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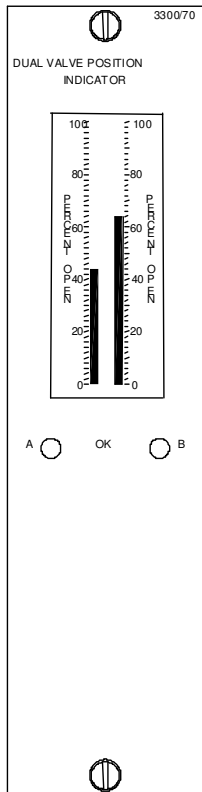
# 3300/70 Dual Valve Position Indicator

Bently Nevada™ Asset Condition Monitoring

## Description

The 3300/70 Dual Valve Position Indicator provides continuous indication of one or two control valve openings and is designed for use with Turbine Supervisory Instrumentation (TSI) systems. The 3300/70 is an indicator only; it does not provide alarm capability.

The valve position is measured by observing the amount of rotation of the cam shaft. This measurement is obtained with a Bently Nevada Linear Variable Differential Transformer (LVDT) or potentiometer transducer, and is then displayed on the Dual Valve Position Indicator as a percentage of the valve opening.



Specifications and Ordering Information  
Part Number 141519-01  
Rev. E (06/07)

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## Specifications

### Inputs

#### Signal:

Accepts one or two LVDT or potentiometer transducer inputs. The same type of transducer must be used on both channels.

#### Power:

Nominal consumption of 2.0 watts.

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### Signal Conditioning

#### Accuracy:

Within  $\pm 0.33\%$  of full-scale typical,  $\pm 1\%$  maximum. Accuracy rated from signal input to proportional output which drives display, computer interface, and recorder output circuitry.

Specified at ambient temperature of  $+25^{\circ}\text{C}$  ( $+77^{\circ}\text{F}$ ).

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### Outputs

#### Recorder:

User-programmable for +4 to +20 mA, 0 to -10 Vdc, or +1 to +5 Vdc. Each channel has an individual recorder output to indicate valve position 0 to 100% of full-scale. Indicator operation is unaffected by short-circuits on recorder outputs.

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

All specified at  $+25^{\circ}\text{C}$  ( $+77^{\circ}\text{F}$ ).

**+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:**  $\pm 1\%$  of signal,  $\pm 15$  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.

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### Display

#### Meter:

Nonmultiplexing vertical bargraph-type Liquid Crystal Display (LCD), indicating valve position as percent opened (0 to 100%). Individual 63-segment LCDs are present for each signal.

#### Size:

83 mm (3.25 in), vertical dimension.

#### Resolution:

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

#### LED Indicators:

One constant ON green LED per channel indicates transducer OK status.

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### Environmental Limits

#### Operating Temperature:

$0^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$  ( $+32^{\circ}\text{F}$  to  $+150^{\circ}\text{F}$ ).

#### Storage Temperature:

$-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+185^{\circ}\text{F}$ ).

#### Relative Humidity:

To 95%, noncondensing.

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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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## CE Mark Directives

### EMC Directive

Certificate of Conformity: 158710

### Low Voltage Directive

Certificate of Conformity: 135300

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## Physical

### Rack Space Requirements:

One rack position (any position  
except 1 and 2 which are  
reserved for the Power Supply  
and the System Monitor,  
respectively).

### 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 input modules can be ordered separately.

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### Dual Valve Position Indicator

#### 3300/70 -AXX-BXX

##### A: Transducer Input Option

- 01** 5000  $\Omega$  potentiometer;  
90 to 300° full-scale rotation.
- 02** 5000  $\Omega$  potentiometer;  
50 to 90° full-scale rotation.
- 03**  $\pm$  25 mm (1.0 in) AC LVDT; full-  
scale of 50 mm (2 in).
- 04**  $\pm$  50 mm (2.0 in) AC LVDT; full-  
scale of 100 mm (4 in).
- 05**  $\pm$  75 mm (3.0 in) AC LVDT; full-  
scale of 150 mm (6 in).
- 06**  $\pm$  125 mm (5.0 in) AC LVDT; full-  
scale of 250 mm (10 in).

##### B: Agency Approval Option

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

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### Spare Input Module Assembly

#### 84157-01

No 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.

### Recorder

#### Output Option

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

**Recorder  
Clamping  
Option**

(+4 to +20 mA recorder output  
only with timed OK/Channel  
Defeat enabled).

**Not OK = 4 mA**

Not OK = 2 mA

**OK Circuit  
Option**

**Nonlatching**

Latching

**Time  
OK/Channel  
Defeat Option**

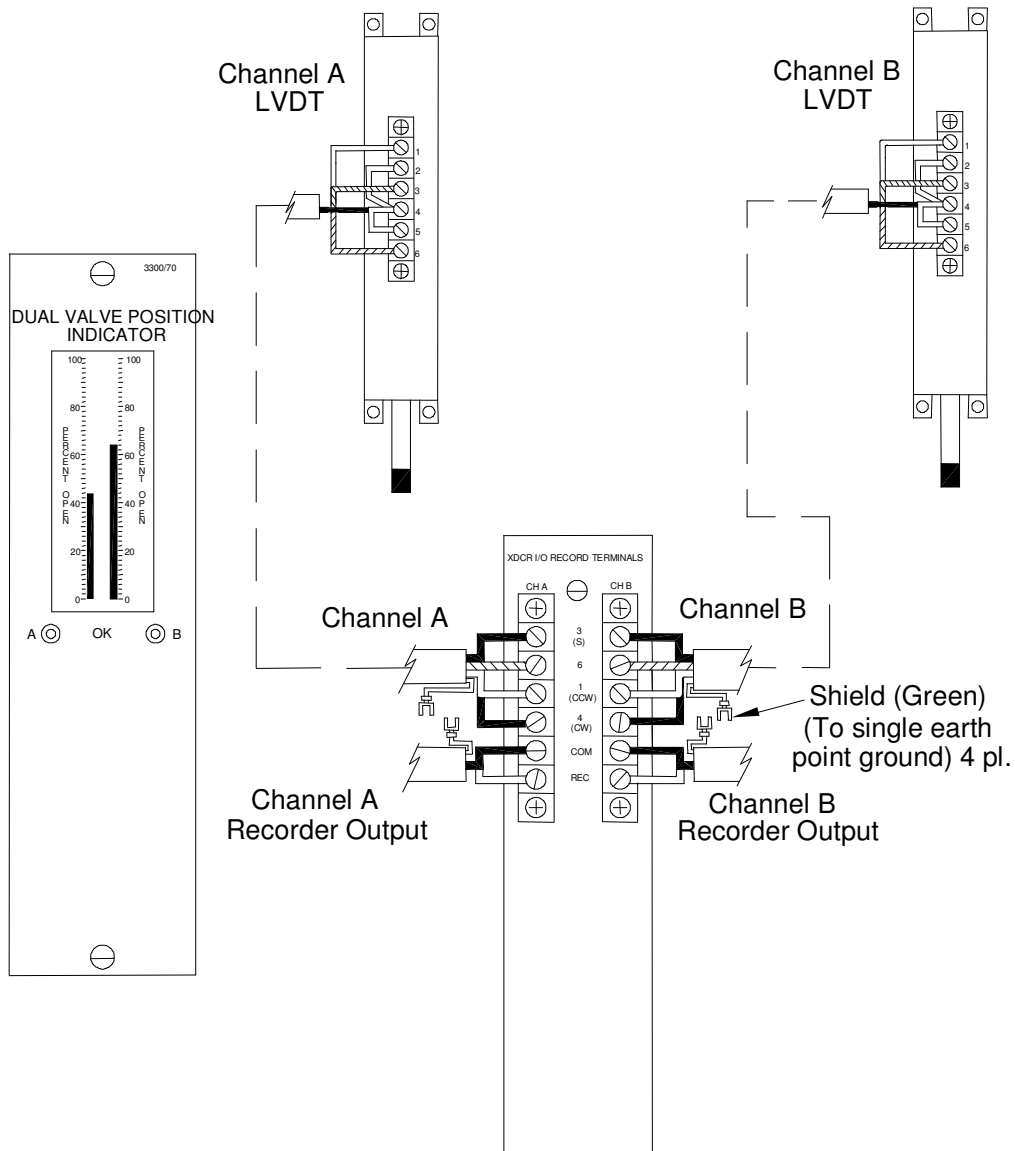
**Disabled**

Enabled

**Note:** If Timed OK/Channel Defeat is enabled, OK Mode must be  
nonlatching.

# Field wiring diagram

3300/70 Dual Valve Position Indicator



Field wiring diagram for 3300/70 Dual Valve Position Indicator

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