200150, 200155 and 200157 Accelerometers

Datasheet

Cordant™

164986 Rev. Y



Description

The 20015x Accelerometers are general purpose, wide frequency, case-mounted seismic transducers designed for use with Trendmaster ProTIMs.

The 200150 Accelerometer also operates with the Trendmaster 2000 system. The accelerometer interfaces with the 200100 Dual Acceleration to Velocity flexiTIM Module and the 89130-01 Acceleration-to-Velocity TIM (Transducer Interface Module), as well as the 1900/25 and 1900/27 monitors.

The 20015x Accelerometers feature a hermetically sealed, stainless steel case. This design provides an extremely rugged transducer that is well suited for harsh industrial environments. The transducer's top-mounted, 5-pin connector allows you to easily install and remove the interconnecting signal cable. A 3/8-24 threaded hole on the bottom of the sensor's casing accommodates several mounting options.

The 20015x Accelerometers contain a piezoelectric sensing device that generates a charge when it is subjected to vibration. The accelerometers electronically convert this charge to a differential voltage signal that is proportional to the acceleration that is parallel to the sensitive axis of the transducer.

Baker Hughes

Relative Humidity	100% relative, condensing, non-submerged

Physical

Size (Hex x Height)	17.5 mm x 45.7 mm (11/16 in x 1.8 in)
Weight	58 g (2.0 oz), typical
Mounting Thread	3/8-24 female
Mounting Torque	2.7 to 6.8 N•m (2 to 5 ft•lbf)
Sensing Element	Ceramic
Sensing Geometry	Shear
Housing and connector material	
200150	316L stainless steel
200155	316L stainless steel
200157	316L stainless steel

Electrical Connector (Top)	5-pin 1/2-20

Cables

Operating Temperature Range	-20°C to +100°C (-4°F to +212°F) These cables may be used at lower temperatures if the installation prevents the cable from flexing or bending. Flexing these cables at temperatures below –20°C (-4°F) may damage the cables.
Construction	4-conductor, 22 AWG with braided shield and drain wire (85% coverage, minimum), PVC outer jacket. Nickel-plated coupling nuts.
Seal	Connectors provide an IP67 seal to transducers and mating hardware. Connectors are molded to the cable. The addition of DC4 electrical insulating compound in the connectors provides additional protection against moisture during a thermal shock.
Minimum Bend Radius	
200151	63.5 mm (2.5 in)
200152	73.7 mm (2.9 in)
Maximum Cable Length	25 m (82 ft) Custom products may be able to provide longer cable lengths for the 200150 and 200157 accelerometers.

Adhesive (see Mounting Hardware Options)

Temperature Range	-55°C to +121°C (-67°F to +250°F)
Cure Time	24 hours

Ordering Information

For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from Bently.com.

200150-AA-BB

General Purpose Trendmaster 2000 or Trendmaster Pro Accelerometer

200155-AA-BB

Low Frequency Trendmaster Pro Accelerometer

200157-AA-BB

Enveloping Trendmaster Pro Accelerometer

Refer to Table 6 for detailed specifications.

A: Mounting Stud Option	
00	No mounting stud provided
01	3/8-24 thread, 2 adhesive mount frames with adhesive
02	3/8-24 to 3/8-24 UNF 1-3/8 inch hex plate stud
03	3/8-24 to 1/2-20 UNF 1-3/8 inch hex plate stud
04	3/8-24 to 1/4 NPT 1-3/8 inch hex plate stud
05	3/8-24 to 1/4-28 UNF 1-3/8 inch hex plate stud
06	3/8-24 to 1/4 NPT, 3/4 inch hex stud
07	3/8-24 to 3/8 NPT, 3/4 inch hex stud
08	3/8-24 to 1/2 NPT 1 inch hex stud
09	3/8-24 to 3/4 NPT, 1-1/4 inch hex stud
10	3/8-24 to 1 NPT, 1-3/8 inch hex stud
11	3/8-24 to 1-1/4 NPT, 1-3/4 inch hex stud
12	3/8-24 to 1/4-20 UNC, 3/4 inch hex stud
13	3/8-24 to 5/16-18 UNC, 3/4 inch hex stud
14	3/8-24 to 3/8-24 UNF, 3/4 inch hex stud
15	3/8-24 to 3/8-16 UNC, 3/4 inch hex stud
16	3/8-24 to 1/2-13 UNC, 3/4 inch hex stud
17	3/8-24 to 3/8-16 UNC 1-3/8 inch hex plate stud
18	3/8-24 to M8x1 1-3/8 inch hex plate stud
19	Quick-Set XDCR adapter, 1-inch hex stud
20	3/8-24 thread, 1 magnetic mount base
21	3/8-24 outer diameter to M6x1 inner diameter 1-3/8 inch hex plate stud
22	3/8-24 to M8x1.25 1-3/8 inch hex plate stud
23	3/8-24 to M16x2.0 1-3/8 inch hex plate stud
B: Approvals	
05	Multiple Approvals (CSA, ATEX, and IECEx)

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Adhesive studs (Options **0 1** and **2 0**) are sold in kits containing frames to hold the studs to the substrate while the adhesive cures. The kit also contains provides a scouring pad and alcohol wipe to prepare the mounting surface and a packet of acrylic adhesive and materials to mix the two components.

Using adhesives and magnetic mounts attenuates high frequency signals that may be present.

200151-AA-BB-CC

Accelerometer Interface Standard Cable, Connectors on Both Ends

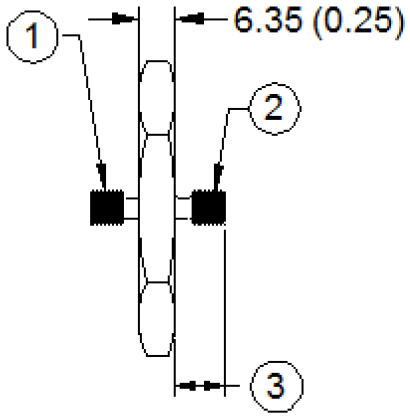
A: Cable Length	
20	2.0 meters
40	4.0 meters
60	6.0 meters
B: Armor Option	
02	Blue cable without armor
03	Blue cable with armor
C: Coupling Nut	
00	Standard coupling nut (see Figure 9)
02	Nylon coupling nut
10	Enhanced coupling nut. This option provides a better grip for tightening the cable to the accelerometer and is provided on both ends of the cable (see Figure 11).

200152-AA-BB

Accelerometer Interface Standard Cable, Connector on Accelerometer End Only

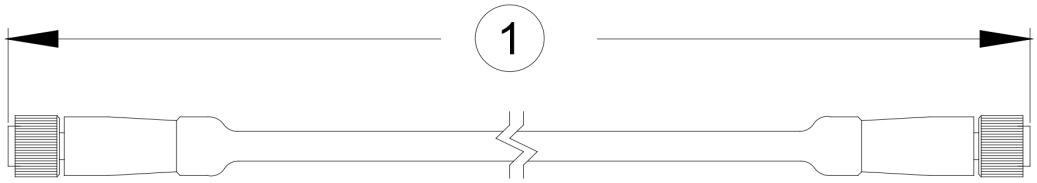
A: Cable Length	
04	4.0 meters
15	15 meters
25	25 meters
B: Coupling Nut	
00	Standard coupling nut (see Figure 10)
10	Enhanced coupling nut. This option provides a better grip for tightening the cable to the accelerometer and is provided on the accelerometer end only (see Figure 12).

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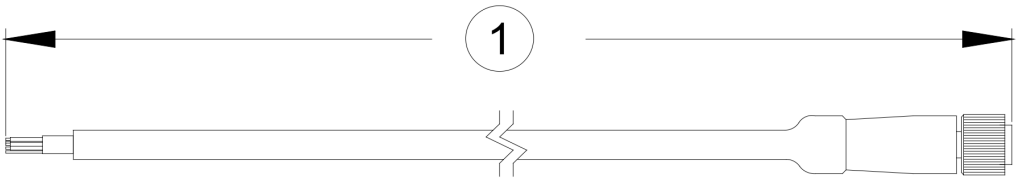
1. 3/8-24 UNF 2A
2. M8 x 1,25
3. Stud length

Figure 8: Hex Plate Stud for "A" Option 22



1. Cable length (Option "A")

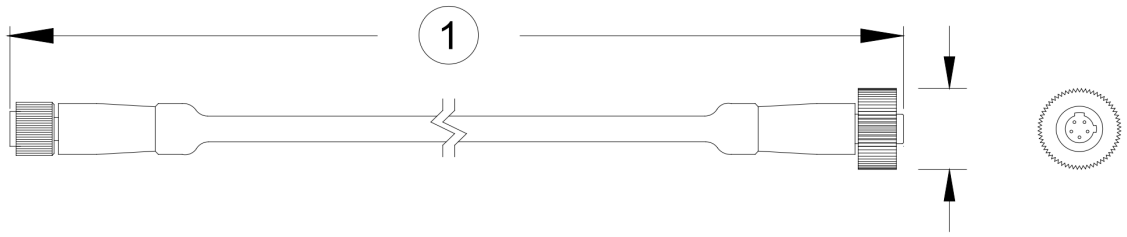
Figure 9: 200151 With Standard Coupling Nut and No Armor



1. Cable length (Option "A")

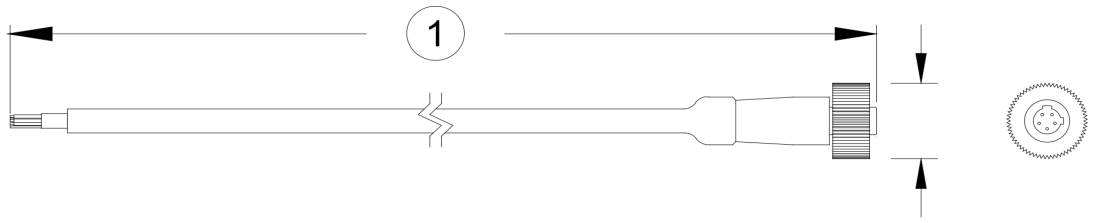
Figure 10: 200152 With Standard Coupling Nut and No Armor

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1. Cable Length (Option "A")

Figure 11: 200151 With Enhanced Coupling Nut and No Armor



1. Cable length (Option "A")

Figure 12: 200152 With Enhanced Coupling Nut and No Armor

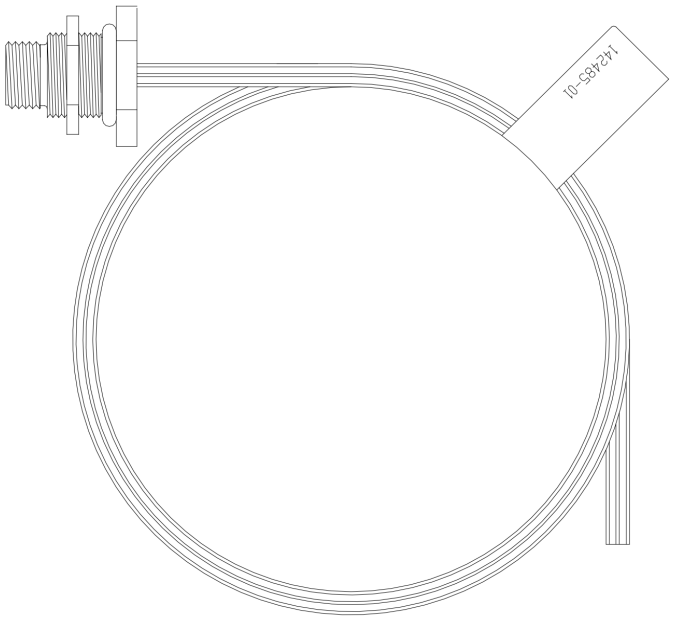


Figure 13: Housing Cable Adapter (Part Number 142485-01)

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PRODUCT: 200151-40-03-02 / 4.0 M ARMORED ACCELEROMETER INTERFACE CABLE

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