Product and supply scope

Bently Nevada / 21500-00-28-10-02

Bently Nevada

21500-00-28-10-02

Bently Nevada 21500-00-28-10-02 is a 5 mm 7200 proximity probe with a standard 1/4-28 case, 2.8 in case length and 1 m integral lead, terminated by a miniature male coaxial connector.

Probe + integral lead — Matched extension / Proximitor — Monitor input

Configuration	Selected construction
Base construction	21500
Transducer family	7200 proximity transducer system
Sensing tip diameter	5 mm
Tip construction	Fiberglass
Mounting type	Standard forward mount
Case thread	1/4-28
Unthreaded length	0.0 in (00)

Integration boundary

Confirm the 5 mm probe, 1/4-28 case, integral lead and miniature male coaxial connector. Identify any separately supplied extension or conditioner.

Selection review	Technical basis
Thread and mounting	The standard 21500 construction is 1/4-28, not the 3/8-24 interface of the 21504 construction.
Case selection	The 28 case is 2.8 inches; the 5 mm 1/4-28 construction has a maximum case-length selection of 4 inches.

Technical specifications

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Geometry and connector values describe the selected probe. Accuracy and response figures apply to the complete matched 7200 channel.

Parameter	Value
Manufacturer	Bently Nevada
Base construction	21500
Transducer family	7200 proximity transducer system
Sensing tip diameter	5 mm
Tip construction	Fiberglass
Mounting type	Standard forward mount
Case thread	1/4-28
Unthreaded length	0.0 in (00)
Overall case length	2.8 in (28)
Nominal total probe length	1.0 m (10)
Total length tolerance	+0.25 / -0.10 m
Connector	Miniature male coaxial (02)
Lead armor	None
Coaxial cable impedance	95 ohms
Probe/extension operating limits	-34 to +177 deg C
Relative humidity	Up to 95%; noncondensing
System linear measuring span	80 mils (2.0 mm), with matched conditioner
System scale-factor accuracy	+/-4% calibrated as a system; +/-9.5% including interchangeability errors

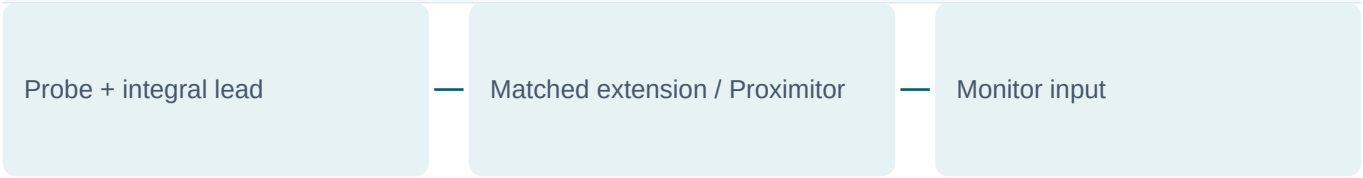
System use and integration

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Operating context

For a compact machine mounting, Bently Nevada 21500-00-28-10-02 places a small-diameter sensing tip on a threaded case and carries excitation through its integral coaxial lead.

Application	Engineering context
Compact threaded mounting	Use the 1/4-28 standard case where the machine drawing calls for the selected 5 mm probe construction.
Static gap monitoring	Observe a stationary or slowly changing conductive-target position through the matched 7200 conditioner.
Dynamic displacement	Supply a gap-related signal for vibration-amplitude analysis using the appropriate monitor and reference channel.
Rotor attitude assessment	Integrate the probe into an average radial-position channel when the machine monitoring arrangement requires shaft position information.



Channel planning

Keep the selected 5 mm probe construction and the complete 00 / 28 / 10 / 02 marking with the mounting record.

Maintenance boundary

Review the electrical chain before any future probe, cable or conditioner change. A physical fit alone does not establish calibrated interchangeability.

Interface review	Technical basis
Unthreaded selection	00 selects 0.0 inch unthreaded length in the English standard-mount ordering scheme.
Case selection	28 selects 2.8 inches overall case length in the English standard-mount scheme.
Connector selection	02 selects the miniature male coaxial connector; it is a connection option, not approval evidence.

Engineering precautions

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1. Match the thread

Confirm a 1/4-28 machine connection. Do not substitute a larger probe case solely because the monitoring purpose is similar.

2. Check the selected case

Allow for the 2.8 inch case and 0.0 inch unthreaded section when comparing the installed geometry.

3. Retain the coaxial connector

Use the miniature male coaxial connection selected by 02 and protect it against contamination and mechanical stress.

4. Select the electrical length

Include the nominal 1 m integral lead and its specified tolerance when checking the extension/conditioner combination.

5. Protect the fiberglass tip

Avoid mechanical abuse of the sensing face and unarmored cable junction; do not transfer 8 mm PPS corrosion ratings to this tip.

6. Recheck calibrated response

After component or target changes, verify gap and scale factor for the complete 7200 channel before monitoring service.

Engineering notes

Selected construction: The 00 / 28 / 10 / 02 sequence specifies 0.0 in unthreaded length, a 2.8 in case, a nominal 1 m total length and a miniature male coaxial connector.

Integration boundary: Use a matched 7200 extension-cable and Proximitor combination. The probe itself is not a standalone powered transmitter.

Technical reference: Bently Nevada 7200 Proximity Transducer Systems, 5 mm and 8 mm, L5001 (04/90).

Technical questions - configuration

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Which physical dimensions are selected by 00 and 28 in 21500-00-28-10-02?

The 00 unthreaded-length option is 0.0 inches, and the 28 case-length option is 2.8 inches. These are probe construction dimensions; they are distinct from the package dimensions and the installed sensing gap.

What is the allowed lead-length tolerance for 21500-00-28-10-02?

The 10 total-length option is nominally 1.0 m with a tolerance of +0.25 m and -0.10 m. Include this lead in the combined electrical-length check when selecting the extension cable and Proximitor.

Does the 02 suffix of 21500-00-28-10-02 identify a connector or an approval?

The 02 connector option selects a miniature male coaxial connector. It does not identify a hazardous-area approval; installation approval must follow the actual component markings and approved circuit.

Can the case thread of 21500-00-28-10-02 be substituted for a 3/8-24 mounting?

The 21500 standard case uses a 1/4-28 thread. A 3/8-24 mounting belongs to a different probe construction, so the machine mounting must be checked instead of treating the two threads as interchangeable.

Channel review	Requirement
Order sequence	Check 00 unthreaded length, 28 case length, 10 total length and 02 connector against the actual item.
Mounting match	Confirm the machine uses the 1/4-28 standard case and accommodates the 2.8 inch construction.
Function	Establish the required static-position or dynamic-displacement monitor function before installing the channel.

Technical questions - service

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Why must the 5 mm tip construction of 21500-00-28-10-02 be considered during handling?

The 5 mm 7200 probe is constructed of fiberglass and has an unarmored lead. Protect the tip and coaxial junction during installation rather than applying the PPS-tip corrosion claims of the 8 mm construction.

How is accuracy assessed after a measuring-chain change involving 21500-00-28-10-02?

The nominal system scale factor is 200 mV/mil. The specification allows +/-4% when calibrated as a system and +/-9.5% including interchangeability errors, so changing components is a reason to verify the complete response.

Can 21500-00-28-10-02 support both slow shaft-position and dynamic vibration measurements?

A correctly matched 7200 chain responds from DC to 10 kHz and supports static gap as well as dynamic displacement. The stated high-frequency response is a system characteristic, not a standalone probe voltage output.

What does a channel-length mismatch do to an installation using 21500-00-28-10-02?

The probe lead and extension cable must match the selected 5 m or 9 m Proximitor configuration. Selecting cable length from physical reach alone can create the wrong electrical chain and invalidate the intended calibrated response.

Related Bently Nevada products

Separate catalogue references for independent selection. These links do not establish compatibility or substitution.

Product reference	Explore
Bently Nevada 21504-000-020-05-02	View Bently Nevada 21504-000-020-05-02
Bently Nevada 21504-000-012-05-02	View Bently Nevada 21504-000-012-05-02
Bently Nevada 21504-012-032-10-02	View Bently Nevada 21504-012-032-10-02

Technical reference: Bently Nevada 7200 Proximity Transducer Systems, 5 mm and 8 mm, L5001 04/90.