

Bently Nevada 190501-12-00-01 Manual

Brand	Bently Nevada
Product Series	190501
Product Type	Velomitor CT Velocity Transducer

Description

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 2+ 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

$\pm 2\%$ 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 $\pm$ 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/ μ strain (0.017
in/s/ μ strain).

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-

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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 $\pm$ 0.6 N-m (40 in-lbf $\pm$ 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 @ $-40^{\circ}\text{C} \leq T_a \leq +100^{\circ}\text{C}$

$(-40^{\circ}\text{F} \leq T_a \leq +212^{\circ}\text{F})$

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

$(-40^{\circ}\text{F} \leq T_a \leq +212^{\circ}\text{F})$

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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

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 @ $-55^{\circ}\text{C} \leq T_{\text{amb}} \leq +121^{\circ}\text{C}$

NonIncendive

AEx ec T3

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

Install per drawing 167536

T3 @ $-55^{\circ}\text{C} \leq T_{\text{amb}} \leq +121^{\circ}\text{C}$

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

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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.

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