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## Specifications

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### Inputs

*Compatible transducers* Bently Nevada's 200150 and 190520 Accelerometers.

*Input Sensitivity* 100 mv/g

*Maximum acceleration* 20 g peak

*Maximum differential input voltage* 4 volts peak to peak

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### Power

*AC/HDC Power Version* AC Voltage: 85 to 264 Vac  
DC Voltage: 110 to 370 Vdc  
Current Draw: 60 mA. typ.  
120 mA max.  
Frequency: 47 Hz to 440 Hz, or DC.  
Inrush: 20A typ. @ Vin=100Vac  
40A typ. @ Vin=200Vac

*+24 Vdc Power Version* Voltage: 18 to 36 Vdc  
Current Draw: 300 mA max.

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### Signal Conditioning

Monitor Full-scale: (*Below 614Hz*)

*English Units:* 2.0 in/s zero-to-peak

*Metric Units:* 50.8 mm/s zero-to-peak

Note: Full scale is limited by maximum input above 614 Hz. The maximum input is 2 volts peak, or 20 g peak. 20 g at 614 Hz is equivalent to 2 inch per second (the full scale range of the monitor). For frequencies above 614 Hz, Full scale is equal to (1228/frequency).

Frequency Response:

*High pass corner frequency* -3 dB corner @ 8 Hz  
less than 1% error due to high pass corner above 30 Hz

*Low pass corner* Greater than 4 kHz  
less than 1% error due to low pass corner below 4kHz

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### Accuracy

*Liquid Crystal Display and Buffered output.*

*30 Hz – 4 kHz:* ±3% of full scale, Maximum

*8 Hz – 30 Hz* -30% , + 3% of full scale

*4-20 mA Recorder.*

*30 Hz – 4 kHz:* ±5% of full scale, Maximum

*8 Hz – 30 Hz* -30% , + 5% of full scale

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### Outputs

*Buffered Transducer Output*

*Output Sensitivity:* 19.7 mV/mm/s (500 mV/in/s)

*Output Impedance:* 500 Ω

*Full-scale Range:* 50.8 mm/s (2 in/s) zero-to-peak

*4-20 mA Output*

*Full-scale Range:* 20 mA @

50.8 mm/s (2 in/s)

*Overrange:* 63.5 mm/s (2.5 in/s)

*Accuracy:* Adjusted with trimpot

*Galvanic Isolation:* Optical @ 1000 Vac or 707 Vdc

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### Relays

*Type* Single-pole, double-throw.

*Contact Ratings*

*Switched Power:* 180 watts, 1800 VA Maximum

*Maximum Voltage and Current* 300 Vac at 6 A  
28 Vdc at 6 A

*Dielectric Strength (at sea level):* Contact to Contact: 750 Vrms  
Contact to Coil: 1500 Vrms

*Life Expectancy*

*Electrical:* 180,000 operations at 6 A, 120 Vac

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## Displays

### Liquid Crystal Display

*Size:* 50.8 mm wide x 22.8 mm high  
(2.0 inches wide x 0.9 inches high)

*Full-scale:* 50.8 mm/s (1.999 in/s)

*Refresh Rate:* 0.8 s

### LED Indicators

*OK:* One constant ON green LED indicates OK condition of monitor, transducers, and field wiring. Constant OFF indicates NOT OK condition. OK LED flashing at 2 Hz indicates monitor has been NOT OK, but is now OK.

*Alert:* One yellow LED indicates an Alert condition. Flashing at 2 Hz indicates an Alert condition has occurred and gone away. (Only occurs when the Alert relay is configured as nonlatching.)

*Danger:* One of the two red LEDs indicates a Danger condition. Flashing at 2 Hz indicates a Danger condition has occurred and gone away. (Only occurs when the Danger relay is configured as nonlatching.)

*BYPASS:* The other red LED indicates the monitor is in BYPASS mode.

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## Controls

*Display Mode Switch:* Three positions: Normal, Alert Setpoint, and Danger Setpoint. Controls what is shown on the LCD display.

*Relay Mode Switch:* Two positions; controls whether monitor is in normal or BYPASS mode.

*Reset Button:* Push to reset latching relays and flashing LEDs.

*Configuration Switch* Used to set Alert and Danger Time Delay, Alert relay drive conditions, display units, and to initiate a monitor self-test.

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## Environmental Limits

*Operating Temperature:* -20°C to +70°C (-4°F to +158°F)

*Storage Temperature:* -30°C to +90°C (-22°F to +194°F)

*Relative Humidity:* To 95%, non-condensing

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## Hazardous Area Approvals

*CSA/NRTL/C:* Class1, Division 2, Groups A, B, C, D T4 @ Ta=70 °C

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## Physical

### Dimensions

*Length:* 132 mm (5.20 inches)

*Width:* 132 mm (5.20 inches)

*Depth:* 71.1 mm (2.80 inches)

*Weight* 400 grams (0.85 lbs).

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## Ordering Information

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### 1900/27-AXX

#### Option Descriptions

*A: Power Supply*      **01** 85 - 264 Vac, 110 – 370 DC  
*Option*                    **03** +24 Vdc

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## Field-programmable Options

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These options are either field-changeable or programmed via internal jumpers. **Bold text** indicates options as shipped from the factory.

<i>Alarm Time Delay Option:</i>	<b>3 seconds</b> 5 seconds 10 seconds 15 seconds
<i>Alert Relay Configuration Option:</i>	<b>Alert relay</b> Alert or NOT OK relay NOT OK relay Danger relay
<i>Units Option:</i>	<b>English</b> Metric
<i>Monitor Self-test Option:</i>	<b>Off</b> On
<i>Relay Mode Option:</i>	<b>Normal</b> BYPASS
<i>Normal Relay State Option:</i>	<b>Normally de-energized</b> Normally energized
<i>Relay Reset Option:</i>	<b>Latching</b> Nonlatching
<i>4-20 mA Output Behavior Option:</i>	The 4-20 mA output can be set to clamp to 2 mA when the monitor is placed in BYPASS.  <b>BYPASS 2 mA clamp enabled</b> BYPASS 2 mA clamp disabled

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## Accessories

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### 200150 Accelerometer

#### 200150-AXX

See Specification and Ordering Information sheet for transducer ordering information.

### 200152 Transducer Cable

#### 200152 - AXX

##### Option Description

*A: Cable length option in metres.*      **1 5** 15 ±0.15 metre (49.2 ±0.5 feet)

#### 190100-01

Weatherproof enclosure for one 1900/27 Vibration Monitor. When properly installed, the weatherproof enclosure will meet NEMA 4X watertight specifications.

##### Manual

#### 190127-01

1900/27 Vibration Monitor operation and maintenance.

### Rack Buffered Output Transducer Interface Module (TIM)

The 1900/27 Vibration Monitoring System can be used with Bently Nevada's cost-effective, automated data collection and diagnostics system, the Trendmaster® via the Rack Buffered Output Transducer Interface Module (TIM).

Two connectors required for cable (line) connections are included with the TIM. The signal-input connector is a two-wire terminal strip. The signal input cable must be provided by user or ordered separately.

#### 101281-01

Rack Buffered Output TIM

# Field wiring diagrams and dimensions

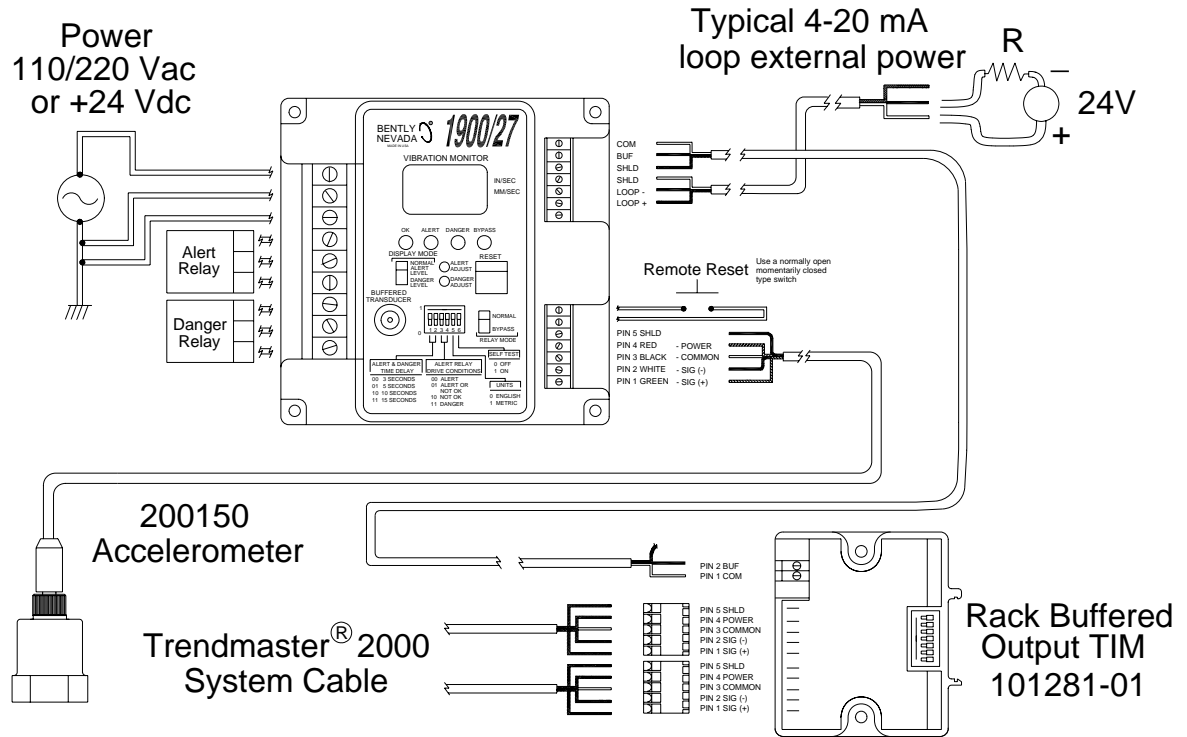


Figure 1: Typical field wiring diagram for the 1900/27 Vibration Monitoring System

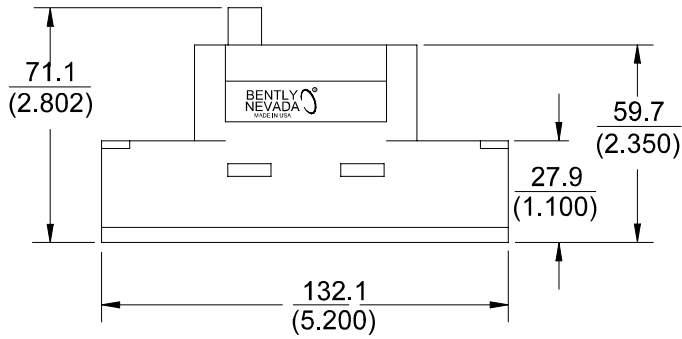
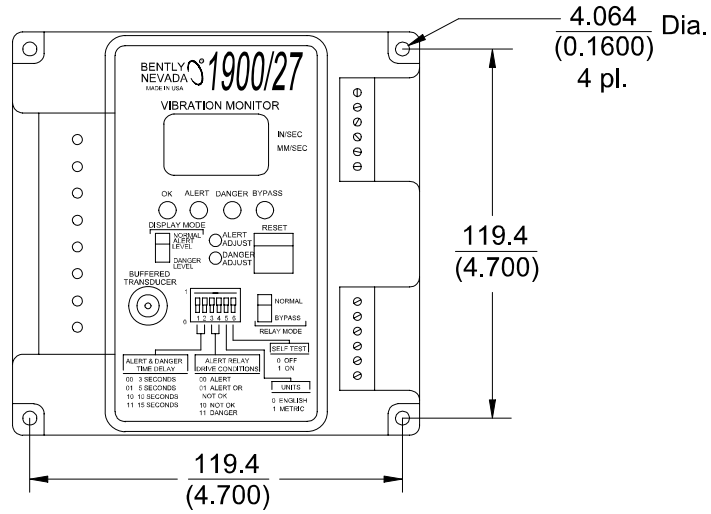


Figure 2: 1900/27 Vibration Monitor Case Dimensions Diagram  
Dimensions are in millimetres (inches)

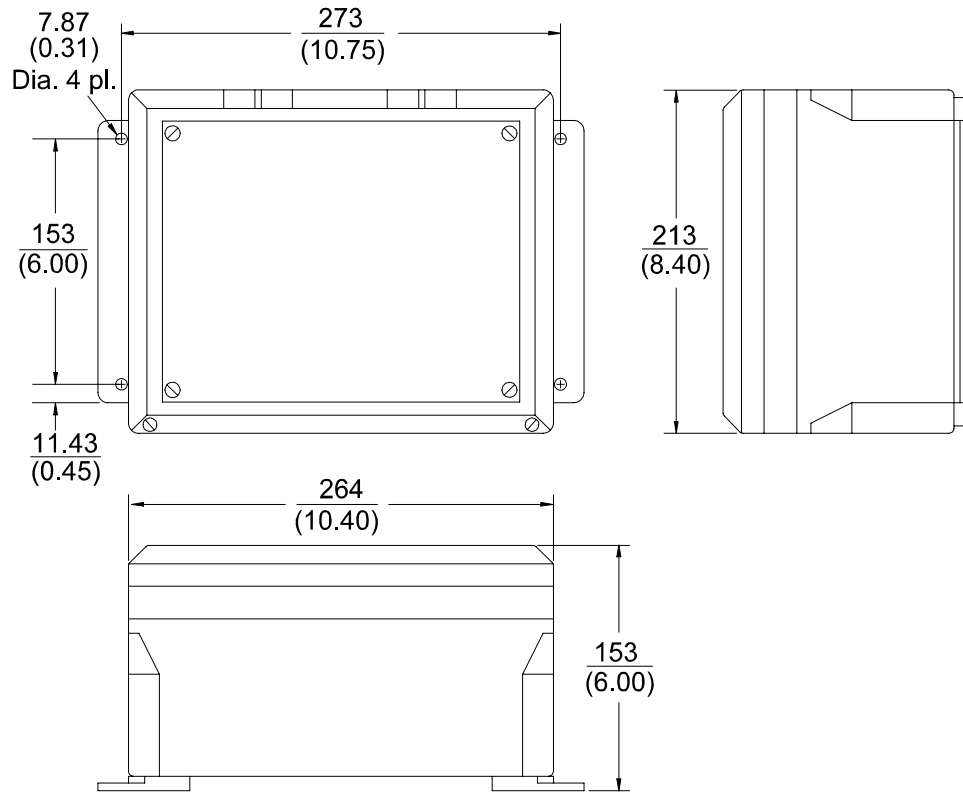


Figure 3: 1900/27 Weatherproof Enclosure Dimensions Diagram  
 Dimensions are in millimetres (inches)