Bently Nevada 330780-91-05

01 Function and selected configuration

Product function

Bently Nevada 330780-91-05 places the 11 mm transducer conditioning electronics on a DIN rail, connecting the calibrated 9 m probe circuit to three-conductor monitor field wiring.

Selected configuration

9.0 m electrical system length, DIN mounting and multiple-approvals option. The 91 selection combines 9 m system calibration with DIN mounting. A 1 m 11 mm probe and an 8 m compatible extension cable provide one standard combination; field wiring to the monitor is separate from this calibrated length.

Functional path

Probe and 8 m cable	9 m conditioner	Shielded field wiring	Monitoring channel

Calibration	9.0 m total probe-plus-extension length
Installation	DIN mounting; SpringLoc field terminals
Signal output	50 ohm output resistance; nominal 3.94 V/mm system scale factor

The sensor accepts a negative DC supply and provides a voltage proportional to target distance. Nominal system linear span is 4 mm, while reduced supply headroom, barriers, target material and temperature can affect the usable range.

330780-91-05 / Technical operating envelope

02 Technical operating envelope

Calibrated system length	9.0 m
Mounting	DIN mount
Transducer input	One 3300 XL 11 mm probe and extension cable
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
Supply sensitivity	Less than 2 mV output change per volt of supply change

Matched-system linear span	4.0 mm (160 mils)
Recommended gap	2.5 mm (100 mils)
Nominal scale factor	3.94 V/mm (100 mV/mil), +/-10%
Typical frequency response	0-8 kHz, +0/-3 dB
Field conductor range	0.2-1.5 mm2; 0.25-0.75 mm2 with ferrules
Maximum monitor field wiring	305 m; frequency-response conditions apply
Sensor operating temperature	-52 to +100 deg C
Sensor storage temperature	-52 to +105 deg C

The 4 mm linear span and 3.94 V/mm scale factor describe the matched 11 mm system. Power, temperature and field-wiring constraints must be applied at the conditioner, independently of the probe location.

330780-91-05 / System integration and applications

03 System integration and applications

DIN-rail conditioning

Locate the conditioner in a suitable cabinet with access to field terminals and controlled temperature.

Nine-metre sensor chains

Connect a matched 1 m probe and 8 m extension while preserving the calibrated total length.

Long monitor connections

Carry the conditioned signal on shielded triad wiring with frequency response assessed for the actual route.

Axial or radial monitoring

Feed a suitably configured monitor for thrust position or shaft-relative vibration within the system span.

System and supply context

The sensor is the conditioning component of a 3300 XL 11 mm measurement chain. The DIN mount does not change the required 9 m electrical calibration or the approved hazardous-area circuit.

Application boundary

Its voltage output supports configured vibration and position channels. A compatible probe, cable, target and monitor are required to apply the quoted system performance.

Can 330780-91-05 operate with a 5 m probe-and-cable combination?

A 5 m combination does not match this sensor's 9 m calibration. Use the correct 9 m chain or select a sensor calibrated for the required system length.

330780-91-05 / Engineering selection decisions

04 Engineering selection decisions

Does the 9 m calibration of 330780-91-05 include the monitor field wiring?

No. The 9 m length is the probe lead plus compatible extension cable. The three-conductor wiring from the Proximitor Sensor to the monitor is a separate circuit.

Why can the linear span of 330780-91-05 shrink near the positive supply limit?

A supply more positive than -23.5 V DC can reduce output headroom and linear range. The nominal full-span reference uses -24 V DC; evaluate the actual supply and barrier voltage drop.

Can 330780-91-05 use the probe's +177 deg C temperature limit?

No. The Proximitor Sensor operating limit is +100 deg C. The higher +177 deg C limit belongs to the probe and extension cable, so the conditioner must be located within its own rating.

What changes when barriers are installed ahead of 330780-91-05?

The specified supply range becomes -23 to -26 V DC with barriers. The extended deviation-from-straight-line range is not applicable with zener barriers; verify the approved barrier circuit and available voltage.

Review barriers	Apply the barrier-specific voltage range and approved circuit limitations.
Separate cable roles	Do not count monitor field wiring as part of the probe-plus-extension length.

330780-91-05 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and OEM support stages for 330780-91-05 require confirmation from Bently Nevada. Apter Power availability is confirmed separately.

Replacement assessment

Match 330780-91-05, 9 m calibration, DIN hardware and the installation approval circuit before selecting another conditioner.

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

3300 XL 11 mm Proximity Transducer System, 146256 Rev. T.

Related product navigation

- Bently Nevada 330730-080-00-00
- Bently Nevada 330730-080-03-05
- Bently Nevada 330780-90-00

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

Product enquiries