Bently Nevada 3500 Series Service Manual

3500/60-01-02

1. Description

3500/60-01-02

3. Product Information

3500/60-01-02 | Bently Nevada | RTD Temperature Monitor

Manufacturer : Bently Nevada

Product No. : 3500/60-01-02

Product type : 3500/60 Temperature Module

Made in U.S.A

Ordering Information

3500/60-AA-BB

A:I/O Module Type

0 1 = RTD/TC Non-isolated I/O Module Internal Terminations

B:Agency Approval Option

0 2 = ATEX/ IECEx/ CSA (Class 1, Zone 2)

Signal Accepts from 1 to 6 RTD or TC transducer signals.

Input Impedance 10 MΩ for each lead input.

Power Consumption

3500/60 Nominal consumption of 7 watts.

Tranducers

TCs

Type E - -100 °C to +1000 °C, (-148 °F to +1832 °F).

Type J -18 °C to +760 °C, (+0 °F to +1400 °F).

Type K -18 °C to +1370 °C, (+0 °F to +2498 °F)

.Type T -160 °C to +400 °C, (-256 °F to +752 °F).

100Ω 3-wire & 4-wire platinum RTD (alpha= 0.00385) -200° C to +850° C (-328 °F to +1562 °F).

With external barriers: -50 °C to +850 °C (-122 °F to +1562 °F).

100Ω 3-wire & 4-wire platinum RTD (alpha = 0.00392)

-200 °C to +700 °C (-328 °F to +1292 °F).

With external barriers: -50 °C to +260 °C (-122 °F to + 1292 °F).

120Ω 3-wire & 4-wire nickel RTD -80 °C to +260 °C (-112 °F to +500 °F).

With external barriers: -50 °C to +260 °C (-122 °F to + 500 °F).

10Ω 3-wire & 4-wire copper RTD -100 °C to +260 °C, (-148 °F to +500 °F).

With external barriers: -50 °C to +260 °C (-122 °F to +500 °F).

Outputs

Front Panel LEDs

OK LED Indicates when the Temperature Monitor is operating properly.

TX/RX LED Indicates then the Temperature Monitor is communicating with other modules in the 3500 rack.

Bypass LED Indicates when the Temperature Monitor is in Bypass Mode.

RTD Current Source Value 925 ±15 µA @ 25° C per transducer (single supply for the 4-wire RTD and two supplies for the 3-wire).

Recorder +4 to +20 mA. Values are proportional to monitor full-scale. Individual recorder values are provided for each channel. Monitor operation is unaffected by short circuits on recorder outputs.

Environmental Limits

Operating Temprature

-30°C to +65°C (-22°F to +150

°F) when used with Internal/External Termination

I/O Modules

0°C to +65 °C (32 °F to +150 °F)

when used with Internal Barrier

I/O Modules (Internal

Termination)

Storage

Temperature

-40°C to +85°C (-40°F to

+185°F)

Physical

Monitor Module

Dimensions

(Height x Width xDepth)

241.3 mm x 24.4 mm x

241.8 mm

(9.50 in x 0.96 in x 9.52 in)

Weight 0.91 kg (2.0 lb)

I/O Modules

Dimensions

(Height x Width xDepth)

241.3 mm x 24.4 mm x 99.1mm

(9.50 in x 0.96 in x 3.90 in)

Weight 0.45 kg (1.0 lb)

I/O Modules (internal barrier)

Dimensions

(Height x Width xDepth)

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

Accuracy

Internal

Termination

NonIsolated

Bulkhead

Rack

±3 °C at 25 °C

(±5.4 °F at 77 °F).

Standard

Rack

±3 °C at 25 °C

(±5.4 °F at 77 °F).

External Termination Non-Isolated

Bulkhead

Rack

±3 °C at 25 °C

(±5.4 °F at 77 °F).

Standard

Rack

±1 °C at 25 °C

(±1.8 °F at 77 °F).

Internal Termination Isolated

Bulkhead

Rack

±2 °C at 25 °C

(±3.6 °F at 77 °F).

±3 °C at 25 °C

±5.4 °F at 77 °F).

Standard

Rack

±3 °C at 25 °C

±5.4 °F at 77 °F).

External Termination Isolated

Bulkhead

Rack

±1 °C at 25 °C

(±1.8 °F at 77 °F).

Standard

Rack

°C at 25 °C

(±1.8 °F at 77 °F)

10 Ω Copper RTDs

Resolution 1°C or 1 °F

Accuracy ±3 °C at 25 °C

(±5.4 °F at 77 °F).

Cold Junction Compensation Sensor (used for TC measurements)

Accuracy ±1° C at 25 °C

(±1.8 °F at 77 °F).

Alarm Setpoints

The user can set Alert and Danger setpoints for the value measured by the monitor using software configuration. Alarms are adjustable from 0 to 100% of full-scale for each measured value. The exception is when the full-scale range exceeds the range of the sensor. In this case, the range of the sensor will limit the setpoint. Accuracy of alarms are to within 0.13% of the desired value. The Temperature Monitors have both under and over alarm setpoints.

Alarm Time Delays

The user can program alarm delays using software as follows:

Alert From 1 to 60 seconds in 1 second intervals.

Danger From 1 to 60 seconds in 0.5 second intervals