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

Technical Reference

Bently Nevada 3300/50-02-02-00-00 is a 3300 zero-speed tachometer with two transducer inputs and hermetically sealed alarm relays for speed annunciation.

Exact order-code identity

Tachometer type	02 - Zero speed
Alert relay option	02 - Hermetically sealed
Agency approval option	00 - Not required
Safety barrier option	00 - None
Transducer inputs	Two proximity or magnetic-pickup signals; magnetic pickups not recommended for zero speed

Operating role

Although it produces a single speed measurement, the monitor accepts two transducer signals and applies internal voting to reduce false indications when one transducer fails. Supported input families include Bently Nevada 3300, 7200 and 3000 proximity systems and magnetic pickups; magnetic pickups are specifically not recommended for zero-speed monitoring.

Scope and application boundary

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.

Apter Power technical reference compiled from the applicable Bently Nevada material; not an original manufacturer manual.

02 Input and measurement architecture

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.

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

03 Configuration and technical limits

Zero-speed alert range	Selectable below 100 rpm
Signal input impedance	10 kilohms
Nominal power consumption	2.5 W
Manual trigger threshold	0 to -18 Vdc
Trigger hysteresis	Selectable 0.2-2.0 V
Recorder formats	4-20 mA; 1-5 Vdc; 0 to -10 Vdc
Operating temperature	0 to +65°C
Application limitation	Not for speed control or overspeed protection

Configuration relationship

Zero Speed Alert can be selected at a speed below 100 rpm. Detection uses three valid input triggers; when these are absent at standstill, up to one minute is required to declare the alarm. One valid pulse after power-up is required to enable alarm detection. These timing conditions must be included in the annunciator commissioning test.

Use boundary

Manual trigger threshold is adjustable from 0 to -18 Vdc and hysteresis from 0.2 to 2.0 V. Recorder format can be selected as 4-20 mA, 1-5 Vdc or 0 to -10 Vdc. The hermetically sealed relay option does not change the application boundary: the tachometer must not be used independently or as part of a speed-control or overspeed-protection system.

04 Diagnostics and commissioning decisions

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.

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

05 Engineering interpretation and references

What does option 02 specify in 3300/50-02-02-00-00?

The first 02 selects the Zero Speed Tachometer type. The second 02 specifies hermetically sealed alert relays; the following 00/00 options mean no requested agency approval and no safety barriers.

At what speed can the zero-speed alert on 3300/50-02-02-00-00 be set?

The zero-speed alert can be selected and changed at a speed below 100 rpm. Use the intended threshold and verify it with controlled pulses representing the installed transducer and events-per-revolution configuration.

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

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Technical reference

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

This is an Apter Power-authored reference. It does not replace the complete manufacturer and machine instructions.