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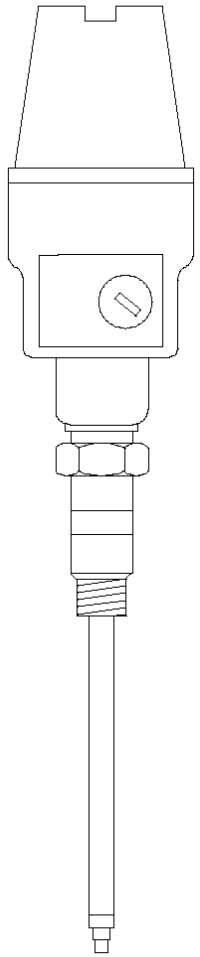
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Find the *GE / Bently Nevada 21000-33-05-00-035-04-02* at our website: *Click HERE*

21000/24701 Proximity Housing Assemblies

Product Datasheet

Bently Nevada* Asset Condition Monitoring



Description

The Bently Nevada* product line includes the following all-metal Proximity Probe Housing Assemblies for external mounting of proximity probes:

- The 21000 aluminum probe housing assembly
- The 24701 stainless steel probe housing assembly

The 21000/24701 Proximity Housing Assemblies consist of the following parts:

- A dome cover that screws into the body of the housing
- Threaded ports for conduit connections
- A probe sleeve of optional length
- 0-rings
- A reverse mount proximity probe
- A thread seal
- Optional conduit fittings
- An optional standoff adapter

A newer 31000/32000 proximity probe housing assembly is available with more flexible mounting options, better environmental resistance, and other improved features. We recommend this proximity probe housing assembly for installations where an explosion proof housing is not required. See 31000 and 32000 Proximity Probe Housings product datasheet (Document 141610).

The 21000/24701 Proximity Housing Assemblies are available with Canadian Standards Association (CSA) approvals. They are rated explosion proof for hazardous areas.

You can order hazardous area approved proximity probes with 21000 aluminum and 24701 stainless steel housings for intrinsically safe applications. Both housings are certified as CSA Type 4 enclosures and are fully compliant with the American Petroleum Institute's (API) 670 Standard for externally mounted proximity probe housings.

Sleeve length is determined by the location in which the probe and housing will be installed. The probe lead must be longer

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than the sleeve. Sleeve lengths longer than 304 mm (12 inches) require additional sleeve support to reduce the vibration associated with unsupported long sleeve lengths.

Bently Nevada offers a probe support and oil seal, part number 37948-01, for long sleeves that must go through an inner bearing housing. We also make custom sleeve supports.

Related Documents

For probe information, refer to the following manuals:

- 3300 XL 8 mm Proximity Transducer System (Document 141078)
- 3300 XL NSv* Proximity Transducer System (Document 147357)
- 3300 XL 11 mm Proximity Transducer System (Document 146255)
- Radiation Resistant Probe & Proximitor* System (Document TW8029407)

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Specifications

Environmental

Temperature Range

3300 XL 8 mm Probe	
Operating and storage	-51 °C to +177 °C (-60 °F to + 351 °F)
3300 XL 11 mm Probe	
Operating and storage	-51 °C to + 177 °C (-60 °F to + 351 °F)
3300 NSV Probe	
Operating	-34 °C to +177 °C (-30 °F to + 351 °F)
Storage	-51°C to +177 °C (-60 °F to +351 °F)

CAUTION

EQUIPMENT DAMAGE Exposing 3300 XL or 3300 NSV probes to temperatures below -34 °C (-30 °F) may cause premature failure of their pressure seals.

Mechanical

Material	
21000	Aluminum body with 304 stainless steel sleeve
24701	303 stainless steel body, with 304 stainless steel sleeve
Mass (Weight)	
21000	1.1 kg (2.4 lb) typical, without fittings
24701	1.8 kg (4.1 lb) typical, without fittings
Monitor Module	1 full-height front slot
I/O Modules	1 full-height rear slot

Hazardous Area Approvals 21000 and 24701

For the detailed listing of country and product specific approvals, refer to the Approvals Quick Reference Guide, Document **108M1756**, at **www.GEmeasurement.com.**

CA housings are certified by CSA for explosion-proof applications in the following areas:

North America	Class 1 Divisions 1 and 2 Groups C D Class 2 Divisions 1 and 2 Groups E F G Class III Enclosure Type 4 T5 @ Ta = -50 °C to +40 °C T4 @ Ta = -50 °C to +80 °C

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Ordering Information

For the detailed listing of country and product specific approvals, refer to the **Approvals Quick Reference Guide**, document 108M1756, at **www.GEmeasurement.com**.

21000/24701 Proximity Housing Assemblies

21000-AXX-BXX-CXX-DXXX-EXX-F02
24701-AXX-BXX-CXX-DXXX-EXX-FXX

Explosion-Proof Housing Assemblies

CA21000-AXX-BXX-CXX-DXXX-EXX-F02
CA24701-AXX-BXX-CXX-DXXX-EXX-FXX

Options **A:00** and **B:00** go together. If you choose A:00, you must also select B:00.

A: Probe with connector

- **00** Probe not required
- **14** 420 Nuclear
- **15** 300 Nuclear
- **16** 3300 XL 8 mm probe
- **26** 3300 NSV probe
- **27** 3300 NSV probe, selectable hazardous area approvals
- **28** 3300 XL 8 mm probe, selectable hazardous area approvals
- **29** 3300 XL 11 mm probe
- **30** 3300 XL 11 mm probe, selectable hazardous area approvals
- **31** 3300 NSV probe with connector protector
- **32** 3300 NSV probe with connector protector, selectable hazardous area approvals
- **33** 3300 XL 8 mm probe with connector protector
- **34** 3300 XL 8 mm probe with connector protector, selectable hazardous area approvals
- **35** 3300 XL 11 mm probe with connector protector
- **36** 3300 XL 11 mm probe with connector protector, selectable hazardous area approvals
- **37** 3300 XL 8 mm probe, ETR, selectable hazardous area approvals (**available for 21000 only**)

For **Non-Explosion-Proof** housings, if you choose a probe with selectable hazardous area approvals, the probe approval option must be set appropriately for the end user country.

When ordering a proximitor and an extension cable with the housing, choose a probe approval option to match the approval option of the proximitor and cable.

NOTE: Probes for CA21000 or CA24701 can only be ordered with multiple approvals. CA versions may

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be ordered with no probe when the **A:00** option is selected.

B: Probe cable length

00 Probe cable not required
05 0.5 metre (20 in)
10 1.0 metre (39 in)

Note: 3300 XL 11 mm probe cables are available in 1.0 metre only.

See "Tables" on page 8.

CAUTION

CABLE DAMAGE

If the cable is too long, it can be damaged when the housing lid is screwed onto the housing.

C: Standoff adapter (Option C Dimension)

Minimum Length	1.5 in = 1 5 (38 mm)
Maximum length	7.5 in = 7 5 (191 mm)
Example	1.5 in (38 mm) = 1 5 No standoff adapter = 0 0
Recommendation	Order in increments of 0.5 in (13mm)

D: Probe penetration (Option D Dimension)

Minimum Length	1.0 in = 0 1 0 (25.4 mm)
Maximum length	See See "Tables" on page 8.
Example	3.7 in (94 mm) =037 22.4 in (569 mm) = 224
Recommendation	Order in increments of 0.1 in (3mm)

Probe P/N and S/N may be displayed on a flag label for some combinations of the C plus D options where only a small section of the probe cable is visible. See See "Tables" on page 8.

For probe penetration lengths between 1.0 and 2.0 inches, counter bore may be required in machine case to reduce probe side view or rear view effects.

C plus D lengths greater than 300 mm (12 in) require additional sleeve support near the probe to prevent resonance from occurring. Adjustment range of probe penetration option D is 13 mm (± 0.5 in). For maximum C plus D, See "Tables" on page 8

See "Tables" on page 8.

E: Fittings

00 Without fittings
01 One Explosion-proof fitting and one plug
02 Two Explosion-proof fittings
03 One 3/4-14 NPT plug
one 3/4-14 to 1/2-14 NPT reducer
One cable seal grip with grommets for the following cable sizes:
1/8 to 3/16 inches
1/4 to 5/16 inches
5/16 to 3/8 inches
04 One 3/4-14 NPT plug only

Note: Although explosion-proof fittings are available for all housings, only CA versions of the housing are rated as explosion-proof by CSA when ordered with the **E:00**, **E:01**, **E:02**, or **E:04** options.

F: Mounting Thread

01 As cast
Without threads
02 3/4-14 NPT (see note below)
Must be ordered if Standoff Adapter Length Option is not 00.
03 1-11 1/2 NPT (see note below)
04 1/2-14 BSP
05 7/8-14 UNF-2A

Note: For 21000 and CA21000 housings, option F must be 02.

Note: Options **02** and **03** for mounting threads have more threads than standard NPT threads. They have been machined to have approximately 5 - 7 full threads to increase mounting strength and stiffness.

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Accessories

Part Number	Description
37948-01	Probe Support / Oil Seal Recommended for sleeves longer than 305 mm (12 in)

Individual Probe Sleeve for 21000/24701 Proximity Probe Housings 44382-AXXX

1. Measured probe sleeve length

   Order in increments of 0.1 in (3 mm).

   The individual probe sleeve length does **not** include the distance from the end of the sleeve to the probe tip or the gap from the probe tip to the target material. If only the part number of the original housing is known, and the sleeve cannot be measured, use the following table to determine the sleeve length:

AXXX	Description	Example
Standoff adapter option from original housing (21000, CA21000,24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) and 0 4 5	All housing AXX options except NSv and 11 mm probes (options other than A:06, A:12, A:26, A:27, A:29, A:30, A:31, A:32, A:35, or A:36)	Original part number 21000-16-10-15-035-03-02 **AXXX** option for replacement sleeve (015 + 035 + 045) = 0 9 5
Standoff Adapter Option from original housing (21000, CA21000,24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) and 0 4 6	Housing AXX options for 3300 NSv probe options (A:26, A:27, A:31, or A:32)	Original part number 24701-31-10-15-090-03-02 **AXXX** option for replacement sleeve (015 + 090+ 046) = 151
Standoff Adapter Option from original housing (21000, CA21000,24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) and 0 3 7	Housing AXX options for 3300 XL 11 mm probe options (A:29, A:30, A:35, or A:36)	Original part number CA24701-36-10-40-053-02-02 **AXXX** option for replacement sleeve (040 + 053+ 037) = 130
Standoff Adapter Option from original housing (21000, CA21000,24701, or CA24701 option C) **plus** Probe penetration option from original housing (21000, CA21000, 24701, or CA24701 option D) and 0 3 9	Housing AXX options for 7200 Series 11 mm probe options (A:06 or A:12)	Original part number CA24701-12-10-30-113-01 -02 **AXXX** option for replacement sleeve (030 + 113+ 039) = 182

Minimum Probe Sleeve Length	
For all probes except NSv and 11 mm probes	5.5 in (140 mm) = 0 55
3300 NSv probe	5.5 in (142 mm) = 05 6
3300 XL 11 mm probe	4.7 in (119 mm) = 04 7
Maximum Probe Sleeve Length	
All 0.5 metre probes except NSv and 11 mm probes	18.0 in (457 mm) = 180
3300 NSv 0.5 metre probe	18.1 in (460 mm) = 181
7200-series 0.5 metre 11 mm probe	15.4 in (391 mm) = 15 4
All 1.0 metre probes except NSv and 11 mm probes	33.7 in (856 mm) = 3 3 7
3300 NSv 1.0 metre probe	33.8 in (859 mm) = 338
3300 XL 1.0 metre 11 mm probe	32.9 in (836 mm) = 32 9
7200 Series 1.0 metre 11 mm probe	33.1 in (841 mm) = 331

Individual Standoff Adapter 21003-AXXX

Ordering Information	Order in increments of 0.5 in (13 mm)

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Minimum length	1.5 in = 0 1 5 (38 mm)
Maximum length	7.5 in = 0 7 5 (191 mm)
Example 1	4.5 in (114 mm) =045 For desired probe penetration lengths of less than 25 mm (1.0 in), order a separate Individual Standoff Adapter. The effective probe penetration length will then be reduced by the length of the Individual Standoff Adapter, **plus** an additional 13 mm (0.5 in) due to the NPT thread engagement.
Example 2	To have a probe penetration length of 13 mm (0.5 in), order a 21000 housing with DXXX (probe penetration) option of 0 3 0 [76 mm (3 in)] and a separate individual standoff adapter that is 51 mm (2.0 in) in length (part number 21003-020). The standoff adapter covers 38 mm (2.0 in) of the probe sleeve **plus** an additional 13 mm (0.5 in). Therefore, the effective probe penetration length drops to 13 mm (0.5 in). Signal affects due to probe side view or rear view of metal components are likely when you use effective penetration lengths of less than 1.0 inch.

Spare 3300 XL 8 mm Reverse Mount Probe, 3/8-24 UNF threads 330105-02-12-CXX-DXX- EXX

C. Total Length

- **05** 0.5 metre (1.6 feet)
- **10** 1.0 metre (3.3 feet)
- **15** 1.5 metre (4.9 feet)
- **20** 2.0 metres (6.6 feet)
- **50** 5.0 metres (16.4 feet)
- **90** 9.0 metres (29.5 feet)

D. Connector

- **00** Connector not installed
- **02** Miniature ClickLoc* coaxial connector

E. Agency Approval

- **00** Not required
- **05** Multiple approvals

Spare 3300 NSV Reverse Mount Probe, 3/8-24 UNF threads 330906-02-12-CXX-DXX-EXX

C. Total Length

- **05** 0.5 metre (1.6 feet)
- **10** 1.0 metre (3.3 feet)
- **50** 5.0 metres (16.4 feet)
- **70** 7.0 metres (23.0 feet)

D. Connector

- **00** Connector not installed
- **02** Miniature ClickLoc coaxial connector

E. Agency Approval

- **00** Not required
- **05** Multiple approvals

Spare 3300 XL 11 mm Reverse Mount Probe, 3/8-24 UNF threads 330705-02-18-CXX-DXX-EXX

C. Total Length

- **10** 0.5 metre (1.6 feet)
- **50** 5.0 metres (16.4 feet)
- **90** 9.0 metres (29.5 feet)

D. Connector

- **00** Without connector
- **02** With miniature male coaxial connector

E. Agency Approval

- **00** Not required
- **05** Multiple approvals

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Tables

Table 1: Part Dimensions in mm(inches). Figure 1 on page 1.

Catalog Number	Dimension			
	A	B	C and D	E
21000	83.3 (3.28)	161.6 (6.36)	See Ordering Option C &D	26.7 (1.05)
24701	78.2 (3.08)	151.9 (5.97)	See Ordering Option C &D	27.9 (1.10)

Table 2: Maximum Length of C and D Dimension for Proximity Probes

Probe Cable Length	Maximum C and D Dimension
0.5 metre (3300 Series)	343 mm (13.5 in)
1.0 metre	742 mm (29.2 in)

Table 3: Maximum C and Dimension with Standard P/N and S/N Label (non-flag label)

Probe Cable Length	Maximum C and D Dimension
0.5 metre	Not visible
1.0 metre	432 mm (17 m)

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Graphs and Figures

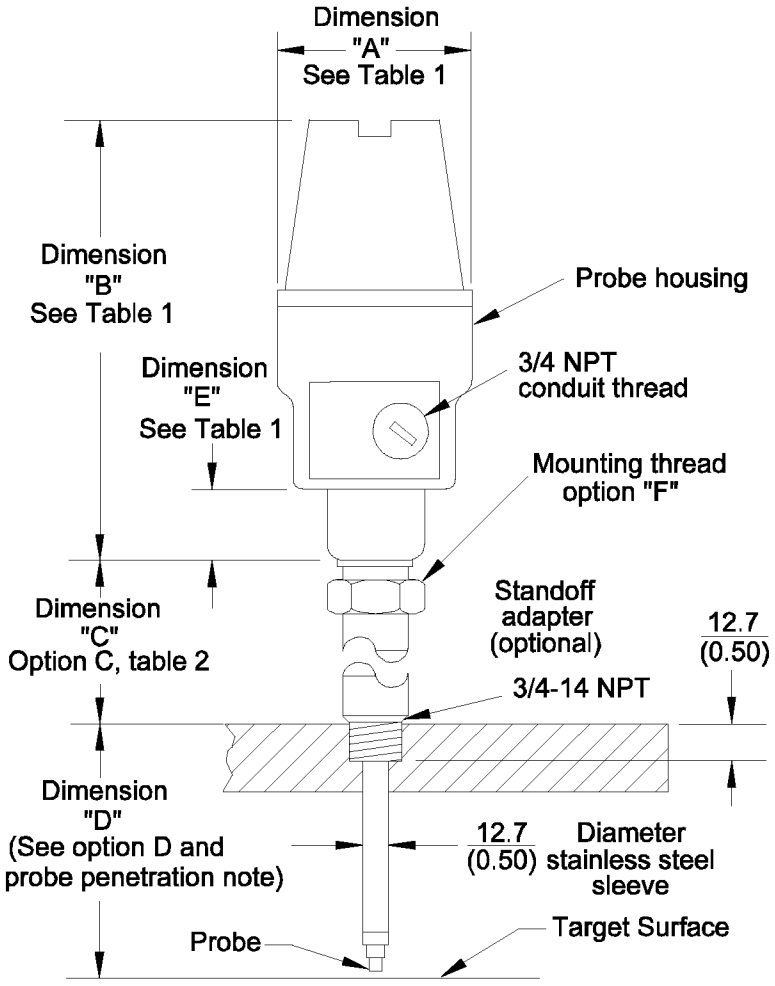


Figure 1: The 21000/24701 Proximity Probe Housing Assemblies
Dimensions are in millimetres (inches).

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