Bently Nevada 21000-28-05-20-029-03-02

Engineering Installation, Diagnostic and Acceptance Guide

Bently Nevada 21000-28-05-20-029-03-02 is a 21000 housing with 3300 XL 8 mm probe, selectable hazardous-area approvals with 0.5 m probe cable, 2.0 in (50.8 mm) standoff and 2.9 in (73.7 mm) penetration. The ordered fittings and mounting interface must match the machine case.

01 Work package

Complete model	21000-28-05-20-029-03-02
Product type	21000 proximity probe housing assembly
Manufacturer	Bently Nevada
Technical source	Bently Nevada 21000, 24701 and 164818 Proximity Probe Housing Assemblies Datasheet, 141600 Rev. AC

Field decisions

1 Establish identity

Capture the full marking, installed companion components and baseline before disconnection.

2 Inspect interfaces

Verify mounting, cable, connector, armor, approval and environmental boundaries.

3 Fit the exact chain

Preserve the documented probe-cable-Proximitor or sensor-monitor relationship.

4 Prove response

Use the approved stopped-machine and operating acceptance procedure.

5 Record as left

Save markings, configuration, test values and operating observations.

Pre-work evidence

Installed drawing	Record the drawing, machine location and channel designation that govern 21000-28-05-20-029-03-02.
Probe marking	Capture the complete order identity and any tag or revision visible on the delivered item.
Mechanical reference	Record thread or sleeve datum, insertion depth, lock position and expected target travel.
Cable identity	Confirm lead construction, connector condition, routing, strain relief and electrical-length relationship.
Companion electronics	Record the matching extension cable, Proximitor or signal conditioner and monitor channel.

02 Interface and configuration map

Housing series	21000
Installed probe option	3300 XL 8 mm probe, selectable hazardous-area approvals
Probe cable length	0.5 m
Standoff adapter	2.0 in (50.8 mm)
Probe penetration	2.9 in (73.7 mm)
Fittings	Plug, reducer and cable-seal grip set
Mounting interface	3/4-14 NPT
Housing material	Aluminum body with AISI 304 stainless-steel sleeve
Environmental protection	Externally mounted housing; approval depends on complete approved arrangement
Typical assembly mass	1.1 kg typical without fittings
Penetration adjustment	+/-0.5 in (13 mm)
Sleeve-support rule	Add support when standoff plus penetration exceeds 12 in (305 mm)
Primary installation	Externally accessible radial probe mounting through a machine case
Safety boundary	Housing is mechanical/environmental protection, not a pressure vessel

Chain controls

Target condition	Confirm target material, width, runout surface and clearance from nearby conductive material.
Static baseline	Record stopped-machine gap or bias and compare it with the approved maintenance baseline.
Operating baseline	Record monitor indication and expected response after the complete channel is returned to service.

03 Installation workflow

Confirm the complete marking

Match every field of 21000-28-05-20-029-03-02 with the installed spare-parts record before removal or installation.

Protect the sensing face

Keep the probe tip, connector and cable free from impact, moisture, metal chips and unsupported loading.

Preserve the mechanical datum

Record reach, thread engagement, lock position and target relationship before disturbing the installed component.

Control the cable route

Maintain the approved bend radius, separation and strain relief; do not twist, kink or crush the coaxial path.

Restore the operating point

Use the approved stopped-machine procedure to restore gap or bias and verify expected target travel.

Prove the complete channel

Verify the as-left electrical reading, monitor indication and operating response before return to service.

Application checks

Radial shaft vibration

Use a documented bearing location and matched transducer chain to measure shaft motion relative to the probe mounting.

Axial position

Aim the probe at an approved conductive thrust target and keep the full expected travel inside the characterized working region.

Phase or speed reference

Use only with an approved once-per-turn target feature and a monitoring channel configured for phase or speed reference.

Installed-channel maintenance

Preserve the exact probe, cable, Proximitor, mounting geometry and machine baseline recorded for the existing channel.

Controlled sequence

01 Isolate	Place the monitored machine and channel in the approved maintenance state; prove the required isolation.
02 Photograph	Capture 21000-28-05-20-029-03-02, the installed datum, connector, route and companion-component markings.
03 Measure	Record mechanical position and the applicable stopped-machine electrical reading before removal.
04 Compare	Check delivered identity, interfaces and evidence against the approved drawing and spare-parts record.
05 Install	Fit without twisting the lead; preserve thread engagement, target clearance, bend radius and strain relief.
06 Set point	Establish the operating gap or datum only with the approved stopped-machine procedure.
07 Prove	Compare local reading, monitor indication and controlled operating response with the accepted baseline.
08 Handover	Record as-left values, photographs, deviations, responsible technician and release approval.

04 Diagnostic decision table

How should the ordered reach of 21000-28-05-20-029-03-02 be established?	Use the 2.0 in (50.8 mm) standoff and 2.9 in (73.7 mm) penetration values with the machine-case datum, then confirm the probe tip reaches the target without exceeding the sleeve adjustment range.
When does 21000-28-05-20-029-03-02 require additional sleeve support?	Provide support near the probe whenever standoff plus penetration exceeds 12 in (305 mm), and review shorter long-reach installations for resonance under machine vibration.
How should the fittings on 21000-28-05-20-029-03-02 be inspected?	Confirm the exact supplied arrangement—Plug, reducer and cable-seal grip set—then verify sealing, cable clearance, conduit direction and unused-port closure.
What must be proved after setting the probe in 21000-28-05-20-029-03-02?	Tighten the retaining arrangement to the documented method, restore the approved gap or bias, and prove monitor indication and operating response before closing the cover.
What evidence should be captured before removing 21000-28-05-20-029-03-02?	Photograph the complete 21000-28-05-20-029-03-02 marking, installed datum, connector, cable route and companion electronics. Record the stopped-machine baseline for the 21000 proximity probe housing assembly.
How should connector integrity be checked on 21000-28-05-20-029-03-02?	Isolate the channel, inspect the coaxial contacts for moisture and damage, verify continuity only with an approved method, and provide strain relief so the connector carries no cable load.

What commissioning record is required for 21000-28-05-20-029-03-02?	Retain the exact markings, mechanical datum, companion-component identities, as-left gap or bias, monitor indication and the accepted operating response.
When should 21000-28-05-20-029-03-02 be withheld from service?	Do not release the channel if the complete identity, mechanical fit, cable construction, connector, approval marking or measured response differs from the approved installed record.

Release review

Installation relationship	Combine the 2.0 in (50.8 mm) standoff and 2.9 in (73.7 mm) penetration with the machine-case datum to establish probe position.
Protection boundary	Externally mounted housing; approval depends on complete approved arrangement; the housing does not establish process-pressure containment or complete intrinsically safe approval.
Technical reference	Bently Nevada 21000, 24701 and 164818 Proximity Probe Housing Assemblies Datasheet, 141600 Rev. AC.

Engineering questions

How should the ordered reach of 21000-28-05-20-029-03-02 be established?	Use the 2.0 in (50.8 mm) standoff and 2.9 in (73.7 mm) penetration values with the machine-case datum, then confirm the probe tip reaches the target without exceeding the sleeve adjustment range.
When does 21000-28-05-20-029-03-02 require additional sleeve support?	Provide support near the probe whenever standoff plus penetration exceeds 12 in (305 mm), and review shorter long-reach installations for resonance under machine vibration.
How should the fittings on 21000-28-05-20-029-03-02 be inspected?	Confirm the exact supplied arrangement—Plug, reducer and cable-seal grip set—then verify sealing, cable clearance, conduit direction and unused-port closure.
What must be proved after setting the probe in 21000-28-05-20-029-03-02?	Tighten the retaining arrangement to the documented method, restore the approved gap or bias, and prove monitor indication and operating response before closing the cover.
What evidence should be captured before removing 21000-28-05-20-029-03-02?	Photograph the complete 21000-28-05-20-029-03-02 marking, installed datum, connector, cable route and companion electronics. Record the stopped-machine baseline for the 21000 proximity probe housing assembly.
How should connector integrity be checked on 21000-28-05-20-029-03-02?	Isolate the channel, inspect the coaxial contacts for moisture and damage, verify continuity only with an approved method, and provide strain relief so the connector carries no cable load.
What commissioning record is required for 21000-28-05-20-029-03-02?	Retain the exact markings, mechanical datum, companion-component identities, as-left gap or bias, monitor indication and the accepted operating response.
When should 21000-28-05-20-029-03-02 be withheld from service?	Do not release the channel if the complete identity, mechanical fit, cable construction, connector, approval marking or measured response differs from the approved installed record.

Acceptance and support

Retain the full marking, installed-chain identities, test readings and approved machine configuration. Confirm the exact offered item and included scope in the written quotation.

Discuss the exact marking and installed application with Apter Power.
sales13@apterpower.com | +86 18030235313

Verified related product references

Related product	330930-040-03-00
Related product	84661-96
Related product	330102-00-28-10-02-05
Related product	330104-00-16-10-02-00

Commissioning record template

Installed asset	Machine, bearing, channel or cabinet reference
Companion identities	Probe, cable, sensor, interface or monitor markings

Mechanical datum	Mounting reference, reach, alignment or sealing condition
Electrical datum	Chain length, connector, shield, supply or input assignment
Before-work baseline	Gap, bias, vibration, continuity or channel observation
As-left result	Final measured value and functional proof
Approval basis	Applicable drawing, control requirement or site procedure
Handover	Technician, date, revision and maintenance-record location

Escalation triggers

Identity conflict	Stop if the complete marking, suffix, revision or approval identity differs from the approved record.
Host mismatch	Escalate if the rack, carrier, backplane, terminal unit or controller assignment is not documented for 21000-28-05-20-029-03-02.
Interface damage	Do not energize with bent contacts, damaged insulation, loose retainers, contamination or heat discoloration.
Environmental breach	Review any exposure beyond the documented temperature, vibration, humidity, contamination or enclosure boundary.
Unapproved substitution	Do not transfer ratings or compatibility from an adjacent order code without manufacturer evidence.
Configuration conflict	Stop if hardware settings, firmware, channel assignment or project configuration disagree with the installed record.
Unstable measurement	Investigate noise, drift, intermittent status or inconsistent readings before replacing another component.
Failed functional proof	Keep the asset in the approved maintenance state until the complete acceptance sequence is passed and recorded.

Evidence package

Nameplate evidence	Overall and close photographs showing 21000-28-05-20-029-03-02, revision, approval and serial details where present.
Installation evidence	Views of the rack position, mechanical datum, terminal assignment, cable route and strain relief.
Configuration evidence	Export or screenshots identifying the approved hardware assignment and parameters without exposing credentials.
Baseline evidence	As-found readings with units, test conditions, machine state and the instrument used.
Inspection evidence	Connector, contact, insulation, fastener, contamination and heat-condition observations.
Functional evidence	As-left readings and the controlled input, output or channel response used for acceptance.
Change evidence	Any wiring, setting, firmware or mechanical change linked to its approved work reference.
Release evidence	Technician, reviewer, date, asset reference and the maintenance-record location for traceability.

Evidence quality controls

Traceability	Each value is tied to 21000-28-05-20-029-03-02, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.
Change control	Every changed setting, connection or mechanical datum has an approved reason and reviewer.
Retention	Evidence remains accessible with the maintenance record for future troubleshooting and replacement review.