Bently Nevada 330930-060-00-05

01 Product architecture

Product role

Bently Nevada 330930-060-00-05 is a 6.0 m extension cable for a 3300 XL NSv proximity-transducer system. The 00 cable option is supplied without stainless-steel armor.

Operating context

Electrical length belongs to the complete transducer path. This 6.0 m extension can form a 7.0 m chain when combined with a 1.0 m probe lead and the matching signal conditioner. The coaxial construction is part of the measurement system, so physical reach and connector fit are insufficient selection criteria.

Function map

01	NSv probe lead
02	6.0 m extension
03	Matched conditioner
04	Measurement channel

Key capabilities

Capability 1
Uses 75-ohm coaxial construction.

Capability 2
Insulates the cable with fluorinated ethylene propylene (FEP).

Capability 3
Provides a typical capacitance of 69.9 pF per metre.

Capability 4
Uses gold-plated brass connectors.

System integration

A 1.0 m NSv probe lead and this 6.0 m extension form a 7.0 m electrical path. The selected Proximitor system length must match that total; physical reach alone is not a sufficient basis for cable selection.

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02 Technical data and interfaces

Principal technical data

Parameter	Value
Extension length	6.0 m
Cable impedance	75 ohm
Insulation	FEP
Armor	None
Center-conductor resistance	0.220 ohm/m
Shield resistance	0.066 ohm/m
Capacitance	69.9 pF/m typical
Minimum bend radius	25.4 mm
Connector material	Gold-plated brass
Connector tightening	Finger-tight; 0.56 N·m maximum

Additional engineering data

Item	Value or condition
Operating temperature	-52 to +177 °C
Storage temperature	-52 to +177 °C
Example total path	1.0 m probe + 6.0 m cable = 7.0 m
Calculated center resistance	1.32 ohm over 6.0 m; excludes contacts
Calculated shield resistance	0.396 ohm over 6.0 m; excludes contacts
Calculated cable capacitance	419.4 pF typical over 6.0 m

How to apply these data

The minimum 25.4 mm bend radius applies to the extension route. Plan bends before tightening connectors and support the cable on both sides of a joint. Finger-tight assembly is the recommended method; 0.56 N·m is the maximum connector torque. Probe-case mounting torque is a different specification and must never be applied to a coaxial joint.

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03 Integration and application

Interface map

Interface	Purpose	Engineering note
Probe-to-extension joint	Coaxial signal connection.	Keep mating contacts clean, dry and mechanically supported.
Extension run	75-ohm FEP-insulated coaxial cable.	The 00 option has no stainless-steel armor.
Conditioner connection	Completion of the matched NSv electrical path.	Match total probe-plus-extension length to the conditioner.
Monitoring output	Produced by the selected conditioning hardware.	The extension cable itself does not generate a 4-20 mA output.

Application contexts

Compressor probe routing
Extend an NSv probe connection from a confined compressor measurement point.

Seven-metre transducer chains
Pair with a 1.0 m probe lead and the correct 7.0 m signal conditioner.

Radial vibration channels
Carry the probe signal within a properly matched NSv vibration measurement chain.

Axial-position channels
Connect a compatible NSv probe used for thrust-position measurement.

Integration constraint

Include the probe lead when calculating electrical length. A cable continuity result alone does not establish a correctly matched proximity-transducer channel.

Commissioning record

Retain the probe identity, probe lead length, cable identity, conditioner system length and final gap or channel reference. Record the completed route and joint positions. Reassess the whole chain if either the probe or conditioning hardware changes during subsequent maintenance.

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04 Engineering decisions

Diagnostic decisions

Continuity passes, channel response wrong
Review probe family, total electrical length and conditioner selection. Continuity alone is not system calibration.

Reading changes after routing
Inspect joints, bends and cable traction in the final installed route. Recheck the channel with the route secured.

Cable exposed at a metal edge
Provide suitable protection and strain relief for the unarmored cable. Do not use the electrical insulation as mechanical armor.

Unexpected measured resistance
Account for meter leads and connector contributions. The per-metre calculations are cable-only estimates, not new acceptance tolerances.

Product precautions

01
Confirm that the probe and extension lengths total the selected system electrical length.

02
Use the NSv cable with the corresponding NSv probe and signal conditioner.

03
Maintain a bend radius of at least 25.4 mm along the route.

04
Provide routing protection appropriate to a cable without stainless-steel armor.

05
Keep mating coaxial contacts clean and dry before connection.

06
Tighten connectors by hand and do not exceed 0.56 N·m.

07
Prevent traction or twisting at the probe-to-extension connection.

08
Check the assembled channel response after routing and connection are complete.

Important notice

Protect the unarmored run at metal edges and secure both sides of each coaxial joint against cable pull.

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05 Questions and functional acceptance

Product-specific engineering questions

Can Bently Nevada 330930-060-00-05 complete a 7.0 m transducer chain?
Yes. Its 6.0 m extension length combines with a 1.0 m probe lead to make a 7.0 m path, which must match the selected signal conditioner.

What bend limit applies when routing Bently Nevada 330930-060-00-05?
The minimum bend radius is 25.4 mm, so a tight fold or sharp turn is unsuitable.

Product-specific engineering questions (continued)

Should the coaxial connectors on Bently Nevada 330930-060-00-05 be wrench-tightened?
The recommended connection is finger-tight, with a maximum connector torque of 0.56 N·m.

How does the construction of Bently Nevada 330930-060-00-05 affect mechanical protection?
The cable has FEP insulation but no stainless-steel armor, so its route must protect it from mechanical damage.

Product-specific engineering questions (continued)

Which electrical values characterize Bently Nevada 330930-060-00-05?
The cable is 75-ohm coaxial, with typical capacitance of 69.9 pF/m, center-conductor resistance of 0.220 ohm/m and shield resistance of 0.066 ohm/m.

Does Bently Nevada 330930-060-00-05 itself convert the signal to 4-20 mA?
No. It is a passive extension cable; the matched signal-conditioning or transmitter hardware determines the system output.

Related catalogue pages

Bently Nevada 330930-045-00-05

Bently Nevada 330930-060-03-05

Technical basis

Bently Nevada 147385 Rev. R, pages 3, 5-7, 13