3500/40M 176449-01

Four-Channel Proximitor Monitor

Bently Nevada 3500/40M 176449-01 is a four-channel Proximitor Monitor for a 3500 machinery-protection rack. It conditions proximity-transducer signals and generates position, vibration and bearing-condition values for alarm processing.

PRODUCT SNAPSHOT

BRAND Bently Nevada	**FAMILY** 3500 Machinery Protection System
PART 176449-01	**ORIGIN / HS** USA / 8537101190

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PRODUCT OVERVIEW

Bently Nevada 3500/40M 176449-01 is a four-channel Proximitor Monitor for a 3500 machinery-protection rack. It conditions proximity-transducer signals and generates position, vibration and bearing-condition values for alarm processing.

1. Conditions four proximity-transducer channels for machinery protection
2. Supports radial vibration, thrust, eccentricity, differential expansion and REBAM duties
3. Compares active measured values with configured Alert and Danger setpoints
4. Provides short-circuit-protected buffered transducer outputs at the front panel

SYSTEM COMPONENTS

- 3500 rack
- 125680-01 or other approved Proximitor I/O module
- Bently Nevada proximity transducer system
- 3500 Rack Configuration Software

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
125680-01	Internal-termination Proximitor I/O module	**Open product page**
125720-01	Four-channel relay output module	**Open product page**
125760-01	3500 Data Manager I/O module	**Open product page**
125768-01	3500 RIM RS232/RS422 I/O module	**Open product page**
128240-01	External-termination Prox/Seismic I/O	**Open product page**

TECHNICAL DATA

PARAMETER	VALUE
Input channels	1 to 4
Accepted signals	Proximity transducer
Power consumption	7.7 W typical
Standard I/O input impedance	10 kOhm
Radial vibration sensitivity	3.94 or 7.87 mV/um
Diff. expansion sensitivity	0.394 or 0.787 mV/um
REBAM sensitivity	40 or 80 mV/um
Buffered output impedance	550 Ohm
Transducer power supply	-24 Vdc

PARAMETER	VALUE
Radial gap filter	-3 dB at 0.09 Hz
Thrust direct filter	-3 dB at 1.2 Hz
Thrust gap filter	-3 dB at 0.41 Hz
Direct and gap accuracy	+/-0.33% FS typical; +/-1% maximum
Alarm setpoint accuracy	Within 0.13% of desired value
Operating temperature	-30 to +65 degC
Storage temperature	-40 to +85 degC
Humidity	95% non-condensing
Front rack space	1 full-height slot

TECHNICAL NOTE

Configure channel pairs for the installed measurement duty, confirm transducer scale and gap polarity, then prove Alert and Danger operation with controlled signal injection before returning protection service.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Radial shaft vibration monitoring

Conditions four proximity-transducer channels for machinery protection

Axial thrust-position protection

Supports radial vibration, thrust, eccentricity, differential expansion and REBAM duties

Differential-expansion supervision

Compares active measured values with configured Alert and Danger setpoints

REBAM rolling-element bearing monitoring

Provides short-circuit-protected buffered transducer outputs at the front panel

PRODUCT PRECAUTIONS

1. Match 176449-01 to the documented 3500 rack slot and rear I/O-module execution.
2. Isolate the rack and connected transducer circuits before removing the monitor.
3. Use ESD controls and protect all four buffered-output connectors during handling.
4. Record channel-pair functions, full-scale ranges, transducer sensitivities and alarm delays.
5. Confirm the rear I/O module is compatible with internal, external or barrier termination requirements.
6. Restore the saved 3500 configuration and review OK, TX/RX and Bypass indications.
7. Verify probe gap and dynamic response on each enabled channel before arming alarms.
8. Complete controlled Alert and Danger tests for the assigned machinery shutdown logic.

ENGINEER FAQ

Q1 Which rack hardware must be matched before installing 3500/40M 176449-01?

Match 3500/40M 176449-01 to the documented 3500 rack and 125680-01 or other approved Proximitor I/O module; confirm the front/rear slot pairing and the complete physical marking before connection.

Q2 What as-found information should an engineer record before removing 3500/40M 176449-01?

Record every channel or port assignment, connector identity, configured function, cable tag and diagnostic state associated with 3500/40M 176449-01.

Q3 How should 3500/40M 176449-01 be isolated before field wiring is disturbed?

Place the protected machine in its approved maintenance state, isolate rack and field energy applicable to Bently Nevada proximity transducer system, and prove the terminals safe before disconnection.

Q4 Which configuration should be restored after replacing 3500/40M 176449-01?

Restore the approved 3500 Machinery Protection System slot, channel or interface configuration and verify that every connected circuit retains its original assignment.

Q5 How can 3500/40M 176449-01 be commissioned for radial shaft vibration monitoring?

Apply a controlled input or command, review the model-specific diagnostics and prove the expected measurement, indication and protection response before releasing the channel.

Q6 What technical value deserves special attention when checking 3500/40M 176449-01?

Verify the published input channels value of 1 to 4 against the installed configuration and test record.

Q7 Can 3500/40M 176449-01 be exchanged with another 3500 I/O or monitor execution?

Only when the complete part number, termination style, transducer or interface type and approved rack configuration match the installed duty; do not transfer settings from an adjacent model.

Q8 What evidence should be retained after 3500/40M 176449-01 returns to service?

Retain the full 3500/40M 176449-01 identity, as-left connections, restored configuration, final diagnostics and the controlled functional-test result for axial thrust-position protection.

SOURCE 3500/40M Proximitor Monitor Datasheet | 141535 Rev. R

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