Bently Nevada 330425-01-00

01 Function and selected configuration

Measurement role

Bently Nevada 330425-01-00 supports high-frequency casing measurements such as gear-mesh monitoring. A rigid mechanical path from the monitored structure to the sensor is essential for the signal to represent machine vibration.

Supplied probe or sensor configuration

1/4-28 UNF integral stud, 25 mV/g sensitivity and no agency approval option. The lower sensitivity of the 330425 provides a larger acceleration range than the 330400. The receiving channel must use the 25 mV/g scale; retaining a 100 mV/g setting would misrepresent the measured acceleration.

Measurement path

Machine casing	Piezoelectric sensor	Three-wire cable	25 mV/g input

Measurement	25 mV/g ±5%, 75 g peak within 10 Hz to 15 kHz
Electrical interface	-24 ±0.5 V DC supply, three-pin connector
Mounting	1/4-28 UNF integral stud, 4.1 N·m torque

The case is electrically isolated and hermetically sealed. Its IP68-equivalent rating applies to the sensor, not the cable assembly. The final 00 option selects no agency approvals.

330425-01-00 / Technical operating envelope

02 Technical operating envelope

Sensitivity	25 mV/g ±5%
Acceleration range	75 g peak; 10 Hz to 15 kHz
Amplitude linearity	±1% to 75 g peak
Frequency response, ±3 dB	10 Hz to 15 kHz
Frequency response, ±10%	30 Hz to 10 kHz
Broadband noise	0.01 g RMS; 10 Hz to 15 kHz
Transverse sensitivity	<5% of axial
Mounted resonant frequency	>30 kHz
Resonant peak amplitude	20 dB maximum
Supply voltage	-24 ±0.5 V DC
Bias current	2 mA nominal
Output bias voltage	-8.5 ±0.5 V DC

Grounding	Case isolated
Maximum cable length	305 m without signal degradation
Operating / storage temperature	-55 to +121 °C
Shock survivability	5,000 g peak maximum
Humidity	100% condensing, non-submerged
Sensor enclosure	IP68 equivalent; cable excluded
Maximum use altitude	2,000 m
Connector	3-pin MIL-C-5015 receptacle
Mounting thread	1/4-28 UNF integral stud
Mounting torque	4.1 N·m
Case material	316L stainless steel
Agency approval option	00 - None

Reference conditions: +20 to +30 °C and 100 Hz unless otherwise specified. Measuring range, frequency response and shock survivability are separate limits.

330425-01-00 / System integration and applications

03 System integration and applications

Gear-mesh vibration

Observe high-frequency casing acceleration in the 10 Hz to 15 kHz response band, with sufficient mechanical transmission from the gearing.

High-amplitude casing acceleration

Use the 75 g peak range with a 25 mV/g monitoring input where the vibration stays within the specified frequency envelope.

Bearing-housing measurements

Mount on a rigid housing location aligned with the intended sensing direction, avoiding flexible covers and unsupported brackets.

Three-wire monitor channels

Integrate with channels supplying the specified negative voltage and reading acceleration at 25 mV/g; verify wiring and input setup.

System and supply context

The 330425-01-00 sensor connects through a three-conductor cable to an appropriate acceleration-monitoring input. Cables and protective mounting hardware are separate unless itemized in the quotation.

Measurement boundary

These uses concern casing acceleration. A measured housing response can represent rotor behavior only when the structure transmits sufficient vibration to the selected point.

330425-01-00 / Engineering selection decisions

04 Engineering selection decisions

Why must a 100 mV/g input setting be changed when installing 330425-01-00?

This sensor produces 25 mV/g, one quarter of a 100 mV/g sensor output for the same acceleration. Configure the input for 25 mV/g; otherwise the indicated acceleration will be scaled incorrectly.

Which response tolerance applies when using 330425-01-00 between 30 Hz and 10 kHz?

The response tolerance is ±10% over 30 Hz to 10 kHz. The wider 10 Hz to 15 kHz band uses a ±3 dB tolerance. Use the appropriate band when judging an amplitude measurement.

How does the serial-number prefix affect mounting-base selection for 330425-01-00?

Sensors with a G serial prefix have lower base-strain sensitivity. For earlier units without that prefix, use the specified mounting base to reduce strain-related output. Check the actual serial number before retaining or removing an existing adapter.

Does the enclosure rating of 330425-01-00 also protect its interconnect cable?

No. The IP68-equivalent rating applies to the sensor only. Choose and protect the cable and mating connector for the environment; the humidity condition is condensing and non-submerged.

330425-01-00 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and OEM support stages for the exact 330425-01-00 code require confirmation from Bently Nevada. A technical datasheet is not an exact-unit lifecycle notice. Apter Power availability is confirmed separately.

Replacement assessment

Review serial prefix, mounting-base arrangement, supply polarity and 25 mV/g input scaling. A physically similar 330400 has a different sensitivity and measuring range.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

Technical basis

Bently Nevada 330400 and 330425 Accelerometer Acceleration Transducers, 141638 Rev. AB. Applicable user guide: 127088.

Related product navigation

- Bently Nevada 16710-30
- Bently Nevada 16710-12
- Bently Nevada 16925-15

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

Product enquiries