

330400 and 330425 Accelerometer Acceleration Transducers

Datasheet

Bently Nevada Machinery Condition Monitoring

141638 Rev. AA



Description

These accelerometers are intended for critical machinery applications where casing acceleration measurements are required, such as gear mesh monitoring. The 330400 is designed to address the requirements of American Petroleum Institute Standard 670 for accelerometers. It provides an amplitude range of 50 g peak and a sensitivity of 100 mV/g. The 330425 is identical except it provides a larger amplitude range (75 g peak) and a sensitivity of 25 mV/g.



Most common machine malfunctions (unbalance, misalignment, etc.) occur on the rotor and originate as an increase (or at least a change) in rotor vibration. For any individual casing measurement to be effective for overall machine protection, the system must continually transmit a significant amount of rotor vibration to the machine casing, or mounting location of the transducer.

In addition, be careful to install the accelerometer transducer on the bearing housing or machine casing. Improper installation may decrease the transducer amplitude and frequency response and/or generate false signals that do not represent actual vibration. Refer to the appropriate instruction manuals and Application Notes.

Upon request, Bently Nevada provides engineering services that can identify the appropriate machine housing measurements and installation assistance if needed.



Specifications

Parameters are specified from +20 to +30 °C (+68 to +86 °F) and 100 Hz unless otherwise indicated.

Broadband Noise Floor (10 Hz to 15 kHz)	0.098 m/s ² (0.01 g) rms.
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Operation outside the specified limits may result in false readings or loss of machine monitoring.

Electrical

330400

Sensitivity	10.2 mV/m/s ² (100 mV/g) ±5%.
Acceleration range	490 m/s ² (50 g) peak overall acceleration within the 10 Hz to 15 kHz frequency span. Vibration at frequencies above 15 kHz, especially at the transducers resonance will significantly decrease this range.
Amplitude Linearity	±1% to 490 m/s ² (50 g) peak.
Broadband Noise Floor (10 Hz to 15 kHz)	0.039 m/s ² (0.004 g) rms.

330425

Sensitivity	2.5 mV/m/s ² (25 mV/g) ±5%.
Acceleration Range	735 m/s ² (75 g) peak overall acceleration within the 10 Hz to 15 kHz frequency span. Vibration at frequencies above 15 kHz, especially at the transducer's resonance, will significantly decrease this range.
Amplitude Linearity	±1% to 735 m/s ² (75 g) peak.

Ordering Information



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from Bently.com.

330400 Accelerometer

330425 Accelerometer

Part Number-AA-BB

A: Mounting Thread Option

0 1	¼-28 UNF integral stud
0 2	M8 X 1 integral stud

B: Agency Approval Option

0 0	None
0 5	Multiple approvals (CSA, ATEX, IECEx,)

Interconnect Cables

Part Number-AA

A:	Cable Length Option in feet
	For the cables listed below, order in increments of 1.0 ft (305 mm).

Examples:

1 5 = 15 ft (4.57 m)

2 0 = 20 ft (6.10 m)

The following are standard lengths

Feet	Metres (approx.)
6	1.8
8	2.4
10	3.0
12	3.6

15	4.5
17	5.0
20	6.0
25	7.6
50	15.2
99	30.0



Non-standard/custom lengths can also be ordered at additional cost.

Cable Part Numbers

130539	3-conductor shielded 18 AWG (1.0 mm ²) cable with 3-socket plug and fluorosilicone elastomer boot at one end, terminal lugs at the other end. Minimum length of 2.0 ft (0.6 m), maximum length of 99 ft (30 m). A manual is available to assist with installation of this cable (part number 133080-01).
16925	3-conductor shielded 22 AWG (0.5 mm ²) cable with 3-socket plug at one end, terminal lugs at the other end. Minimum length of 2.0 ft (0.6 m), maximum length of 99 ft (30 m).
16710	3-conductor shielded 22 AWG (0.5 mm ²) armored cable with 3-socket plug at one end, terminal lugs at the other end. Minimum length of 3.0 ft (0.9 m), maximum length of 99 ft (30 m).

Accessories

127088	330400 and 330425 Accelerometer User Guide
00531080	Mating connector for 330400 and 330425 Accelerometers.