with barriers	-23 to -26 V DC
Maximum current consumption	12 mA
Output resistance	50 ohms
Nominal probe DC resistance	7.58 +/- 0.5 ohms
Linear measuring span	2.0 mm (80 mils)
Recommended probe gap	1.27 mm (50 mils)
Incremental scale factor	7.87 mV/um (200 mV/mil); +/-5.5% typical
Frequency response	0-8 kHz; +0/-3 dB at 50 mils gap; up to 305 m field wiring
Maximum field wiring length	305 m
Field cable	Three-conductor twisted shielded cable

Reference conditions: +18 to +27 deg C, -24 V DC supply, 10 kilohm load, AISI 4140 steel target and 1.27 mm gap unless otherwise stated. The full linear region is approximately 0.25-2.3 mm, corresponding approximately to -1 to -17 V DC.

Additional response characteristic	Value
Supply sensitivity	Less than 2 mV output change per volt of supply change
Deviation from best-fit line	Less than +/-23 um typical, including interchangeability errors

Materials and system integration

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Engineering domain	Characteristic
Protection	Type 4X / IP66; non-submersible
Housing	UV-resistant glass-reinforced PPS with conductive fibres
Probe case / sleeve	AISI 304 stainless steel
Outer sleeve / retaining screws	AISI 303 stainless steel
Probe connector	Gold-plated brass ClickLoc with connector protector
Probe temperature	-51 to +177 deg C; exposure below -34 deg C can shorten pressure-seal life
Housing operating / storage	-34 to +100 deg C / -34 to +105 deg C
Mechanical securing	Sleeve locknut: 39.3 N.m; retaining nut: 29.5 N.m

Moisture and pressure are separate boundaries

Protected connectors can tolerate condensing humidity, but the assembly is not submersible. Correct sealing limits moisture entry; conduit must not direct liquid into the housing. Type 4X and IP66 protection do not make the plastic enclosure a pressure vessel.

Monitor connection

Carry excitation, common and signal on the field cable. Evaluate the barrier arrangement and cable-length response for the installed circuit, and preserve the single-point shield grounding arrangement.

Prolonged hot-water or steam exposure can reduce plastic-housing strength. Do not treat short exposure observations as a continuous steam-service rating, and account for chemical media that can attack the probe-tip assembly.

Applications and work precautions

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Application context	Engineering purpose
Radial vibration	Observe shaft motion while maintaining target and adjacent-probe clearance.
Axial position	Track conductive-target movement within the set linear gap region.
Local signal conditioning	Keep the probe and Proximitor connection inside one assembly.
External maintenance	Withdraw and reinstall the sensing sleeve through the outside housing.

Pressure boundary: Equalize pressure before cover or sleeve removal and contain possible process leakage.

Short penetration: Check machine counterbore and surrounding metal for the C050 selection.

Mounting security: Maintain the adjusted gap while tightening both specified mechanical fasteners.

Moisture control: Seal unused entries and route conduit to prevent liquid entry.

Electrical integrity: Confirm negative supply, VT/COM/OUT polarity and the applicable barrier circuit.

Post-service checks: Repeat gap and scale-factor verification after disturbing or replacing components.

Dynamic mounting check

Evaluate the sleeve resonance against shaft speed: sleeve resonant frequency should be at least three times running frequency. Mechanical support must prevent sleeve motion from being mistaken for target vibration.

Target geometry check

Curved targets and closely spaced probes can change the effective scale factor or introduce cross-talk. Assess the installed target and probe separation together with the sensing channel before commissioning.

Model-specific technical questions

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Does 330801-28-20-050-03-02 need an extension cable between its probe and Proximitor sensor?

The PROXPAC assembly places the Proximitor sensor in the housing cover, so the probe connects locally without an intervening extension cable. Field wiring carries the signal to the monitoring instrument.

How much standoff does option 20 provide on 330801-28-20-050-03-02?

The metric standoff code 20 selects a 200 mm adapter. Check this offset together with the penetration length when locating the machine mounting point.

Why should the machine bore be checked for the 050 penetration option on 330801-28-20-050-03-02?

The 050 option selects 50 mm penetration, within the short-penetration range where a counterbore may be needed to reduce probe side-view or rear-view effects.

Which conduit fittings come with the 03 option of 330801-28-20-050-03-02?

The metric fittings kit 03 contains one M20 fitting and two plugs. Match the conduit entry to this kit and seal unused housing openings.

Maintain the measuring chain

Keep the full assembly option sequence, target arrangement and monitor circuit together in the maintenance record. A proposed replacement needs an interface and application check before it is released to service.

Apter Power provides a dedicated contact for offered-unit identity, technical enquiries and dispatch coordination. Send the complete model together with the intended installation context.

Inspection after removal

Keep the sleeve opening protected against contamination or leakage while the probe is removed. The metric sleeve plug is a separate service item; a remembered sleeve position still requires a new operating-gap check.

Technical questions and further reading

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What mounting connection must accept the 02 option of 330801-28-20-050-03-02?

The 02 mounting option uses a 3/4-14 NPT connection. This mounting thread is required when the standoff adapter is fitted.

Can 330801-28-20-050-03-02 use the same supply range with and without barriers?

Without barriers the supply range is -17.5 to -26 V DC at a maximum of 12 mA; with barriers it is -23 to -26 V DC. A supply more positive than -23.5 V DC may reduce the linear range.

Under what conditions does 330801-28-20-050-03-02 provide its 0-8 kHz response?

The +0/-3 dB response applies at a 50 mils probe gap with up to 305 m of field wiring. Cable length and barriers must be considered when assessing high-frequency signal rolloff.

When should the scale factor of 330801-28-20-050-03-02 be verified again?

Verify the scale factor after components have been replaced or disturbed, when performance changes or becomes erratic, or when calibration is in doubt. The check uses a digital multimeter, power supply, spindle micrometer and 10 kilohm resistor.

Technical basis: 141621-01 Rev. F (11/2005), pp.1-7 and 9; 131236-01 Rev. F (08/07), sections 2-5.

Related Bently Nevada products

Explore these separate product pages for system planning. Selection requires an independent interface and application check.

Product reference	Explore
Bently Nevada 31000-16-05-00-070-03-02	View Bently Nevada 31000-16-05-00-070-03-02
Bently Nevada 330106-05-30-10-02-CN	View Bently Nevada 330106-05-30-10-02-CN
Bently Nevada 330106-05-30-10-02-IN	View Bently Nevada 330106-05-30-10-02-IN