

3500/45 176449-04

3500/45 Position Monitor

Bently Nevada 3500/45 176449-04 is a four-channel position monitor for the 3500 rack. It conditions proximity, LVDT, RPT or rotary-potentiometer inputs into position variables used for alarms, trends and machine-protection logic.

PRODUCT SNAPSHOT

BRAND

Bently Nevada

FAMILY

3500 Machinery Protection System

PART

176449-04

ORIGIN / HS

USA / 8537101190

APTER POWER SALES TEAM

WHATSAPP / PHONE

+86 180 3023 5313

EMAIL

sales13@apterpower.com

WEBSITE

www.apterpower.com



3500/45 176449-04

PRODUCT OVERVIEW

Bently Nevada 3500/45 176449-04 is a four-channel position monitor for the 3500 rack. It conditions proximity, LVDT, RPT or rotary-potentiometer inputs into position variables used for alarms, trends and machine-protection logic.

- 1

Conditions up to four position-transducer inputs for machinery protection
- 2

Supports thrust, differential expansion, case expansion and valve-position duties
- 3

Generates measured variables for independent Alert and Danger comparisons
- 4

Provides individual current recorder outputs for supported channel configurations

SYSTEM COMPONENTS

- 3500 rack
- approved 3500/45 rear I/O module
- Proximitors, RPT, DC/AC LVDT or rotary potentiometer
- 3500 Rack Configuration Software

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
3500/20 125744-02	Rack interface module	Open product page
3500/40M 176449-01	Proximitors monitor	Open product page
3500/45 140072-04	Position monitor configuration	Open product page
3500/60 163179-01	Temperature monitor	Open product page
3500/64M 140734-05	Dynamic pressure monitor	Open product page

TECHNICAL DATA

PARAMETER	VALUE
Input channels	1 to 4
Position I/O power consumption	7.7 W typical
AC LVDT I/O power consumption	8.5 W typical
Rotary potentiometer I/O power	5.6 W typical
DC LVDT input impedance	1 MOhm
Proximitor/RPT input impedance	10 kOhm
AC LVDT input impedance	137 kOhm
Rotary potentiometer impedance	200 kOhm
Proximitor/RPT supply	-24 Vdc

PARAMETER	VALUE
Recorder output	4 to 20 mA
Recorder load	0 to 600 Ohm
Recorder resolution	0.3662 uA per bit
Recorder update rate	100 ms or less
Position accuracy	+/-0.33% FS typical; +/-1% maximum
Direct filter	-3 dB at 1.2 Hz
Gap filter	-3 dB at 0.41 Hz
Alarm setpoint range	0 to 100% of full scale
Alarm setpoint accuracy	Within 0.13% of desired value

TECHNICAL NOTE

Restore each channel pair with the documented transducer type, sensitivity and full-scale range. Confirm excitation, recorder-loop scaling and Alert/Danger timing with controlled position simulation before the protection channel is armed.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Axial thrust position

Conditions up to four position-transducer inputs for machinery protection

Differential expansion

Supports thrust, differential expansion, case expansion and valve-position duties

Valve position

Generates measured variables for independent Alert and Danger comparisons

Case expansion

Provides individual current recorder outputs for supported channel configurations

PRODUCT PRECAUTIONS

- 1 Match 176449-04 to the documented 3500 front slot and rear I/O execution.
- 2 Isolate transducer excitation and recorder loops before removing the monitor.
- 3 Record the configured measurement type and transducer sensitivity for every active channel.
- 4 Use ESD controls and protect the buffered-output and backplane connectors.
- 5 Confirm the selected rear I/O module supports the installed transducer family.
- 6 Restore channel full scale, Alert/Danger setpoints and programmed time delays.
- 7 Check zero, span and recorder-current scaling with a controlled position input.
- 8 Prove alarm and shutdown logic before returning the monitored machine to service.

ENGINEER FAQ

Q1 Which rear I/O module can be paired with 3500/45 176449-04?

Select the 3500/45 I/O execution that matches the installed Proximitor, RPT, DC LVDT, AC LVDT or rotary-potentiometer transducer and termination arrangement.

Q2 How many inputs can 3500/45 176449-04 condition?

The monitor accepts one to four position-transducer inputs, configured according to the selected measurement application.

Q3 Which measurement duties can 3500/45 176449-04 perform?

The official datasheet covers thrust position, differential expansion, ramp differential expansion, complementary input differential expansion, case expansion and valve position.

Q4 What recorder signal is available from 3500/45 176449-04?

Supported channel configurations provide a 4–20 mA recorder output proportional to the monitor full scale.

Q5 How are alarm delays configured on 3500/45 176449-04?

Use 3500 Rack Configuration Software to set Alert and Danger delays within the ranges published for the monitor.

Q6 What must be recorded before replacing 3500/45 176449-04?

Capture channel type, transducer sensitivity, full scale, setpoints, delays, recorder scaling and the paired rear I/O part number.

Q7 How is a new 3500/45 176449-04 validated?

Apply a controlled position input, confirm zero and span, compare the recorder loop, and prove Alert/Danger logic for each active channel.

Q8 Can 3500/45 176449-04 settings be copied from another position monitor?

Only restore an approved configuration for the same transducer, I/O module and machine measurement duty; do not transfer unrelated channel settings.