# Bently Nevada 3300/52-01-00-00

Technical Reference

Bently Nevada 3300/52-01-00-00 detects reverse shaft rotation from two proximity-transducer signals and provides forward/reverse speed indication in a 3300 rack.

## Exact order-code identity

| | |
|---|---|
| Monitor function | Reverse rotation and forward/reverse speed |
| Alert relay option | 01 - Epoxy sealed |
| Agency approval option | 00 - Not required |
| Barrier option | 00 - None |
| Transducer family | Bently Nevada 3300, 7200 or 3000 proximity systems |

## Operating role

Forward rotation is established by the target notch reaching transducer A and then transducer B. The mounting arrangement must preserve the required overlap between the probe signals; an axially offset probe arrangement can be used to obtain the prescribed spacing. Incorrect signal order can reverse the interpretation of machine direction.

### Scope and application boundary

Order options 01/00/00 specify epoxy-sealed relays, no requested agency approval and no barriers. Verify transducer sequence, event count and the external reverse-alarm enable circuit.

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

# 02 Input and measurement architecture

### Prove the forward pulse sequence

For forward rotation, the notch is detected by transducer A before transducer B. The target must provide the prescribed signal overlap. Confirm the sequence from the actual signal traces and machine drawing; exchanging the two inputs changes the direction interpretation.

### Retain the specified probe geometry

The archived drawing allows axial offset to obtain the proper transducer spacing. Use the manufacturer arrangement and the actual target geometry rather than setting probes solely by apparent physical spacing. Confirm the mounting condition through the operating range.

### Choose the correct input route

The reference supports Bently Nevada 3300, 7200 and 3000 proximity systems, with external transducer inputs or appropriate system Keyphasor inputs. The input impedances differ: 10 kilohms for external transducers and 130 kilohms for system Keyphasor transducers.

### Set trigger threshold and hysteresis

Manual trigger threshold is adjustable from 0 to -24 Vdc. Hysteresis choices are 0.2, 0.5, 1.0 and 2.0 V. Confirm the actual gap and pulse excursions against the selected trigger conditions before interpreting direction or speed.

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|---|---|
| Forward order | A then B |
| External input impedance | 10 kilohms |
| System Keyphasor impedance | 130 kilohms |
| Trigger range | 0 to -24 Vdc |

## 03 Configuration and technical limits

| | |
|---|---|
| Reverse alarm enable | External contact closure at signal-input module |
| Speed range, 1 event/revolution | 0.05-20,000 rpm |
| Speed range, 2 events/revolution | 0.05-10,000 rpm; external transducers only |
| Speed accuracy | ±(0.02% of reading + 1 rpm) at +25°C |
| Nominal power consumption | 2 W |
| Manual trigger threshold | 0 to -24 Vdc |
| Recorder outputs | Separate forward and reverse speed outputs |
| Operating temperature | 0 to +65°C |
| Application limitation | Not for speed control or overspeed protection |

## Configuration relationship

With one event per revolution, the indicated speed range is 0.05-20,000 rpm; with two events per revolution it is 0.05-10,000 rpm. The two-event option is valid only for external transducer inputs. At +25°C, speed indication accuracy is ±(0.02% of reading + 1 rpm). Trigger threshold is adjustable from 0 to -24 Vdc, with selectable hysteresis from 0.2 to 2.0 V.

### Use boundary

A contact closure at the signal-input module enables the reverse-rotation and reverse-speed alarms. Separate recorder outputs represent forward and reverse speed, with 4-20 mA, 1-5 Vdc or 0 to -10 Vdc formats. Reverse rotation alarm delay is three shaft revolutions or one second, whichever is longer. This monitor is not intended for speed control or overspeed protection.

# 04 Diagnostics and commissioning decisions

### Test forward and reverse signals

Use the approved machine or signal-simulation test to prove the A/B order in each direction. Check indicated rpm, direction and the enabled state together. Verify the target overlap and input validity before interpreting a reverse-rotation event.

### Apply the relevant measurement tolerance

At +25°C, speed indication accuracy is ±(0.02% of reading + 1 rpm). The recorder has additional format-dependent error. Use the correct tolerance for the measured quantity and retain the applied signal, event count and displayed result.

### Prove enable and contact response

Confirm the disabled and enabled conditions, then check reverse-rotation and speed alarm responses with the intended delay and reset configuration. Test the receiving annunciator independently of the front-panel indication and restore normal operating conditions afterward.

### Retain diagnostic and event information

The display provides gap, speed setpoints, maximum reverse speed and reverse-rotation count through its front-panel controls. Record useful event and diagnostic information before clearing it, and resolve invalid triggering or monitor errors before returning the channel to service.

| | |
|---|---|
| Direction test | Forward A/B order and reverse order proved |
| Speed test | Correct event count and indicated rpm |
| Alarm test | Enable, delay, contacts and reset proved |
| Final record | Configuration and event information retained |

# 05 Engineering interpretation and references

### How does 3300/52-01-00-00 identify the forward direction?

The target notch reaches transducer A before transducer B for forward rotation. Correct spacing and overlap of the two proximity signals are essential; retain the machine-specific probe drawing when replacing components.

### What is the function of the external enable contact on 3300/52-01-00-00?

Closing the contact at the signal-input module enables both the reverse-rotation alarm and the reverse-speed alarm. Include this contact and its intended operating state in the commissioning checks.

### Explore other Bently Nevada references

Portfolio navigation only; no compatibility or substitution is implied.

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|---|---|
| **Bently Nevada 3300/55-01-04-18-18-00-00-05-00** | View product |
| **Bently Nevada 3300/26-XX-XX-XX-00-00-01-00** | View product |
| **Bently Nevada 3300/65-13-01-00-00-01-00** | View product |

### Discuss the complete offered reference

Bently Nevada 3300/52-01-00-00

New, original product

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### Technical reference

Bently Nevada 3300/52 Reverse Rotation Monitor, archived Specifications and Ordering Information reference associated with document 141513

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