

# 990-10-70-03-00

## 990 two-wire vibration transmitter

Radial vibration converted to a 4–20 mA current-loop signal

### PRODUCT SNAPSHOT

**BRAND**

Bently Nevada

**FAMILY**

990 vibration transmitter system

**PART**

990-10-70-03-00

**ORIGIN / HS**

USA / 8537101190

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## PRODUCT OVERVIEW

Radial vibration converted to a 4–20 mA current-loop signal

1

Accepts a matched 3300 NSv transducer signal

2

Provides a loop-powered 4–20 mA vibration output

3

Offers a buffered Prox Out for waveform checks

4

Uses the 0 to 250  $\mu$ m peak-to-peak vibration range

## SYSTEM COMPONENTS

3300 NSv probe

matched extension cable and Proximity Sensor

12 to 35 VDC current loop

PLC or DCS analog input

### TECHNICAL NOTE

Verify 990-10-70-03-00, the selected full-scale vibration range, total transducer length, mounting hardware, loop polarity and alarm scaling before removal; confirm Prox Out waveform and 4–20 mA scaling after installation.

## TECHNICAL DATA

| PARAMETER        | VALUE                                |
|------------------|--------------------------------------|
| Complete model   | 990-10-70-03-00                      |
| Full-scale range | 0 to 250 $\mu$ m peak-to-peak        |
| System length    | 7.0 m                                |
| Mounting         | DIN clips and bulkhead screws        |
| Agency approval  | None                                 |
| Transmitter type | 2-wire, loop powered                 |
| Supply voltage   | +12 to +35 V DC                      |
| Process output   | 4 to 20 mA                           |
| Input system     | 3300 NSv proximity transducer system |

| PARAMETER                    | VALUE                         |
|------------------------------|-------------------------------|
| Frequency response           | 5 Hz to 6 kHz, +0/-3 dB       |
| Loop accuracy                | +/-1.5%                       |
| Prox Out scale factor        | 7.87 mV/ $\mu$ m (200 mV/mil) |
| Prox Out impedance           | 10 kohm for 10 Mohm load      |
| Maximum loop lead resistance | 1000 ohm at 35 V DC           |
| Current limit                | 23 mA typical                 |
| Not OK current               | Below 3.6 mA                  |
| Power-up inhibit             | 3.6 mA for 2 to 3 s           |

### ENGINEERING NOTE

Verify 990-10-70-03-00, the selected full-scale vibration range, total transducer length, mounting hardware, loop polarity and alarm scaling before removal; confirm Prox Out waveform and 4–20 mA scaling after installation.

### RELATED PRODUCTS ON APTER POWER

| MODEL                                  | SYSTEM ROLE                                        | APTER POWER PAGE                                                 |
|----------------------------------------|----------------------------------------------------|------------------------------------------------------------------|
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| Bently Nevada 330101 00 16 10 02 05    | Related Bently Nevada machinery-monitoring product | <a href="#">View Bently Nevada 330101 00 16 10 02 05 page</a>    |
| Bently Nevada 330103 00 13 05 02 05    | Related Bently Nevada machinery-monitoring product | <a href="#">View Bently Nevada 330103 00 13 05 02 05 page</a>    |
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# APPLICATIONS & PRECAUTIONS

## COMMON APPLICATIONS

### Pump radial-vibration monitoring

Accepts a matched 3300 NSv transducer signal

### Compressor shaft-vibration trending

Provides a loop-powered 4–20 mA vibration output

### DCS machinery condition input

Offers a buffered Prox Out for waveform checks

### 990 transmitter replacement

Uses the 0 to 250 um peak-to-peak vibration range

## PRODUCT PRECAUTIONS

- 1 Verify the complete 990-10-70-03-00 marking and its assigned 990 vibration transmitter system position before work.
- 2 Place the connected pump radial-vibration monitoring process in the approved maintenance state.
- 3 Isolate applicable power and radial vibration converted to a 4–20 ma current-loop signal field energy before disconnecting conductors.
- 4 Record connector, conductor, address, firmware and software identities before removal.
- 5 Use ESD controls and protect keyed interfaces, exposed contacts and electronic assemblies.
- 6 Confirm the installed 3300 NSv probe and matched extension cable and Proximity Sensor against the approved project.
- 7 Restore power in a controlled sequence and review device, network and host diagnostics.
- 8 Prove the intended compressor shaft-vibration trending function and retain the final test result.

# ENGINEER FAQ

## Q1 Does 990-10-70-03-00 match 3300 NSv probe in a Pump radial-vibration monitoring installation?

Verify the complete 990-10-70-03-00 marking, the documented 990 vibration transmitter system position and the installed 3300 NSv probe before fitting the assembly.

## Q2 How should 990-10-70-03-00 be wired when it must accept a matched 3300 nsv transducer signal?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for 990-10-70-03-00; then continuity-test the affected path.

## Q3 Which 990 vibration transmitter system records should be captured before removing 990-10-70-03-00?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with 990-10-70-03-00 before disconnection.

## Q4 What controlled test confirms that 990-10-70-03-00 can provide a loop-powered 4–20 ma vibration output?

Apply the approved field or simulated stimulus, observe the 990 vibration transmitter system indication and confirm the intended response without bypassing the normal interlocks.

## Q5 Which matched extension cable and Proximito Sensor condition should be checked when 990-10-70-03-00 reports an abnormal state?

Check the matched extension cable and Proximito Sensor supply, seating and connection first, then compare channel diagnostics with the recorded 990-10-70-03-00 baseline.

## Q6 Can 990-10-70-03-00 be moved directly into Compressor shaft-vibration trending without validating PLC or DCS analog input?

No. Confirm the PLC or DCS analog input, revision, connection scheme and 990 vibration transmitter system configuration before transferring 990-10-70-03-00 to that duty.

## Q7 What maintenance evidence is required after 990-10-70-03-00 is used for DCS machinery condition input?

Retain the nameplate record, corrective action, final diagnostics and a controlled dcs machinery condition input functional-test result for 990-10-70-03-00.

## Q8 How should 990-10-70-03-00 be returned to service in 990 transmitter replacement?

Restore power under control, verify offers a buffered prox out for waveform checks, exercise the intended signal path and release 990-10-70-03-00 only after the 990 vibration transmitter system remains in its approved operating state.

**SOURCE** Bently Nevada 990 Vibration Transmitter Datasheet | 141612 Rev. Y

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