

990-05-70-03-05

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

990-05-70-03-05

ORIGIN / HS

USA / 8537101190

APTER POWER SALES TEAM

WHATSAPP / PHONE

+86 180 3023 5313

EMAIL

sales13@apterpower.com

WEBSITE

www.apterpower.com



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

Combines the 125 um range with dual mounting hardware

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 990-05-70-03-05, 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	990-05-70-03-05
Full-scale range	0 to 125 μ m peak-to-peak
System length	7.0 m
Mounting	DIN clips and bulkhead screws
Agency approval	Multiple approvals
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/ μ 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 990-05-70-03-05, 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.

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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

Combines the 125 um range with dual mounting hardware

PRODUCT PRECAUTIONS

- 1 Verify the complete 990-05-70-03-05 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 990-05-70-03-05 match 3300 NSv probe in a Pump radial-vibration monitoring installation?

Verify the complete 990-05-70-03-05 marking, the documented 990 vibration transmitter system position and the installed 3300 NSv probe before fitting the assembly.

Q2 How should 990-05-70-03-05 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 990-05-70-03-05; then continuity-test the affected path.

Q3 Which 990 vibration transmitter system records should be captured before removing 990-05-70-03-05?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with 990-05-70-03-05 before disconnection.

Q4 What controlled test confirms that 990-05-70-03-05 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 Proximitor Sensor condition should be checked when 990-05-70-03-05 reports an abnormal state?

Check the matched extension cable and Proximitor Sensor supply, seating and connection first, then compare channel diagnostics with the recorded 990-05-70-03-05 baseline.

Q6 Can 990-05-70-03-05 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 990-05-70-03-05 to that duty.

Q7 What maintenance evidence is required after 990-05-70-03-05 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 990-05-70-03-05.

Q8 How should 990-05-70-03-05 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 990-05-70-03-05 only after the 990 vibration transmitter system remains in its approved operating state.

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

+86 180 3023 5313 | sales13@apterpower.com | www.apterpower.com