

Bently Nevada 3300 Series Service Manual

74712-06-05-04-00

1. Description

74712-06-05-04-01

3. Product Information

74712-06-05-04-01 | Bently Nevada | High-temperature Two-wire Transducer

Manufacturer : Bently Nevada

Product No. : 74712-06-05-04-01

Product type : 74712 = High-temperature Two-wire Transducer

Made in U.S.A

Transducer Mounting Angle/Minimum Operating Frequency Option : 06 = 0 ± 100 , 10 Hz (600 cpm)

Mounting Base Option : 05 = No base; 1/2-in 20 UNF-3A stud

Connector Option : 04 = Side mount

Agency Approval Option : 01 = CSA

Height : 82 mm (3.2 in)

Height : 102 mm (4 in) typical (depends on connector option).

Diameter : 41 mm (1.6 in) typical.

Description

Bently Nevada™ Seismoprobe Velocity Transducer Systems are designed to measure absolute (relative to free space) bearing housing, casing, or structural vibration. The two-wire systems consist of a transducer and appropriate cable.

The Seismoprobe family of velocity transducers is a two-wire design that uses moving-coil technology. It provides a voltage output directly proportional to the transducer's vibration velocity.

Moving-coil transducers are less sensitive to impact or impulsive excitation than solid-state velocity transducers, which are inherently accelerometers with embedded integration electronics.

Moving-coil transducers are less sensitive to impact or impulsive excitation and can represent a good choice for certain applications. Because they don't require external power, they are convenient for portable measurement applications.

For most installations, Bently Nevada's Velomitor family of velocity transducers, which incorporate solid-state technology, provide improved performance and ruggedness for casing velocity measurement applications.

Operating and Storage Temperature :-29°C to +204°C (-20°F to +400°F).

Electrical

Sensitivity □ 20 mV/mm/s (500 mV/in/s), $\pm 5\%$ when properly terminated and oriented at the angle of calibration.

Calibration Load □ 10 kΩ Terminal "A" to "B"

Output taken across pins "A" and "B"

Sensitivity Temperature Coefficient □ 0.2%/°C

Dynamic operating range □ 2.54 mm (0.100 in) peak to peak maximum displacement.

Velocity Range □ 25 mm/s (1 in/s) (at +22 °C of casing vibration at 100 Hz with a 10 kΩ load.

Coil Resistance □ 1.25 kΩ $\pm 5\%$

Locked Coil Inductance □ 125 mH, typical

Amplitude Linearity □ $\pm 5\%$ from 0.01 to 5.0 in/s (0.254 to 127 mm/s) at 100Hz (6000CPM)

Shock resistance □ Withstands 50 g peak maximum acceleration along non-sensitive axis.

Transverse sensitivity □ $\pm 10\%$ maximum of the sensitive axis sensitivity at 100 Hz and 1.0 in/s (2.54 cm/s)

Polarity of output signal □ Pin A goes positive with respect to Pin B when the transducer case velocity is towards the connector.

Lead wire length □ 305 meters (1,000 feet) maximum between Seismoprobe Velocity Transducer and 3300 or Bently Nevada™ 3500

Monitor. Consult manual for frequency roll-off at longer lengths.

Relative

Humidity

To 95%, noncondensing.

100%, non-submerged, when

ordered with integral cable.

Maximum Use

Altitude

2000 m (6,561 ft) above sea

level.

Mounting Torque

1/2-20, 1/4-

20, 1/4-28,

5/8-18, or

M10X1

mounting

base

options:

5.6 N•m (50 in•lb)

8-32

threaded

studs:

1.41 N•m (12.5 in•lb)

Hazardous Area Approvals

cNRTLus

Class I, Division 1, Groups A, B, C and D T6;

Class II, Division 1, Groups E, F and G;

Class III:

Ex ia IIC T6 Ga;

Class I, Zone 0, AEx ia IIC T6 Ga;

Ex ec IIC T6 Gc;

Class I, Zone 2, AEx ex IIC T6 Gc

For Ex/AEx ia:

$U_i = 28 \text{ VDC}$

$I_i = 16 \text{ mA}$

$P_i = 1.0 \text{ W}$

$C_i = 0$

$L/R_i = 110 \text{ } \mu\text{H}/\Omega$

$L_i = 131.25 \text{ mH}$

For EX/AEx ec:

$V = 24 \text{ VDC}$

$I = 24 \text{ mA}$

