Bently Nevada 3500 Series Service Manual

3500/50M-01-01

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No. : 3500/50M-01-01

Product type : Tachometer Module

Made in U.S.A

Power consumption : 5.8 watts, typical

Transducer Power Supply : 24 Vdc, 40 mA maximum per channel

Ordering Information

3500/50M-01-01

3500/50M Tachometer Module

I/O module type : 01 = I/O module with internal terminations

Agency Approval Option : 01= cNRTLus (Class 1, Division 2)

Ordering Considerations

To add the 3500/50M Tachometer Module to an existing 3500 Monitoring System, you must have the following versions of firmware and software:

Firmware and Software Version

3500/22M Module Firmware Revision (1.70)

3500/01 Configuration Software Version 4.20 or later

3500/02 Data Acquisition Software Version 2.52 or later

3500/03 Display Software Version 1.52 or later

3500/50M Firmware Revision 5.30 or later

3500/50M Not compatible with any version of 3500/20

Inputs

Signal

Each 3500/50M Tachometer Module accepts up to two transducer signals from proximity probe transducers or magnetic pickups.

Input signal range

+10.0 V to -24.0 V

Signals exceeding this range are limited internally by the module.

Input impedance

20 k Ω (standard)

40 k Ω (TMR)

7.15 k Ω (Internal Barrier)

Power consumption 5.8 Watts, typical

Front Panel LEDs

OK LED Indicates when the 3500/50M Tachometer Module is operating properly.

TX/RX LED Indicates when the Tachometer Module is communicating with other modules in the 3500 rack.

Bypass LED Indicates when the Tachometer Module is in Bypass Mode.

Speed Input

The 3500/50M Tachometer Module supports 1 to 255 events per revolution for Rotor Acceleration and Zero Speed channel types.

All other channel types support 0.0039 to 255 events per revolution.

All channel types support a maximum full scale range of 99,999 rpm and a maximum input frequency of 20 kHz.

Minimum input frequency for proximity transducers is 0.0167 Hz (1 rpm for 1 event per revolution).

Minimum input frequency for passive magnetic pickups is 3.3 Hz.

RPM Accuracy

Less than 100 rpm = ± 0.1 rpm

100 to 10,000 rpm = ±1 rpm

10,000 to 99,999 rpm = ± 0.01% of true shaft speed

RPM/Min Accuracy

± 20 rpm/min

Physical

Monitor Module (Main Board)

Dimensions (Height x Width x 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 (non-barrier)

Dimensions (Height x Width x Depth)

241.3 mm x 24.4 mm x 99.1 mm (9.50 in x 0.96 in x 3.90 in)

Weight 0.20 kg (0.44 lb)

I/O Modules (internal barrier)

Dimensions (Height x Width x Depth)

241.3 mm x 24.4 mm x 163.1 mm (9.50 in x 0.96 in x 6.42 in)

Weight 0.46 kg (1.01 lb)

Rack Space Requirements

Monitor Module 1 full-height front slot

I/O Modules 1 full-height rear slot