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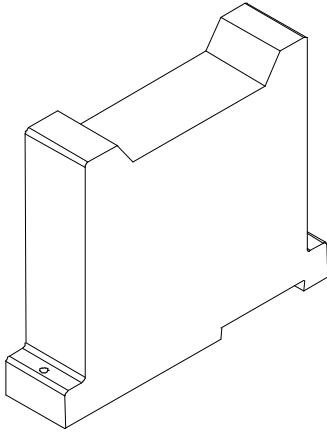
Описание на приемники сигнала вибраций и сдвигов. Модель 1701/15



BENTLY
Nevada

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

Bently Nevada™ Asset Condition Monitoring



Description

The 1701/15 FieldMonitor Proximitors Input Monitor is a 2-channel device that accepts signals from proximity probes via its associated transducer I/O or internal Proximitors 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.



imagination at work

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

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

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 μm
0 - 125 μm
0 - 150 μm
0 - 200 μm
0 - 250 μm
0 - 300 μm
0 - 400 μm
0 - 500 μm

Full-Scale Gap Range:

24 Volts

Gap Filter:

-3 db at 0.09 Hz

Barriers:

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

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

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

External Proximitor Options

I/O Module

170180-01-XX	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™
170180-05-XX	3000 -18 Volt

Control I/O

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

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

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

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.

1701/15 Proximitors Input Monitor - Thrust Position	
Programmable Options	
Proportional Values:	Direct, Gap
Alarms	
Alarm 1 (Alert), Alarm 2 (Danger):	Over/Under Alarm 1 & Alarm 2 on Direct
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
OK Mode:	Non-Latching only
Timed OK Channel Defeat:	Always Disabled
Alarm Hysteresis:	0.5% of full-scale

Signal Processing Options	
Bandwidth/Filtering	
Direct Filter:	-3dB at 1.2 Hz
Gap Filter:	-3dB at 0.041 Hz
Full-scale Direct Range	
mils:	10 - 0 - 10 25 - 0 - 25 30 - 0 - 30 40 - 0 - 40 50 - 0 - 50 75 - 0 - 75
millimeters:	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
Full-scale Gap Range:	
	24 Volts

**Normal Thrust
Direction:**

Toward probe
Away from probe

**Direct Zero
Position:**

Set using I/O data tables

Barriers:

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

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

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

Control I/O

- Channel On/Off
- Monitor Reset
- Channel Inhibit

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

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)

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

Ordering Information

Proximitor Input Monitor for Radial Vibration and Thrust Position

1701/15-01

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

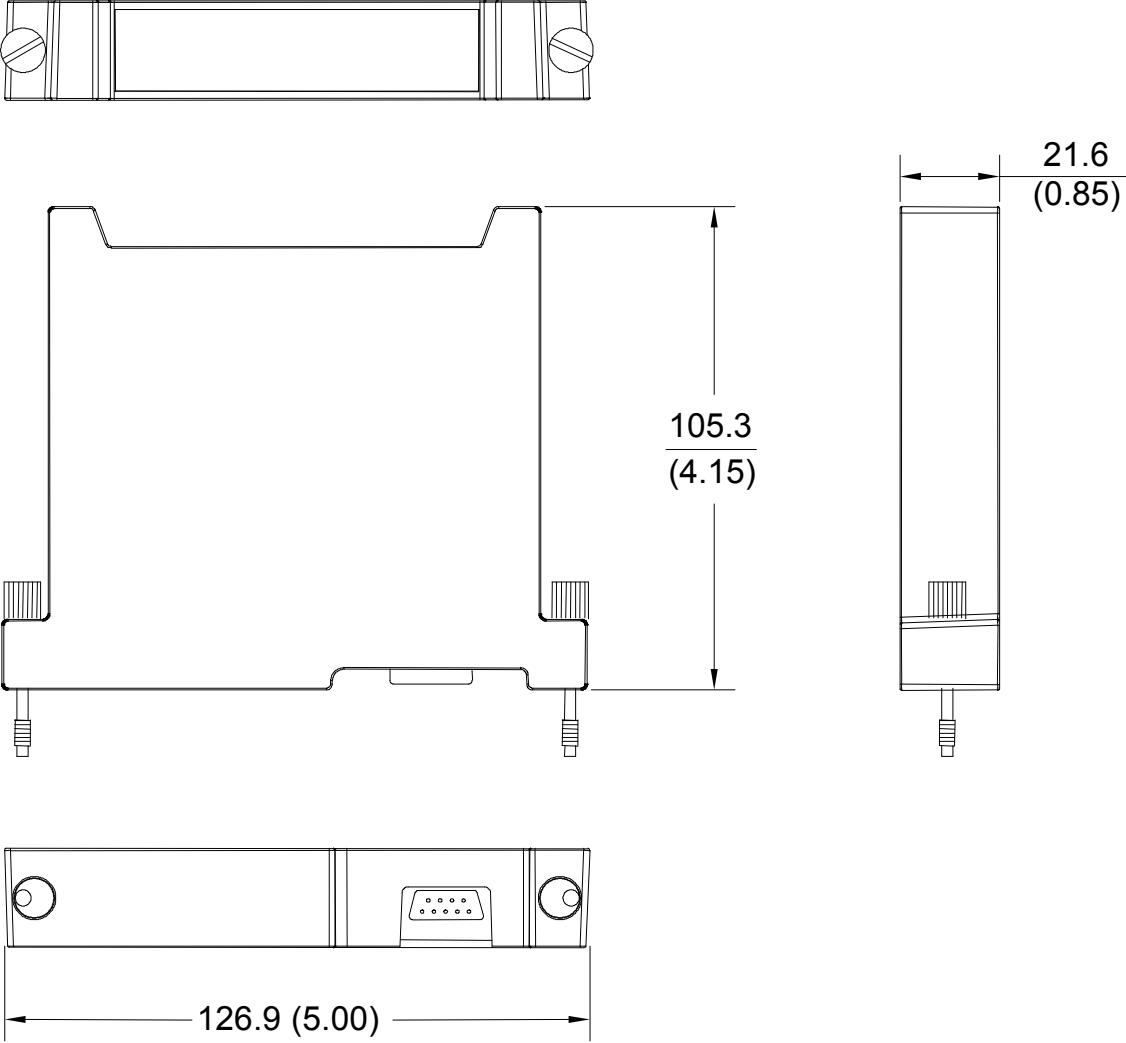
 II 3G EEx nA [L] IIC T4
LCIE 00ATEX6016X
T4 @ -30°C = Ta = +70°C

 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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