Bently Nevada 330425-01-00

01 Plan the casing measurement

1 Identify the vibration path

Identify the gear case, bearing housing or other rigid structure whose acceleration is to be measured. A housing measurement depends on vibration being transmitted from the rotor to the selected point. Preserve the established location and sensing direction when replacing a sensor unless the measurement design is also being reviewed.

2 Check the input before removal

Record the monitor input type, negative supply, sensitivity setting and existing bias reading. This order is the 25 mV/g, 75 g peak accelerometer. A channel previously configured for a 100 mV/g sensor needs a deliberate scale review; physical connector similarity is not enough to establish interchangeability.

3 Record the mechanical generation

Read the serial prefix and inspect the existing mounting base. The base-strain behavior differs between G-prefix and earlier sensors. For a non-G unit, preserve the specified adapter arrangement until its replacement plan is checked. Identify the 1/4-28 integral stud and verify that the mounting surface and internal thread are serviceable.

Signal quantity	Machine-casing acceleration
Input scale	25 mV/g, ±5% sensor sensitivity
Critical distinction	75 g measuring range is not the 5,000 g shock-survival limit

330425-01-00 / Seat the integral stud

02 Seat the integral stud

1 Prepare a rigid contact

Place the affected monitoring function in its approved maintenance state. Clean and inspect the mounting surface and thread without changing the measurement location unintentionally. A flexible cover or poorly supported bracket can modify the signal. The sensor should seat firmly against the prepared interface, not hang from a strained cable.

2 Apply mounting torque

Use the specified 4.1 N·m mounting torque at the proper mechanical interface. Do not apply this value to the electrical connector or twist the cable to tighten the body. Check the final orientation and seating. Mechanical looseness can create false signals even when the electrical bias appears normal.

3 Keep the adapter decision traceable

For a sensor without the G serial prefix, the mounting base reduces strain-induced output. Record whether the base is retained and which interface is used. Do not discard it merely because the new sensor can physically screw into the same hole. Confirm the offered sensor generation and mounting requirements before changing the stack.

Integral stud	1/4-28 UNF
Case tightening	4.1 N·m
Contact assessment	Rigid seating and correct sensitive-axis orientation

330425-01-00 / Wire and protect the circuit

03 Wire and protect the circuit

1 Identify all three conductors

Use the mating three-socket cable and the actual connector assignment for supply, signal and common. The case is isolated from the circuit; grounding the housing is not a replacement for the required electrical conductor. Preserve the approved shield and return arrangement from the receiving monitor installation.

2 Select the cable construction

The cable families include unarmored 16925, armored 16710 and booted 130539 arrangements. Review conductor size, route protection, connector access and environment before selecting a complete cable. These are separate cable assemblies; their ordered length and construction must suit the installation rather than being inferred from the sensor code.

3 Separate sensor and cable protection

The sensor has a hermetic case and an IP68-equivalent rating, but that rating excludes the cable. Standard outdoor installation uses a protective enclosure and conduit-protected wiring. Inspect mating connector protection and avoid assuming unrestricted submersion. The final 00 order option does not provide agency approvals.

Electrical interface	3-pin MIL-C-5015 receptacle
Supply requirement	-24 ±0.5 V DC
Cable system boundary	Sensor rating does not establish cable ingress protection

330425-01-00 / Verify the acceleration channel

04 Verify the acceleration channel

1 Measure the steady electrical state

After the wiring has been checked, energize under the approved procedure and measure the negative supply and output bias. Expected output bias is -8.5 ±0.5 V DC and nominal bias current is 2 mA. Investigate incorrect polarity, conductor assignment or connection condition before treating the output as a valid acceleration signal.

2 Test in the correct response band

Apply a controlled vibration comparison suited to the installation and receiving monitor. Use the ±10% response band from 30 Hz to 10 kHz when that tighter amplitude tolerance is required. The wider 10 Hz to 15 kHz band uses ±3 dB. Record the test frequency, applied acceleration and indicated value.

3 Restore monitoring deliberately

Confirm 25 mV/g scaling and a plausible installed noise level before restoring channel alarm functions. A correct static bias does not establish dynamic sensitivity or good mechanical transmission. Test the applicable alarm and fault paths under the plant procedure, and remove only the maintenance bypasses that are authorized for release.

Reference temperature	+20 to +30 °C unless specified otherwise
Reference frequency	100 Hz unless specified otherwise
Broadband noise reference	0.01 g RMS over 10 Hz to 15 kHz

330425-01-00 / Diagnose and hand over

05 Diagnose and hand over

1 Separate overload from mounting faults

High vibration above 15 kHz, particularly near resonance, can reduce the available measuring range. If the signal is distorted, review the frequency content and channel range as well as mounting tightness. Do not assume that the 75 g rating applies to every excitation frequency or confuse a shock-survival rating with measurement capability.

2 Investigate temperature and strain

Temperature sensitivity and base strain can change the response even when cabling remains intact. Compare actual sensor temperature with the -55 to +121 °C operating limit and review the serial-dependent mounting-base arrangement. Keep the mechanical and electrical findings separate so a scale adjustment does not conceal a mounting problem.

3 Retain a usable baseline

Record the complete sensor marking, serial prefix, mounting arrangement, supply and bias readings, sensitivity setting and controlled test results. Note any cable or adapter changes. This baseline supports later comparison; it does not replace the applicable manufacturer user guide or the site-approved maintenance procedure.

Technical basis: Bently Nevada 330400 and 330425 Accelerometer Acceleration Transducers, 141638 Rev. AB.

Related product navigation

- Bently Nevada 16925-20
- Bently Nevada 16710-20
- Bently Nevada 130539-20

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