Bently Nevada 3500 Series Service Manual

3500/42-02-01

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No. : 3500/42-02-01

Product Type : Proximitor Seismic Monitor

Ordering Information

3500/42 - AA - BB

A: I/O Module Type

02 = 128240-01 Prox/Seismic I/O Module with

external terminations Seismoprobe Prox/Accel and Velomitor are supported but are not recommended.

B: Hazardous Area Approval Option

01 = cNRTLus (Class 1, Division 2)

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/s2) (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)

Outputs

Front Panel LEDs

OK LED: Indicates when the 3500/42M Proximitor Seismic Monitor is operating properly.

TX/RX LED: Indicates when the 3500/42M Proximitor Seismic Monitor is communicating with other modules in the 3500 rack.

Bypass LED: Indicates when the 3500/42M Proximitor Seismic Monitor is in Bypass Mode.

Buffered Transducer Outputs: The front of each monitor has one coaxial connector for each channel.

Each connector is shortcircuit protected.

Output Impedance: 550 Ω

Transducer Power Supply: -24 Vdc

Recorder: +4 to +20 mA

Values are proportional to monitor full-scale.

The monitor provides individual recorder values for each channel.

Monitor operation is unaffected by short circuits on recorder outputs.

Voltage Compliance (current output):

0 to +12 Vdc range across

load

Load resistance is 0 to 600 Ω.

Front Panel LEDs

Resolution: 0.3662 µA per bit ±0.25% error at room temperature ±0.7% error over temperature range

Update rate approximately 100 ms or less

Shaft Absolute Buffered Outputs: The Shaft Absolute I/O modules have one output for each channel group.

Each output is short circuit protected.