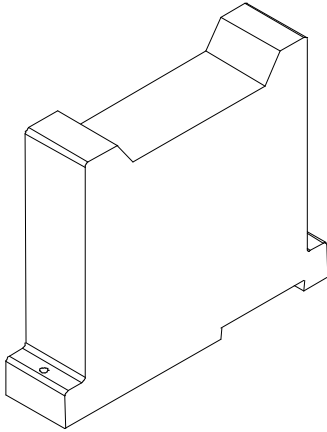


# 1701/15 FieldMonitor™ Proximator® Input Monitor for Radial Vibration and Thrust Position

Bently Nevada™ Asset Condition Monitoring

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## Description

The 1701/15 FieldMonitor Proximator Input Monitor is a 2-channel device that accepts signals from proximity probes via its associated transducer I/O or internal Proximator module, conditions these signals into the appropriate measurement units, compares them to user-programmable alarm setpoints, and generates appropriate alarm signals for communication to the host control system. It can also provide current values of its measured parameters to the control system for indication and trending. Embedded self-tests permit the monitor to assess its own integrity, and that of its connected transducers. A NOT OK condition can be detected and annunciated when problems with the monitor or its connected transducers exist.

The monitor can be programmed to provide any of the following measurements:

- Shaft relative radial vibration
- Shaft radial position (see note)
- Shaft axial position (i.e., thrust position)

**Note:** Shaft radial position (i.e., gap voltage) is monitored simultaneously with shaft radial vibration using the same monitor channel. However, only Alarm 1 (Alert) capabilities are provided as shaft position measurements are normally not used for machinery protection purposes.



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Specifications and Ordering Information  
Part Number 141483-01  
Rev. F (11/08)

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## Specifications

### 1701/15 Proximitor Input Monitor - Radial Vibration

#### Programmable Options

#### Proportional Values:

Direct (Overall), Gap

#### Alarms

#### Alarm 1 (Alert), Alarm 2 (Danger):

Over Alarm 1 & 2 on Direct,  
Over/Under Alarm 1 on Gap

#### Alarm Time Delays:

0.15, 0.2, 0.3, 0.5, 0.6, 1.0, 2.0, 3.0,  
5.0, 6.0, 10.0, 20.0 seconds

#### Latching/Non- Latching Alarms:

Non-Latching only

#### Trip Multiply:

None, 1.5, 2, 3

#### OK Mode:

Non-latching only

#### Timed OK Channel Defeat:

Always Enabled

#### Alarm Hysteresis:

0.5% of full-scale

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## Signal Processing Options

#### Bandwidth/Filtering

#### High-Pass Corner Frequency in Hz

1, 4

#### Low-Pass Corner Frequency in Hz

4000, 600

#### Full-scale Direct Ranges

#### mils pp:

0 - 3 mils  
0 - 5 mils  
0 - 10 mils  
0 - 15 mils  
0 - 20 mils

#### micrometers pp:

0 - 100  $\mu\text{m}$   
0 - 125  $\mu\text{m}$   
0 - 150  $\mu\text{m}$   
0 - 200  $\mu\text{m}$   
0 - 250  $\mu\text{m}$   
0 - 300  $\mu\text{m}$   
0 - 400  $\mu\text{m}$   
0 - 500  $\mu\text{m}$

#### Full-Scale Gap Range:

24 Volts

#### Gap Filter:

-3 db at 0.09 Hz

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#### Barriers:

- Internal galvanically isolated barrier (requires the 1701/06 Isolator Terminal Base)
- External Zener Barrier
- External galvanically isolated barrier

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#### Supported Transducer I/O Modules

##### 170133-050-XX

Internal 3300 5-metre Proximitor transducer

##### 170133-090-XX

Internal 3300 9-metre Proximitor transducer

##### 170133-014-XX

Internal 3300 14-metre Proximitor transducer

<b>170150-070-00</b>	Internal 3300 NSv 7-metre Proximitor transducer
<b>170172-050-XX</b>	Internal 7200 5-metre Proximitor transducer
<b>170172-090-XX</b>	Internal 7200 9-metre Proximitor transducer
<b>170190-01</b>	Internal galvanically isolated barrier (requires the 1701/06 Isolator Terminal Base)
<b>170180-01-XX</b>	Proximitor / Accelerometer I/O
<b>170180-05-XX</b>	External -18 Volt Proximitor I/O

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### External Proximitor Options

#### I/O Module

<b>170180-01-XX</b>	3300 5 mm
	3300 8 mm
	330800 Proxpac
	3300 XL
	7200 5 mm
	7200 8 mm
	7200 11 mm
	7200 14 mm
	3300 RAM
	3300 XL NSv™
<b>170180-05-XX</b>	3000 -18 Volt

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### Control I/O

- Channel On/Off
- Monitor Reset
- Channel Inhibit
- Trip Multiply: Enabled, Disabled

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### Specifications at 25°C (77°F)

#### Direct accuracy:

1% of full-scale max (exclusive of filters)

#### Direct resolution:

0.1% of full-scale

#### Gap accuracy:

± 20mV, -1 to -23 V

#### Gap Resolution:

1 mV

#### Gap Setpoint Resolution:

0.10 V

#### Power input:

-24 V, + 5 V, from 1701 Power Supply

#### Power Consumption:

1.5 Watt (not including transducers)

#### Setpoint resolution:

0.5% of full-scale

#### Flex read/write rate:

≥ 25 millisec (monitor to Flex adapter)

#### Buffered Output:

30 m (100 ft) cable at 60pF/ft, not isolated

#### Output impedance:

200 Ω

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<b>Physical</b>	
<b>Dimensions (HxWxD)</b>	127 mm x 21.6 mm x 105 mm (5 in x 0.85 in x 4.15 in)
<b>Weight:</b>	314 g (0.69 lb)

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<b>Environmental Limits</b>	
<b>Operating Temperature:</b>	-20°C to + 70°C (-4°F to +158°F)
<b>Storage Temperature:</b>	-40°C to + 85°C (-40°F to +185°F)
<b>Operating Humidity:</b>	5% to 95% non-condensing relative humidity.
<b>Storage Humidity:</b>	5% to 95% non-condensing relative humidity.

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<b>1701/15 Proximitor Input Monitor - Thrust Position</b>	
<b>Programmable Options</b>	
<b>Proportional Values:</b>	Direct, Gap
<b>Alarms</b>	
<b>Alarm 1 (Alert), Alarm 2 (Danger):</b>	Over/Under Alarm 1 & Alarm 2 on Direct
<b>Alarm Time Delays:</b>	0.15, 0.2, 0.3, 0.5, 0.6, 1.0, 2.0, 3.0, 5.0, 6.0, 10.0, 20.0 seconds

<b>Latching/Non-Latching Alarms:</b>	Non-Latching only
<b>OK Mode:</b>	Non-Latching only
<b>Timed OK Channel Defeat:</b>	Always Disabled
<b>Alarm Hysteresis:</b>	0.5% of full-scale

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<b>Signal Processing Options</b>	
<b>Bandwidth/Filtering</b>	
<b>Direct Filter:</b>	-3dB at 1.2 Hz
<b>Gap Filter:</b>	-3dB at 0.041 Hz
<b>Full-scale Direct Range</b>	
<b>mils:</b>	10 - 0 - 10 25 - 0 - 25 30 - 0 - 30 40 - 0 - 40 50 - 0 - 50 75 - 0 - 75
<b>millimeters:</b>	0.250 - 0 - 0.250 0.500 - 0 - 0.500 0.600 - 0 - 0.600 0.800 - 0 - 0.800 1.0 - 0 - 1.0 2.0 - 0 - 2.0
<b>Full-scale Gap Range:</b>	
	24 Volts

**Normal Thrust  
Direction:**

Toward probe  
Away from probe

**Direct Zero  
Position:**

Set using I/O data tables

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**Barriers:**

- Internal galvanically isolated barrier (requires the 1701/06 Isolator Terminal Base)
- External Zener Barrier
- External galvanically isolated barrier

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**Transducer I/O Module Options**

**170133-050-XX**

Internal 3300 5-metre Proximito  
r transducer

**170133-090-XX**

Internal 3300 9-metre Proximito  
r transducer

**170133-014-XX**

Internal 3300 14-metre Proximito  
r transducer

**170150-070-00**

Internal 3300 NSv 7-metre  
Proximito r Transducer

**170172-050-XX**

Internal 7200 5-metre Proximito  
r Transducer

**170172-090-XX**

Internal 7200 9-metre Proximito  
r transducer

**170190-01**

Internal galvanically isolated  
barrier (requires the 1701/06  
Isolator Terminal Base)

**170180-01-XX**

Proximito r / Accelerometer I/O

**170180-05-XX**

External -18 Volt Proximito r I/O

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**External Proximito r Options**

**170180-01-xx**

3300 5 mm  
3300 8 mm  
3300 XL  
330800 Proxpac  
7200 5 mm  
7200 8 mm  
7200 11 mm  
7200 14 mm  
3300 RAM  
3300 XL NSv

**170180-05-xx**

3000 -18 Volt

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**Control I/O**

- Channel On/Off
- Monitor Reset
- Channel Inhibit

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**Specifications at 25°C (77°F)**

**Direct accuracy:**

1% of full-scale max, (exclusive of  
filters)

**Direct  
Resolution:**

0.1% of full-scale

**Gap accuracy:**

± 20mV, -1 to -23 V

**Gap Resolution:**

1 mV

**Power input:**

-24 V, + 5 V, from 1701 Power  
Supply

**Power  
Consumption:**

1.5 Watt (not including  
transducers)

**Setpoint  
resolution:**

0.5% of full-scale

**Flex read/write rate:**

≥ 25 millisecc (monitor to Flex adapter)

**Buffered Output:**

30 m (100 ft) cable at 60pF/ft, not isolated

**Output impedance:**

200 Ω

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### Physical Dimensions

**(HxWxD):**

127 mm x 21.6 mm x 105mm  
(5 in x 0.85 in x 4.15 in)

**Weight:**

314 g (0.69 lb)

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### Environmental Limits

**Operating Temperature:**

-20°C to + 70°C (-4°F to +158°F)

**Storage Temperature:**

-40°C to + 85°C (-40°F to +185°F)

**Operating Humidity:**

5% to 95% non-condensing relative humidity

**Storage Humidity:**

5% to 95% non-condensing relative humidity

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## Ordering Information

**Proximitor Input Monitor for Radial Vibration and Thrust Position**

1701/15-01

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## Hazardous Area Approvals


### 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 drawing # 139255

*Certification Number*

CSA 1166985

### European/ATEX

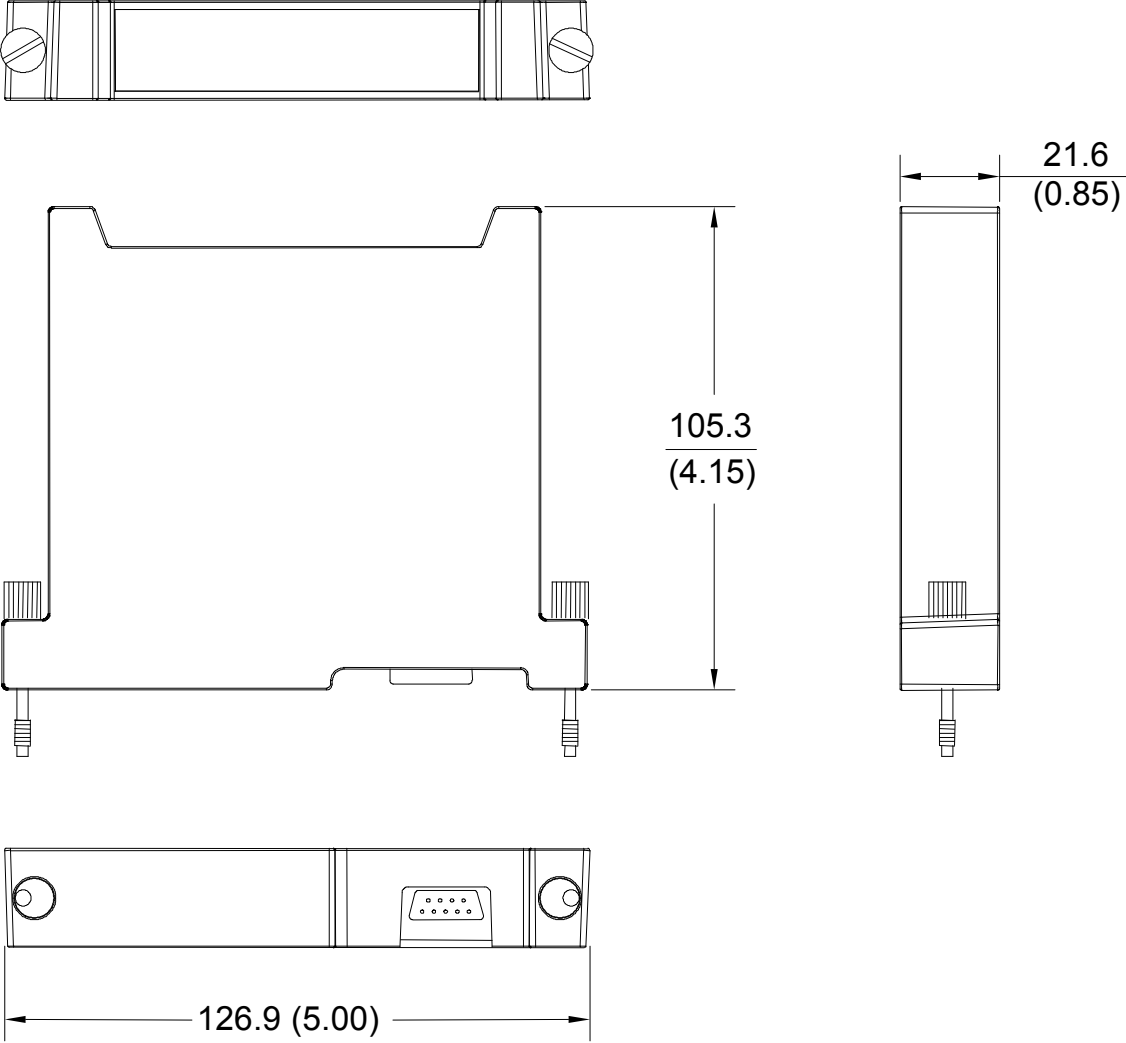
 II 3G EEx nA [L] IIC T4  
LCIE 00ATEX6016X  
T4 @ -30°C = Ta = +70°C

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

### Brazil

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

**Dimensional Drawing**



Dimensions are in millimetres (inches)

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