Bently Nevada 190501 Series Service Manual

190501-12-00-01

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No. : 190501-12-00-01

Product Type : Velomitor CT Velocity Transducer

Made in U.S.A

190501

Mounting Hardware Option :1 2 =Plate Stud 3/8-in 24 to M8x1

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

Agency Approval Option : 0 1

CSA/NRTL/C (Class I, Division 1),

ATEX/IECEx/CSA (Class I, Zone

0/1)

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)

Compliance and Certifications

FCC

This device complies with part 15 of the

FCC Rules. Operation is subject to the

following two conditions:

l This device may not cause harmful

interference.

l 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

ATEX

60079-01

60079-07

60079-11

60079-15

ATEX Directive 2014/34/EU

cNRTLus

190501 (Agency Approval Options 01

through 04)

Intrinsically

Safe

Ex ia IIC T3:

Class I, Div 1, Groups A, B, C, D.

Class II, Group E, F and G

Class III

AEx ia IIC T3:

Class I, Div 1, Groups A, B, C, D;

Class II, Groups E, F, G

Class III

Install per drawing 167536

T3 @ -55°C ≤ Tamb ≤ +121°C

NonIncendive

AEx ec T3

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

and D

Install per drawing 167536

T3 @ -55°C ≤ Tamb ≤ +121°C

Hazardous Area Conditions of

Safe Use

ATEX/IECEx

Zone 0/1:

Equipment must be connected to equipment,

which meets the abovelisted entity

parameters.

The cables type A or B (in compliance with EN

60079-25) must respect the cable parameters listed with the entity parameters.

Zone 2 :

The supply electrical parameters shall not exceed the values mentioned in the tables above.