

# Bently Nevada 190501 Series Service Manual

190501-10-00-CN

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## 1. Description

Manufacturer : Bently Nevada

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## 3. Product Information



Manufacturer : Bently Nevada

Product No. :190501-10-00-CN

Product Type : Velomitor CT Velocity Transducer

Made in U.S.A

190501

Mounting Hardware Option :1 0 Plate Stud M6x1 to M6x1with 3/8- in 24 adapter

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

Agency Approval Option :CN Country Specific

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

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

