

Transducer Accessories

Bently Nevada™ Asset Condition Monitoring

Description

Accessories contribute to a reliable transducer system. Installing proximity probes during outages usually requires one or more mounting accessories to help simplify the task. These accessories allow you to quickly and efficiently install proximity probes and route the associated cables out of the machine case. These parts also help shield the cables from electrical noise and adverse environmental conditions. Having the proper mounting hardware on-site during the probe installation saves time and money for those responsible for the project.

Junction boxes

Junction boxes are normally mounted on or near the exterior of a machine case and enclose electrical connections in weatherproof or explosion-proof environments.

Sealtite™ flexible conduit

Flexible conduit routes probe cables safely to the sensor housing and then back to the monitors. The conduit protects transducer wiring from damage that splashing liquids or accidental contact with other equipment can cause.

Sealtite™ flexible conduit consists of a galvanized steel core with an extruded thermoplastic cover. Pipe fittings are made of steel with a zinc-plated, chromate finish and are compatible with fittings found on our watertight equipment enclosures

Probe mounting brackets

Probe mounting brackets attach internally mounted proximity probes to the machine case. Supplied mounting bolts attach the bracket to the bearing or other location inside the machine casing. The bracket holds the probe and allows for adjustment of the probe tip relative to the observed surface.

For most installations, use the standard 137492 non-clamping aluminum probe bracket. When using the 137491 brackets for 3/8-inch diameter smooth case probes, tightening the bolts will compress the probe hole around the probe and lock the probe into its preset gapped position. If your application requires additional electrical isolation from the mounting location (as in some generator and electric motor bearing locations), use the 27474 phenolic probe bracket. These mounting brackets are compatible with our 3300 and 3300 XL proximity probe systems, including 5 mm, 8 mm and NSv™ probes.

To ensure that the brackets screws remain fastened within the machine, secure the screws with safety wire. Each mounting bracket includes special screws with holes drilled for safety wire.

Cable Seal

The optional 10076 Cable Seal is mainly for use in cable routing applications. It restrains the coaxial cable from movement, prevents abrasion, and provides splash protection. One end of the cable seal has a 1/4-18 NPT thread that allows you to thread it into a 4190-36 Adapter.

The cable seal has an aluminum body and an oil-resistant, slit grommet so that you can install it over armored or non-armored cable without removing the connectors.

Adapter

The optional 4190 Adapter attaches a junction box to the machine case. It also allows mounting of the proximity probe in some instances.

The adapter offers a variety of threads and configurations. Adapter threads and configurations that are not listed in this data sheet may be available. Please contact your sales representative for more information.

Explosion-proof fittings

Explosion-proof fittings provide seals for housings in Division 1 and in Zone 0 and 1 hazardous areas. The fittings include sealing compound, packing fiber, and the appropriate adapter.

Low-pressure cable seal

The 43501 Low-Pressure Cable Seal provides egress for up to 4 75Ω and/or 95Ω 3300XL, 3300 and 7200 cables, or up to 2 25mm DE or 50mm DE transducer cables, through a single hole in a machine case or other barrier.

The cable seal is constructed of 303 stainless steel and a molded silicon rubber grommet and prevents leakage of fluids along the outer jacket of the cable. The seal has threads on both ends and fits into a tapped hole on the machine case or barrier. External pipe threads enable the seal to mate to conduit or housings.

You can use the low-pressure cable seal only with non-armored cables. Its design seals pressures up to 345 kPa (50 psi) when properly installed.

High-Temperature Cable Ties

The 173873 high-temperature cable tie is an economical alternative to metal brackets in high-temperature applications. These cable ties are molded from VICTREX® PEEK™ polymer for multiple uses in extreme environments up to +180°C (+356°F).

Specifications

Junction Boxes

Cylindrical Junction Box (P/N 03818016)

Components

Main body and blank cover (Refer to Figure 2)

Dimensions

Overall Height

76 mm (3.0 in)

Body Diameter

89 mm (3.5 in)

Hub-to-Hub

121 mm (4.75 in)

Base to Hub Center

16 mm (0.64 in)

Fittings

3/4-14 NPT

5 places

Material

Aluminum

Optional Extension for 03818016 (P/N 03818022)

Components

Main body (Refer to Figure 2)

Dimensions (Extension only)

Overall Height

93mm (3.7 in)

Body Diameter

90mm (3.6 in)

Hub-to-Hub (flats)

91 mm (3.6 in)

Total Extended Height

150 mm (5.90 in)

Material

Aluminum

Rectangular Junction Box (P/N 03818065)

Components

Main body and cover (Refer to Figure 3)

Dimensions

Overall Height

27.9 mm (1.10 in)

Width of Body

38.1 mm (1.50 in)

Length of Body

95.3 mm (3.75 in)

Fittings

1/2-14 NPT

2 places

Material

Aluminum

Rectangular Junction Box (P/N 03818066)

Components

Main body and cover (Refer to Figure 3)

Dimensions

Overall Height

61.0 mm (2.40 in)

Width of Body

44.5 mm (1.75 in)

Length of Body

102 mm (4.00 in)

Fittings

3/4-14 NPT

2 places

Material

Aluminum

Sealtite Flexible Conduit

Components

Refer to Figure 4.

Fitting Options

1/2-14 NPT

3/4-14 NPT

Length

As ordered

Brackets

Clamp Mounting Bracket for 3/8-inch diameter smooth body probes.

Dimensions

Refer to Figure 5.

Mounting Screw Thread Size Options

10-24 UNC-2A

M5 x 0.8-6g

Material

Aluminum

Non-Clamping Mounting Bracket for threaded case probes.

Dimensions

Refer to Figure 6.

Mounting Screw Thread Size

10-24 UNC-2A

or M5 x 0.8-6g

Material

Aluminum

Probe Lock Nut

Thread Sizes

3/8-24 UNF-2B

M10 x 1-6H

Features

Lock nut with holes to attach safety wire.

Cable Seal (P/N 10076)

Components

Refer to Figure 7.

Overall length (assembled)

35mm (1.4 inches) in tightened condition

Adapters

Features

Refer to Figure 8.

Dimensions

4190-01

Internal Diameter

9.53 mm (0.375 in)

Internal thread type

1/4-18 NPT

External thread type

1/2-14 NPT

Overall Length

38.1 mm (1.50 in)

4190-03

Internal Diameter

11.1 mm (0.437 in)

Internal thread type

1/4-18 NPT

External thread type

3/4-14 NPT

Overall Length

46.0 mm (1.81 in)

4190-04

Internal Diameter

7.14 mm (0.281 in)
Internal thread type
1/4-28 UNF-2B
External thread type
1/2-14 NPT
Overall Length
38.1 mm (1.50 in)

4190-06

Internal Diameter
10.3 mm (0.406 in)
Internal thread type
3/8-24 UNF-2B
External thread type
1/2-14 NPT
Overall Length
38.1 mm (1.50 in)

4190-16

Internal Diameter
10.3 mm (0.406 in)
Internal thread type
3/8-24 UNF-2B
External thread type
3/4-14 NPT
Overall Length
46.0 mm (1.81 in)

4190-20

Internal Diameter
16.7 mm (0.656 in)
Internal thread type

5/8-18 UNF-2B
External thread type
3/4-14 NPT
Overall Length
46.0 mm (1.81 in)

4190-34

Internal Diameter
7.14 mm (0.281 in)
Internal thread type
1/4-28 UNF-2B
External thread type
3/4-14 NPT
Overall Length
56.1 mm (2.21 in)

4190-36

Internal Diameter
10.3 mm (0.406 in)
Internal thread type
1/4-18 NPT
3/8-24 UNF-2B
External thread type
3/4-14 NPT
Overall Length
56.1 mm (2.21 in)

Material

304 Stainless Steel

Explosion-Proof Fittings

Features

Refer to Figure 9.

Dimensions

03818055

Conduit size

1/2-14 NPT

Overall Length

69.9 mm (2.75 in)

Width

49.3 mm (1.94 in)

Min. turn radius

63.5 mm (2.50 in)

03818056

Conduit size

3/4-14 NPT

Overall Length

69.9 mm (2.75 in)

Width

49.3 mm (1.94 in)

Min. turn radius

63.5 mm (2.50 in)

03818058

Conduit size

1-1/4 NPT

Overall Length

102 mm (4.00 in)

Width

54.1 mm (2.13 in)

Min. turn radius

57.2 mm (2.25 in)

Material

Aluminum

Low Pressure Cable Seal

Dimensions

Refer to Figure 10.

Fitting Options

1/2-14 NPT

3/4-14 NPT

High Temperature Cable Ties

Temperature

Up to +180°C (+356°F)

Material

VICTREX PEEK polymer

Ordering Information

Sealtite Flexible Conduit

1/2-14 NPT Assembly

14847-AXX

3/4-14 NPT Assembly

14848-AXX

3/4-14 NPT assembly

A: Length Option in feet

Order in Increments of 1.0 ft (305mm)

Minimum length: 1 foot

Maximum length: 99 feet

Example:

01 = 1 foot

99 = 99 feet

Aluminum Clamp Mounting Bracket for 3/8-inch Diameter Smooth Body Probes

137491-AXX

A: Mounting Screw Thread Size

01 10-24 UNC-2A mounting screws

02 M5 x 0.8-6g mounting screws

Aluminum Non-Clamping Mounting Bracket for Threaded Case Probes

137492-AXX

A: Thread Size Option

01 3/8-24 UNF-2B

02 1/4-28 UNF-2B

03 M8 x 1-6H

04 M10 x 1-6H

Note: The **-0 1** and **-0 2** option are supplied with two 10-24 UNC-2A mounting screws with safety wire holes. The **-0 3** and **-0 4** options are supplied with two M5 x 0.8-6g mounting screws with safety wire holes.

Phenolic Mounting Bracket

27474-AXX

A: Thread Size Option

0 1 3/8-24 UNF-2B

0 2 1/4-28 UNF-2B

0 3 M8 x 1-6H

0 4 M10 x 1-6H

Note: The **-0 1** and **-0 2** options are supplied with two 10-24 UNC-2A mounting screws with safety wire holes. The **-0 3** and **-0 4** options are supplied with two M5 x 0.8-6g mounting screws with safety wire holes. The dimensions are identical to the aluminum mounting bracket 137492.

Cable Seal

10076-AXX

A: Cable Size Option

0 1 50 Ω, without armor

0 2 75/95 Ω, without armor

0 3 75/95 Ω, with armor

0 4 50 Ω, with armor

Adapter

4190-AXX

X X See Specifications section for dimension details.

Note: Additional sizes and configurations available in both standard product and special modifications. Contact your local sales representative for details.

Low Pressure Cable Seal

43501 – AXX – BXX – CXX

A: High Pressure Side Thread Size

0 1 1/2-14 NPT

0 2 3/4-14 NPT

B: Cable Grommet and Washer

0 0 Solid grommet (no holes). Holes must be punched in grommet.

0 2 Grommet will accommodate up to two 25mm and 50mm DE cables. One hole is punched and one is partially pre-drilled.

0 4 Grommet will accommodate up to 4 cables. One hole is punched and three are partially pre-drilled.

C: Low Pressure Side Thread Size

0 1 1/2-14 NPT

0 2 3/4-14 NPT

Junction Boxes

03818016

Cylindrical Junction Box.

03818022

Optional Extension for Cylindrical Junction Box.

03818065

Rectangular Junction Box.

Dimensions (W x L x D) 38.1mm x 95.3mm x 29.7mm (1.10in x 1.50in x 3.75in x 1.10in).

03818066

Rectangular Junction Box.

Dimensions (W x L x D) 44.5mm x 102mm x 61.0mm (1.75in x 4.00in x 61.0in).

Explosion-Proof Fittings

03818055

1/2-14 NPT Fitting

03818056

3/4-14 NPT Fitting

03818057

1 to 1½ NPT Fitting

03818058

1¼ to 1½ NPT Fitting

Probe Lock Nuts

04301007

3/8-24 UNF-2B.

04301008

M10 x 1-6H.

Accessories for Low Pressure Cable Seal

04490104

Punch tool kit for solid grommet option.

43574-04

Replacement grommet. For up to 4 cables.

43575-04

Replacement washer.

Field Wiring

02173006

2-conductor, twisted, shielded
18 AWG (1.0 mm²).

02173008

3-conductor, twisted, shielded
22 AWG (0.5 mm²).

02173009

3-conductor, twisted, shielded
18 AWG (1.0 mm²).

Note: Use 2-conductor cable with velocity transducers. Use 3-conductor cable with Proximitors Sensors and interface modules. Specify number of feet when ordering(?).

High Temperature Cable Ties

173873

Bag of 50 Multiple-Use VICTREX PEEK Polymer Cable ties. For extreme environments up to +180°C (+356°F). One or more sizes/quantities available(?), including 7 inches long.

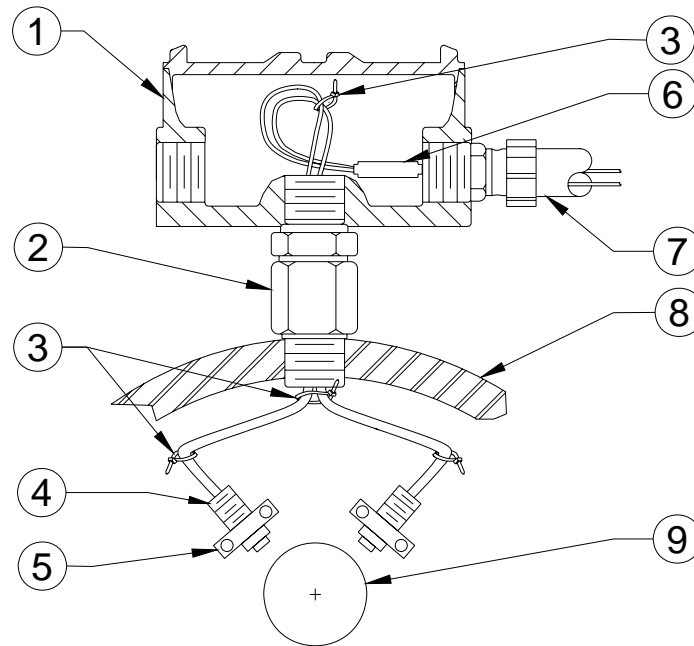
Electrical Isolator

19094-01

7200 Proximitors Sensor and Interface Module Isolator. Provides electrical isolation for the 7200 Proximitors Sensor, velocity to displacement converters, and accelerometer interface modules.

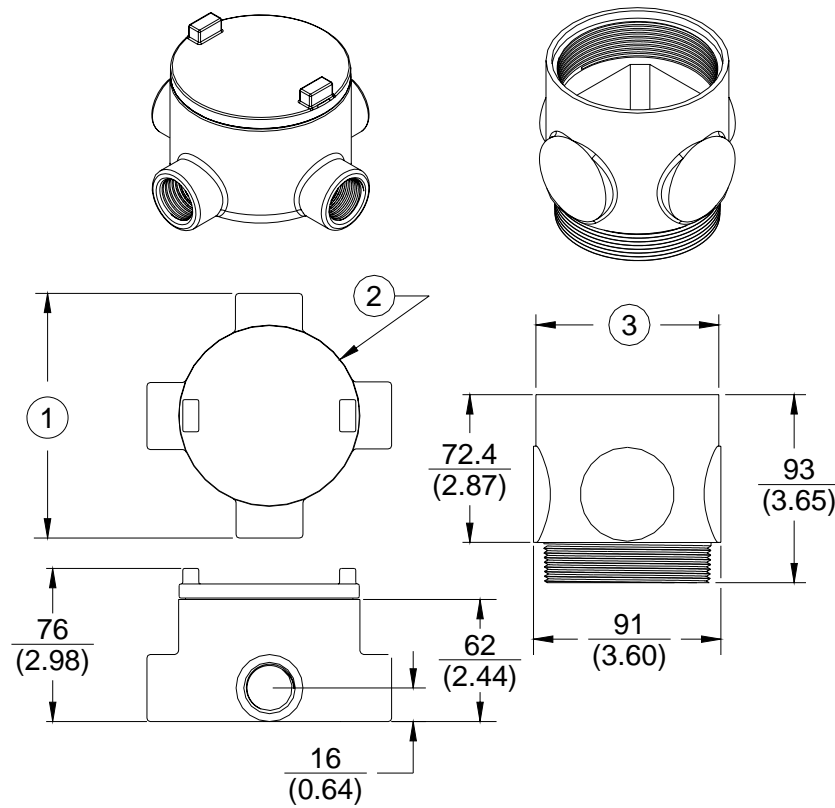
Graphs and Figures

Note: All dimensions shown in millimeters (inches) except as noted.



1. Junction Box (03818016)
2. Low Pressure Cable Seal (43501-02-04-02)
3. High Temperature Cable Ties (173873)
4. 3300 XL 8mm Probe (330101)
5. Probe Mounting Brackets (137492-01)
6. Connector Protectors (40113-02)
7. Flexible Conduit (14848)
8. Machine Case
9. Machine Shaft

Figure 1: Typical Internal Mounting Arrangement For an XY Proximity Probe Application



1. 121 (4.75) Typ.
2. 89 (3.50) Dia.
3. 90 (3.55) Dia.

Figure 2: Cylindrical Junction Box and Optional Extension

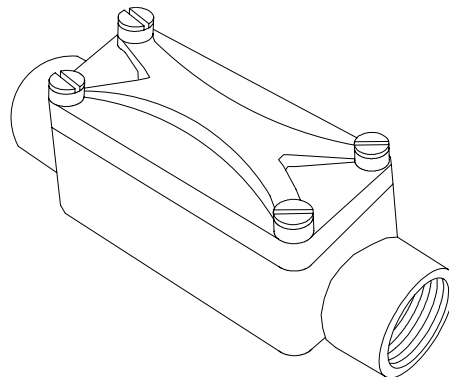


Figure 3: Junction Box

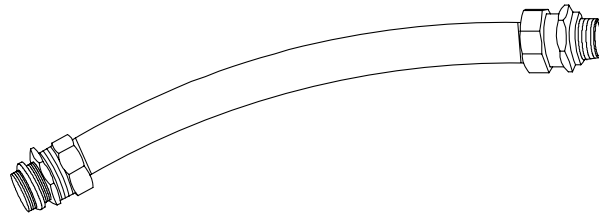
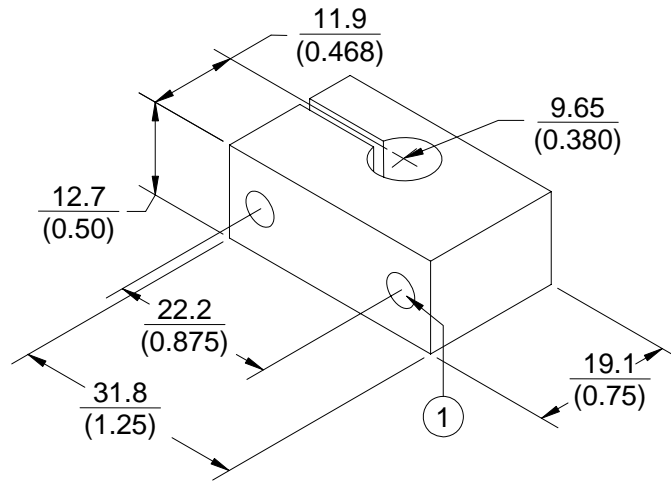
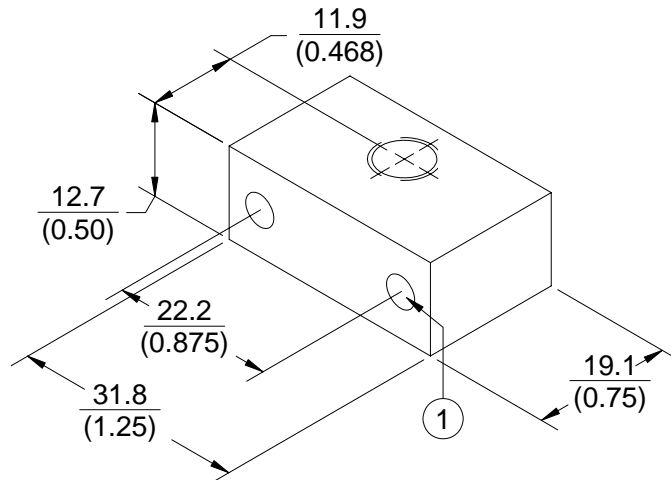


Figure 4: Sealtite™ Flexible Conduit



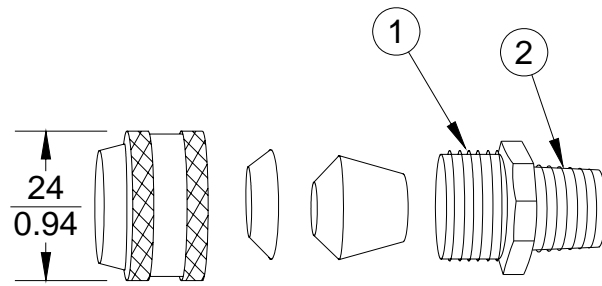
1. 5.11 (0.201) Dia.

Figure 5: Clamping Aluminum Probe Bracket



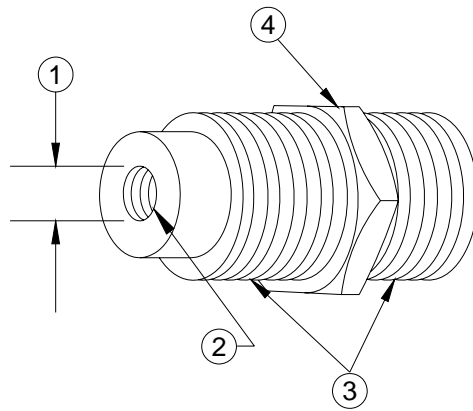
1. 5.11 (0.201) Dia.

Figure 6: Non-Clamping Aluminum Probe Bracket



1. 3/4 Hex
2. 1/4 NPT

Figure 7: Cable Seal



1. Internal Diameter
2. Internal Thread
3. External Thread
4. 1-1/8 Hex

Figure 8: 4190 Adapter - 304 stainless steel (-34 Shown)

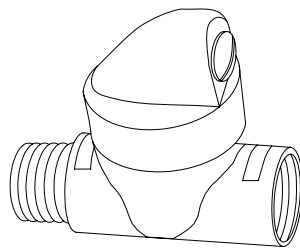
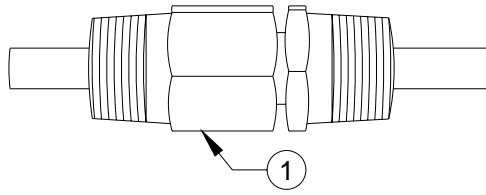


Figure 9: Explosion-proof fitting



1. 28.6 (1.125) Hex

Figure 10: Low Pressure Cable Seal

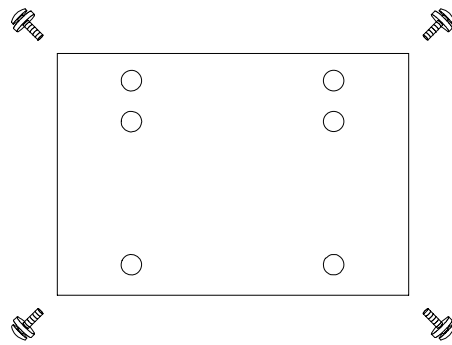


Figure 11: Isolator

Bently Nevada and Proximator are trademarks of General Electric Company.
Sealtite is a claimed trademark of Anaconda American Brass Company.
VICTREX and PEEK are trademarks of Victrex PLC.

Copyright 2000. Bently Nevada LLC.
1631 Bently Parkway South, Minden, Nevada USA 89423
Phone: 775.782.3611 Fax: 775.215.2873
www.ge-energy.com/bently
All rights reserved.