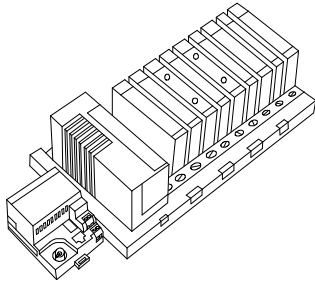


# Product Description

## Bently Nevada™ Asset Condition Monitoring

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### Description

The FieldMonitor™ Machinery Protection System provides traditional vibration and thrust position monitoring functions, while providing a distributed architecture that can be tightly integrated with numerous machinery control systems. It is capable of the following measurements:

- Shaft radial vibration or shaft axial thrust position monitoring using proximity probes
- Casing seismic vibration measurements using either acceleration or velocity transducers

The system has been specifically designed to meet the needs of machinery Original Equipment Manufacturers and packagers, significantly reducing wiring and installation costs with a design that allows it to be mounted on the machine skid. It can directly accept selected proximity probe types without the need for an external Proximator® sensor. Single-cable digital communications between the FieldMonitor System and its host control system are accomplished by selecting the appropriate network adapter. Network adapters are available for a variety of industrial communication networks such as ControlNet™, DeviceNet™, Profibus™ DP, MODBUS™, and Allen-Bradley Remote I/O. Thus, any control system supporting these protocols as part of its input/output (I/O) structure can use the FieldMonitor System.

A single FieldMonitor Terminal Base can accommodate from one to eight channels, plus a Keyphasor® transducer. When additional channels are needed, other terminal bases can be added as required, distributed on the machine where needed to connect to installed transducers, and then connected to the host control system by means of the appropriate network adapter.

The FieldMonitor Machinery Protection System uses embedded technology from Allen-Bradley. Because it physically connects to Allen-Bradley's 1794 series Flex I/O™ family of products, including Allen-Bradley and third-party network adapters, it allows additional flexibility and application options when used in conjunction with Flex I/O. For example, it can share the same network adapter with other Flex I/O modules, if desired.

To the host control system, the FieldMonitor Machinery Protection System is regarded as an intelligent I/O node, capable of monitoring its transducer inputs, comparing measured values against user-configurable alarms, and performing sophisticated self tests that ensure the monitoring system integrity is maintained at all times. The system is configured either via special configuration software designed to work in conjunction with the controller's programming environment, or by simply issuing appropriate commands from the controller.

The FieldMonitor Machinery Protection System can be expanded to a transient data capable machinery management system by addition of the 1701/22 FieldMonitor Management Interface Module. This module provides parallel waveform data capture over all machine speed conditions including startup and shutdown. The module plugs directly into the terminal base and connects over an Ethernet network to a computer running Bentley Nevada System 1™, or Data Manager® 2000 Software with Modification 145001-XX for the Display Software. The Ethernet network and the 1701/22 operate independently and separately from the protection system and the industrial network that links FieldMonitor to its host control system.

A FieldMonitor Machinery Protection System requires at least one Terminal Base, Power Supply, Network Adapter, and 2-channel monitor module with its respective transducer I/O module. (See note 1) Additional 2-channel monitor modules and their respective transducer I/O modules are added as required. A weatherproof housing is also available from Bentley Nevada.

**FieldMonitor™ System Components Table**

Part Number	Description	Specification and Ordering Information
<b>02200XXX</b>	Network adapter	141477-01
<b>1701/01-XX</b>	FieldMonitor Configuration Software for RSLogix5	141613-01
<b>1701/02-XX</b>	FieldMonitor Configuration Software for RSLogix5000	147407-01
<b>1701/05-01</b>	Terminal Base (see note 2)	141478-01
<b>1701/06-01</b>	Isolator Terminal Base (see note 2)	141573-01
<b>1701/10-01</b>	24-volt dc Power Supply	141479-01
<b>1701/15-01</b>	Proximito Input Monitor	141483-01
<b>1701/22-01</b>	FieldMonitor Management Interface Module	141969-01
<b>1701/25-01</b>	Seismic Input Monitor	141484-01
<b>1701/30-01</b>	Dynamic Pressure Monitor	148763-01
<b>1701/50-XX-XX</b>	Weatherproof Housing	141615-01
<b>170133-XXX-XX</b>	Internal 3300 Proximito Module	141481-01
<b>170150-XXX-XX</b>	Internal 3300 NSv™ Proximito Module	147386-01
<b>170172-XXX-XX</b>	Internal 7200 Proximito Module	141482-01
<b>170180-XX-XX</b>	External Transducer I/O Module	141480-01
<b>170190-XX</b>	Dual galvanic Isolator (see note 2)	141573-01

**Note 1:** Transducer I/O module here refers to either an internal Proximito module (170133-XXX-XX or 170172-XXX-XX) or an external transducer I/O module (170180-XX-XX).

**Note 2:** The 1701/05 Terminal Base is for applications where transducers are installed in non-hazardous, Division 2, or Zone 2 areas, or where external safety barriers are used. The 1701/06 Isolator Terminal Base and 170190 Dual Galvanic Isolator are used when transducers will be installed in Division 1 or Zone 1 areas, and an intrinsically safe installation is desired without the use of external safety barriers. For more information, refer to Specifications and Ordering Information for the 1701/06 Isolator Terminal Base and 170190 Dual Galvanic Isolator (Bently Nevada part number 141573-01).

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## Specifications

See individual Specifications and Ordering Information for each 1701 module listed in FieldMonitor System Components Table.

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## Ordering Information

See individual Specifications and Ordering Information for each 1701 module listed in FieldMonitor System Components Table.

In addition, transducers and cable will be required and can be ordered from our standard transducer list. Other accessories such as network parts, fittings, etc., may also be required which vary depending on host control system and industrial network being used.

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## Accessories

**139256-01**

User Manual

**141970-01**

FMIM User Manual

**144504-01**

1701/30 User Manual

**139193-01**

Blank Slot Cover

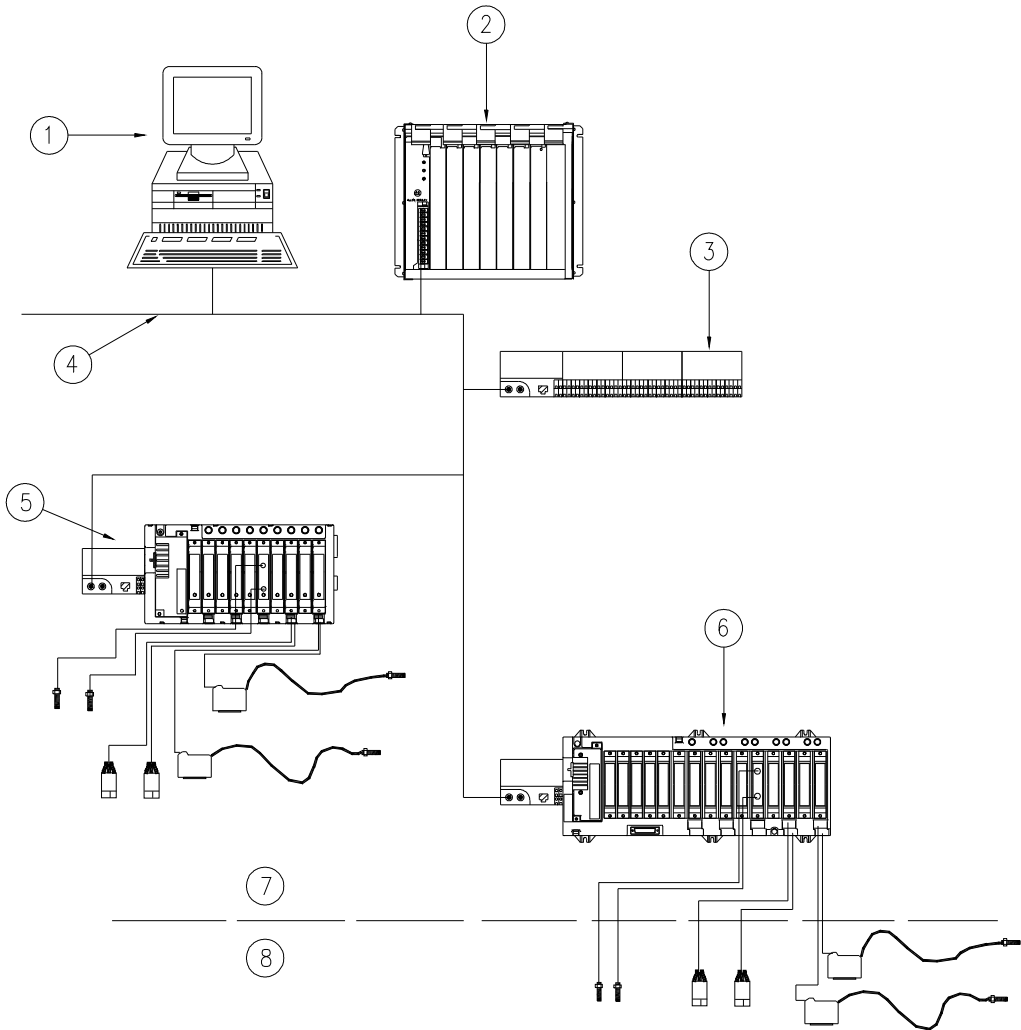
**138925-XXX-XX**

Dynamic Cable

**02200794**

AC to DC 24V power supply (This unit has been used for lab testing, but Bently Nevada does not guaranty it for industrial applications. For that purpose contact the manufacturer)

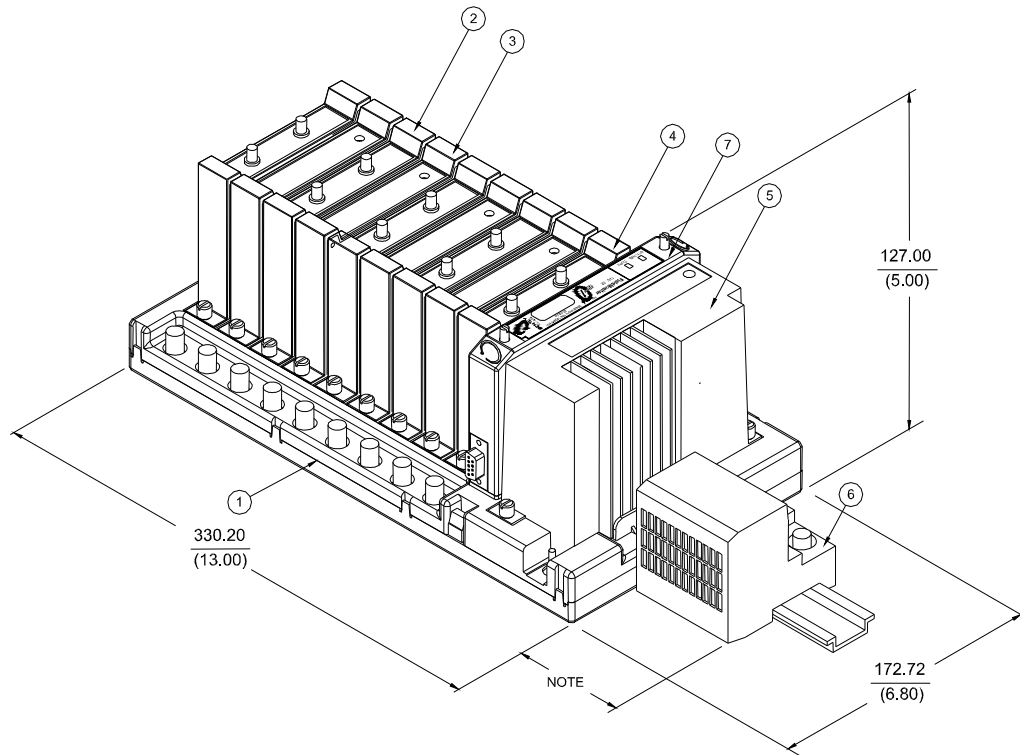
# FieldMonitor System Overview Diagram



- 1. HMI (Human Machine Interface)
- 2. PLC
- 3. A-B Flex I/O (optional)
- 4. Industrial Network
- 5. FieldMonitor System using the 1701/05 Terminal Base
- 6. FieldMonitor System for Hazardous Areas using the 1701/06 Isolator Terminal Base
- 7. Div. 2 or safe area
- 8. Div. 1 or Zone 0/1 Hazardous Area

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## FieldMonitor Product Overview using the 1701/05 Terminal Base

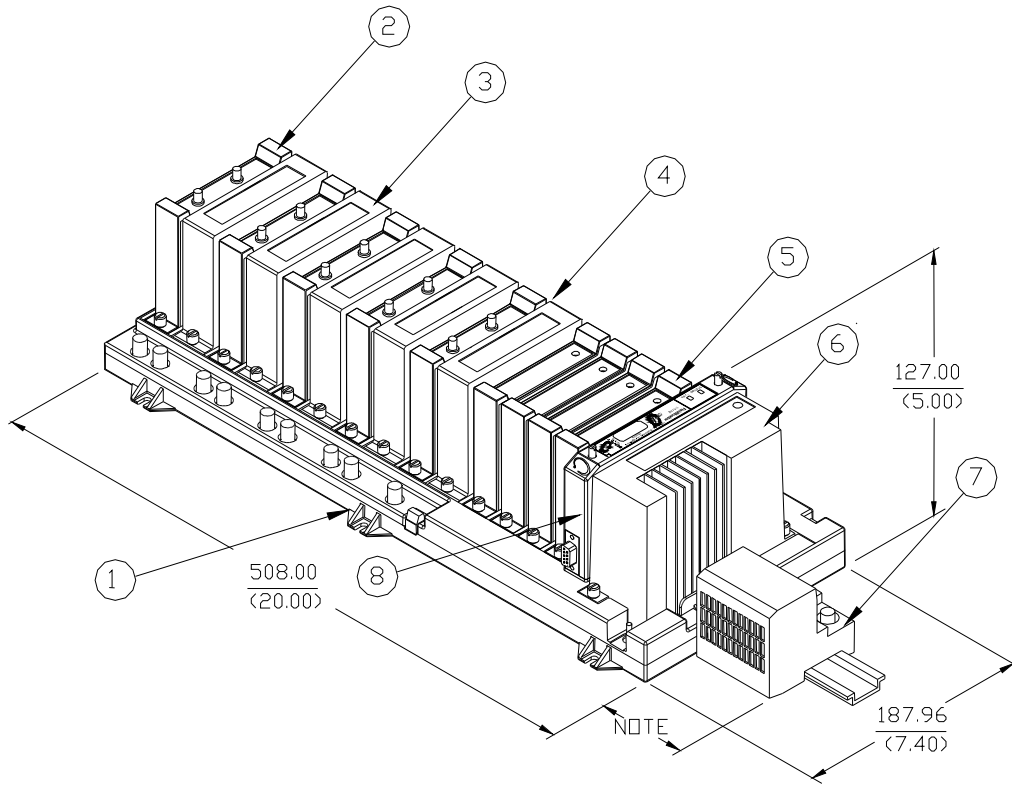


Dimensions are in millimeters (inches)  
NOTE: See adapter spec sheet for dimensions

1. 1701/05 Terminal Base
2. Internal Proximitors or transducer I/O modules. One for each monitor
3. Monitors, four slots
4. Keyphasor input (Either an internal Proximitor or transducer I/O module)
5. Power Supply
6. Network Adapter (Specific to the Network Communication type)
7. 1701/22 FieldMonitor Management Interface Module

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## FieldMonitor Product Overview using the 1701/06 Isolator Terminal Base



Dimensions are in millimeters (inches)  
NOTE: See adapter spec sheet for dimensions

1. 1701/06 Isolator Terminal Base
2. Internal Proximity or transducer I/O modules (one for each monitor)
3. Dual Galvanic Isolators. (One for each internal Proximity or transducer I/O module)
4. Keyphasor input (Isolator and internal Proximity or transducer I/O module)
5. Monitors, four slots
6. Power Supply
7. Network Adapter (Specific to the Network Communication type)
8. 1701/22 FieldMonitor Management Interface Module

Bently Nevada, FieldMonitor, Proximity, ControlNet, DeviceNet, Profibus, DP, Flex I/O and Keyphasor are trademarks of General Electric Company.  
MODBUS is a trademark of Schneider Electric.

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