

APTER POWER PRODUCT MANUAL

991-06-70-02-05

Bently Nevada 991 two-wire thrust transmitter

The 991-06-70-02-05 is a Bently Nevada 991 two-wire loop-powered thrust transmitter configured for a 0.6-0-0.6 mm full-scale axial-displacement range, a 7.0 m 3300 NSv transducer-system length, bulkhead-screw mounting, and CSA Division 2, ATEX Zone 0, ATEX Zone 2, and ABS maritime approvals.

It accepts a 3300 NSv proximity probe and matching extension cable, conditions the shaft axial-position signal into a standard 4 to 20 mA output for a machinery control system, and provides non-isolated PROX OUT and COM diagnostic signals for gap voltage and dynamic vibration. It is intended primarily for centrifugal air compressors and small pumps, motors, or fans.

Manufacturer	Bently Nevada
Prepared by	Apter Power
Document ID	AP-BN-07-991-06-70-02-05-PM-R1
Revision	R1
Issue date	2026-08-20

APTER POWER SALES TEAM

INDUSTRIAL AUTOMATION PRODUCT SUPPORT

Axial position to 4-20 mA. Seven-metre NSv matching.

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SCAN FOR PRODUCT & QUOTE
991-06-70-02-05

1. Product Overview and Identity

The 991-06-70-02-05 is a Bently Nevada 991 two-wire loop-powered thrust transmitter configured for a 0.6-0-0.6 mm full-scale axial-displacement range, a 7.0 m 3300 NSv transducer-system length, bulkhead-screw mounting, and CSA Division 2, ATEX Zone 0, ATEX Zone 2, and ABS maritime approvals.

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Model Configuration

Code	Official configuration
991	Two-wire loop-powered thrust transmitter with integrated Proximitor function.
06	0.6-0-0.6 mm full-scale range.
70	7.0 m NSv system length.
02	Bulkhead-screw mounting.
05	CSA Division 2, ATEX Zone 0, ATEX Zone 2, and ABS maritime approvals.

Key Features

- Integrated Proximitor function accepts the NSv probe system without a separate external sensor unit.
- Non-interacting zero and span adjustments support loop calibration for the ordered 0.6-0-0.6 mm range.
- The Not OK/Signal Defeat circuit drives the loop below 3.6 mA after a transducer fault.
- PROX OUT and COM terminals provide dynamic and gap diagnostics when used with correctly isolated test equipment.

2. Technical Specifications

Only manufacturer-published information is stated. A value absent for the exact complete suffix is identified rather than inferred.

Parameter	Verified value
Product Type	991 loop-powered axial-displacement transmitter
Sensor Input	One 3300 NSv probe and matching extension cable
Supply	+12 to +35 Vdc at transmitter terminal
Primary Output	4 to 20 mAdc, two-wire
Ordered Full-Scale Range	0.6-0-0.6 mm
Ordered System Length	7.0 m (23 ft)
Mounting	Bulkhead screws
Approval Option	05 - CSA Division 2, ATEX Zone 0/2, ABS maritime
Loop Accuracy	Within +/-1.5% of full scale typical under stated conditions
Maximum Loop Resistance	1,000 ohm including cable at 35 Vdc
Current Limiting	23 mA typical
Not OK Output	Less than 3.6 mA within 100 microseconds after Not OK
PROX OUT Linear Range	0.25 to 1.65 mm (10 to 65 mil)
PROX OUT Scale Factor	7.87 mV/micrometre (200 mV/mil) typical
Transmitter Weight	0.43 kg (0.9 lbm)
Typical Total System Weight	0.82 kg (1.8 lbm)
Humidity	100% condensing, non-submerged, with protected coaxial connectors

Verification Note

This transmitter is not a full continuous-monitoring system. Verify probe gap, zero/span, 7 m matching, loop scaling, isolation, approvals, and the machinery protection strategy before commissioning.

3. Functions, Applications and Components

Core Functions

- Measures rotor axial or thrust position through the connected 3300 NSv probe system.
- Conditions displacement into a 4 to 20 mA signal for machinery-control alarming and logic.
- Provides diagnostic dynamic-vibration and gap-voltage access through PROX OUT.
- Suppresses false high outputs during power-up or a transducer Not OK condition.

Application Areas

Application	System role
Centrifugal Air Compressors	Feeds an axial-position signal to the compressor control system.
Small Pumps	Provides simple 4 to 20 mA thrust-position trending and alarm input.
Motors and Fans	Supports axial-position monitoring where the application limitations are accepted.
OEM Machinery Panels	Bulkhead mounting supports compact packaged-equipment control panels.
Maritime Machinery	Option 05 includes the manufacturer-listed ABS maritime approval.
Diagnostic Verification	PROX OUT supports isolated gap and dynamic-signal checks.

Compatible Components

- A 3300 NSv probe whose ordering code and cable length are suitable for the machine geometry.
- A 330930 extension cable that makes the probe plus cable equal the ordered 7.0 m system length.
- A 12 to 35 Vdc two-wire loop and control input scaled for 0.6-0-0.6 mm over 4 to 20 mA.
- The 122115-01 990/991 Test Adapter for isolating PROX OUT when ac-powered test equipment is used.

Lifecycle Status

Baker Hughes currently publishes Datasheet 141618 Rev. R and lists every option in 991-06-70-02-05. No separate lifecycle status is published for this complete suffix.

4. Installation Precautions

- Match the connected 3300 NSv probe and extension cable to the ordered 7.0 m system length.
- Set probe gap, zero, and span according to the official thrust-transmitter procedure; incorrect gap can prevent full-scale output.
- Use the 122115-01 Test Adapter when connecting grounded ac-powered equipment to PROX OUT because the diagnostic signal is non-isolated.
- Verify loop supply, total resistance, polarity, shield termination, and control-system scaling before applying machinery protection logic.
- Confirm the option 05 nameplate, entity parameters, barriers, maritime requirements, and current installation drawing before hazardous-area service.

STOP - Verify before installation

This transmitter is not a full continuous-monitoring system. Verify probe gap, zero/span, 7 m matching, loop scaling, isolation, approvals, and the machinery protection strategy before commissioning.

Use the physical nameplate and current Bently Nevada documents as the controlling records.

5. Official Source and Use Notice

Official source

Baker Hughes / Bently Nevada 991 Thrust Transmitter Datasheet 141618 Rev. R -

<https://dam.bakerhughes.com/m/6e93c1a104911e6e/original/991-Thrust-Transmitter-Datasheet-141618-pdf.pdf>

Apter Power product page

<https://www.apterpower.com/Bently-Nevada/991-06-70-02-05>

Use Notice

This original Apter Power product-specific reference is prepared from the named Bently Nevada source. It is not a Bently Nevada publication and does not replace the original datasheet, nameplate, certificate, installation drawing, safety instructions, or machine-builder documentation.

ASK FOR QUOTE

For availability and quotation details, visit www.apterpower.com or contact sales13@apterpower.com.