Bently Nevada 177230 Series Service Manual

177230-01-01-05

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No. : 177230-01-01-05

Product type : Seismic Transmitter

Made in U.S.A

Measurement Range : 01 0 – 25.4 mm/s (0 – 1.0 in/s)

Frequency : 01 = 10 Hz to 1 kHz (600 to 60 kcps) rms

Approvals : 05 Multiple Approvals (CSA/NRTL/C,

ATEX/IECEx)

Relative Humidity of Transmitter : To 100% non-submerged

Diameter : 25.4 mm (1.00 in)

Height : 66.0 mm (2.60 in)

Case Material : 316L stainless steel

Connector : 3-pin MIL-C-5015, 316L stainless steel

Mounting Hole in Body : 1/4-28 UNF

Weight : 0.131 Kg

Electrical

Excitation

Voltage

12 to 30 Vdc

(Current limited to 40 mA)

This product is for use with PLCs,

DCS, and SCADA systems that have

internal power supplies which are

typically current limited in the range

of 30 mA to 35 mA.

Settling

Time

Less than 15 seconds within 2%

of final value

Mounted

Resonant

Frequency

Greater than 12 kHz

Transverse

Sensitivity Less than 5% of sensitivity

Sensing

Element

Type

Ceramic / Shear

Connector Wiring Convention

Pin A

4-20 mA Positive Loop

(Positive with reference to Pin B)

Pin B

4-20 mA Loop Return

(Negative Loop Return for Pin A

and common for Dynamic

Signal)

Pin C

Dynamic Acceleration Signal

(Unbuffered, referenced to Pin

B)

Output

Signal

4 to 20 mA Current Loop from

Pin A to Pin B

Full Scale

Range (-

AA)

01 - 25.4 mm/s (1.0 in/s) ± 10%

Sensitivity –

Main Loop

4 ± 0.3 mA equals 0.0 mm/s

20 ± 2 mA equals Full Scale

Range

Frequency

Response

(-BB)

01 - 10 Hz to 1 kHz ± 10%

(600 cpm to 60 kcpm ± 10%)

Output signal is proportional to

the RMS vibration levels.

Physical

Weight 131 g (4.62 oz), typical

Diameter 25.4 mm (1.00 in)

Height 66.0 mm (2.60 in)

Case

Material

316L stainless steel

Connector

3-pin MIL-C-5015, 316L stainless

steel

Mounting

Hole

¼-28 UNF

Mounting

Threads

M6 X 1 SI

M8 x 1.25 SI

¼-28 UNF

Mounting

Torque

4 to 7 N-m (35.4 to 62.0 in-lbf)

Environmental Limits

Operating

Temperature

-40°C to +85°C

(-40°F to +185°F)

Electrical

Isolation

Greater than 108 ohms

Isolation

Breakdown

Voltage

600 Vrms with less than 1 mA

leakage current

Shock

Survivability

9.810 m/s2 (1.000 g peak),

maximum drop test

Sensor Seal Hermetically sealed

Relative

Humidity of

Transmitter

To 100% non-submerged

Magnetic Field

Sensitivity

Less than 20 µm/s/gauss

(790 µin/s/gauss) peak

Less than 14.7 mm/s2/gauss

(150 µg/gauss) peak

[based on 50 gauss, 50 - 60

Hz]