

Bently Nevada Service Manual

2300/20_KIT-004-00

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No : 2300/20_KIT-004-00

Product type : 2300/20 Condition Monitoring System Kit

Configuration : 004

2 Velomitors 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.

2-Velomitor sensors (330500)

2-17 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 Ω
RPM range 1 to 120,000
Proximity Switch Interface
Supply Voltage -10 to -24 Vdc
Interfaces
Lower Not Ok
limit
-2.75 ± 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 Ω
De-activate 150 k Ω 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 Ω

Resolution: 0.3662 μ 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)

