Bently Nevada 3500 Series Service Manual

3500/53-03-00

1. Description

3500/53-03-00 Bently Nevada

3. Product Information

3500/53-03-00 Bently Nevada | 3500/53 Electronic Overspeed Detection System

Manufacturer : Bently Nevada

Product No. : 3500/53-03-00

Product type : 3500/53 Electronic Overspeed Detection System

Made in U.S.A

Ordering Information

3500/53-AXX-BXX

A: Channel Option : 03 = Three Channel System

B: Agency Approval Option : 00 = None

Inputs

Signal: Each Overspeed Detection module accepts a single transducer signal from a proximity probe transducer or magnetic pickup. The input signal range is +10.0 V to -24.0 V. The module internally limits signals

that exceed this range.

Input Impedance: 20 k Ω.

Power Consumption: 8.0 watts, typical.

Transducers:

Bently Nevada 3300 8 mm

Proximitor 3300 16 mm HTPS, 7200 5 mm, 8 mm, 11 mm, and 14 mm Proximitor; 3300 RAM Proximitor, or Magnetic pickups.

Outputs

Front Panel LEDs

OK LED: Indicates when the 3500/53 Module is operating properly.

TX/XR LED: Indicates when the 3500/53 Module is communicating with other modules in the 3500 rack.

Bypass LED: Indicates when the 3500/53 Module is in Bypass Mode.

Test Mode LED: Indicates when the 3500/53 is in Test Mode.

Alarm LEDs: Indicates that an alarm condition has occurred with the associated relay.

Buffered Transducer Outputs:

The front of each module has one coaxial connector for buffered output. Each connector is short circuit and ESD protected.

Output Impedance: 550 Ω.

Transducer Power Supply: -24 Vdc, 40 mA maximum.

Recorder: +4 to +20 mA. Values are proportional to module full-scale range (rpm). Module operation is unaffected by short circuits on recorder output.

Voltage Compliance (current output): 0 to +12 Vdc range across load. Load resistance is 0 to 600 Ω.

Resolution:

0.3662 µA per bit ±0.25% error at room temperature ±0.7% error over temperature range. Update rate approximately 100 ms.

Relays Type:

Single-pole, double-throw (SPDT) relays.

Environmental Sealing: Epoxy sealed.

Arc Suppressers: 250 Vrms, installed as standard.

Contact Ratings

Max switched power: dc: 120 W ac: 600 VA.

Resistive Load

Max switched current: 5A

Min switched current: 100 mA @ 5 Vdc

Max switched voltage:

dc: 30 Vdc

ac: 250 Vac.

Contact Life: 100,000 @ 5 A, 24 Vdc or 120 Vac.

Operation:

Each relay is switch selectable for Normally De-energized or Normally Energized.

Environmental Limits

Operating Temperature:

-30 °C to +65 °C

(-22 °F to +149 °F)

Storage Temperature:

-40 °C to +85 °C

(-40 °F to +185 °F)

Humidity:95%, non-condensing.

Physical

Monitor Module

Dimensions

(Height x Widthx Depth):

241.3 mm x 24.4 mm x 241.8 mm

(9.50 in x 0.96 in x 9.52 in).

Weight:

0.82 kg (1.8 lb.).

I/O Modules

Dimensions

(Height x Widthx Depth):

241.3 mm x 24.4 mm x 99.1 mm

(9.50 in x 0.96 in x 3.90 in).

Weight:

0.45 kg (1.0 lb.).

Rack Space Requirements

Monitor Module:

1 full-height front slot/per

channel.

I/O Modules:

1 full-height rear slot/per channel.