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# 3300/39 Dual-Channel Process Variable Monitor

Bently Nevada™ Asset Condition Monitoring

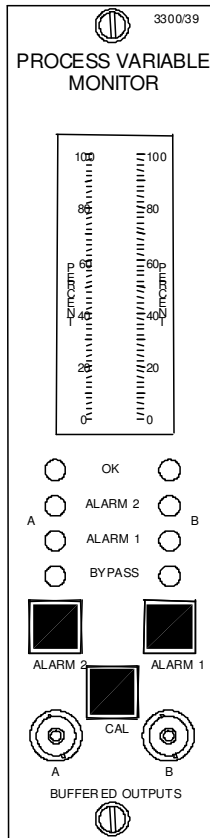
## Description

The 3300/39 Dual-Channel Process Variable Monitor monitors machine-critical parameters that exist as process variable signals, such as pressure, flow, and load.

### Warning

Bently Nevada 3300 Series Process Variable Monitors are not designed for use independently as, or a component of, a control or shutdown system. Bently Nevada Process Variable Monitors do not provide protective redundancy and the response speed needed for reliable operation as a control or shutdown system. Where provided, the analog proportional output is suitable for data logging or chart recording purposes only. Also, where provided, Process Variable alarm setpoints are suitable for annunciation purposes only.

Failure to take the above warnings into account constitutes a misuse of the product and may result in property damage and/or injury. When process variable inputs are to be used for machine protection functions, our 3500 series machinery protection system should be used instead.



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## Specifications

### Inputs

#### Signal:

ISA transmitter or equivalent with +4 to +20 mA or +1 to +5 Vdc output proportional to full-scale variable to be monitored.

#### Input Impedance:

250  $\Omega$ /300 M  $\Omega$ .

#### Power Consumption:

Nominal 1.5 watts.

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### Signal Conditioning

#### Accuracy:

Specified at ambient temperature of +25°C (+77°F).

Within  $\pm 0.33\%$  of full-scale typical,  $\pm 2\%$   $\pm 32$  mV offset, maximum.

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### Outputs

#### Recorder:

User programmable for +4 to +20 mA, 0 to -10 Vdc, or +1 to +5 Vdc. Voltage or current outputs are proportional to the transmitter input. Individual recorder outputs are provided for each channel. Monitor operation is unaffected by short circuits on recorder outputs.

#### Recorder accuracy (in addition to signal conditioning accuracy):

All specified at +25°C (+77°F).

**+4 to +20 mA:**  $\pm 0.7\%$  of signal,  $\pm 0.09$  mA offset.

**+1 to +5 Vdc:**  $\pm 1.1\%$  of signal,  $\pm 10$  mV offset.

**0 to -10 Vdc:**  $\pm 1.1\%$  of signal,  $\pm 14.5$  mV offset.

#### Output Impedance (voltage outputs):

100  $\Omega$ . Minimum load resistance is 10 k  $\Omega$ .

#### Voltage Compliance (current outputs):

0 to +12 Vdc range across load. Load resistance is 0 to 600  $\Omega$  when using +4 to +20 mA option.

#### Buffered Outputs:

+1 to +5 Vdc. One coaxial connector per channel on the front panel and one terminal connection per channel on the rear panel. All are short circuit protected.

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### Alarms

#### Alarm Setpoints:

Both alarms (Alarm 1 and Alarm 2) are digitally adjustable from 0 to 100% of full-scale and can be set within LCD resolution (1.6% of full-scale) to a desired level. Once set, alarms are repeatable within  $\pm 0.4\%$  of full-scale.

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### Relay Modules

#### Location:

One relay module can be installed behind each monitor. At least one relay module must be ordered with each 3300 System.

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### Display

#### Meter:

Nonmultiplexing vertical bargraph type Liquid Crystal Display (LCD). 63 individual LCD segments per channel. LCD also displays error codes and monitor adjust mode.

**Resolution:**

Within  $\pm 1.6\%$  of monitor full-scale.

**Size:**

83 mm (3.2 in), vertical dimension.

**LED Indicators****OK:**

One constant ON green LED per channel to indicate OK condition of monitor, transmitter, and field wiring. Constant OFF indicates Not OK condition or channel bypassed (red Bypass LED will be ON). OK LED flashing at 1 Hz indicates input signal has been Not OK but is now OK. OK LED flashing at 5 Hz indicates error code(s) stored in memory. If neither the OK LED nor the red Bypass LED is ON, the channel is turned OFF.

**Alarm:**

Two red LEDs per channel indicate alarm status (independent Alarm 1 and Alarm 2 LEDs for each channel). Flashing alarm LED indicates First Out (independent for Alarm 1 and Alarm 2).

**Bypass:**

Two red LEDs indicate status of Alarm 2 Bypass and Rack/Channel Bypass functions.

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**Environmental Limits****Operating****Temperature:**

0°C to +65°C (+32°F to +150°F).

**Storage****Temperature:**

-40°C to +85°C (-40°F to +185°F).

**Relative****Humidity:**

To 95%, noncondensing.

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**CE Mark Directives****EMC Directive**

Certificate of Conformity: 158710

**Low Voltage****Directive**

Certificate of Conformity: 135300

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**Hazardous Area Approvals****CSA/NRTL/C**

Class I, Div 2


Groups A, B, C, D

T4 @ Ta = +65 °C

*Certification  
Number*

150368 - 1002151 (LR 26744)

**ATEX**

 II 3 G

EEx nC[L] IIC

T4 @ Ta = -20°C to +60°C

When installed per document number 132577-01.

*Certification  
Number*

BN26744C-55A

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**Physical****Space****Requirements:**

First and second slot in rack position are reserved for Power Supply and System Monitor, respectively. The monitor can be placed in any other available rack position. Rack size will depend on the number of monitors used.

**Weight:**

1 kg (2.2 lbs.).

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## Ordering Information

For spares, order the complete catalog number as described below. This includes a front panel assembly, monitor PWAs with sheet metal, and appropriate relay module. This unit is optioned, tested and ready to install in your system. Spare relay modules can be ordered separately.

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### Dual-Channel Process Variable Monitor

#### 3300/39-AXX-BXX

##### A: Alarm Relay Option

- 00** No Relays
- 01** Epoxy-sealed
- 02** Hermetically-sealed
- 03** Quad Relay (Epoxy-sealed only)
- 04** Spare Monitor-No SIM/SIRM

##### Notes:

1. At least one relay module must be ordered with each 3300 System. If one common relay module per system has been ordered, all other monitors of this type will be jumper-programmed at the factory to activate relay-bus two.
2. AND voting logic is not available with Quad relays.

##### B: Agency Approval Option

- 00** Not required
- 01** CSA/NRTL/C

**Note:** CSA/NRTL/C option is only available with relays when the monitor is ordered in a system.

#### Spare Relay Module Assemblies

##### 122241-01

No Relays

##### 122242-01

Dual Epoxy Relays

##### 122243-01

Dual Hermetic Relays

##### 122244-01

Quad Relays

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## Field-programmable Options

These options are field-programmable via plug-in jumpers. **Bold text** indicates options as shipped from the factory.

### First Out Option

- Enabled**
- Disabled

### Alarm Time Delay Option

- 0.1 second
- 1 second
- 3 seconds**
- 6 seconds

### OK Mode Option

- Nonlatching**
- Latching

### Not OK Channel Defeat

- Enabled**
- Disabled

### Alarm 1 Reset Option

- Latching**
- Nonlatching

### Alarm 2 Reset Option

- Latching**
- Nonlatching

### Recorder Outputs Option

- +4 to +20 mA**
- +1 to +5 Vdc
- 0 to -10 Vdc

### Recorder Clamping Mode

(+4 to +20 mA only with Not OK Channel Defeat enabled).

**Not OK = 4 mA**

Not OK = 2 mA

### Alarm 2 Relay Voting Logic

- OR voting for relay drive**
- AND voting for relay drive

**Note:** For Quad Relays, AND voting logic must be done externally by wiring the contacts in series.

**Alarm 1 Relay  
Mode Option**

**Normally de-energized**

Normally energized

**Alarm 2 Relay  
Mode Option**

**Normally de-energized**

Normally energized

**Alarm 2 Bypass  
Switch Option**

**Disabled**

Enabled

**Channel B Off  
Mode Option**

**Disabled**

Enabled

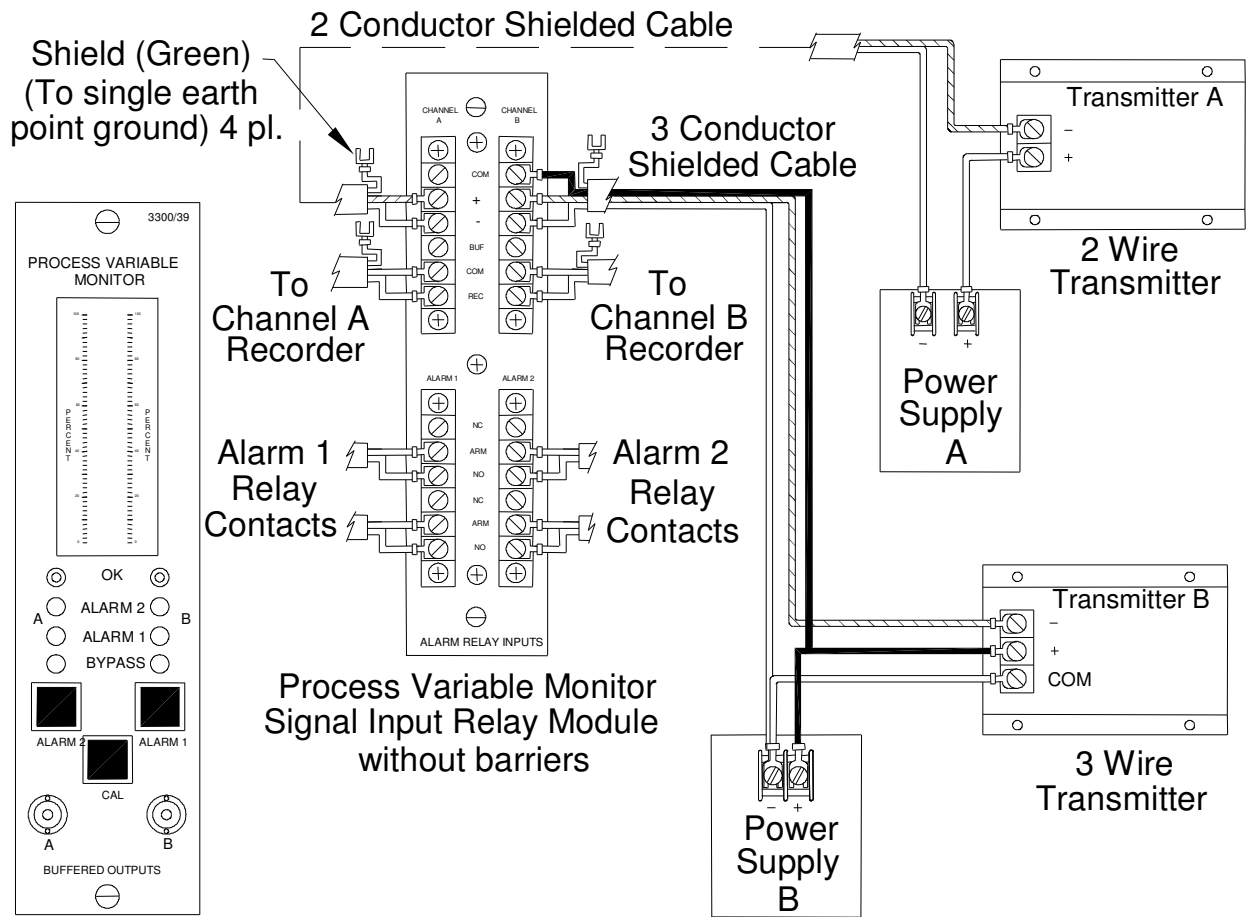
**Meter Response  
Time**

**Fast**

Slow

# Field wiring diagram

3300/39 Dual-channel Process Variable Monitor



Field wiring diagram for 3300/39 Process Variable Monitor

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Specifications and Ordering Information  
 Part Number 141505-01  
 Rev. F (08/07)



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