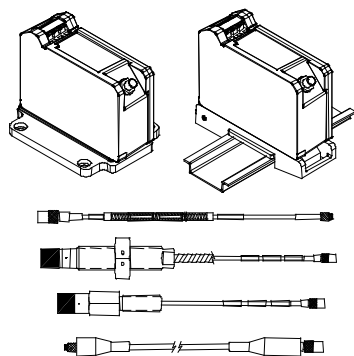


# 3300 XL 11mm Proximity Transducer System

Bently Nevada\* Asset Condition Monitoring

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## Description

### Transducer System

The 3300 XL 11 mm Proximity Transducer System consists of:

- 3300 XL 11 mm probe
- 3300 XL 11 mm extension cable
- 3300 XL 11 mm Proximator\* Sensor<sup>1</sup>

The 3300 XL 11 mm Proximity Transducer System has a 3.94 V/mm (100 mV/mil) output for non-contacting vibration and displacement measurements on fluid film bearing machines. The large 11 mm tip enables this transducer system to have a longer linear range compared to our standard 3300 XL 8 mm Transducer System. It is primarily used in the following applications where the longer linear range is necessary:

- Axial (thrust) position measurements
- Ramp differential expansion measurements on steam turbines
- Rod position or rod drop measurements on reciprocating compressors
- Tachometer and zero speed measurements
- Phase reference (Keyphasor\*) signals

The 3300 XL 11 mm Proximator Sensor is designed to replace the 7200-series 11 mm and 14 mm Transducer Systems. When upgrading from the 7200-series system to the 3300 XL 11 mm system, every component must be replaced with 3300 XL 11 mm components. In addition, the monitoring system must be updated. If using a 3500 Monitoring System, an updated version of the configuration software that lists the 3300 XL 11 mm Transducer System as a compatible option is required. Existing 3300 Monitoring Systems may need a modification. Contact your local sales and service representative for assistance.

**Application Advisory:** The 3300 XL 11 mm Proximity Transducer is designed for measuring position or vibration within a frequency range of 0 to 8 kHz. Typical applications of this system include radial vibration and position, axial position and Keyphasor measurements.

Although the terminals and connector on the Proximator sensor have protection against electrostatic discharge, take reasonable precautions to avoid electrostatic discharge during handling.

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Specifications and Ordering Information  
Part Number 146256-01  
Rev. F (08/14)

## Proximitior Sensor

The 3300 XL 11 mm Proximitior Sensor has the same advanced features found in the 3300 XL 8 mm Proximitior Sensor. Its thin design allows it to be mounted in either a high-density DIN-rail installation or a more traditional panel mount configuration. Improved RFI/EMI immunity allows the 3300 XL Proximitior Sensor to achieve European CE mark approvals without any special mounting considerations. This RFI immunity also prevents the transducer system from being adversely affected by nearby high frequency radio signals. SpringLoc terminal strips on the Proximitior Sensor require no special installation tools and facilitate faster, highly robust field wiring connections.

## Proximity Probe and Extension Cable

The 3300 XL 11 mm probe comes in varying probe case configurations, including armored and unarmored  $\frac{1}{2}$ -20,  $\frac{5}{8}$ -18, M14 X 1.5 and M16 X 1.5 probe threads. The reverse mount 3300 XL 11 mm probe comes standard with either  $\frac{3}{8}$ -24 or M10 X 1 threads. All components of the transducer system have gold-plated brass ClickLoc\* connectors. ClickLoc connectors lock into place, preventing the connection from becoming loose. The patented TipLoc\* molding method provides a robust bond between the probe tip and the probe body. The probe cable is securely attached to the probe tip utilizing our patented CableLoc\* design that provides 330 N (75 lb) pull strength.

3300 XL Probes and Extension Cables can also be ordered with a FluidLoc\* cable option. This option prevents oil and other liquids from leaking out of the machine through the cable's interior. The connector protector option provides additional protection of the connectors in a humid or moist environment. Connector protectors are recommended for all installations and provide increased environmental protection<sup>2</sup>. Additionally, the 3300 XL 11 mm probe comes standard with a locknut with predrilled safety wire holes.

### Notes:

1. Proximitior Sensors are supplied by default from the factory calibrated to AISI 4140 steel. Calibration to other target materials is available upon request.
2. Silicone tape is also provided with each 3300 XL extension cable and can be used instead of connector protectors. Silicone tape is not recommended in applications where the probe-to-extension cable connection will be exposed to turbine oil.

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## Specifications

Unless otherwise noted, the following specifications are for a 3300 XL 11 mm Proximity Sensor, extension cable and probe between 0°C and +45°C (+32°F to +113°F), with a -24 Vdc power supply, a 10 kΩ load, our supplied AISI 4140 steel target that is 31 mm (1.2 in) diameter or larger, and a probe gap of 2.5 mm (100 mils). The system accuracy and interchangeability specifications do not apply when using a transducer system calibrated to any target other than our AISI 4140 steel target.

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### Electrical

#### Proximity Sensor Input

Accepts one non-contacting 3300 XL 11 mm Proximity Probe and Extension Cable.

#### Power

Requires -17.5 Vdc to -26 Vdc without barriers at 12 mA maximum consumption, -23 Vdc to -26 Vdc with barriers. Operation at a more positive voltage than -23.5 Vdc can result in reduced linear range.

#### Supply Sensitivity

Less than 2 mV change in output voltage per volt change in input voltage.

#### Output resistance

50 Ω

#### Probe dc resistance:

Probe Length (m)	Resistance from the Center Conductor to the Outer Conductor (R <sub>PROBE</sub> ) (ohms)
1.0	5.9 ± 0.5
5.0	7.2 ± 0.8
9.0	8.5 ± 1.1

#### Extension cable dc resistance:

Length of Extension Cable (m)	Resistance from Center Conductor to Center Conductor (R <sub>CORE</sub> ) (ohms)	Resistance from Coaxial Conductor to Coaxial Conductor (R <sub>JACKET</sub> ) (ohms)
4.0	1.0 ± 0.25	0.3 ± 0.1
8.0	2.0 ± 0.5	0.6 ± 0.2

#### Extension cable capacitance:

69.9 pF/m (21.3 pF/ft) typical

#### Field wiring:

0.2 to 1.5 mm<sup>2</sup> (16 to 24 AWG) [0.25 to 0.75 mm<sup>2</sup> (18 to 23 AWG) with ferrules]. Recommend using three-conductor shielded triad cable. Maximum length of 305 metres (1,000 feet) between the 3300 XL Proximity Sensor and the monitor. See the frequency response graph for signal rolloff at high frequencies when using longer field wiring lengths.

#### Linear Range:

4.0 mm (160 mils). Linear range begins at approximately 0.5 mm (20 mils) from target and is from 0.5 to 4.5 mm (20 to 180 mils) (approximately -1 to -17 Vdc). Extended Deviation from Straight Line (DSL) range is from approximately 0.5 to 5.0 mm (20 to 200 mils) (-1 to -19 Vdc). The extended DSL range is not applicable when using zener barriers.

#### Recommended Gap Setting:

2.5 mm (100 mils)

**Incremental Scale  
Factor (ISF)**

3.94 V/mm (100 mV/mil)  $\pm 10\%$   
including interchangeability error  
when measured in increments of 0.5  
mm (20 mils) over the 4.0 mm (160  
mil) linear range.

**Deviation from best  
fit straight line  
(DSL)**

**Standard DSL  
range:**

Less than  $\pm 0.10$  mm ( $\pm 4$  mils).

**Extended DSL  
range:**

Less than  $\pm 0.15$  mm ( $\pm 6$  mils).

**System  
Performance over  
extended  
temperatures:**

Over a probe temperature range of -  
35°C to +120°C (-31°F to +248°F) with  
the Proximator Sensor and extension  
cable between 0°C to +45°C (+32°F to  
+113°F), the ISF remains within  $\pm 25\%$   
of 3.94 V/mm (100 mV/mil), the DSL  
remains within  $\pm 0.51$  mm ( $\pm 20$  mils)  
and the extended range DSL remains  
within  $\pm 0.59$  mm ( $\pm 23$  mils)

Over a Proximator\*Sensor and  
extension cable temperature range of  
-35°C to +65°C (-31°F to +149°F) with  
the probe between 0°C to +45°C  
(+32°F to +113°F), the ISF remains  
within  $\pm 25\%$  of 3.94 V/mm (100  
mV/mil), the DSL remains within  $\pm 0.51$   
mm ( $\pm 20$  mils) and the extended  
range DSL remains within  $\pm 0.59$  mm  
( $\pm 23$  mils)

**Frequency  
Response:**

0 to 8 kHz: +0, -3 dB typical, with up to  
305 metres (1000 feet) of field wiring.

**Recommended  
Minimum Target  
Size:**

30.5 mm (1.2 in) diameter (flat target)

**Recommended  
Minimum Shaft  
Diameter**

152 mm (6.0 in)

Measurements on shaft diameters smaller than 76  
mm (3.0 in) usually require close spacing of radial  
vibration or axial position transducers with the  
potential for their electromagnetic emitted fields to  
interact with one another (cross talk), resulting in  
erroneous readings. Care should be taken to  
maintain minimum separation of transducer tips,  
generally at least 64 mm (2.5 in) for dual axial  
position measurements or 54 mm (2.1 in) for radial  
vibration measurements to prevent cross talk.  
Radial vibration or position measurements on shaft  
diameters smaller than 152 mm (6.0 in) will generally  
result in a change in scale factor due to the  
curvature of the shaft surface. Consult Performance  
Specification 144979 for additional information.

**Effects of 60 Hz  
Magnetic Fields  
Up to 300 Gauss  
(5 metre  
system):**

Output voltage in mil pp/gauss:

Gap	Proximator Sensor	Probe	Ext. Cable
0.5 mm (20 mil)	0.006	0.001	0.001
2.5 mm (100 mil)	0.033	0.009	0.005
4.6 mm (180 mil)	0.033	0.027	0.007

**Electrical  
Classification:**

Complies with the European CE  
mark.

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## Hazardous Area Approvals

Multiple approvals for hazardous areas certified by Canadian Standards Association (CSA/NRTL/C) in North America and by BASEEFA/CENELEC in Europe.


### North America:

Class I, Zone 0; Ex ia IIC T1...T5 Ga for Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III when installed with intrinsically safe Certified barriers, or galvanic isolators, per drawing 141092.

Class I, Zone 2; Ex nA IIC T1...T5 Gc for Class I, Div. 2, Groups A, B, C and D when installed without barriers or galvanic isolators per drawing 140979.

T1 -51°C ≤ Ta ≤ +232°C  
T2 -51°C ≤ Ta ≤ +177°C  
T3 -51°C ≤ Ta ≤ +120°C  
T4 -51°C ≤ Ta ≤ +80°C  
T5 -51°C ≤ Ta ≤ +40°C

### Europe:

 II 1 G Ex ia IIC T4/T5 Ga, Group IIC, Baseefa certificate number BAS99ATEX1101 when installed with intrinsically safe zener barriers or galvanic isolators.

 II 3 G Ex nA IIC T4/T5 Gc, Group IIC, Baseefa certificate number Baseefa07ATEX0189X.

T4 @ Ta = -51°C to +100°C  
T5 @ Ta = -35°C to +85°C

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## Mechanical

### Probe Tip Material:

Polyphenylene sulfide (PPS).

### Probe Case Material:

AISI 304 stainless steel (SST).

### Probe Cable Specifications:

75 Ω triaxial, fluoroethylene propylene (FEP) insulated probe cable in the following total probe lengths: 1, 5 or 9 metres.

### Extension Cable Material:

75 Ω triaxial, fluoroethylene propylene (FEP) insulated.

### Proximator\*

### Sensor Material:

A380 aluminum

### System Length:

5 or 9 metres including extension cable

### Extension Cable Armor (optional):

Flexible AISI 302 SST with FEP outer jacket.

### Tensile Strength (maximum rated):

330 N (75 pounds) probe case to probe lead. 270 N (60 pounds) at probe lead to extension cable connectors.

### Connector material:

Gold-plated brass

Probe case torque:	Maximum Rated	Recommended
½-20 and ⅝-18 probe cases	45.2 N•m (400 in•lb)	15.0 N•m (133 in•lb)
M14x1.5 and M16x1.5 probe cases	63.3 N•m (560 in•lb)	21.1 N•m (187 in•lb)
Reverse mount probes	22.6 N•m (200 in•lb)	7.5 N•m (66 in•lb)

### Connector-to-connector torque

### Recommended torque:

Finger tight

### Maximum torque:

0.565 N•m (5 in•lb)

**Minimum Bend  
Radius (with or  
without sst armor):**

25.4 mm (1.0 in)

**System Weight (typical):**

**Probe:**

70 g (2.5 oz) (minimum length case, 1m  
lead, no armor)

170 g (6.0 oz) (minimum length case,  
1m lead, with armor)

For longer case lengths add 1.1 g/mm  
(1.0 oz/in).

For 5 m probe length add 180 g (6 oz)  
for non-armored probe or 560 g (20 oz)  
for armored probe.

For 9 m probe length add 360 g (12 oz)  
for non-armored probe or 1120 g (40  
oz) for armored probe.

**Extension Cable:**

45 g/m (0.5 oz/ft)

**Armored Extension  
cable:**

140 g/m (1.5 oz/ft)

**Proximity Sensor:**

255 g (9 oz)

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**Environmental Limits**

**Probe Temperature  
Range**

**Operating and  
Storage  
Temperature:**

-51°C to +177°C (-60°F to +351°F)

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**Note:** Exposing the probe to temperatures  
below -34°C (-30°F) may cause premature  
failure of the pressure seal.

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**Extension Cable  
Temperature Range**

**Operating and  
Storage  
Temperature:**

-51°C to +177°C (-60°F to +351°F)

**Proximity  
Sensor  
Temperature  
Range**

**Operating  
Temperature:**

-51°C to +100°C (-60°F to +212°F)

**Storage  
Temperature:**

-51°C to +105°C (-60°F to +221°F)

**Relative  
Humidity:**

100% condensing, non-  
submersible when connectors are  
protected. Tested to IEC 68-2-3  
damp heat.

**Probe Pressure:**

3300 XL probes are designed to  
seal differential pressure between  
the probe tip and case. The probe  
sealing material consists of a  
Viton\* O-ring. Probes are not  
pressure tested prior to shipment.  
Contact our custom design  
department if you require a test  
of the pressure seal for your  
application

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**Note:** It is the responsibility of the  
customer or user to ensure that all liquids  
and gases are contained and safely  
controlled should leakage occur from a  
proximity probe. In addition, solutions  
with high or low pH values may erode the  
tip assembly of the probe causing media  
leakage into surrounding areas. Bently  
Nevada LLC will not be held responsible  
for any damages resulting from leaking  
3300 XL proximity probes. In addition,  
3300 XL proximity probes will not be  
replaced under the service plan due to  
probe leakage.

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**Patents:**

5,016,343

5,126,664

5,351,388

5,685,884

Components or procedures described in these  
patents apply to this product.

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## Ordering Information

### 3300 XL 11 mm Proximity Probes:

330701 3300 XL 11 mm Probe, 1/2-20 UNF thread, without armor

330702 3300 XL 11 mm Probe, 1/2-20 UNF thread, with armor

330707 3300 XL 11 mm Probe, 5/8-18 UNF thread, without armor

330708 3300 XL 11 mm Probe, 5/8-18 UNF thread, with armor

Part Number-AXX-BXX-CXX-DXX-EXX

### Option Descriptions

#### A: Unthreaded Length Option

**Note:** Unthreaded length must be at least 1.0 inch less than the case length.

Order in increments of 0.1 in

Length configurations:

**Maximum unthreaded length:** 8.9 in

**Minimum unthreaded length:** 0.0 in

**Example:** 0 4 = 0.4 in

#### B: Overall Case Length Option

Order in increments of 0.1 in

Threaded length configurations:

**Maximum case length:** 9.9 in

**Minimum case length:** 1.0 in

**Example:** 2 4 = 2.4 in

#### C: Total Length Option

**1 0** 1.0 metre (3.3 feet)

**5 0** 5.0 metres (16.4 feet)

**9 0** 9.0 metres (29.5 feet)

**Note:** Five metre probes are designed for use with the five metre Proximity Sensor only.

#### D: Connector and Cable-Type Option

**0 1** Miniature coaxial ClickLoc connector with connector protector, standard cable

**0 2** Miniature coaxial ClickLoc connector, standard cable

**1 1** Miniature coaxial ClickLoc connector with connector protector, FluidLoc cable

**1 2** Miniature coaxial ClickLoc connector, FluidLoc cable

#### E: Agency Approval Option

**0 0** Not required

**0 5** Multiple Approvals

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### 3300 XL 11 mm Proximity Probes, Metric:

330703 3300 XL 11 mm Probe, M14 x 1.5 thread, without armor

330704 3300 XL 11 mm Probe, M14 x 1.5 thread, with armor

330709 3300 XL 11 mm Probe, M16 x 1.5 thread, without armor

330710 3300 XL 11 mm Probe, M16 x 1.5 thread, with armor

Part Number-AXXX-BXXX-CXX-DXX-EXX

### Option Descriptions

#### A: Unthreaded Length Option

**Note:** Unthreaded length must be at least 26 mm less than the case length.

Order in increments of 2 mm.

Length configuration:

**Maximum unthreaded length:** 224 mm

**Minimum unthreaded length:** 0 mm

**Example:** 0 6 0 = 60 mm

#### B: Overall Case Length Option

Order in increments of 2 mm.

**Metric thread configurations:**

**Maximum length:** 250 mm

**Minimum length:** 26 mm

**Example:** 0 6 0 = 60 mm

#### C: Total Length Option

**1 0** 1.0 metre (3.3 feet)

**5 0** 5.0 metres (16.4 feet)

**9 0** 9.0 metres (29.5 feet)

**Note:** Five metre probes are designed for use with the five metre Proximity Sensor only.

#### D: Connector and Cable-Type Option

**0 1** Miniature coaxial ClickLoc connector with connector protector, standard cable

**0 2** Miniature coaxial ClickLoc connector, standard cable

**1 1** Miniature coaxial ClickLoc connector with connector protector, FluidLoc cable

**1 2** Miniature coaxial ClickLoc connector, FluidLoc cable

#### E: Agency Approval Option

**0 0** Not required

**0 5** Multiple Approvals

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### 3300 XL 11 mm Reverse Mount Probe

330705-02-18- CXX-DXX-EXX, 3/8-24 UNF threads

330706-005-046- CXX-DXX-EXX, M10 x 1 threads

#### Option Descriptions

##### C: Total Length Option

<b>1 0</b>	1.0 metre (3.3 feet)
<b>5 0</b>	5.0 metres (16.4 feet)
<b>9 0</b>	9.0 metres (29.5 feet)

**Note:** Five metre probes are designed for use with the five metre Proximity Sensor only.

##### D: Connector Option

<b>0 2</b>	Miniature ClickLoc coaxial connector
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##### E: Agency Approval Option

<b>0 0</b>	Not required
<b>0 5</b>	Multiple Approvals

**Note:** For a shorter delivery time, order commonly stocked probes. Currently, stocked probes consist of the following part numbers: 330701-00-10-10-02-00, 330701-00-20-10-02-00, 330703-000-050-10-02-00, 330705-02-18-10-02-00, 330706-005-046-10-02-00.

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### 3300 XL 11 mm Proximity Sensor

330780-AXX-BXX

#### Option Descriptions

##### A: Total Length and Mounting Option

<b>5 0</b>	5.0 metre (16.4 feet) system length, panel mount
<b>5 1</b>	5.0 metre (16.4 feet) system length, DIN mount
<b>5 2</b>	5.0 metre (16.4 feet) system length, no mounting hardware
<b>9 0</b>	9.0 metres (29.5 feet) system length, panel mount
<b>9 1</b>	9.0 metres (29.5 feet) system length, DIN mount
<b>9 2</b>	9.0 metres (29.5 feet) system length, no mounting hardware

##### B: Agency Approval Option

<b>0 0</b>	Not required
<b>0 5</b>	Multiple approvals

Country specific approvals may be available, consult your local Customer Care Representative for more information.

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### 3300 XL 11 mm Extension Cable

330730-AXXX-BXX-CXX

**Note:** Make sure that the extension cable length and the probe length, when added together, equal the Proximity Sensor total length.

#### Option Descriptions

##### A: Cable Length Option

<b>0 4 0</b>	4.0 metres (13.1 feet)
<b>0 8 0</b>	8.0 metres (26.2 feet)

##### B: Connector and Cable Option

<b>0 0</b>	Standard cable
<b>0 1</b>	Armored cable
<b>0 2</b>	Standard cable with connector protectors
<b>0 3</b>	Armored cable with connector protectors
<b>1 0</b>	FluidLoc cable
<b>1 1</b>	Armored FluidLoc cable
<b>1 2</b>	FluidLoc cable with connector protectors
<b>1 3</b>	Armored FluidLoc cable with connector protectors

##### C: Agency Approval Option

<b>0 0</b>	Not required
<b>0 5</b>	Multiple Approvals

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### Accessories

#### 146255-01

Manual

#### 144979

Performance Specification

#### 02120015

Bulk field wire. 1.0 mm<sup>2</sup> (18 AWG), 3 conductor, twisted, shielded cable with drain wire. Specify length in feet.

#### 02173009

Bulk field wire. 1.0 mm<sup>2</sup> (18 AWG), 3 conductor, twisted, shielded cable. Specify length in feet.

#### 138492-01

Replacement panel-mount mounting pad

#### 138493-01

Replacement DIN-mount mounting pad

Specifications and Ordering Information  
Part Number 146256-01  
Rev. F (08/14)



01609137

BNC (F) to banana plugs

01609138

Proximitor Connector Test Pin wiring  
(two test pins to a BNC (F) connector)

40971-04

50  $\Omega$  cable with two BNC (M)  
connectors. Use this cable in  
combination with adapter 01609137  
and adapter 01609138 when  
checking performance of the  
transducer system from the  
Proximitor Sensor test pin holes.

04310310

**3300 XL Proximitor Sensor Panel-  
mount Screws.** Package includes  
four 6-32 UNC thread forming  
mounting screws (Supplied standard  
with 3300 XL Proximitor Housings  
[3300 XL option] ).

03200006

**Silicone self-fusing tape.** A 9.1 metre  
(10 yard) roll of silicone tape to  
protect connectors. It is easy to install  
and provides excellent electrical  
isolation and protection from the  
environment. It is not recommended  
for use inside the casing of the  
machine.

40113-02

**Connector Protector Kit.** Connector  
Protector Kit for 3300 XL probes and  
extension cables, including connector  
protectors and installation tools.

136536-01

**Connector Protector Adapter.**  
Makes our previous 3300 connector  
protector kits compatible with 3300  
XL probes and extension cable  
connectors.

40180-02

**Connector Protectors.** Package  
contains 10 pairs of connector  
protectors.

03839410

**Male Connector Protector.**  
Placed on the extension cable to  
connect to the female connector  
protector on the probe and  
provide environmental protection  
of connectors.

03839420

**Female Connector Protector.**  
Placed on the probe lead to  
connect to the male connector  
protector on the extension cable  
and provide environmental  
protection of connectors. Also  
placed on the extension cable to  
slide over the Proximitor Sensor  
connection and protect it from  
the environment.

330153-01

**3300 XL Connector Kit.** Used on  
3300 XL probes and extension  
cables. Contains one set of male  
and female ClickLoc\* connectors,  
sleeves and one strip of silicone  
tape.

163356

**Connector Crimp Tool Kit.**  
Includes one set of 75  $\Omega$  3300 XL  
ClickLoc\* inserts and connector  
installation instructions. Supplied  
with carrying case.

# Graphs and Dimensional Drawings

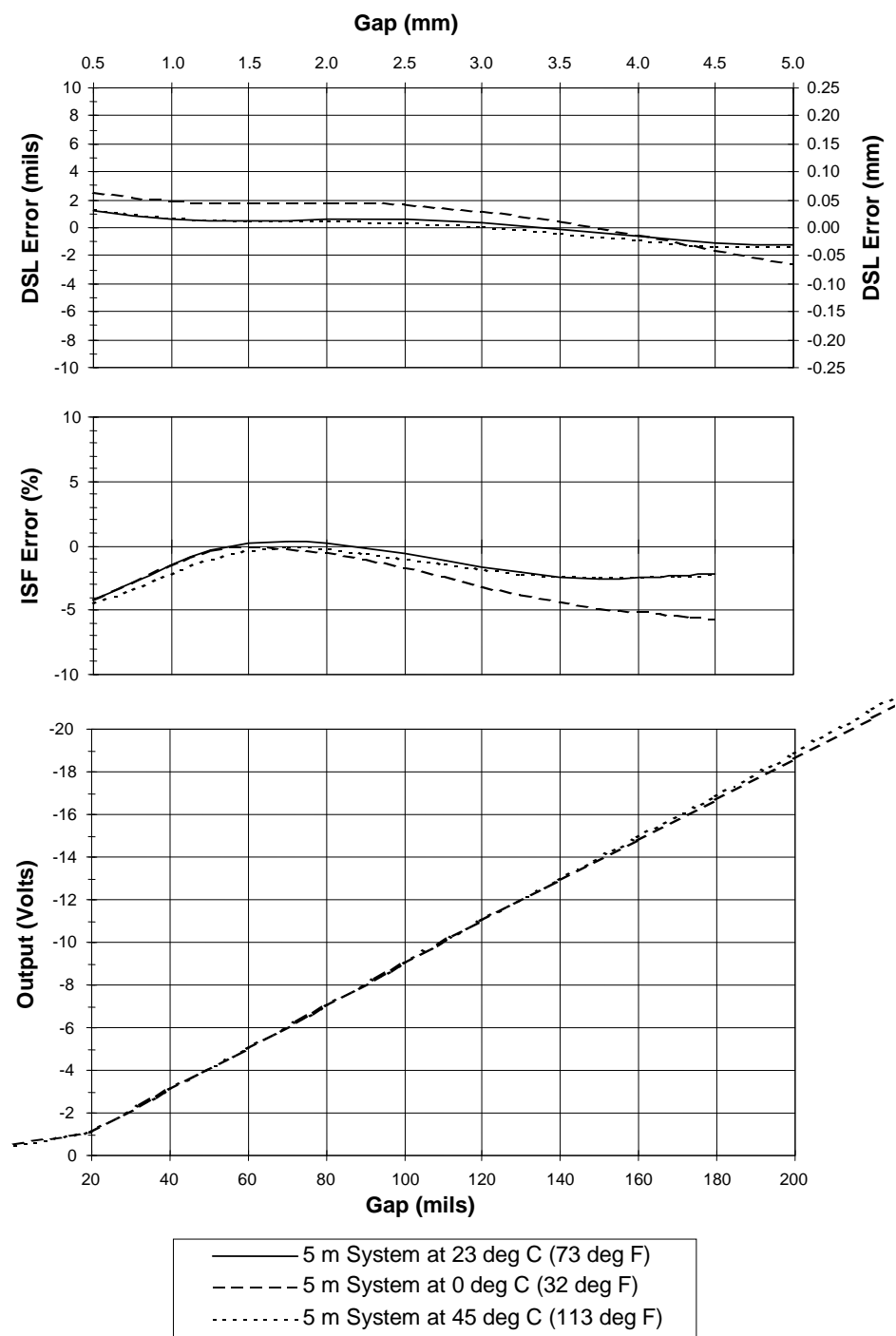


Figure 1 Typical 3300 XL 11 mm 5 m System Over Ambient Testing Range

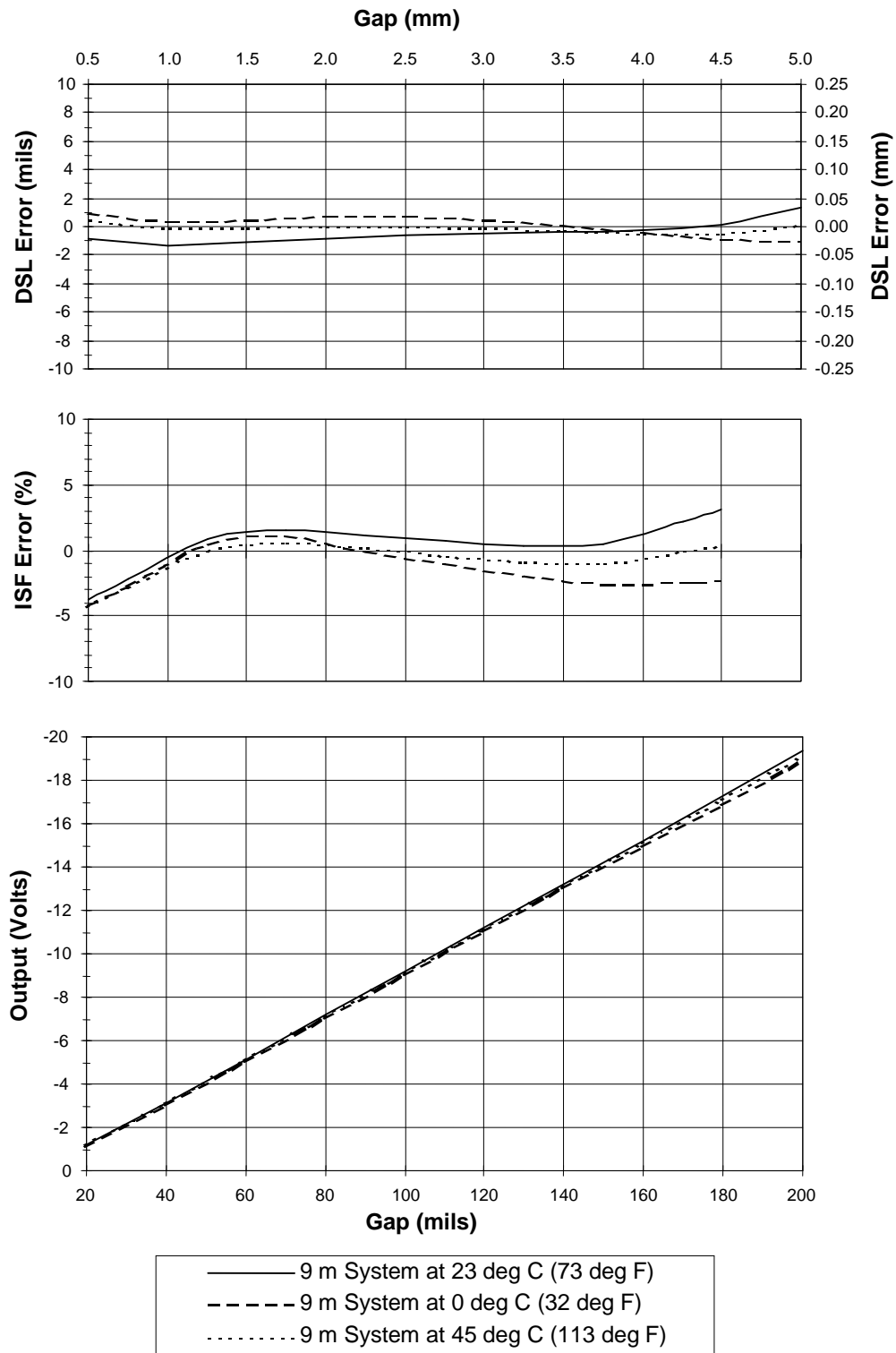
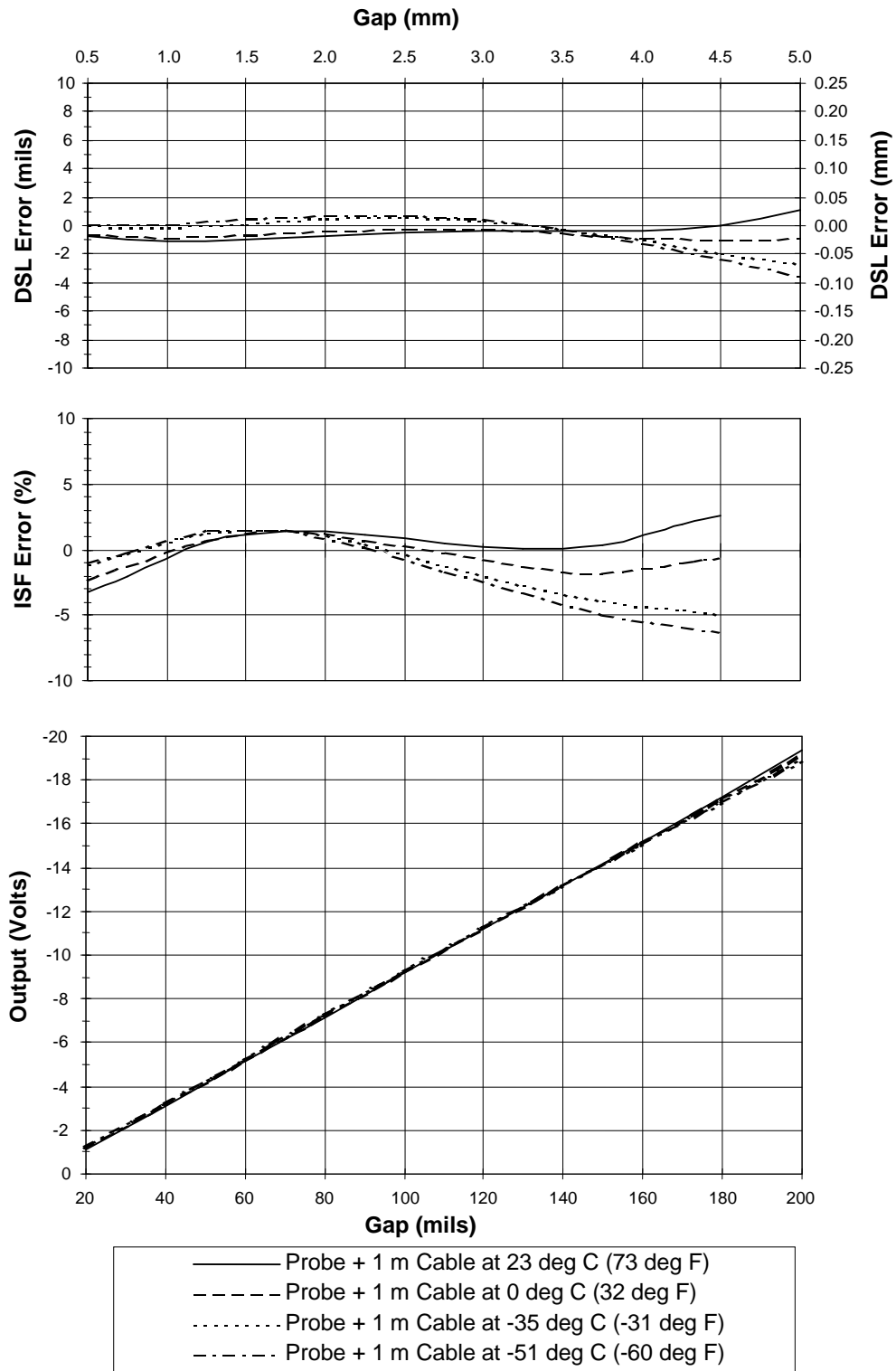


Figure 2 Typical 3300 XL 11 mm 9 m System Over Ambient Testing Range



**Figure 3 Typical 3300 XL 11 mm Probe + 1m Cable @ Low Temperature  
(Proximitor Sensor + 4m of Extension Cable @ 25 °C)**

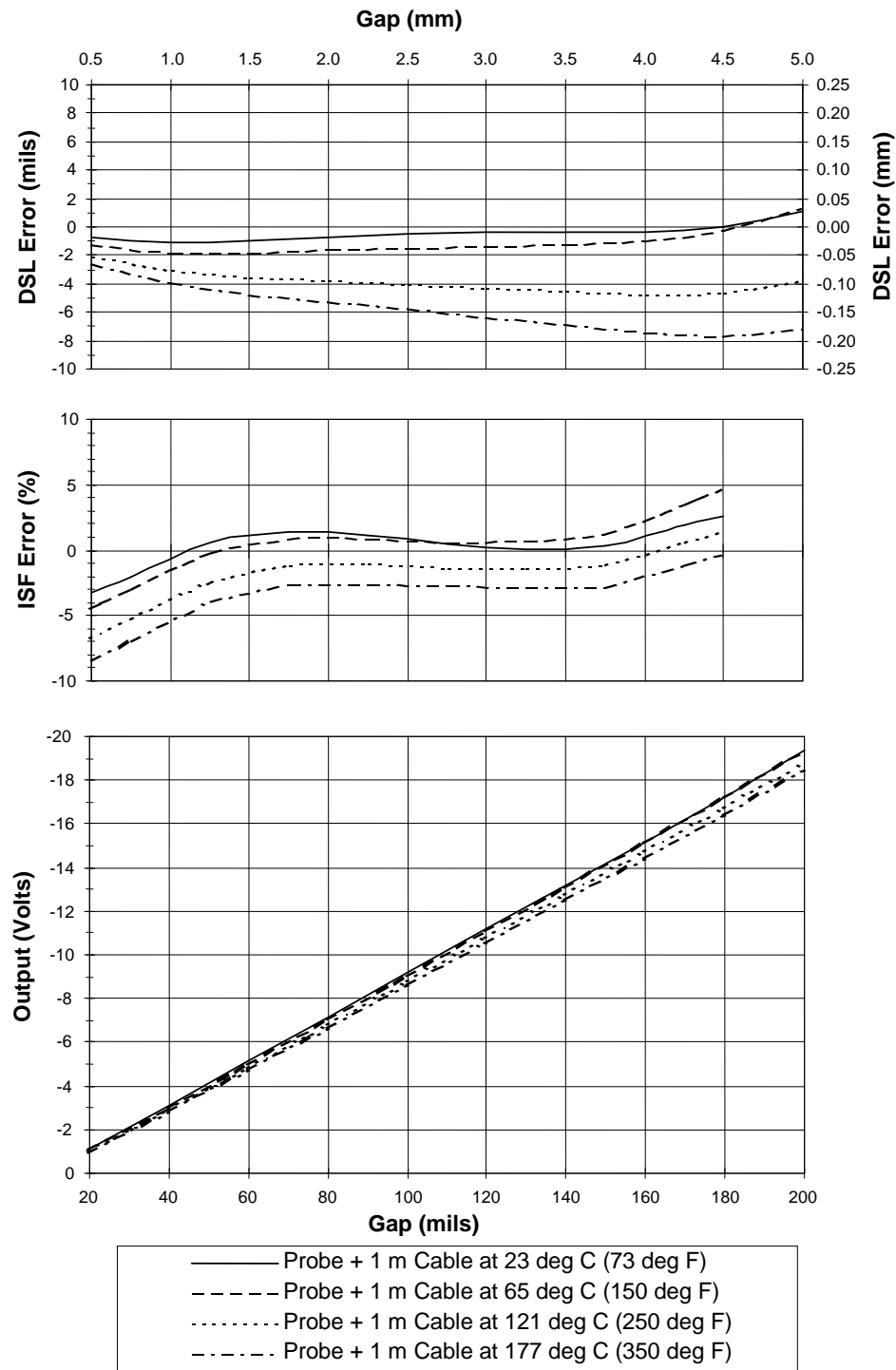


Figure 4 Typical 3300 XL 11 mm Probe + 1m Cable @ High Temperature  
(Proximitor Sensor + 4m of Extension Cable @ 25 °C)

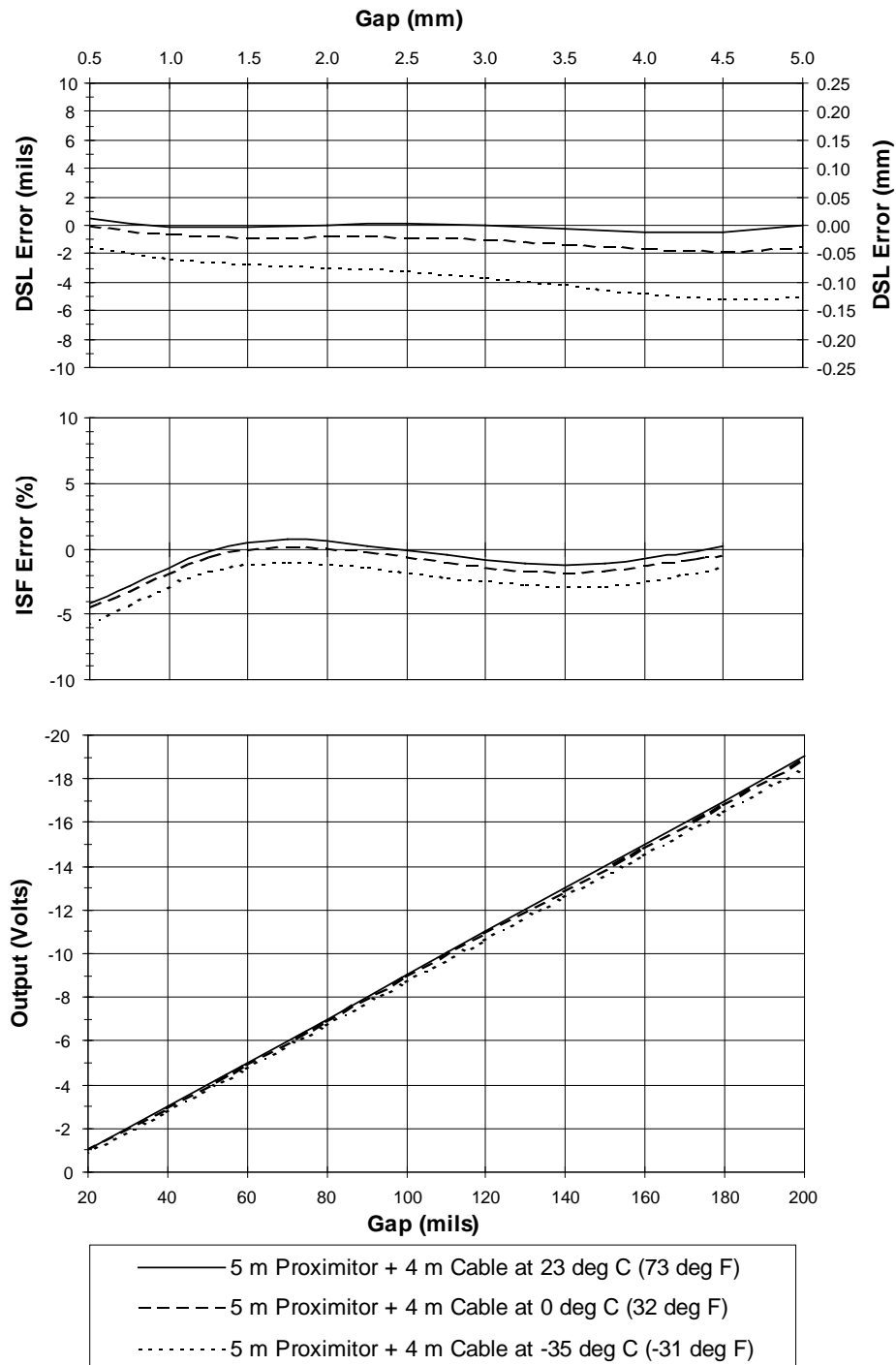
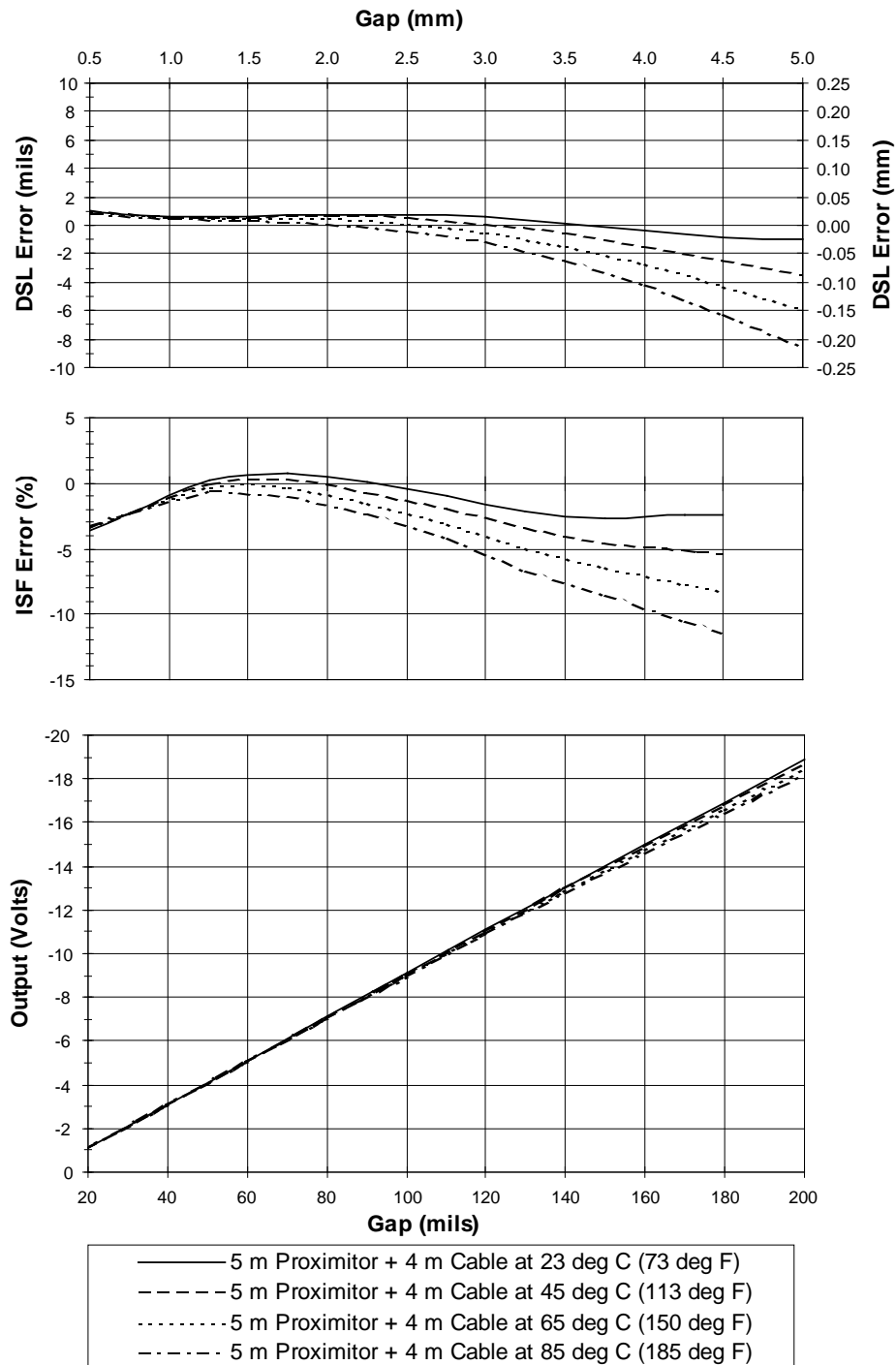


Figure 5 Typical 3300 XL 11 mm 5 m Proximator Sensor with 4 m of Extension Cable @ Cold Temperature  
(Probe is at 25°C)



**Figure 6 Typical 3300 XL 11 mm 5 m Proximator Sensor with 4 m Extension Cable @ High Temperature**  
**(Probe is at 25°C)**

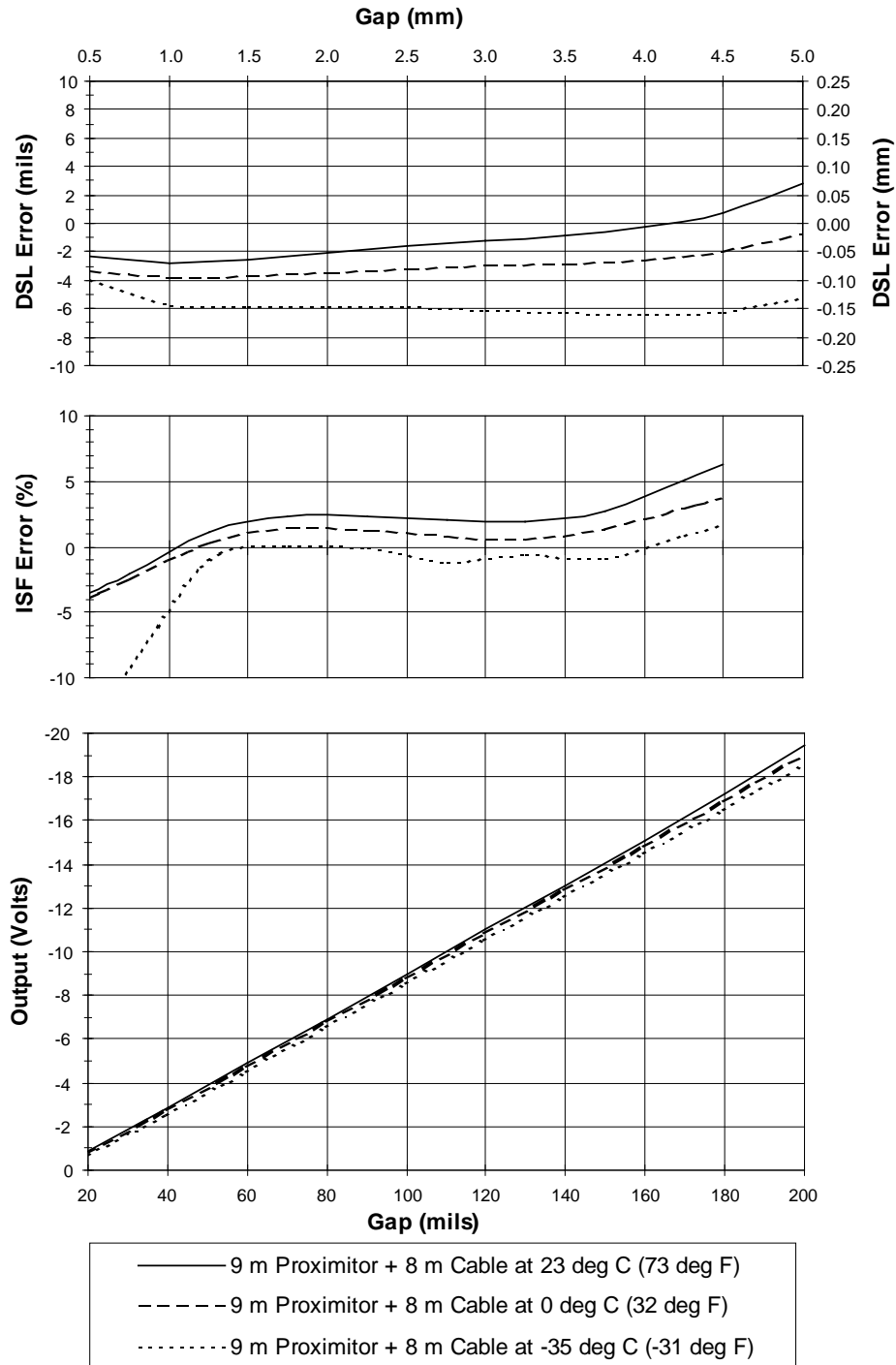
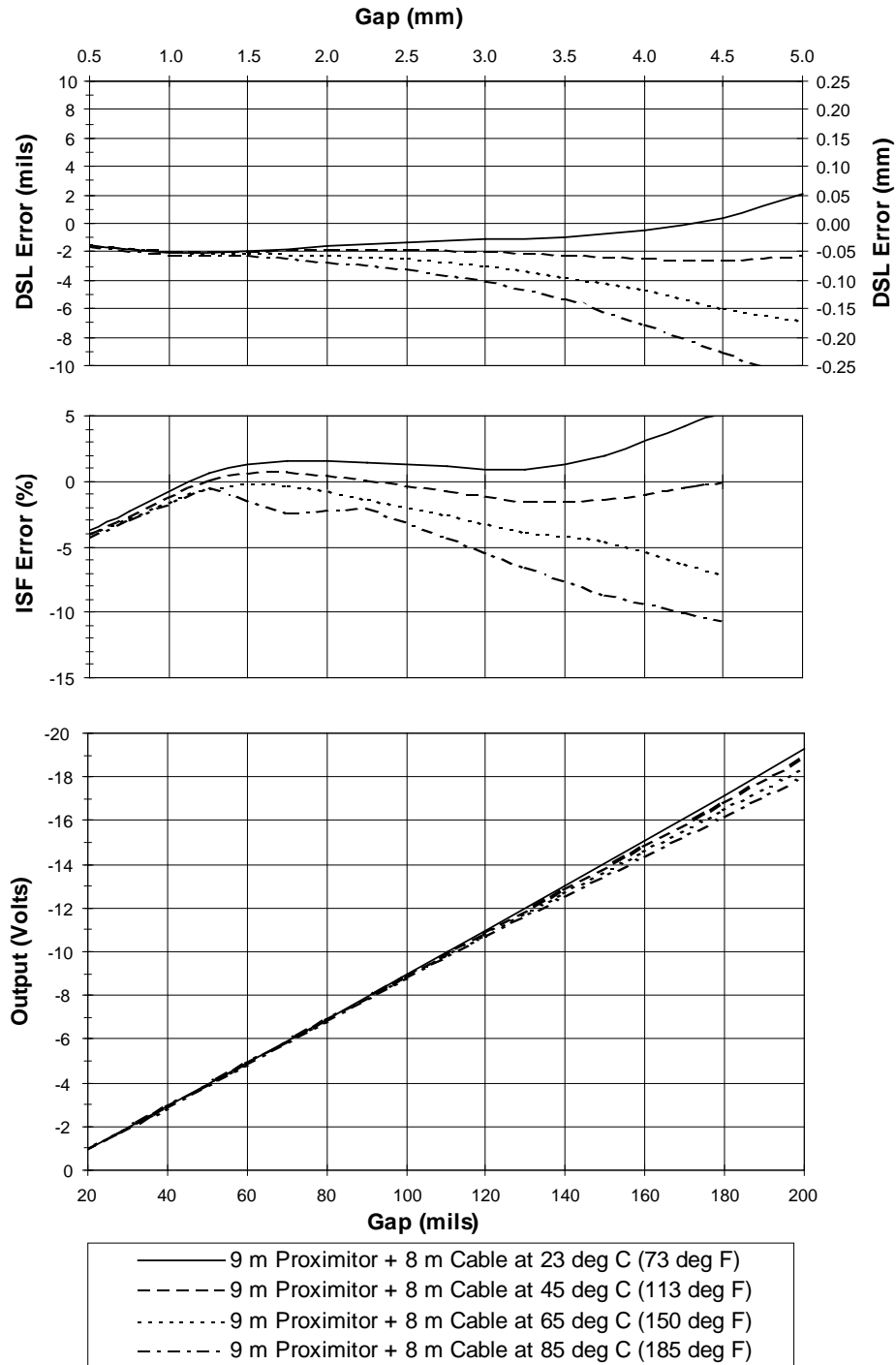
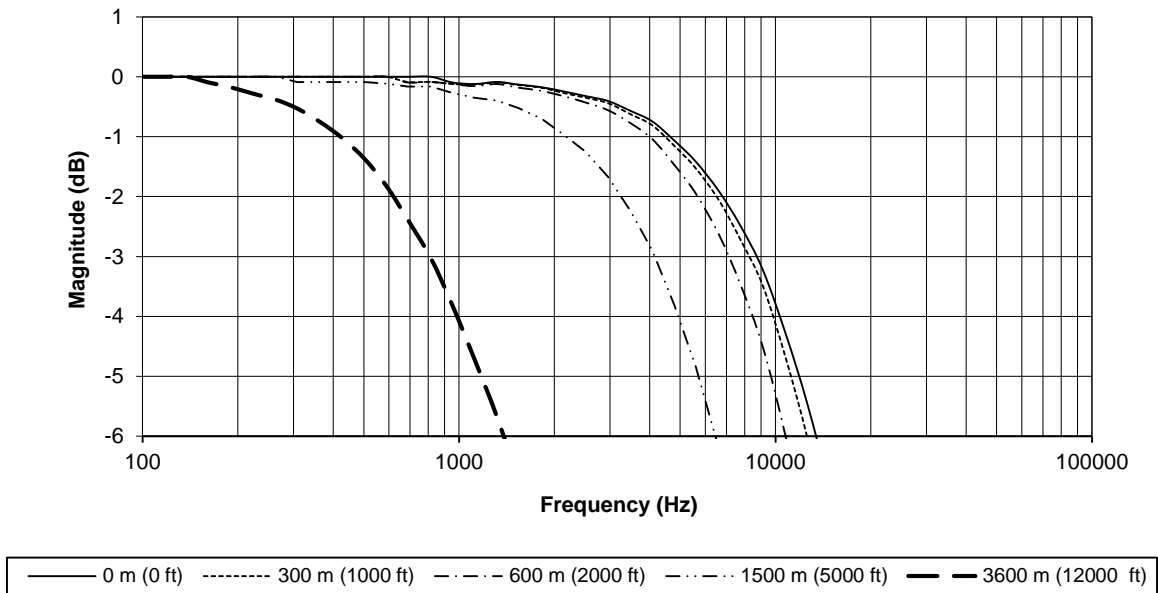


Figure 7 Typical 3300 XL 11 mm 9 m Proximator Sensor with 8 m of Extension Cable @ Low Temperature  
(Probe is at 25°C)

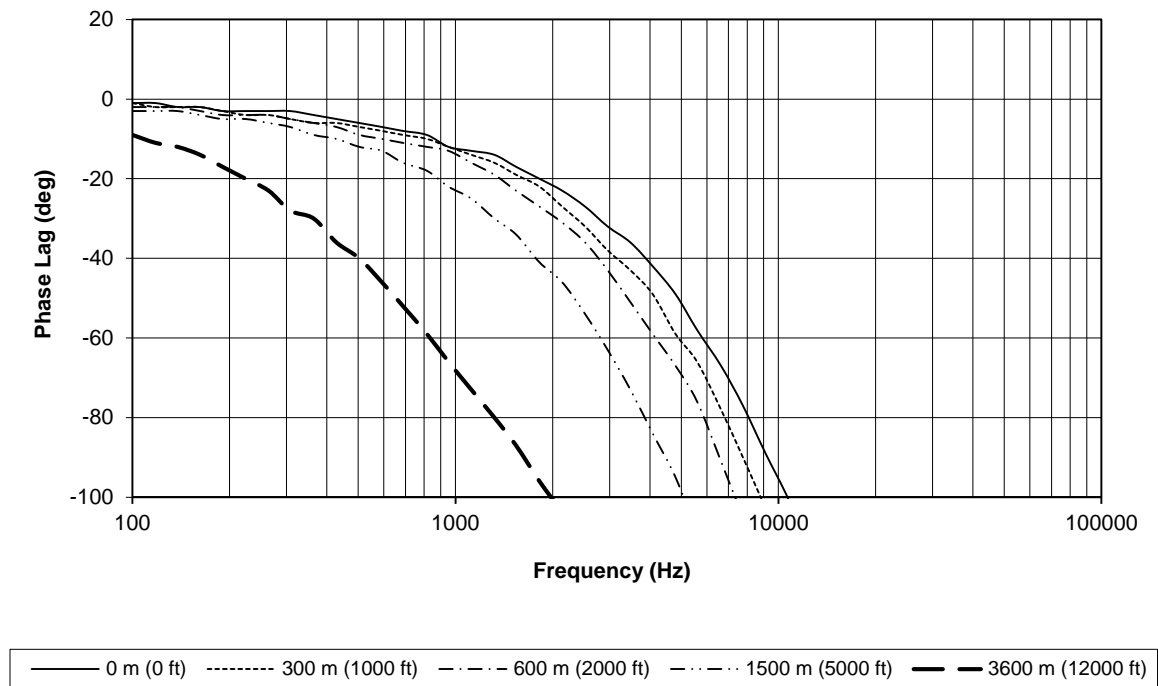




**Figure 8 Typical 3300 XL 11 mm 9 m Proximitor with 8 m of Extension Cable @ High Temperature**  
**(Probe is at 25°C.)**



**Figure 9 Frequency Response, magnitude of typical 3300 XL 11mm System  
with various lengths of field wiring, no barriers**



**Figure 10 Frequency Response, phase change of typical 3300 XL 11mm System  
with various lengths of field wiring, no barriers**

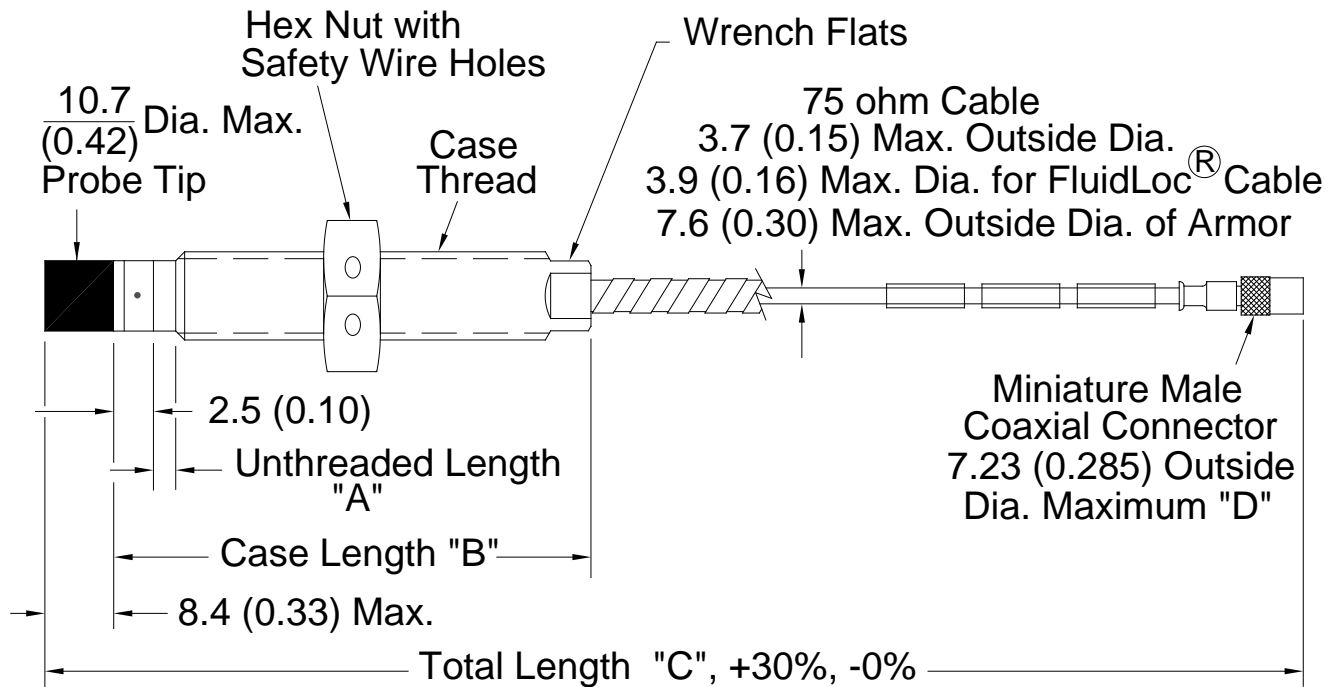


Figure 11 3300 XL 11 mm Proximity probes, Standard Mount

330701, ½-20 UNF-2A, without armor

330702, ½-20 UNF-2A, with armor

330703, M14X1.5 thread, without armor

330704, M14X1.5 thread, with armor

330707, 5/8-18 UNF-2A, without armor

330708, 5/8-18 UNF-2A, with armor

330709, M16X1.5 thread, without armor

330710, M16X1.5 thread, with armor

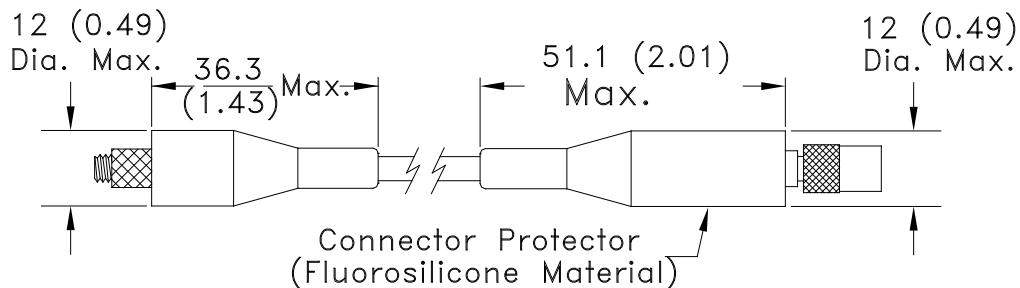


Figure 12 Installed Connector Protectors

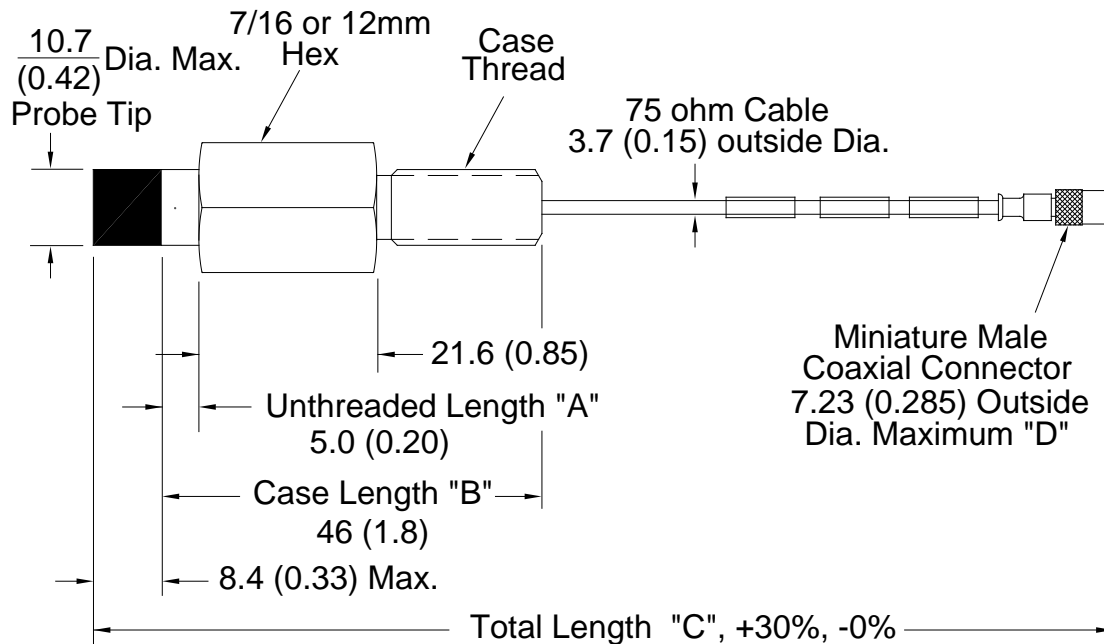


Figure 13 3300 XL 11 mm Proximity Probes, Reverse Mount

330705, 3/8-24 UNF-2A threads

330706, M10X1 threads

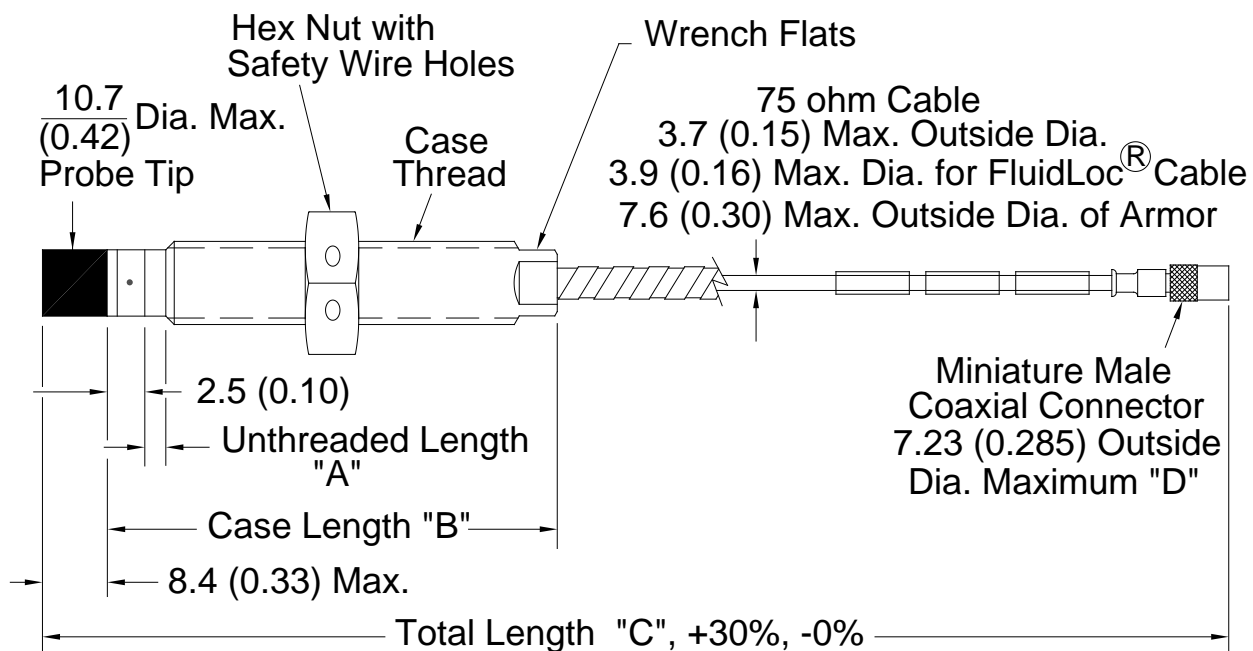


Figure 14 330730, 3300 XL 11 mm Extension Cable

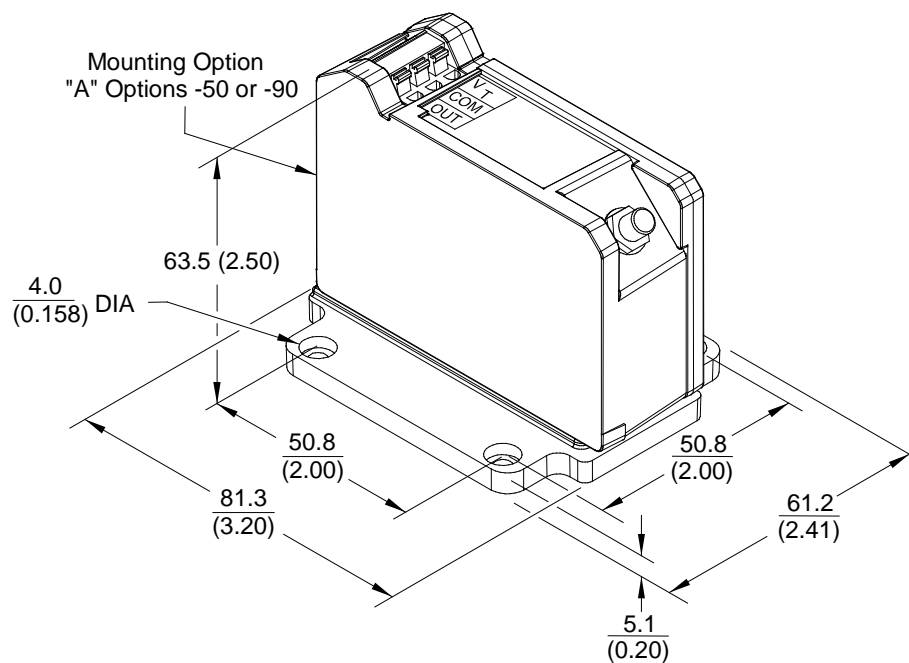


Figure 15 Panel Mount 3300 XL 11 mm Proximity\* Sensor

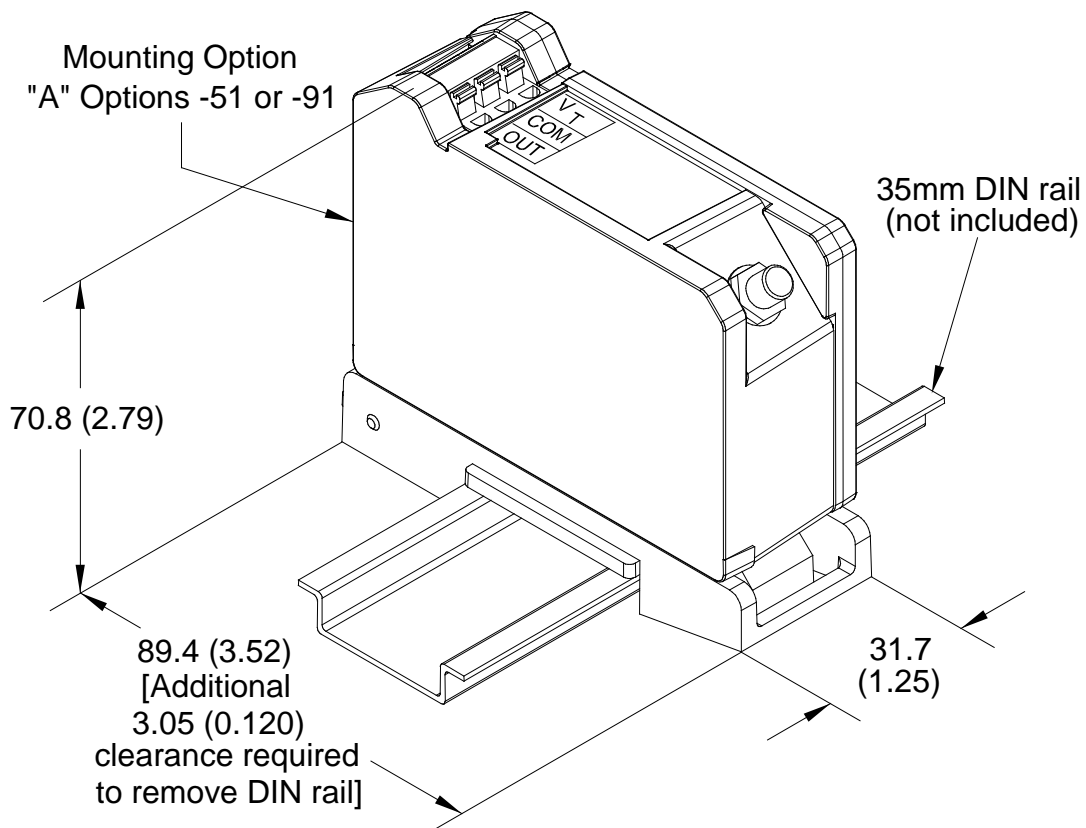


Figure 16 DIN Mount 3300 XL 11 mm Proximity Sensor

**Notes:**

1. All dimensions on figures are in millimetres (inches) unless otherwise noted.
2. Standard mount ½-20 UNF thread probes are supplied with ¾ inch lock nut and ⅞ wrench flats.
3. Standard mount M14×1.5 thread probes are supplied with 22 mm lock nut and 12 mm wrench flats.
4. Standard mount ⅝-18 UNF thread probes are supplied with 1⅝ inch lock nut and ⅞ wrench flats.
5. Standard mount M16×1.5 thread probes are supplied with 24 mm lock nut and 14 mm wrench flats.
6. Reverse mount probes are not available with armor, FluidLoc\* cable or connector protector options.
7. Letters inside quotation marks on figures refer to probe ordering options.
8. Stainless steel armor is supplied with FEP outer jacket.
9. FEP jacket is standard on all non-armored probes.
10. Probes ordered with 5 or 9 metre integral cables have a length tolerance of +20%, -0%.

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