

# 190501 Velomitor\* CT Velocity Transducer

Bently Nevada\* Asset Condition Monitoring



## Description

The Velomitor\* CT Velocity Transducer is a low-frequency version of our standard Velomitor Piezo-velocity Sensor. Its design specifically measures casing vibration velocity on cooling tower and air-cooled heat-exchanger fan assemblies that operate at or above 90 rpm (100 to 300 rpm typical). The Velomitor CT Transducer can measure vibration amplitudes at these frequencies as well as the vibration frequencies generated by the fan motor and speed reducer.

## Application Advisory

If you plan to make housing measurements for overall protection of the machine, consider the usefulness of the measurement for each application. Most common machine malfunctions (imbalance, misalignment, etc.) originate at the rotor and cause an increase (or at least a change) in rotor vibration. For any housing measurement alone to be effective for overall machine protection, the machine must faithfully transmit a significant amount of rotor vibration to the bearing housing or machine casing, or more specifically, to the mounting location of the transducer.

Exercise care when physically installing the transducer. Improper installation can degrade the transducer's performance, and/or generate signals that do not represent actual machine vibration.

Upon request, we can provide engineering services to determine the appropriateness of housing measurements for the machine in question and/or to provide installation assistance.





imagination at work

Specifications and Ordering Information  
Part Number 141636-01  
Rev. Y (05/14)

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**ATEX:**

 II 1 G  
Ex ia IIC T4 Ga  
T4 @ -40°C ≤ Ta ≤ 100°C

 II 3 G  
Ex nA IIC T4 Gc  
T4 @ -40°C ≤ Ta ≤ 100°C

**IECEX**

Ex ia IIC T4 Ga  
Ex nA IIC T4 Gc  
T4 @ -40°C ≤ Ta ≤ 100°C

**Brazil:**

Ex ia IIC T4 Ga  
-40 °C ≤ Ta ≤ +100 °C  
Ex nA IIC T4 Gc  
-55 °C ≤ Ta ≤ +121 °C

For further certification and approvals information please visit the following web site:  
[www.ge-mcs.com/bently](http://www.ge-mcs.com/bently)

**Compliance and Certifications****EMC**

Standards:  
EN 61000-6-2, Immunity for  
Industrial Environments

European Community Directives  
EMC 2004/108/EC

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**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-C-  
5015, 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.

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## Ordering Information

### Velomitor CT Velocity Transducer

190501-AA-BB-CC

#### A: Mounting Hardware Option

- 00 No stud
- 01 Stud 3/8-in 24 to 3/8-in 24
- 02 Stud 3/8-in 24 to 1/2-in 20
- 03 Adhesive Stud 3/8-in 24
- 04 Stud M6x1 with 3/8-in 24 adapter
- 05 Adhesive Stud M6x1 with 3/8-in 24 adapter
- 06 Stud 3/8-in 24 to 1/4-in 28
- 07 Plate Stud 3/8-in 24 to 3/8-in 24
- 08 Plate Stud 3/8-in 24 to 1/2-in 20
- 09 Plate Stud 3/8-in 24 to 1/4-in NPT
- 10 Plate Stud M6x1 to M6x1with 3/8-in 24 adapter
- 11 Plate Stud 3/8-in 24 to 1/4-in 28
- 12 Plate Stud 3/8-in 24 to M8x1
- 13 Quick disconnect stud
- 14 Adapter, 3/8-in 24 to 1/4-in 20
- 15 Adapter, 3/8-in 24 to 5/16-in 18
- 16 Adapter, 3/8-in 24 to 3/8-in 24
- 17 Adapter, 3/8-in 24 to 3/8-in 16
- 18 Adapter, 3/8-in 24 to 1/2-in 13
- 19 Adapter, 3/8-in 24 to 1/4-in 18 NPT
- 20 Adapter, 3/8-in 24 to 3/8-in 18 NPT
- 21 Adapter, 3/8-in 24 to 1/2-in 14 NPT
- 22 Adapter, 3/8-in 24 to 3/4-in 14 NPT
- 23 Adapter, 3/8-in 24 to 1.0-in 11.5 NPT
- 24 Adapter, 3/8-in 24 to 1.25-in 11.5 NPT

#### B: Connection Option

- 00 MIL-C-5015 connection interface
- 99 Unit with included 32 foot cable

#### C: Agency Approval Option

- 00 No approvals
- 01 Multiple approvals
- 02 Multiple approvals
- 03 Multiple approvals
- 04 Multiple approvals

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## Interconnect Cable

### CB2W100-AXXX

Description: Connectors: MIL-C 5015, 2 Socket, Splash Proof, Premium, isolated to blunt cut, Cable: 20 AWG, twisted pair, shielded, yellow Teflon® jacket. LOCKING RING, ADAPTER SEAL, AND O-RING ARE INCLUDED.

#### A: Length

- 015 15 feet (4.57 metres)
- 032 32 feet (9.75 metres)
- 064 64 feet (19.5 metres)
- 112 112 feet (34.1 metres)
- 125 125 feet (38.1 metres)
- 150 150 feet (45.7 metres)
- 200 200 feet (61.0 metres)

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## Accessories

125389-01

**Velomitor CT Manual**

128608-02

**1.2-in NPT conduit adapter**

04284020-01

**Adhesive mount base kit.** The adhesive mount base kit design is for machines with thin casings that do not permit drilling and tapping a mounting hole. Kit contains material (adhesive and bases) for 2 each 3/8-in 24 UNF adhesive-mount bases. One kit can outfit 2 Velomitor CT Transducers.

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## Spare Mounting Adapters

All mounting adapters are made from 300 series stainless steel.