Bently Nevada 190501 Series Service Manual

190501-01-00-00

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No. : 190501-01-00-00

Product Type : Velomitor CT Velocity Transducer

Made in U.S.A

190501

Mounting Hardware Option : 0 1 Stud 3/8-in 24 to 3/8-in 24

Connection Option : 0 0 MIL-C-5015 connection interface

Agency Approval Option : 0 0 No Approvals

Weight : 0.297 Kg

Electrical

Sensitivity 3.94 mV/mm/s (100 mV/in/s)

±5%.

Frequency

Response

3.0 Hz to 900 Hz

(180 to 54,000 cpm) ±1.0 dB

1.5 Hz to 1.0 kHz

(90 to 60,000 cpm) ±3.0 dB

Temperature

Sensitivity

-8% to +5% typical over the

operating temperature range

Transverse

Response

Less than 5% of the axial

sensitivity.

Amplitude

Linearity

±2% to 63.5 mm/s pk

(2.5 in/s pk)

Mounted

Resonant

Frequency

9 kHz, minimum (stud

mounted, except quick

disconnect)

Output Bias

Voltage

10.1 Vdc ± 1.0 Vdc, Pin A

referenced to Pin B

Dynamic

Output

Impedance

<400 Ω typical

Broadband 0.229 mm/s (0.009 in/s) pk.

Base Strain

Sensitivity

0.43 mm/s/µstrain (0.017

in/s/µstrain).

Grounding Internal electronics are isolated

from case.

Maximum

Cable

Length

305 metres (1,000 ft.) of cable

(part number 02173006) with

no degradation of signal.

Environmental Limits

Operating

Temperature
-40°C to +85°C
(-40°F to +185°F).
Storage
Temperature
-40°C to +100°C
(-40°F to +212°F).
Shock Limit 5000 g pk, maximum.
Humidity
Limit
100% condensing,
non-submerged.
Magnetic
Field
Susceptibility
<0.0068 mm/s/gauss (0.268
mil/s/gauss) @ 50 gauss, 50-
60Hz
Mechanical
Weight <297 g (10.5 oz.), typical.
Mounting
Surface
33 mm diameter (1.3 in
diameter).
Height 82 mm (3.2 in).
Case
Material 316L stainless steel
Connector 2-pin 316L stainless steel MIL-C5015, top.
Mounting
Torque
4.5 N-m ± 0.6 N-m (40 in–lbf ± 5
in-lbf).
Polarity
Pin A goes positive with respect
to Pin B when velocity is from
base to top of the transducer.
Mounting
Angle Any orientation.
190501 (Agency Approval Options 01
through 04)
Intrinsically
Safe
Ex ia IIC T4:
Class I, Div 1, Groups A, B, C, D.
Class II, Group E, F and G
Class III
AEx ia IIC T4:
Class I, Div 1, Groups A, B, C, D;
Class II, Groups E, F, G
Class III
Install per drawing 167536
T4 @ -40°C ≤ Ta ≤ +100°C
(-40°F ≤ Ta ≤ +212°F)
Intrinsically
Safe and
NonIncendive
Ex nL IIC T4
Class I, Division 2, Groups A, B, C
and D

AEx nA T4

Class I, Division 2, Groups A, B, C

and D

Install per drawing 167536

T4 @ -40°C ≤ Ta ≤ +100°C

(-40°F ≤ Ta ≤ +212°F)