

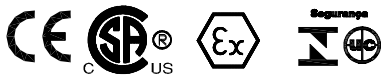
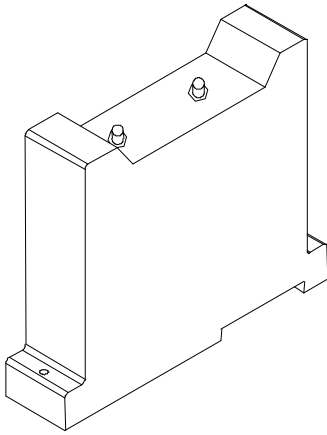
# 170133 FieldMonitor™ Internal 3300 Proximator® Module

Bently Nevada™ Asset Condition Monitoring

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## Description

The 170133 Internal 3300 Proximator Module is a dual Proximator module that will work with any standard 3300 series 5 mm or 8 mm probe in 5 m, 9 m, and 14 m system lengths. This module's dual internal Proximator sensors eliminate the need for external Proximator sensors, and allow direct connection of up to two proximity probes and their associated extension cables.



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Specifications and Ordering Information  
Part Number 141481-01  
Rev. D (11/08)

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## Specifications

The following specifications apply between 18°C and 27°C (64°F to 80°F) with a GE supplied AISI 4140 steel target. Typical is defined as 90% of the devices built meeting the specification. The calibration range is 250 µm (10 mil) to 2250 µm (90 mil), (approximately -1 to +17 Volt.)

**Note:** Operation outside the specified limits may result in false readings and/or loss of machine monitoring.

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## System

### Incremental Scale Factor (ISF):

Typically 7.87 mV/µm (200.0 mV/mil),  
±6 1/2% including interchangeability error when measured in increments of 0.25 mm (10 mils) over the linear range.

### Frequency response (at 50 mils gap):

0 to 12.5 K Hz (750,000 cpm), -3dB

### Minimum Target Size:

15.2 mm (0.6 inch) diameter (flat target).

### Shaft Diameter:

Minimum: 50.8 mm (2 inches).

### Recommended minimum:

76.2 mm (3 inches).  
With XY probes in the same plane, shaft diameters smaller than 50.8 mm (2 inches) will experience electrical noise due to crosstalk. Consult Performance Specification 155687 for the amount that the scale factor will increase for shaft diameters smaller than 76.2 mm (3 inches).

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## Proximator Sensor

Interchangeability error

### Weight:

320 g (0.71 lb)

### Storage Temperature:

-40°C to +85°C (-40°F to +185°F)

### Operating Temperature:

-34°C to +85°C (-30°F to +185°F)

### Relative Humidity:

100% condensing non-submerged from 7°C to 85°C (45°F to 185°F) when connectors are protected.

### Indication of faults:

The output will go to within 1.0 volt (typically 0.7 volts) of common if a short or open circuit occurs in an extension cable or probe.

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## Hazardous Area Approvals:

### -00 Approvals Ordering Option


#### North America

Ex nA IIC T4  
Class I, Zone 2  
Class I, Div 2  
Groups A, B, C, D  
T4 @ -30°C = Ta = +70°C  
per dwg 139255

#### Certification Number

CSA 1166985

#### European/ATEX

 II 3G EEx nA [L] IIC T4  
LCIE 00ATEX6016X  
T4 @ -30°C = Ta = +70°C

**Brazil**

Br-Ex nA [nL] IIC T4  
 MC, AEX-8304-X  
 T4 @ -30°C = Ta = +70°C


**-05 Approvals  
Ordering Option****North America**

Ex nA [ia] IIC T4  
 Class I, Zone 2(0)  
 Class I, Div 2  
 Groups A, B, C, D  
 T4 @ -30°C = Ta = +70°C  
 per dwg 141265

*Certification  
Number*

CSA 1166985

**European/ATEX**

 II 1/3 G EEx nA[ia] ia IIC T4  
 LCIE 00ATEX6017X  
 T4 @ -30°C = Ta = +70°C

**Probe**

**dc resistance  
(nominal)  
( $R_{PROBE}$ ):**

7.3  $\Omega$  + 0.28  $\Omega$ /m (7.3  $\Omega$  + 0.087  $\Omega$ /ft)

**Connector-to-  
connector  
torque**

**Recommended  
torque:**

See table below

**Maximum  
torque:**

0.565•N•m (5 in•lb)

Connector Type	Tightening Instructions
Two 3300 XL gold "click" type connectors	Finger tight
One non-XL stainless steel connector and one 3300 XL connector	Finger tight plus 1/8 turn using pliers

**Recommended  
minimum bend  
radius:**

25.4 mm (1.00 in)

**Probe  
Temperature  
Range:**

-51°C to +177°C (-60°F to +351°F)  
for 3300 XL probes;

-35 °C to +177°C (-31°F to +351°F)  
for non-XL probes.

**Relative  
Humidity:**

100% condensing nonsubmerged  
from 2°C to 100°C (35°F to 212°F)  
when connectors are protected.

**Cables**

Interchangeability error

**dc resistance,  
nominal**

**Center  
conductor  
( $R_{CORE}$ ):**

0.222  $\Omega$ /m (0.067  $\Omega$ /ft)

**Shield ( $R_{JACKET}$ ):**

0.066  $\Omega$ /m (0.020  $\Omega$ /ft)

**Capacitance:**

69.9 pF/m (21.3 pF/ft) typical

**Minimum bend  
radius:**

25.4 mm (1.0 in)

**Operating  
Temperature:**

-51°C to +177°C (-60°F to +350°F)

Specifications and Ordering Information  
 Part Number 141481-01  
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## Storage

### Temperature:

-51° C to +177° C (-60°F to +350°F)

### Relative

### Humidity:

100% condensing nonsubmerged  
from 2°C to 100°C (35°F to 212°F)  
when connectors are protected.

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## Ordering Information

**Note:** Order the shortest system length required for your installation. Shorter systems are more temperature stable throughout the operating temperature range.

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### 3300 Internal Dual Proximitor Module

#### 170133-XXX-XX

#### A: Total Length Option

- 0 5 0** Internal 3300 Dual 5-metre Proximitor Sensor
- 0 9 0** Internal 3300 Dual 9-metre Proximitor Sensor
- 1 4 0** Internal 3300 Dual 14-metre Proximitor Sensor

#### B: Hazardous Area Approval

Use the **05** option in the 1701/06 Isolator Terminal Base

- 0 0** Division 2/Zone 2
- 0 5** Division 2/Zone 2 for Monitor  
**Division 1, Zone 0/1 for Transducers**

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## Accessories

For 3300 5 mm and 3300 XL 8 mm proximity probe information, refer to part numbers 141194-01 and 141605-01 for specifications and ordering information.

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### 3300 XL series extension cable

The 5-metre and 9-metre 170133

3300 series internal Proximitor Sensor uses standard 330130 extension cables.

For the 14-metre 170133 system, use a 3300 XL 2-metre probe with the 142238 12-metre extension cable:

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### 3300 XL Extension Cable

#### 330130-AXXX-BXX-CXX

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

#### A: Cable Length Option

- 0 3 0** 3.0 metres (9.8 feet)
- 0 5 0** 3.5 metres (11.5 feet)
- 0 4 0** 4.0 metres (13.1 feet)
- 0 4 5** 4.5 metres (14.8 feet)
- 0 7 0** 7.0 metres (22.9 feet)
- 0 7 5** 7.5 metres (24.6 feet)
- 0 8 0** 8.0 metres (26.2 feet)
- 0 8 5** 8.5 metres (27.9 feet)

#### B: Connector and Cable Option

- 0 0** Standard cable
- 0 1** Armored cable
- 0 2** Standard cable with connector protectors
- 0 3** Armored cable with connector protectors
- 1 0** FluidLoc® cable
- 1 1** Armored FluidLoc cable
- 1 2** FluidLoc cable with connector protectors
- 1 3** Armored FluidLoc cable with connector protectors

#### C: Agency Approval Option

- 0 0** Not required
- 0 5** Multiple Approvals

#### 142238-120-BXX-CXX

**Note:** Use this cable with a 2-metre 3300 or 3300 XL probe with the 170133-140-XX 3300 14-metre Internal Proximitor Module.

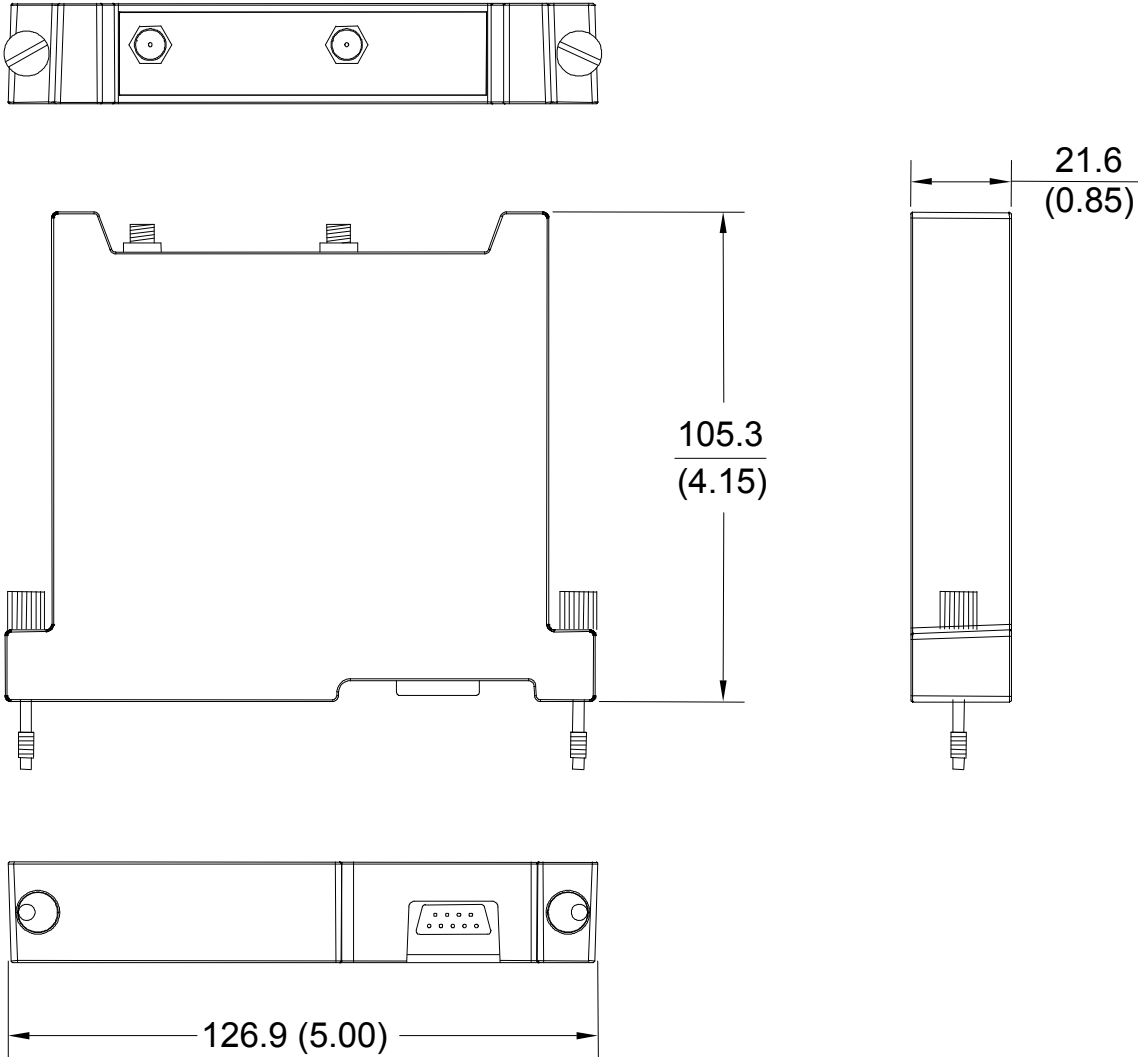
#### B: Connector and Cable Option

- 0 0** Standard cable
- 0 1** Armored cable
- 0 2** Standard cable with connector protectors
- 0 3** Armored cable with connector protectors
- 1 0** FluidLoc cable
- 1 1** Armored FluidLoc cable
- 1 2** FluidLoc cable with connector protectors
- 1 3** Armored FluidLoc cable with connector protectors

#### C: Agency Approval Option

- 0 0** Not required
- 0 5** Multiple Approvals

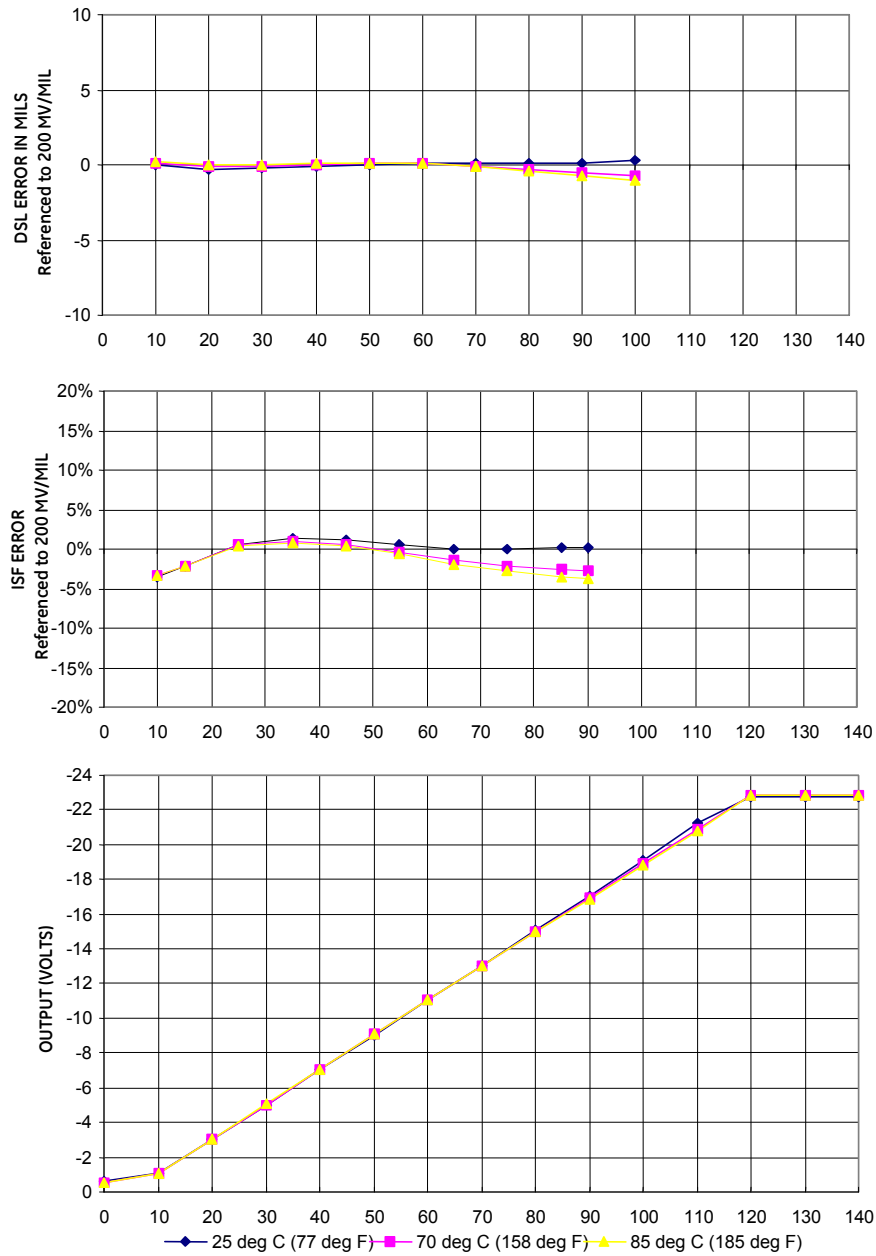
# Dimensional Drawing



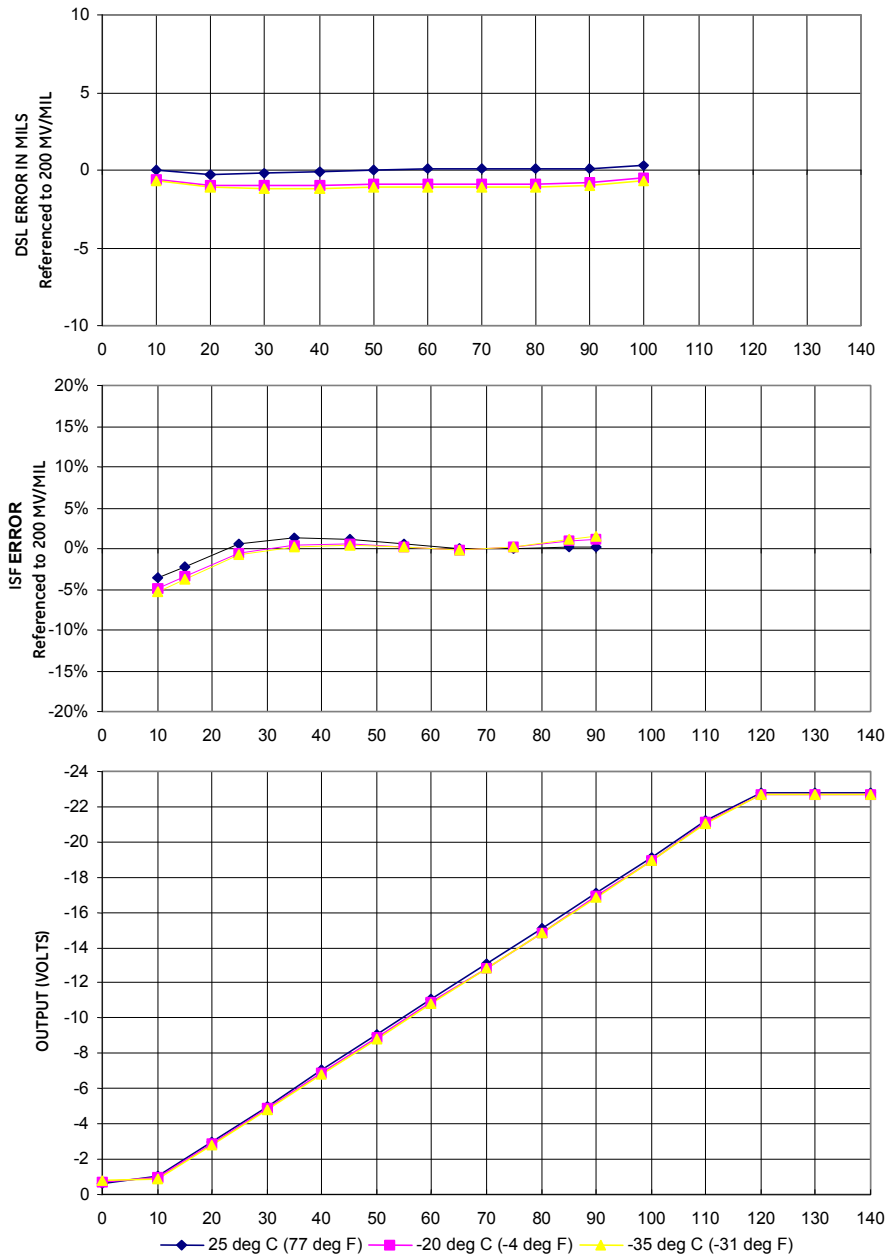
Dimensions are in millimetres (inches)

# Performance Graphs

170133 Internal 3300 Proximitor Module



**Figure 1: 170133 System Performance Graphs**  
 5-metre Proximitor and 4-metre (13.1 feet) cable at high temperature



**Figure 2: 170133 System Performance Graphs  
 5-metre Proximitor and 4-metre (13.1 feet) cable at low temperature**

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