Bently Nevada 330500-07-00

01 Select a representative casing location

1 Understand the measured motion

The Velomitor output represents absolute casing, housing or structural velocity. It does not directly report shaft movement relative to the casing. Establish which mechanical path connects the vibration source to the planned mounting point before relying on the channel for machine assessment.

2 Choose mounting direction deliberately

The solid-state sensor can be used at vertical, horizontal or other orientations. Choose the direction that answers the monitoring objective and keep it reproducible. A change in axis or mounting surface can alter the reading even if the machine itself has not changed.

3 Confirm the receiving input

Use an input intended for the Velomitor signal and set the correct 100 mV/in/s, or 3.94 mV/mm/s, sensitivity. Record the configured engineering units and filter bandwidth. A channel set for an accelerometer will not interpret the velocity output correctly.

Quantity	Absolute casing vibration velocity
Direction	Selected mounting axis recorded
Input scale	3.94 mV/mm/s or 100 mV/in/s

330500-07-00 / Fit the adaptor and route the cable

02 Fit the adaptor and route the cable

1 Inspect the machine-side thread

Option 07 supplies a 3/8-16 UNC adaptor. Check the mating hole and mounting surface before fitting the sensor. Do not force an alternate thread into the machine or assume a different 330500 adaptor option has the same installation interface.

2 Maintain a rigid mechanical path

Inspect the seating surface and eliminate loose contact that could distort the amplitude or frequency response. Use the mounting practice and torque applicable to the sensor assembly. Record the adaptor and orientation so later replacements can reproduce the same mechanical arrangement.

3 Select the cable as an assembly

Inspect the two-pin MIL-C-5015 connector and use a suitable supported cable route. The 305 m allowance is specific to cable 02173006; other cable assemblies have their own conditions. Consider connector protection, mechanical strain and the receiving input rather than accepting length alone.

Adaptor	3/8-16 UNC machine-side connection
Connector	Two-pin MIL-C-5015
Routing	Supported cable with verified assembly suitability

330500-07-00 / Check polarity and operating bias

03 Check polarity and operating bias

1 Retain the pin convention

Trace Pin A and Pin B from the sensor connection to the receiving channel. Motion of the case toward the connector makes Pin A positive relative to Pin B. Preserve that convention when comparing channels or evaluating phase-dependent vibration information.

2 Review the expected DC state

The output bias is -12 ±3 V DC over temperature, referenced to Pin A. Measure using the intended circuit reference and approved test method. A sign error caused by reversed reference leads should not be confused with a failed sensor.

3 Inspect isolation and connection quality

The case is isolated from the signal circuit and hermetically sealed. Check the cable and connector separately, especially where moisture or physical strain may affect the connection. Do not introduce an unintended case-to-signal connection while attempting to correct a noisy channel.

Polarity	Toward connector: A positive relative to B
Bias	-12 ±3 V DC relative to Pin A
Isolation	Case isolated; cable inspected separately

330500-07-00 / Validate the velocity measurement

04 Validate the velocity measurement

1 Use a known mechanical response

Compare the complete channel against an appropriate controlled velocity reference. Record frequency, amplitude and input scale. A successful electrical loop check does not prove that the adaptor and casing mounting transmit vibration correctly.

2 Choose the relevant response tolerance

The 4.5 Hz to 5 kHz band uses ±3 dB tolerance; the narrower 6 Hz to 2.5 kHz band uses ±0.9 dB. Evaluate the observed response against the correct band, rather than using the widest frequency limits with the tighter tolerance.

3 Avoid confusing measurement limits

The peak velocity range is 1270 mm/s, while ±2% linearity is specified to 152 mm/s peak. Apply the appropriate accuracy requirement to the expected signal. If a displacement value is derived by integration, assess noise and low-frequency interference before accepting it.

Response	Test frequency and tolerance band stated
Amplitude	Range and linearity limit treated separately
Derived values	Integration noise assessed where applicable

330500-07-00 / Close faults and record the baseline

05 Close faults and record the baseline

1 Investigate mechanical and electrical causes

For an unexpected spectrum or amplitude, inspect the mount, adaptor, cable, bias and channel setup before concluding that the machine has changed. A loose mounting point can generate misleading peaks; an incorrect scale can distort every displayed value.

2 Retain installation evidence

Record the sensor identity, mounting location, axis, adaptor, pin convention and receiving-channel settings. Keep accepted baseline data with the test conditions. This allows future maintenance to compare like-for-like velocity measurements.

3 Respect the environmental envelope

The sensor operating range is -55 to +121 °C with non-submerged humidity conditions. Evaluate the selected cable separately and inspect connectors after harsh service. The 5,000 g peak shock rating describes survival, not a routine vibration operating condition.

Technical basis: Bently Nevada 330500 Velomitor Piezo-velocity Sensor, 141632 Rev. V.

Related product navigation

- Bently Nevada 330525-00
- Bently Nevada 330525-02
- Bently Nevada 190501-04-00-00

These are related references, not confirmed substitutes or an automatically approved assembly.