

Bently Nevada 3500/46M 176449-06

Four-channel hydro machinery monitor

Product identity and system role

Bently Nevada 3500/46M 176449-06 is a Hydro Monitor that accepts proximity, seismic, dynamic-pressure and air-gap sensor inputs for vibration, position, pressure and multimode hydro measurements.

01 / FUNCTION

Accepts one to four proximity, air-gap, velocity or acceleration sensor signals.

02 / FUNCTION

Provides hydro radial vibration, air gap, velocity, acceleration, thrust and dynamic-pressure functions.

03 / FUNCTION

Supports up to eight alarm parameter sets for configured multimode channels.

04 / FUNCTION

Switches machine-mode alarm sets through multimode I/O contacts or gateway commands.

IDENTITY FIELD	VERIFIED VALUE
Exact article	176449-06 / 3500/46M Hydro Monitor
Channels	1 to 4 sensor signals
Accepted sensors	Proximity, seismic, dynamic pressure and air gap
Power consumption	7.7 W typical

Official technical parameters

Bently Nevada 3500/46M 176449-06 / manufacturer-published values

PARAMETER	OFFICIAL VALUE
Exact article	176449-06 / 3500/46M Hydro Monitor
Channels	1 to 4 sensor signals
Accepted sensors	Proximity, seismic, dynamic pressure and air gap
Power consumption	7.7 W typical
Prox/Accel input impedance	10 kOhm
Velomitor input impedance	3.5 MOhm
Multimode positive input	50 kOhm
Hydro velocity sensitivity	20 mV per mm/s
Hydro acceleration sensitivity	1.02 or 2.55 mV per m/s ²
Buffered-output impedance	550 Ohm
Recorder output	4-20 mA; 0-600 Ohm load; 100 ms or less
Transducer supply	-23 Vdc nominal for Prox/Velom I/O; +23 Vdc nominal for positive-input I/O
Hydro radial direct filter	0.104 to 500 Hz
Hydro radial rotor-speed range	25 to 1,500 cpm
Multimode alarm sets	Up to eight sets per configured multimode channel

Official evidence boundary

Official evidence: 3500/46M Hydro Monitor Datasheet, 144408 Rev. AD. Technical statements in this document are limited to that manufacturer publication and the exact ordering identity shown.

Applications and engineering checks

Bently Nevada 3500/46M 176449-06

Hydro radial vibration

Combine shaft gap movement and NX amplitude for hydro-unit protection measurements.

Hydro air-gap monitoring

Condition compatible air-gap sensor signals for static and dynamic assessment.

Multimode operation

Select mode-specific alarm sets as operating state changes.

Dynamic pressure and SEW

Monitor configured pressure or stator-end-winding vibration inputs.

01 / PRECAUTION

Verify 176449-06 and the installed Hydro I/O type before replacement.

02 / PRECAUTION

Confirm firmware and rack software meet the minimum revision for every configured hydro application.

03 / PRECAUTION

Preserve each paired-channel configuration and the selected machine-mode logic.

04 / PRECAUTION

Match every sensor to its documented sensitivity, polarity and power-supply type.

05 / PRECAUTION

For external multimode termination, use the documented recorder ET block and signal cable 129525.

06 / PRECAUTION

Do not mix external termination blocks with internal-termination I/O modules.

07 / PRECAUTION

Prove mode changes and all applicable Alert/Danger sets with controlled conditions.

08 / PRECAUTION

Record active mode, static values, alarms, buffered outputs and final acceptance results.

Model-specific engineering FAQ

Eight evidence-mapped decisions

Which sensor families can 3500/46M 176449-06 accept for hydro monitoring?

The Hydro Monitor accepts proximity, seismic, dynamic-pressure and air-gap sensor inputs; the installed I/O and channel type must match the sensor.

How many input channels are available to 3500/46M 176449-06?

The monitor accepts one to four sensor signals and programs the channels in pairs.

Why does 3500/46M 176449-06 require a machine-mode verification during commissioning?

A multimode channel can hold up to eight alarm parameter sets and select the applicable set through I/O contacts or communications commands.

What restriction applies to the Hydro Velocity function of 3500/46M 176449-06?

The datasheet states Hydro Velocity is valuable for warning and diagnosis but is not suitable for automated machinery protection because of its low-frequency, high-amplitude event behavior.

Which termination rule is critical for external multimode use with 3500/46M 176449-06?

Use the documented multimode recorder ET block and cable 129525; external termination blocks cannot be paired with internal-termination I/O modules.

What recorder-output envelope should be tested on 3500/46M 176449-06?

Each channel provides 4-20 mA proportional to full scale with 0-600 Ohm load capability and a 100 ms or faster update.

Why must firmware and software revisions be checked for 3500/46M 176449-06?

Minimum revisions differ by hydro application, so the configured measurement type must be compared with the ordering-considerations matrix.

Which evidence should close a multimode acceptance test for 3500/46M 176449-06?

Record active mode, selected alarm set, static values, buffered and recorder outputs, Alert/Danger response and mode-transition behavior.

EVIDENCE MAP A

FAQ 01 — pp. 1, 3

FAQ 03 — pp. 2, 12

FAQ 05 — p. 13

FAQ 07 — p. 12

EVIDENCE MAP B

FAQ 02 — pp. 1, 3

FAQ 04 — p. 2

FAQ 06 — p. 4

FAQ 08 — pp. 2-13

Related products and contact

Verified ApterPower navigation links; not approved substitutes

NO.	RELATED APTERPOWER PRODUCT	LINK
01	Bently Nevada 9200-06-02-10-00	Bently Nevada 9200-06-02-10-00
02	Bently Nevada 3500-15-DC	Bently Nevada 3500-15-DC
03	Bently Nevada 136719-01	Bently Nevada 136719-01
04	Bently Nevada 172109-01	Bently Nevada 172109-01
05	Bently Nevada 133323-01	Bently Nevada 133323-01
06	Bently Nevada 3500-15-106M1081-01	Bently Nevada 3500-15-106M1081-01

Navigation boundary

These links provide nearby catalogue references only. Confirm the complete machine, rack, I/O, transducer and ordering-code requirements before selecting any alternate article.

Official evidence boundary

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