Bently Nevada 3300/50-02-02-00-00

Installation & Commissioning Guide

01 Define the zero-speed annunciation task

Identify the ordered configuration

Order options 02/02/00/00 select zero-speed monitoring, hermetically sealed relays, no requested agency approval and no safety barriers. Preserve the configured transducer and event settings. Match the rear zero-speed input/relay module and the installed rack position. Retain the complete suffix string in the service record.

Preserve the safety boundary

The tachometer is not designed for speed control or overspeed protection, either independently or as a component of such a system. The alert contacts are for annunciation and analog outputs for logging or chart recording. Maintain separate suitable protective functions.

Record the signal arrangement

Record both transducer references, target geometry, events-per-revolution ratio, threshold mode and hysteresis. The two-input voting arrangement reduces false indications from a single transducer failure but does not establish a redundant overspeed-protection system.

Prepare rack access

Apply the site isolation and machinery-monitoring maintenance procedure. Identify the effect of disturbing the speed signal, enable circuit and relay contacts. Preserve the rack configuration and receiver settings before replacement and handle exposed circuit boards with ESD precautions.

Field reference

Tachometer type	02 - Zero speed
Alert relay option	02 - Hermetically sealed
Agency approval option	00 - Not required
Safety barrier option	00 - None

02 Check transducer signals and trigger configuration

Use an appropriate low-speed source

The tachometer supports Bently Nevada 3300, 7200 and 3000 proximity systems and magnetic pickups, but magnetic pickups are not recommended for zero-speed monitoring. Verify the low-speed signal from the selected proximity arrangement using the applicable transducer instructions.

Match threshold to the signal

Manual threshold can be selected from 0 to -18 Vdc, with hysteresis from 0.2 to 2.0 V. Auto threshold applies above 10 Hz up to 10 kHz. Evaluate the required low-speed pulses against the configured threshold rather than relying on a high-speed trigger check.

Retain the event ratio

Events per revolution uses numerator and denominator settings from 1 to 255, with a ratio of at least 0.1. Compare the programmed ratio with the actual target and pulse source. An incorrect ratio changes the interpreted speed and the alarm test result.

Inspect the buffered inputs

Front-panel buffered coaxial connections provide each transducer signal, with short-circuit protection and 100-ohm output impedance. Keep this diagnostic signal separate from the scaled rear recorder output. Confirm both input channels under the planned operating conditions.

Field reference

Manual threshold	0 to -18 Vdc
Hysteresis	0.2-2.0 V
Event ratio	Numerator/denominator each 1-255; ratio at least 0.1
Input impedance	10 kilohms

Source	Setting	Result
Match both transducers and the target	Preserve scale and trigger or input choices	Prove the indicated and recorded measurement

03 Configure zero-speed detection and output circuits

Set the zero-speed alert

The zero-speed threshold can be selected below 100 rpm. Alarm setpoints are stored in nonvolatile memory. Use the correct module adjustment procedure and record the threshold separately from the recorder full-scale setting.

Include pulse qualification

After power-up, one valid pulse is required before alarm detection is enabled. Zero-speed detection then uses three valid input triggers; when these are not present at standstill, up to one minute is required to declare an alarm. Include this behavior in the test sequence.

Match the hermetic relay hardware

The order specifies hermetically sealed alert relays, no requested agency approval and no safety barriers. Confirm the zero-speed rear-module identity and contact circuit. Relay sealing alone does not confer an approval for a hazardous installation.

Match recorder type and load

Select 4-20 mA, 1-5 Vdc or 0 to -10 Vdc and confirm receiving-system scaling. Current output supports 0-600 ohms; voltage output requires at least 10 kilohms. These outputs are intended for logging or chart recording, not speed control.

Field reference

Alert range	Below 100 rpm
Power-up qualification	One valid input pulse
Standstill declaration	Up to one minute when three triggers are absent
Relay configuration	Hermetically sealed

Decision	Output	Verification
Use the configured measurement and setpoint	Check relay mode and the receiving circuit	Measure delay and prove reset behavior

04 Commission the low-speed measurement

Prove each input and the voting response

Using the approved machine test or signal source, confirm pulse validity for both channels and the indicated speed. Evaluate the planned response to a single input problem under the manufacturer procedure without assuming that voting creates protective redundancy.

Test the power-up sequence

Verify the pre-pulse condition, provide the required valid pulse, then test the selected low-speed threshold and standstill behavior. Record actual elapsed time and relay indication. A test that starts only after continuous high-speed pulses does not prove the power-up qualification.

Check the receiving circuits

Compare the front-panel speed with the analog recorder input and prove the intended annunciator contact response. Restore the approved scaling, relay mode and reset configuration after the test. Confirm that no speed-control or protective trip function depends on this monitor.

Resolve diagnostic states

The green trigger indicators, red alert/bypass indications and LCD provide the operating state. A 5 Hz OK flash indicates stored errors. Separate valid stopped-shaft behavior from a wiring, trigger or monitor fault, and retain the diagnostic record before release.

Field reference

Signal acceptance	Both transducers trigger correctly
Logic acceptance	Power-up pulse and low-speed delay tested
Output acceptance	Recorder and annunciator match the test
Release acceptance	Normal configuration restored; faults resolved

Observe	Resolve	Release
Record signal and diagnostic indications	Correct the fault and repeat the affected test	Restore normal settings and retain results

05 Handover and lifecycle planning

Retain the zero-speed service package

Keep 3300/50-02-02-00-00 with the rear module, transducers, event ratio, threshold and hysteresis, zero-speed setpoint, relay settings and recorder scaling. Include the power-up and standstill test results with the final rack configuration.

Plan the system transition

The 3300 platform reached obsolete Phase 5 in March 2014; manufacturer repair and replacement support ended in 2017. A future change should review the complete low-speed annunciation and machine-protection architecture rather than assuming a newer monitor is a direct replacement.

Explore other Bently Nevada references

Portfolio navigation only; no compatibility or substitution is implied.

Bently Nevada 3300/03-03-00	View product
Bently Nevada 3300/03-02-01	View product
Bently Nevada 3300/61-03-01-01-00-00-00	View product

Discuss the complete offered reference

Bently Nevada 3300/50-02-02-00-00

New, original product

sales13@apterpower.com | +86 18030235313

Technical reference

Bently Nevada 3300/50 Tachometer Specifications and Ordering Information, 141512-01 Rev. H

Apter Power engineering guide. Use the complete manufacturer and machine instructions for installation and release.