Bently Nevada Service Manual

2300/25_KIT-002-00

1. Description

Manufacturer : Bently Nevada

3. Product Information

Manufacturer : Bently Nevada

Product No : 2300/25_KIT-002-00

Product type : 2300/25 Bently Nevada 2300/25 Condition Monitoring System Kit

Configuration : 002

1 Sensor and 1 Housing

1-2300/25 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)

18.03 x 15.04 x 6.3 in.

1-Accelerometer sensor

(200350)

1-17 ft. (5.2 m) cable (9571)

(Excluding Keyphasor sensor

and 24 Vdc power supply

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 ± 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: ±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 Proximitor.

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 ±1% of full scale range

Input Impedance 3-wire Voltage Mode, 10 kΩ

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 kΩ

De-activate 150 kΩ to infinite

Button Inputs

External button to reset latched alarm and relay

One buried button provides 3 functions

l Display monitor information

l LCD contrast adjustment

l Reset settings to default

Display Monitor Information

Reset listed settings to Default

l User account name

l IP Address

l 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

SPA Output (2300/25)

Input signal

range

High AC: 8 Vpp Low AC: 1.6 Vpp

DC GAP: 0 to -20 Vdc (max

measurable AC signal is 1

Vpp).

Accuracy High/Low AC: ±1% of Full-Scale

at 100 Hz DC GAP: ±0.5 V

(measurable AC accuracy:

±20 mV)

Frequency

response

10 Hz to 3000 Hz ±5%

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)	