

# Bently Nevada 3500 Series Service Manual

3500/60-01-02

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## 1. Description

3500/60-01-02

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## 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.

Transducers

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 Temperature

-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  $\Omega$  Copper RTDs

Resolution 1°C or 1 °F

Accuracy  $\pm 3$  °C at 25 °C

( $\pm 5.4$  °F at 77 °F).

Cold Junction Compensation Sensor (used for TC measurements)

Accuracy  $\pm 1$ ° C at 25 °C

( $\pm 1.8$  °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

