

200125 Trendmaster* 2000 Thermocouple

Bently Nevada* Asset Condition Monitoring

Description

The 200125 temperature sensor is specifically designed to meet the needs of Trendmaster* 2000 installations and is recommended for the majority of temperature measurements, such as bearing and casing temperatures, for which the range of a K-type thermocouple is adequate. The sensor has been specially engineered to provide the electrical isolation that the Trendmaster 2000 system requires and is compatible with all TIM and flexiTIM* transducer interface modules that support a K-type thermocouple input. The sensor's robust design and construction incorporates materials intended to withstand the extremely harsh environments encountered in many installations. The unique probe-style packaging simplifies installation, particularly when applications use the right-angle adapter that you can install directly beneath Trendmaster 2000 acceleration and velocity sensors. This eliminates the need for you to drill and tap an additional hole, and provides the convenience of a combination measurement of temperature and vibration at desired locations.



Application Advisory
Many commercially available K-type thermocouples do not provide the necessary electrical isolation that the Trendmaster 2000 system requires. We do not recommend using these thermocouples, as they can result in erroneous "Transducer OK" conditions.

Specifications

Operation outside of the specified limits can result in false or inaccurate readings.

Electrical

Calibration

Type K

Accuracy (Special Limits of Error, ANSI MC96.1)

±1.1 °C from 0 °C to 200 °C (±2.0 °F from 32 °F to 392 °F)

Resistance

1.92 Ω per double metre @ 20 °C
(0.585 Ω per double foot @ 68 °F)

Isolation

<1 mA @ 600 Vrms

Environmental

Operating Temperature

-55 °C to 200 °C (-67 °F to 392 °F),
sensing end

Storage Temperature

-55 °C to 110 °C (-67 °F to 230 °F),
entire unit is limited by tag and
shrink tubing

Humidity

Up to 100% relative humidity,
condensing

Vibration

Up to 50 m/s² pk (5.1 g pk)
continuous, 500 m/s² pk 951 g pk)
short duration

Shock

Will survive a 1-metre drop to a
concrete floor

Physical

Dimensions

See Figure 1, Figure 2, and Figure 3.

Case Material

304 stainless steel

Insulation/ Sheathing

Teflon®, Neoflon® PFA duplex
insulation with 304 stainless steel
overbraid

Cable Size

20 AWG solid

Mechanical

23 kg (50 lbf) static pull parallel
12 kg (25 lbf) static pull
perpendicular

Installation

Bend Radius

25.2 mm (1.0 in) minimum

Cable Routing

Secure cable 153 mm (6.0 in) from
the mounted sensing end to help
prevent premature cable failure.
Avoid sharp bends and sharp
edges.

Ordering Information

200125 Trendmaster 2000 Thermocouple

200125 - AXX - BXX - CXX

A: Case style

01 5/16-24 threaded case

B: Overall length

02 2 metres (6.6 feet)
04 4 metres (13.1 feet)
06 6 metres (19.7 feet)
09 9 metres (29.6 feet)
15 15 metres (49.2 feet)

C: Mounting adapter

00 None
01 Right angle

Note: When mounting the 200150 and 100125 (see Figure 3)
use one of the following mounting adapters:

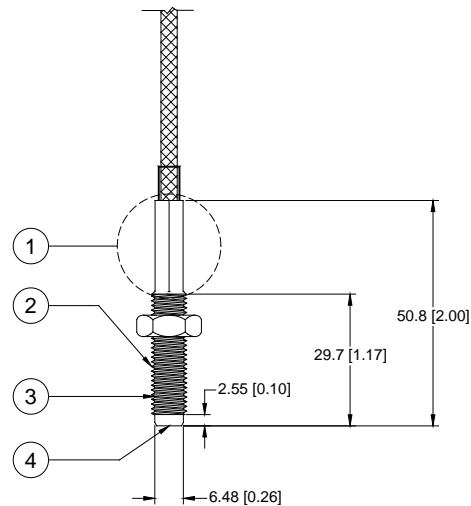
3/8-24 to 3/8-16 plate stud	161961-01
3/8-24 to 1/4-28 plate stud	128038-01
3/8-24 to 1/4-20 hex stud	131562-01
3/8-24 to 5/16-18 hex stud	131562-02
3/8-24 to 3/8-16 hex stud	131562-04

Graphs and Figures

Note: All dimensions shown in millimeters [inches] except as noted.

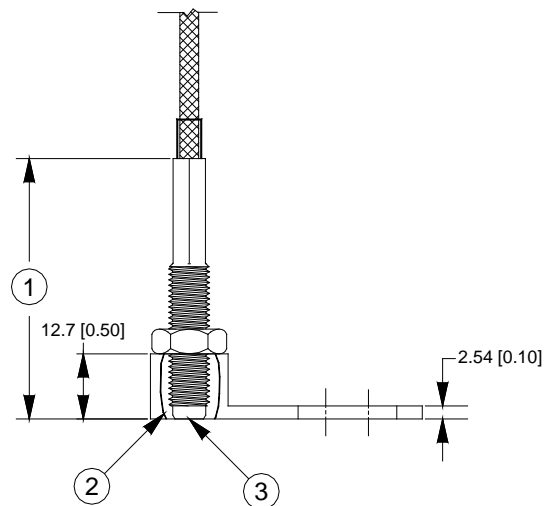
Installation Note

A threaded case (see Figure 1) supports various installations with one sensor. Maximize performance by placing the position reference area shown in Figure 2 and Figure 3 as close as possible to the point that you wish to measure.



1. Crimped region
2. 5/16-24 UNF
3. Position of sensing
4. Position reference area

Figure 1: 200125 Thermocouple Dimensions



1. 50.8 [2.00] REF
2. Cutaway view
3. Position reference area

Figure 2: 200125 Thermocouple and Optional Right Angle Mounting Bracket

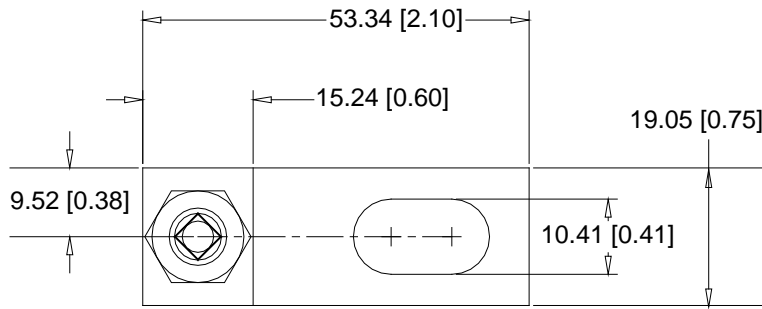


Figure 3: Right Angle Bracket Mounting Dimensions

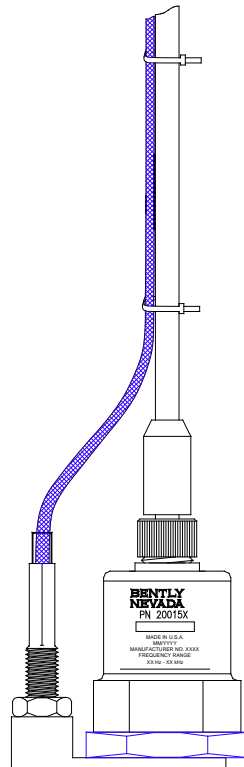


Figure 4: 200150 Accelerometer and 200125 Thermocouple Installation

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