

INDUSTRIAL AUTOMATION PRODUCT

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.

IDENTITY	VERIFIED VALUE
Manufacturer	Bently Nevada
System family	3500 Machinery Protection System
Part number	176449-04
Country	USA
HS code	8537101190

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3500/45 176449-04

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Technical Specifications

Technical values below are limited to the named Bently Nevada product record.

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
DC LVDT supply	+15 Vdc
AC LVDT supply	2.3 Vrms, 3400 Hz sine wave
Rotary potentiometer supply	-12.38 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
Alert delay	1 to 60 s in 1 s intervals
Danger delay	0.1 s or 1 to 60 s
Rack space	1 full-height front slot

VERIFIED PRODUCT RECORD

DATA GROUP	VERIFIED VALUE
Manufacturer	Bently Nevada
Product family	3500 Machinery Protection System
Origin	USA
HS code	8537101190
Shipping origin	Xiamen, Fujian, China
Source document	3500/45 Position Monitor Datasheet — 141537 Rev. T

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System Role and Architecture

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.

FUNCTION 1

Conditions up to four position-transducer inputs for machinery protection

FUNCTION 2

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

FUNCTION 3

Generates measured variables for independent Alert and Danger comparisons

FUNCTION 4

Provides individual current recorder outputs for supported channel configurations

Matched system components

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

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Installed host / carrier	3500 rack
Companion hardware	approved 3500/45 rear I/O module
Field connection	Proximator, RPT, DC/AC LVDT or rotary potentiometer
Primary system function	Conditions up to four position-transducer inputs for machinery protection
Controlled acceptance duty	Axial thrust position

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Applications and Engineering Context

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

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.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	3500/45 176449-04 / 176449-04 recorded
Physical interface	3500 rack
Companion check	approved 3500/45 rear I/O module
Functional proof	Conditions up to four position-transducer inputs for machinery protection
Application test	Axial thrust position

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Engineering 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.

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	Proximator 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

MANUFACTURER SOURCE RECORD

3500/45 Position Monitor Datasheet

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