Bently Nevada 990-05-70-01-05

01 Vibration Transmitter / system role

Product function

Bently Nevada 990-05-70-01-05 presents overall shaft-vibration amplitude to a machinery controller while retaining a separate dynamic diagnostic output for suitable test equipment.

Selected configuration

The selected full scale is 0–5 mil peak-to-peak, shown as 0–125 µm peak-to-peak in the ordering range. The 70 system-length selection requires a matched 7 m NSv probe/cable chain, and the 01 mounting option provides 35 mm DIN-rail clips.

Functional path

Shaft motion	7 m NSv chain	990 signal conditioning	4–20 mA controller input

Amplitude range	0–5 mil peak-to-peak
Signal	Two-wire 4–20 mA loop
Conditioning	Integrated NSv Proximitor function

The transmitter accepts +12 to +35 V DC at its terminals and produces the proportional 4–20 mA loop signal. Maximum loop resistance is 1,000 ohms at 35 V DC; lower available voltage reduces the permissible loop burden.

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02 Technical operating envelope

Full-scale vibration	0–5 mil pp (ordering range: 0–125 µm pp)
NSv system length	7 m
Loop output	4–20 mA, two wire
Terminal supply	+12 to +35 V DC
Maximum loop resistance	1,000 Ω at 35 V DC
Loop accuracy	±1.5% FS from TEST input, additional to probe scale-factor error

Typical current limit	23 mA
Not OK output	<3.6 mA
Startup inhibit	2–3 s
PROX OUT impedance	10 kΩ, calibrated for 10 MΩ load
Mounting	35 mm DIN-rail clips
Transmitter temperature	−35 to +85 °C

990-05-70-01-05 selects 0–5 mil pp, a 7 m NSv system and DIN-rail mounting. Electrical accuracy conditions apply to the matched probe chain and stated loop test arrangement.

Operating interpretation

Overall loop amplitude and PROX OUT serve different measurement purposes. The loop cannot replace a phase-capable dynamic monitoring channel.

Configuration boundary

Preserve the full-scale range, 7 m chain, loop burden, DIN mounting and test-equipment isolation during replacement.

Why can 990-05-70-01-05 show less than 3.6 mA just after power-up?

The startup inhibit holds the output in the Not OK region for approximately 2–3 seconds while the transmitter becomes ready.

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03 System integration and applications

Compressor vibration trending

Provide an overall shaft-vibration signal to a configured machinery controller.

Pump or motor amplitude channels

Use the selected 4–20 mA range where overall peak-to-peak trending is sufficient.

NSv probe installations

Combine the transmitter with the required 7 m NSv electrical-length arrangement.

Local dynamic diagnosis

Use PROX OUT through the appropriate isolated test arrangement for waveform inspection.

System and supply context

Bently Nevada 990-05-70-01-05 operates within the following defined system context. Match 990-05-70-01-05, range, 7 m chain and DIN mounting.

Application boundary

The applications below describe its technical role. Select associated hardware and configuration for the actual installation.

Can 990-05-70-01-05 use an arbitrary 5 m probe chain?

No. The 70 selection requires the matched 7 m NSv system arrangement.

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04 Engineering selection decisions

What vibration quantity does the 4–20 mA signal from 990-05-70-01-05 represent?

It represents overall peak-to-peak vibration amplitude over the selected 0–5 mil range, not the instantaneous dynamic waveform.

Does 990-05-70-01-05 require an external Proximitor conditioner?

No. Its Proximitor function is integrated; use the compatible probe and extension arrangement specified for the transmitter.

Is the 1,000-ohm loop limit of 990-05-70-01-05 valid at every supply voltage?

No. That maximum is specified at 35 V DC. The available voltage and the complete loop burden must be assessed together.

Can the 4–20 mA output of 990-05-70-01-05 provide vibration phase information?

No. The overall amplitude signal does not preserve phase or the dynamic waveform. Use the suitable diagnostic output and equipment for that purpose.

Isolate dynamic test equipment	Use the applicable test adapter when connecting grounded AC-powered instruments to PROX OUT. Preserve the isolation of the machinery loop during diagnostic work.
Retain the amplitude-channel record	Save the 7 m chain identity, loop supply and burden, scaling, startup behavior and diagnostic connection method. Release only after normal and fault indications are both understood.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of 990-05-70-01-05 is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Preserve the full-scale range, 7 m chain, loop burden, DIN mounting and test-equipment isolation during replacement.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Bently Nevada 990 Vibration Transmitter, 141612 Rev. Y.

Related product navigation

- Bently Nevada 330730-080-02-00
- Bently Nevada 330103-00-04-10-02-00

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries