

# Bently Nevada Service Manual

2300/20\_KIT-005-00

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## 1. Description

Manufacturer : Bently Nevada

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## 3. Product Information



Manufacturer : Bently Nevada

Product No : 2300/20\_KIT-005-00

Product type : 2300/20 Condition Monitoring System Kit

Configuration : 005

1 Velomitor and 1 Housing

1-2300/20 Monitor

1-6 ft. (1.8 m) shielded Ethernet cable

1-Housing Kit: 105M6193-01

fiberglass housing for nonhazardous area) or 105M6193-03 (stainless steel housing for hazardous area) 18.03x 15.04 x 6.3 in.

1-Velomitor sensor (330500)

1-17 ft. (5.2 m) cable (9571) (Excluding Keyphasor sensor and

24 Vdc power supply

Approvals option : 00

Dimensions (HxWxD). approx : 7.62cm x 12.7cm x 12.7cm

Weight : 1.03 Kg

Inputs

Power Input

DC Input 18~36 Vdc, max 7.5 W

Channel Types

ICP Accelerometers

Configurable

Bandpass filter

0.2 Hz to 20 kHz

Scale Factor

range

5 to 1000 mV/g

Full scale range 2 to 80 g peak

Current Sink

Source

3.3 mA  $\pm$  5%

Open Circuit

Voltage

-21 to -24 Vdc

Velocity

Configurable

Bandpass filter

0.2 Hz to 20 kHz

Scale Factor

range

5 to 1000 mV/in/s

Full scale range 0 to 50 in/s peak

Radial Vibration

Configurable

Bandpass filter

0.2 Hz to 20 kHz

Scale Factor

range

5 to 1000 mV/mil

Full scale range 0 to 160 mil peak-peak

Thrust Channel

Scale Factor

range

5 to 1000 mV/mil

Channel Types

Process Variable Channel

Support most of unit with default on

Temperature

Channel Hardware Specification

Configurable



Upper OK limit  
-0.25 to -22 V (greater  
than lower OK)  
Configurable  
Lower OK limit  
-0.25 to -22 V (less than  
upper OK)  
Accuracy:  $\pm 1\%$  of full scale range  
Independent 24-bit ADCs on input channels  
Supports Bently transducer or 2/3 wires  
custom transducer for Accelerometers,  
Velomitor and Proximitors.  
Speed/Keyphasor  
Keyphasor transducers support multiple  
events per revolution and event ratios for  
speed inputs up to 20 kHz.  
Threshold voltage  
resolution  
0.1 Vdc  
Interfaces  
Proximity Transducer Interface  
Supply Voltage -22.8 to -25.2 Vdc  
Maximum Rated  
Current  
15 mA  
Short Circuit  
Current  
15.1 mA to 23.6 mA  
Accuracy  $\pm 1\%$  of full scale range  
Input Impedance 3-wire Voltage Mode, 10 k $\Omega$   
RPM range 1 to 120,000  
Proximity Switch Interface  
Supply Voltage -10 to -24 Vdc  
Interfaces  
Lower Not Ok  
limit  
-2.75  $\pm 0.05$  V  
Rpm range 1 to 60,000  
Other Inputs  
Magnetic Pick up  
Input voltage Adapt to sensor 284947  
output  
RPM range 200 to 120,000  
Contact Inputs  
Monitor  
provides 3  
contact  
capabilities  
with input  
terminals  
Configuration lock  
Latched alarm/relay reset  
function  
Monitor Bypass  
Activate 0 to 10 k $\Omega$   
De-activate 150 k $\Omega$  to infinite  
Button Inputs  
External button to reset latched alarm and  
relay



One buried

button

provides 3

functions

I Display monitor

information

I LCD contrast

adjustment

I Reset settings to default

Display Monitor Information

Reset listed

settings to

Default

I User account name

I IP Address

I FW/HW version

Jumper Between COM & Chassis GND

Jumpers are 2-pin terminal interfaces that

connects COM to the Chassis ground (GND).

Alternatively, COM can be connected to an

earth ground separately through a terminal.

Outputs

Buffered Output

Three buffered

outputs are available

on the monitor

through BNC

connectors

2 Vibration Outputs

1 Speed Output

Relays

Relays provide two

dry-contact outputs

May be normally

energized or

de-energized

No output feedback

determination

Relay Circuit Specification in

Non-Hazardous Area

Type Single pole, double

throw

Sealing Epoxy sealed

Contact life 100,000 cycles @ 5

amps

250 Vac

200,000 @ 1 amp, 24

Vdc

Insulationresistance 1000 MΩ minimum @

500 Vdc

Relay closed contact

resistance

1 Ω maximum

Relay open contact

resistance

1 MΩ minimum

Maximum switched

contact voltage

250 Vac / 250 Vdc



Maximum breaking

contact current

6 A @250 Vac / 6 A

@24 Vdc

Maximum switched

power

1500VA AC / 150 Watts

DC

Relay Circuit Specification in

Hazardous Area

Maximum

switched

contact

voltage and

current

6 A @24 Vac / 5 A @ 30 Vac /

5.8 A @24 Vdc / 4 A @30 Vdc

4-20mA Output (2300/20)

Two 4-20 mA outputs with internal current

loop power supply

4 to 20 mA output values are proportional to

the full-scale of the associated

measurement.

Software configuration may determine the

variable of each output. Voltage compliance:

0 to +12 Vdc range across load.

Load resistance: 0 to 600  $\Omega$

Resolution: 0.3662  $\mu$ A

Accuracy: 1% over operating temperature

range

Update rate: 100 ms

Configurable with default 2 mA clamp current

No output feedback determination

Caution: Two 4-20 mA outputs will

NOT work with an external powered

loop.

Relay Circuit Specification in

Hazardous Area

LEDs

OK Indicates when the monitor is

operating properly.

Protection

fault

Indicates hardware fault that

is impacting alarm

determination.

User inhibit Indicates the alarm/relays

have been intentionally

inhibited from operation.

Bypass Indicates user initiated bypass

action.

Relay status Indicates if relays have been

activated.

TX/RX Indicates the Ethernet status

and monitor communicating

with remote software.

SPEED/AUX

channel

status



Indicates the speed channel  
has valid speed signal input  
OR operating correctly when  
AUX.

Channel Alarm Status

Alert LED Engages if any channel is in  
alert state.

Danger LED Engages if any channel is in  
danger state.

LCD Display

Allows viewing machine speed, vibration  
measurements value, setpoints, and  
configuration information.

Communications

Ethernet Ethernet, 10Base-T and  
100Base-TX. Conforms to  
IEEE802.3  
RJ-45 for 10Base-T/100Base-TX  
Ethernet cabling  
Cable length: 100 meters (328 ft.)  
maximum

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 Up to 95%, non-condensing

Vibration  
Limitation  
3 g

Battery Life for  
Real Time  
Clock  
Powered: 38 years @ 50°C  
(122°F)  
Un-powered: 12 years @  
50°C (122°F)

Trend Measurements:  
Duration Intervals  
Pre-Event Data 10 minutes 1 second  
20 seconds 100  
milliseconds  
Post-Event Data 10 seconds 100  
milliseconds  
1 minute 1 second

Spectrums/Waveforms:  
Duration Intervals  
Pre-Event Data 2.5 minutes 10 seconds  
Post-Event Data 1 minute 10 seconds

In the event of a network disruption  
between the 2300 and System 1, the  
2300 can store up to at least 5 alarm  
data captures. (This requires System 1  
Evolution 21.1 or newer and Firmware  
release 3.2 or newer for 2300.)



Physical

Dimensions

(Width xDepth xHeight)

127 mm x 127 mm x 76.2 mm

(5 in. x 5 in. x 3 in.)

Weight 1.03 kg (2.26 lbs)

Mounting Panel mount or DIN rail

(adapter included)

