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Find the *GE / Bently Nevada 330525-00* at our website: *Click HERE*

330525 Velomitor* XA Piezo-velocity Sensor

Bently Nevada* Asset Condition Monitoring



Description

The Velomitor* XA (eXtended Application) Sensor is a ruggedized version of Bently Nevada's 330500 Velomitor Sensor. Its 316L stainless steel case and unique, weatherproof connector and cable assembly permit mounting without a housing. The Velomitor XA Sensor cable assembly is suitable for use in moist environments, and the Velomitor XA Sensor design meets the requirements of IP-65 and NEMA 4X when properly installed with a mating extension cable.

⚠ Caution

If housing measurements are being made for overall protection, give thought to the usefulness of the measurement for each application. Most common machine malfunctions (imbalance, misalignment, etc.) originate at the rotor and cause an increase (or at least a change) in rotor vibration. For any housing measurement alone to be effective for overall machine protection, the system must faithfully transmit a significant amount of rotor vibration to the bearing housing or machine casing, or more specifically, to the mounting location of the transducer.

In addition, exercise care when choosing the physical installation of the transducer. Improper installation can change the transducer amplitude and frequency response and/or generate signals that do not represent actual machine vibration.

Upon request, we can provide engineering services to determine the appropriateness of housing measurements for the machine in question and/or to provide installation assistance.

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Specifications

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

Note: Operation outside the specified limits may result in false readings or loss of machine monitoring.

Electrical

Sensitivity:

3.94mV/mm/s (100 mV/in/s) ±5%.

Frequency Response:

4.5 to 2,000 Hz (270 to 120,000 cpm) ±3.0 dB,

6.0 to 1,000 Hz (360 to 60,000 cpm) ±0.9 dB.

Temperature Sensitivity:

-14% to +7.5% typical over the operating temperature range.

Velocity Range:

1270 mm/s (50 in/s) peak.

Transverse Sensitivity:

Less than 5% of sensitivity.

Amplitude Linearity:

±2% to 152 mm/s (6 in/s) peak.

Mounted Resonant Frequency:

Greater than 12 kHz.

Broadband Noise Floor (4.5 Hz to 2 kHz):

0.004 mm/s (160 μin/s) rms, nominal.

Maximum cable length:

305 metres (1,000 feet) of cable, BN part number 02173007 with no degradation of signal.

Hazardous Area Approvals

Multiple approvals for hazardous areas certified by Canadian Standards Association (CSA/NRTL/C) in North America and by LCIE in Europe.

North America:

Ex ia IIC T4
AEx ia IIC T4
Class I, Div 1 Groups A, B, C & D
Class II, Groups E, F, and G
Class III
T4 @ -40°C ≤ Ta ≤ 100°C

Ex nL IIC T4
AEx nA IIC T4
Class I, Div 2
Groups A, B, C & D
T4 @ -40°C ≤ Ta ≤ 100°C

Per DWG 167539

European/ATEX:

II 1 G Ex ia IIC T4 Ga
T4 @ -40°C ≤ Ta ≤ 100°C

II 3 G Ex nA IIC T4 Gc
T4 @ -40°C ≤ Ta ≤ 100°C

IECEx:

Ex ia IIC T4 Ga
T4 @ -40°C ≤ Ta ≤ 100°C

Ex nA IIC T4 Gc
T4 @ -40°C ≤ Ta ≤ 100°C

Brazil:

Ex ia IIC T4 Ga

T4 @ -40°C ≤ Ta ≤ 100°C

For further certification and approvals information please visit the following website:

http://www.ge-mcs.com/en/bently-nevada.html

Environmental Limits

Operating Temperature Range:

-55 °C to +121 °C (-67°F to +250°F)

Shock Survivability:

5000 g peak, maximum

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Relative Humidity:

To 100% non-submerged;

case is hermetically-sealed.

Magnetic Field Susceptibility:

<51 µin/s/gauss (50 gauss, 50-60 Hz)

Physical

Weight:

156 g (5.5 oz), typical

Diameter:

28 mm (1.1 in)

Height:

73.1 mm (2.88 in)

Case Material:

316L stainless steel

Connector:

2-pin Mil-C-26482 hermetically-sealed, 316L stainless steel shell.

Mounting Torque:

45 N-m (33 ft-lb) maximum

Polarity:

Pin A goes positive with respect to pin B when the sensor case motion is toward the connector.

Cable Bend Radius:

1.5-in minimum bend radius.

Note: Please read and understand the User Manual *before* attempting to install and use this product.

Ordering Options

Approvals

330525-AA

A: Agency Approval Option

0 0	None Required
0 1	CSA/NRTL/C
0 2	SIRA/CENELEC

Interconnect Cable

106765-AA

A: Length in metres

Minimum length: 1 metre (3.3 feet)
Maximum length: 25 metres (82 feet)
Order in increments of 3 metres.

Terminal Housing

Terminal Housing for terminating Velomitor XA Sensor cable to bulk cable listed above. The Terminal Housing provides local connection of the Velomitor XA Sensor signal wires to the monitor field wiring. Each Terminal Housing can accommodate up to 2 Velomitor XA Sensor Cables.

106769-AA

A: Conduit Fitting Option

0 0	No fittings supplied
0 1	One ¾ NPT fitting
0 2	Two ¾ NPT fittings

Accessories

100076-01

330500 Velomitor Sensor and Velomitor XA Sensor Manual.

02173007

Bulk cable; 2 conductor twisted, shielded. 22 AWG cable without connectors or terminal lugs. Specify length in feet.

103537-01

Terminal Mounting Block. Provides simple field wiring connection and can be mounted inside any standard Proximitor® Sensor housing. One terminal mounting block is needed for each Velomitor XA Sensor connection.

03839144

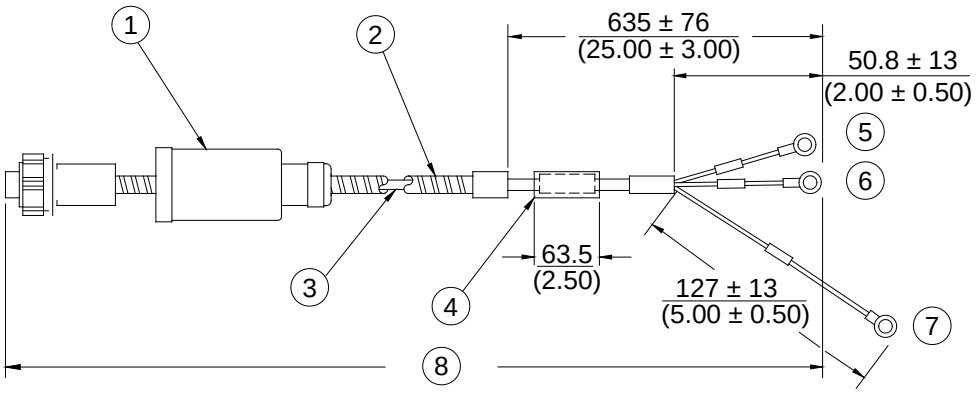
Splash-resistant boot cover for interconnect cable assembly. The boot is made from fluorosilicone elastomer. Boot color is blue.

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03839142	Bottom clamp used to secure the boot to the Velomitor XA Sensor case.
03839143	Top clamp used to secure the boot to the interconnect cable assembly.

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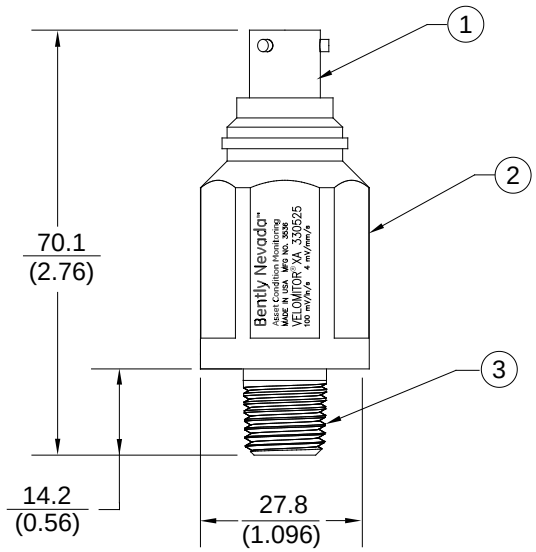
Graphs and Figures



1. Splash-resistant boot with clamps
2. Stainless steel armor over cable
3. 0.382 mm^2 (22 AWG)
4. Clear shrink tubing
5. "A" (white)
6. "B" (black)
7. "SHLD" (green)
8. Overall length ± 200 (7.8)

Figure 1: Dimensions for 106765 Cable Arial check all figure headings
Dimensions are in millimeters (inches)

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1. MIL-C-26482 receptacle
2. 25.4 (100) hexagonal
3. 1/4-18 NPT

Figure 2: Dimensions for 330525 Velomitor XA Piezo-Sensor
Dimensions are in millimetres (inches)

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