1900/65A General Purpose Equipment Monitor

Datasheet

Cordant™

173401 Rev. AC



Description

The 1900/65A General Purpose Equipment Monitor is designed to continuously monitor and protect equipment that is used in a variety of applications and industries. The monitor's low cost makes it an ideal solution for general-purpose machines and processes that can benefit from continuous monitoring and protection.

Inputs

The 1900/65A provides four transducer inputs and four temperature inputs. Software can configure each transducer input to support 2- and 3-wire accelerometers, velocity sensors or proximity sensors. Each temperature input supports Type E, J, K, and T thermocouples, and 2- or 3-wire RTDs.

Outputs

The 1900/65A provides six relay outputs, four 4-20 mA recorder outputs, and a dedicated buffered output. The user can use the 1900 Configuration software to configure the relay contacts to open or close according to the OK, Alert and Danger statuses of any channel or combination of channels, and to provide data from any variable from any channel on any recorder output. The dedicated buffer output can provide the signal for each transducer input.

Baker Hughes

A Modbus Gateway option allows the monitor to provide static variables, statuses, event list, time and date information directly to any Modbus client, including Distributed Control Systems (DCSs), Supervisory Control and Data Acquisition (SCADA) systems, Programmable Logic Controllers (PLCs), or System 1 software. The monitor uses an internal counter and a Modbus client/master time reference to generate time and date information. Users can upgrade monitors without the Modbus Gateway by ordering the 1900/01 Communications Upgrade (see the Ordering Information section). The 1900/65A supports Modbus communications via Ethernet and a software-configurable RS232/485 serial port.

Configuration

The user defines monitor operation and the Modbus Gateway register map by using software running on a laptop or PC to create a configuration file and download the file to the monitor through the built-in Ethernet connection. The 1900/65A permanently stores configuration information in non-volatile memory, and can upload this information to the PC for changes.

Display Module

The 1900/65A supports an optional display/keypad to view channel information or make minor configuration changes. This allows the 1900/65A to operate as a stand-alone package. If desired, the user can mount the display up to 75 metres (250 feet) from the Monitor Module.

Specifications

Inputs

Transducer Inputs

Users can configure Channels 1 through 4 to accept input from acceleration, velocity or displacement transducers.

Transducer Channel Types

Channel Types define the functionality for processing that will be applied to an input signal and the kind of variables or measurement values that will be derived from this input. Channel Types also define the kind of sensor that must be used. Transducer Channel Types include:

- Acceleration or Reciprocating Acceleration
- Velocity or Reciprocating Velocity
- Radial Vibration (shaft vibration)
- Thrust (shaft axial displacement)
- Position
- Speed

Acceleration and Reciprocating Acceleration Channel Types

The Acceleration Channel Type and Reciprocating Acceleration Channel Type support two- and three-wire acceleration sensors. The Reciprocating Acceleration channel type has timed OK channel defeat disabled.

Acceleration Variables and Reciprocating Acceleration Variables

Acceleration Variables and Reciprocating Acceleration Variables are filtered and processed measurements from raw transducer signals. The Acceleration Channel Type and Reciprocating Acceleration Channel Type continuously processes up to four variables per channel.

Vibration	Up to three bandpass filtered amplitude measurements.
Acceleration Enveloping	Users can apply the acceleration enveloping algorithm to one Acceleration or Reciprocating Acceleration Variable.
Bias Voltage	Users may assign the value of the transducer bias voltage to any of the variables.

Configuration Options

Each variable is independently configured with the following options.

Vibration Variables	• Peak or RMS • Metric or English units • Filter corner frequencies • Full scale range • Acceleration integrated to velocity
Enveloped Variable	• Filter corner frequencies • Standard or Enhanced demodulation

Supported Transducers

Channel Type	**Bently Nevada Transducer**
Acceleration and Reciprocating Acceleration	330400 Accelerometer 330425 Accelerometer
Velocity and Reciprocating Velocity	190501 Velomitor 330500 Velomitor 330525 Velomitor 330750 Velomitor
Radial Vibration, Thrust, and Speed	3300 5 & 8 mm Proximitor System 3300 XL 8mm Proximitor System 3300 XL 11mm Proximitor System 3300 XL NSv Proximitor System 7200 5 & 8mm Proximitor System 7200 11mm Proximitor System 7200 14 mm Proximitor System
Position	3300 5 & 8 mm Proximitor System 3300 XL 8mm Proximitor System 3300 XL 11mm Proximitor System 3300 XL 25mm Proximitor System 3300 XL 50mm Proximitor System 3300 XL NSv Proximitor System 7200 5 & 8mm Proximitor System 7200 11mm Proximitor System 7200 14 mm Proximitor System

The 1900/65A provides default configuration settings for Bently Nevada transducers. The user can configure the 1900/65A to accept other transducers.

Accessories

Part Number	Description
167699-02	1900/65A Display Module
173400	*1900/65A User Guide*
172250	*1900/65 Modbus Gateway Users Guide*
173089	*1900/65A Field Wiring Diagrams*
02200794	Power supply, 110/220 Vac to 24 Vdc 2.5 A DIN rail mount
02200121	DIN rail end bracket
168374	35mm DIN rail mounting clip for 1900/65A Monitor Module
168495	Bulkhead mounting plate
168547-0010-01-01	3 m (10 ft) PVC cable, assembled
168547-0010-01-02	3 m (10 ft) PVC cable, unassembled
168547-0010-02-01	3 m (10 ft) TEF cable, assembled
168547-0010-02-02	3 m (10 ft) TEF cable, unassembled
168628	Stainless steel NEMA 4X weatherproof door for panel-mount display assembly
168629	Painted steel NEMA 4 weatherproof door for panel-mount display assembly
168944	Fiberglass NEMA 4X/IP66 weatherproof housing with window in door
284785	MTL 7728(-) barrier
175502	MTL 7796(-) barrier
172555	Modbus/TCP (Ethernet) to Modbus/RTU (Serial) Converter
169825-01	Training CD