990-04-50-01-00

990 Vibration Transmitter

Bently Nevada 990-04-50-01-00 is a DIN-rail 990 Vibration Transmitter configured for a 5 m 3300 NSv system and a 0–100 um peak-to-peak range. It sends proportional shaft-vibration data to a control system over a two-wire 4–20 mA loop.

PRODUCT SNAPSHOT

BRAND
Bently Nevada

FAMILY
990 Vibration Transmitter System

PART
990-04-50-01-00

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PRODUCT OVERVIEW

Bently Nevada 990-04-50-01-00 is a DIN-rail 990 Vibration Transmitter configured for a 5 m 3300 NSv system and a 0–100 um peak-to-peak range. It sends proportional shaft-vibration data to a control system over a two-wire 4–20 mA loop.

1. Converts proximity-probe vibration into a two-wire 4–20 mA loop
2. Scales peak-to-peak shaft vibration for direct control-system acquisition
3. Provides a diagnostic Prox Out connection and a test input
4. Suppresses the loop below 3.6 mA when the transducer circuit is Not OK

SYSTEM COMPONENTS

- 3300 NSv proximity probe
- 3300 NSv extension cable
- 24 Vdc-class loop supply
- control-system analog input

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
3500/20 125744-02	Rack interface module	**Open product page**
3500/40M 176449-01	Proximitor monitor	**Open product page**
3500/45 140072-04	Position monitor configuration	**Open product page**
3500/60 163179-01	Temperature monitor	**Open product page**
3500/64M 140734-05	Dynamic pressure monitor	**Open product page**

TECHNICAL DATA

PARAMETER	VALUE
Full-scale vibration range	0 to 100 um peak-to-peak
System length	5.0 m
Mounting	35 mm DIN rail clips
Agency approval option	Not required
Input channels	1
Accepted transducer	3300 NSv proximity probe and extension cable
Supply voltage	+12 to +35 Vdc
Loop output	4 to 20 mAdc, 2-wire
Loop accuracy	+/-1.5% of full scale

PARAMETER	VALUE
Not-OK output	Less than 3.6 mA within 100 us
Power-up inhibit	2 to 3 s
Prox Out impedance	10 kOhm for 10 MOhm load
Prox Out linear range	1.4 mm
Prox Out scale factor	7.87 mV/um typical
Frequency response	5 Hz to 6000 Hz, +0/-3 dB
Minimum target diameter	9.5 mm
Maximum Prox Out cable	3 m
Transmitter operating temperature	-35 to +85 degC

TECHNICAL NOTE

Set zero and span only after the 5 m NSv probe system is correctly gapped, then verify the two-wire loop across the actual load. Use isolated portable equipment at Prox Out when the test instrument is grounded.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Pump shaft-vibration trending

Converts proximity-probe vibration into a two-wire 4–20 mA loop

Compressor proximity monitoring

Scales peak-to-peak shaft vibration for direct control-system acquisition

DCS vibration input

Provides a diagnostic Prox Out connection and a test input

Condition-monitoring diagnostic test point

Suppresses the loop below 3.6 mA when the transducer circuit is Not OK

PRODUCT PRECAUTIONS

1. Confirm 990-04-50-01-00 and the 0–100 um full-scale range before loop work.
2. Isolate the loop supply and process input before removing the DIN-rail transmitter.
3. Verify the installed probe and extension cable form the specified 5.0 m NSv system.
4. Gap the probe within the documented operating region before zero/span adjustment.
5. Keep loop resistance within the limit established by the actual supply voltage.
6. Use the signal-isolation adapter when grounded AC-powered equipment is connected to Prox Out.
7. Confirm the Not-OK state drives the loop below 3.6 mA and clears after recovery.
8. Prove vibration scaling and control-system response before returning the loop to service.

ENGINEER FAQ

Q1 What vibration range does 990-04-50-01-00 transmit?

Full-scale option 04 represents 0 to 100 micrometres peak-to-peak.

Q2 Which proximity system length is required by 990-04-50-01-00?

System-length option 50 requires a 5.0 m 3300 NSv probe and extension-cable combination.

Q3 How is 990-04-50-01-00 mounted?

Mounting option 01 supplies 35 mm DIN-rail clips.

Q4 What loop supply can be used with 990-04-50-01-00?

The transmitter requires +12 to +35 Vdc at its terminals and drives a two-wire 4–20 mA loop.

Q5 What indicates a Not-OK condition from 990-04-50-01-00?

The output drops below 3.6 mA after a detected Not-OK condition and recovers after the fault clears.

Q6 How should the probe for 990-04-50-01-00 be gapped?

Set the NSv probe between 0.5 and 1.75 mm from the target so the selected full-scale range remains available.

Q7 Can grounded test equipment connect directly to the Prox Out of 990-04-50-01-00?

Use the manufacturer-specified isolation adapter when grounded AC-powered test equipment is connected to Prox Out.

Q8 What tests are required after replacing 990-04-50-01-00?

Check loop supply, burden, probe gap, zero/span, Not-OK action, Prox Out response and control-system scaling.

SOURCE 990 Vibration Transmitter Datasheet | 141612 Rev. Y

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