3500/42M Proximitor Seismic Monitor

Datasheet

Cordant™

143694 Rev. AE

Description

The Bently Nevada™ 3500/42M Proximitor Seismic Monitor:

- Protects machinery by continuously comparing monitored parameters against configured alarm setpoints to drive alarms.
- Communicates essential machine information to both operations and maintenance personnel.

The 3500/42M Proximitor Seismic Monitor is a four-channel monitor that accepts input from proximity and seismic transducers. It conditions the signal to provide vibration and position measurements and compares the conditioned signals with user-programmable alarms.

You can program each channel using the 3500 Rack Configuration Software to monitor and report:

- Radial vibration	- REBAM	- Thrust position
- Acceleration	- Differential expansion	- Shaft absolute
- Eccentricity	- Circular acceptance region	- Velocity

The monitor channels are programmed in pairs and can perform up to two of the listed functions at a time. For example, Channels 1 and 2 can perform one function while channels 3 and 4 perform another or the same function.

Each channel, depending on configuration, typically conditions its input signal to generate various parameters called **static values**. You can configure **alert setpoints** for each active static value and danger setpoints for any two of the active static values.

Baker Hughes

Specifications

Inputs

Signal	Accepts from 1 to 4 proximity, velocity or acceleration transducer signals
Power consumption	7.7 watts, typical
Input Impedance	
Standard I/O	10 kΩ (Proximitor and acceleration inputs)

Sensitivity

Radial Vibration	3.94 mV/µm (100 mV/mil) or 7.87 mV/µm (200 mV/mil)
Thrust	3.94 mV/µm (100 mV/mil) or 7.87 mV/µm (200 mV/mil)
Eccentricity	3.94 mV/µm (100 mV/mil) or 7.87 mV/µm (200 mV/mil)
Differential Expansion	0.394 mV/µm (10 mV/mil) or 0.787 mV/µm (20 mV/mil)
REBAM	40 mV/µm (1000 mV/mil) or 80 mV/µm (2000 mV/mil)
Acceleration & Acceleration2	10 mV/ (m/s^2) (100 mV/g)
Velocity & Velocity2	20 mV/ (mm/s) pk (500 mV/ (in/s) pk) or 5.8 mV/ (mm/s) pk (145 mV/ (in/s) pk) or 4 mV/ (mm/s) pk (100 mV/ (in/s) pk)
Shaft Absolute, Radial Vibration	3.94 mV/µm (100 mV/mil) or 7.87 mV/µm (200 mV/mil)
Shaft absolute, Direct	3.94 mV/µm (100 mV/mil) or 7.87 mV/µm (200 mV/mil)
Shaft absolute, Velocity	20 mV/ (mm/s) pk (500 mV/ (in/s) pk) or 5.8 mV/ (mm/s) pk (145 mV/ (in/s) pk) or 4 mV/ (mm/s) pk (100 mV/ (in/s) pk)
Circular Acceptance Region	See Radial Vibration on page 4.

Output Supply Parameters

The following values are accurate regardless of external barrier connections.

I/O Part and Order Options	Description	Configuration	Supply Parameters		
			U (V)	I (mA)	P (W)
128229-01 A 01	Prox/Seismic I/O Module with Internal Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09
		Seismoprobe	6.82	2.75	0.02
128240-01 A 02	Prox/Seismic I/O Module with External Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09
		Seismoprobe	6.82	2.75	0.02
138708-01 A 07	Shaft Absolute I/O Module with Internal Terminations	Prox & Velomitor	23.9	45.5	1.09
		Prox & Seismoprobe	6.82	45.5	0.31
138700-01 A 08	Shaft Absolute I/O Modules with External Terminations	Prox & Velomitor	23.9	45.5	1.09
		Prox & Seismoprobe	6.82	45.5	0.31
140471-01 A 09	Prox/Velom I/O Module with Internal Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09
140482-01 A 10	Prox/Velom I/O Module with External Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09

B: Assembly Instructions	
01	Not Assembled
02	Assembled

Spares

176449-02	3500/42M Proximitor Seismic Monitor
128229-01	Prox/Seismic I/O Module with internal terminations
128240-01	Prox/Seismic I/O Module with external terminations
00530843	3500/42M Prox/Seismic I/O Module four-pin connector shunt
143489	3500/42M Monitor User Guide
135489-01	I/O Module with Internal Barriers (internal terminations, 4 x Prox/Accel)
135489-02	I/O Module with Internal Barriers (internal terminations, 2 x Prox/Accel and 2 x Velomitor)
135489-03	I/O Module with Internal Barriers (internal terminations, 4 x Velomitor)
138708-01	Shaft Absolute I/O Module with internal terminations
138700-01	Shaft Absolute I/O Modules with external terminations
00517018	3500/42M Shaft Absolute I/O Module 8-pin connector shunt
140471-01	Prox/Velom I/O Module with internal terminations
140482-01	Prox/Velom I/O Module with External Terminations
00561941	3500/42M Prox/Velom I/O Module 10-pin connector shunt
00580434	Internal I/O Module connector header, Euro style, 8-pin Used on I/O modules 128229-01 and 138708-01
00580432	Internal I/O Module connector header, Euro style, 10-pin Used on I/O modules 128229-01 and 138708-01
00502133	Internal I/O Module connector header, Euro style, 12-pin
166M2389	Connector header Push-in-Spring Type (Allternative for PN 00580434)
166M2388	Connector header Push-in-Spring Type (Allternative for PN 00580432)

For spare front and rear cover plates, please see 3500/05 System Rack datasheet (document 141525)

I/O Module Types

AA Ordering Option	I/O Part Number	I/O Description	Transducer Type
01	128229-01	Prox/Seismic I/O Module with internal terminations	Seismoprobe Prox/Accel and Velomitor are supported but are not recommended.
02	128240-01	Prox/Seismic I/O Module with external terminations	Seismoprobe Prox/Accel and Velomitor are supported but are not recommended.
04	135489-01	I/O Module with internal Barriers, internal terminations, 4 x Prox/Accel	Prox/Accel on channels 1 through 4
05	135489-02	I/O Module with internal barriers, internal terminations, 2 x Prox/Accel and 2 x Velomitor	Prox/Accel on channels 1 and 2 Velomitor on channels 3 and 4
06	135489-03	I/O Module with internal barriers, internal terminations, 4 x Velomitor	Velomitor on channels 1 through 4
07	138708-01	Shaft Absolute I/O Module with internal terminations	Prox/Accel or Velomitor or Seismorprobe
08	138700-01	Shaft Absolute I/O Modules with external terminations	Prox/Accel or Velomitor or Seismorprobe
09	140471-01	Prox/Velom I/O Module with internal terminations	Prox/Accel, Velomitor or HTVS
10	140482-01	Prox/Velom I/O Module with external terminations	Prox/Accel, Velomitor or HTVS

External termination blocks cannot be used with Internal Termination I/O Modules. When ordering I/O modules with external terminations, order the external termination blocks and cable separately for each I/O module.