

Bently Nevada 330500-04-01

Manufacturer : Bently Nevada

Product No. : 330500-04-01

Product Type : Velomitor Piezo-velocity Sensor

Made in U.S.A

Model : 330500 - Velomitor Piezo-velocity Sensor

Mounting Thread Option : -04 - 1/4 - 20 UNC

Agency Approval Option : -01 CSA/US/C

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

Operating the transducer 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 Hz to 5 kHz (270 cpm to

300 kcpm) ± 3.0 dB.

6.0 Hz to 2.5 kHz (360 cpm to

150 kcpm) ± 0.9 dB.

Temperature

Sensitivity

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

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

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Transverse
Sensitivity
Less than 5% of sensitivity.
Amplitude
Linearity
 $\pm 2\%$ to 152 mm/s (6 in/s)
peak.
Mounted
Resonant
Frequency
Greater than 12 kHz.
Output Bias
Voltage
-12 ± 3.0 VDC, over
temperature referenced to
Pin A.
Dynamic
Output
Impedance
Less than 2400 Ω
Broadband
Noise Floor (4.5
Hz to 5 kHz)
0.004 mm/s (160 μ in/s) rms,
nominal
Grounding Case isolated
Maximum
Cable Length
305 metres (1,000 feet) of
cable, part number 02173006,
with no degradation of
signal.
Environmental Limits
Operating
Temperature
Range
-55° C to 121° C
(-67° F to 250° F)
Shock
Survivability
5,000 g peak, maximum

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Relative
Humidity
To 100% non-submerged;
case is hermetically-sealed.

Base Strain
Sensitivity
0.005 in/s/mstrain.
Magnetic Field
Susceptibility
<51 min/s/gauss (50 gauss,
50-60Hz).

Physical
Weight 142 grams (5.0 oz), typical.
Diameter 25.3 mm (0.995 in).
Height 63.2 mm (2.49 in).
Case Material 316L stainless steel.
Connector
2-pin Mil-C-5015
hermetically-sealed, 316L
stainless steel shell.
Mounting
Torque
32-46 kg cm (24-40 in-lb)
max.

Polarity
When the sensor case
motion is toward the
connector, Pin A becomes
positive with respect to pin B.

Recommended
cable length
(assuming
max vibration
of 50g,
frequency 10
kHz, and cable
capacitance
200 pf/m.)

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208 ft (63m)

Compliance and

Certifications

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

I This device may not cause harmful interference.

I This device must accept any interference received, including interference that may cause undesired operation.

EMC

EMC Directive 2014/30/EU

RoHS

RoHS Directive 2011/65/EU

Maritime

DNV rules for classification - Ships

DNV rules for classification - High

speed and light craft

DNV offshore standards

Hazardous Area Approvals

330500 Ex ia IIC T4

AEx ia IIC T4

Class I, Division 1, Groups A, B, C and D

Class II, Groups E, F, G

Class III

Install per dwg 167537

T4 @ $-40^{\circ} \text{ C} \leq T_a \leq 100^{\circ} \text{ C}$

Ex nL IIC T4

AEx nA IIC T4

Class I, Div 2, Groups A, B, C, D

Install per dwg 167537

T4 @ $-40^{\circ} \text{ C} \leq T_a \leq 100^{\circ} \text{ C}$

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