

# Bently Nevada 3500/50M 133442-01

Two-channel tachometer I/O module

**Product identity and system role**

Bently Nevada 3500/50M 133442-01 is the internal-termination I/O module for a two-channel tachometer assembly used for speed, rotor acceleration and direction measurements.

**01 / FUNCTION**

Accepts proximity-probe or magnetic-pickup speed signals.

**02 / FUNCTION**

Supports speed, rotor acceleration and direction measurements.

**03 / FUNCTION**

Provides 4-20 mA recorder outputs and buffered transducer access.

**04 / FUNCTION**

Operates as a monitoring tachometer and not as an overspeed-protection or speed-control device.

| IDENTITY FIELD       | VERIFIED VALUE                                  |
|----------------------|-------------------------------------------------|
| Exact spare identity | 133442-01 I/O module with internal terminations |
| Channels             | 2 tachometer channels                           |
| Input transducers    | Proximity probe or magnetic pickup              |
| Input range          | +10 to -24 V                                    |

# Official technical parameters

Bently Nevada 3500/50M 133442-01 / manufacturer-published values

| PARAMETER                | OFFICIAL VALUE                                                       |
|--------------------------|----------------------------------------------------------------------|
| Exact spare identity     | 133442-01 I/O module with internal terminations                      |
| Channels                 | 2 tachometer channels                                                |
| Input transducers        | Proximity probe or magnetic pickup                                   |
| Input range              | +10 to -24 V                                                         |
| Standard input impedance | 20 kOhm                                                              |
| Power consumption        | 5.8 W typical for monitor assembly                                   |
| Transducer supply        | 24 Vdc, 40 mA per channel                                            |
| Maximum displayed speed  | 99,999 rpm                                                           |
| Maximum input frequency  | 20 kHz                                                               |
| Events per revolution    | 1-255 for acceleration/zero-speed; 0.0039-255 for other measurements |
| Recorder output          | 4-20 mA; 0-600 Ohm; 100 ms or less                                   |
| Functional restriction   | Not for overspeed protection or closed-loop speed control            |

## Official evidence boundary

Official evidence: 3500/50M Tachometer Module Datasheet, 141538 Rev. V. Technical statements in this document are limited to that manufacturer publication and the exact ordering identity shown.

# Applications and engineering checks

Bently Nevada 3500/50M 133442-01

## Machine speed indication

Measure rotational speed from a compatible proximity probe or magnetic pickup.

## Rotor acceleration

Calculate acceleration using the documented events-per-revolution configuration.

## Direction measurement

Use the correct paired input arrangement for rotational direction.

## Zero-speed observation

Use a suitable proximity input; magnetic pickups are not appropriate at zero speed.

## 01 / PRECAUTION

Confirm 133442-01 is the internal-termination I/O module and retain the matching front tachometer monitor.

## 02 / PRECAUTION

Match the selected transducer type and input polarity to the installed channel.

## 03 / PRECAUTION

Do not use the 3500/50M as the machine overspeed protection or speed-control loop.

## 04 / PRECAUTION

Do not rely on a magnetic pickup for reverse or zero-speed detection.

## 05 / PRECAUTION

Set events per revolution from the actual target geometry.

## 06 / PRECAUTION

Verify input frequency and reported speed through a controlled rotation test.

## 07 / PRECAUTION

Check 4-20 mA scaling and external load before accepting the recorder output.

## 08 / PRECAUTION

Record speed, direction, acceleration and channel diagnostic results before service release.

# Model-specific engineering FAQ

Eight evidence-mapped decisions

## What hardware role does 3500/50M 133442-01 have in a 3500/50M tachometer assembly?

133442-01 is the rear I/O module with internal terminations; the complete tachometer channel also uses the matching front monitor and transducers.

## Which transducers may feed 3500/50M 133442-01?

The tachometer accepts proximity-probe or magnetic-pickup inputs when the selected channel configuration and signal envelope match.

## Why must 3500/50M 133442-01 not be assigned to overspeed protection?

The datasheet explicitly excludes the 3500/50M from overspeed-protection and closed-loop speed-control service.

## Can a magnetic pickup on 3500/50M 133442-01 prove reverse or zero-speed operation?

No. Magnetic pickups require motion-generated voltage and are not suitable for reverse or zero-speed detection in this application.

## How is target geometry represented in the setup for 3500/50M 133442-01?

Configure events per revolution from the actual target: 1-255 for acceleration/zero-speed and 0.0039-255 for other measurements.

## What maximum speed-processing limits should be checked for 3500/50M 133442-01?

The monitor supports up to 99,999 rpm indication and a maximum input frequency of 20 kHz, subject to target configuration.

## What recorder-output test applies after installing 3500/50M 133442-01?

Verify 4-20 mA scaling with a 0-600 Ohm load and confirm the update response is 100 ms or less.

## Which acceptance results should be retained for 3500/50M 133442-01?

Record transducer type, target events per revolution, speed, direction, acceleration, channel diagnostics and recorder-output response.

### EVIDENCE MAP A

FAQ 01 — pp. 1, 8-9

FAQ 03 — pp. 1-2

FAQ 05 — pp. 3-4

FAQ 07 — pp. 4-5

### EVIDENCE MAP B

FAQ 02 — pp. 1-3

FAQ 04 — pp. 2-3

FAQ 06 — pp. 3-4

FAQ 08 — pp. 1-9

# Related products and contact

Verified ApterPower navigation links; not approved substitutes

| NO. | RELATED APTERPOWER PRODUCT       | LINK                                             |
|-----|----------------------------------|--------------------------------------------------|
| 01  | Bently Nevada 3500-42E-289837-01 | <a href="#">Bently Nevada 3500-42E-289837-01</a> |
| 02  | Bently Nevada 9200-01-05-10-00   | <a href="#">Bently Nevada 9200-01-05-10-00</a>   |
| 03  | Bently Nevada 9200-02-01-10-00   | <a href="#">Bently Nevada 9200-02-01-10-00</a>   |
| 04  | Bently Nevada 3500-93-135785-02  | <a href="#">Bently Nevada 3500-93-135785-02</a>  |
| 05  | Bently Nevada 3500-94M-184826-01 | <a href="#">Bently Nevada 3500-94M-184826-01</a> |
| 06  | Bently Nevada 126599-01          | <a href="#">Bently Nevada 126599-01</a>          |

## Navigation boundary

These links provide nearby catalogue references only. Confirm the complete machine, rack, I/O, transducer and ordering-code requirements before selecting any alternate article.

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## APTER POWER CONTACT

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