Bently Nevada 3500 Series Service Manual

3500/25-01-01-02

1. Description

3500/25-01-01-02

3. Product Information

3500/25-01-01-02 | Bently Nevada | Enhanced Keyphasor Module

Manufacturer : Bently Nevada

Product No. : 3500/25-01-01-02

Product Type : Enhanced Keyphasor Module

Number of channels : 01 = Single half-height 2-channel Keyphasor card (order for 2- channels)

Type of I/O Module : 01= I/O module with Internal Terminations

Agency Approval Option : 02=ATEX/IECEx/CSA (Class 1 Zone 2)

Inputs

Power Consumption: 3.2 Watts typical

Signal: Each Keyphasor Module accepts up to two transducer signals from proximity probe transducers or magnetic pickups.

The input signal range is +0.8 V to -21.0 V (NonIsolated I/O modules) or +5V to -11V (Isolated I/O modules).

Signals exceeding this range are limited internally by the module. Passive magnetic pickups require a shaft rotative speed greater than 200 rpm (3.3 Hz).

Input Impedance: 21.8 kΩ minimum

Signal Conditioning

Speed/Frequency Signal Ranges: Input range of 1 to 1,200,000 cpm (0.017 to 20 kHz). Supports multiple events per revolution to a maximum of 20 kHz.

Output range of 1 to 99,999 cpm (0.017 to 1667 Hz)

Speed/Frequency Signal Accuracy: Specified at +25°C (+77°F).

Non-processed Signals:

0.017 to 100 Hz ... ±1 cpm

101 to 500 Hz ... ±8 cpm

501 to 20 kHz ... ±1% of cpm

Processed Signals:

0.017 to 60 Hz ... ±1 cpm

61 to 150 Hz ... ±8 cpm

151 to 20 kHz ... ±1% of cpm

Transducer Conditioning

Auto Threshold:

Minimum signal amplitude for triggering is 2 volts peak to peak and minimum frequency is 120 rpm (2 Hz).

Manual Threshold:

Use for any input above 0.017 Hz (1 rpm for 1 event per revolution).

User-selectable from 0 to -20 volts dc. Minimum signal amplitude for triggering is 500 millivolts peak to peak.

Hysteresis User-selectable from 0.2 to 2.5 Volts.

Outputs

Buffered Keyphasor Signals:

Two buffered Keyphasor outputs are available at the front of the rack via coaxial connectors. Two buffered

Keyphasor outputs are also available at the back of the rack via Euro Style connectors.

Output Impedance: 504 Ω maximum buffered output impedance.

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

Front Panel LEDs

OK LED: Indicates when a fault has been detected in the Keyphasor Module.

TX/RX LED: Indicates when the Keyphasor Module is communicating with the Rack Interface Module (RIM).

Environmental Limits Operating Temperature

-30°C to +65°C (-22°F to+150°F) when used with

Keyphasor I/O Module other than the Internal Barrier version.

0°C to +65°C (32°F to +150°F) when used with Keyphasor Internal Barrier I/O Module (Internal Termination).

Storage Temperature

-40°C to +85°C (-40°F to +185°F)

Humidity 95%, non-condensing

Physical

Main Module

Dimensions

Height x Width x Depth)

119.9 mm x 24.4 mm x 256.5 mm

(4.72 in x 0.96 in x 10.10 in).

Ordering Considerations

General

l External Termination (ET) Blocks cannot

be used with Internal Termination I/O

modules.

l When ordering I/O Modules with External Terminations, the External Termination Blocks and Cables must be ordered separately.

l There are many technical considerations involved in using the expanded signal processing functions of the Enhanced Keyphasor Module. A qualified Bently Nevada sales representative should be consulted prior to specifying or ordering modules for such applications.