Bently Nevada 149992-01

16-Channel Relay Output Module

Bently Nevada 149992-01 is the standard 16-channel relay output module for the 3500/33 machinery-protection relay assembly. It provides switching outputs driven by the 3500 system's monitoring information. Each relay can have its own alarm-drive logic, using AND/OR combinations of Alert, Danger and Not-OK states or measured variables from monitor channels. The module supplies the rear-rack relay interface for configured alarm and machinery-protection actions, with standard contacts across all 16 outputs.



Technical Specifications

Product Identity	
Manufacturer	Bently Nevada
Complete part number	149992-01
Compatible assembly	3500/33; control module 149986-01
I/O dimensions	241 × 24.4 × 99.1 mm (H × W × D)
Rack space	One full-height rear I/O slot
Functional Configuration	
Output type	Standard 16-channel relay output module
Contacts	SPDT
Relay grouping	Four groups of four; normally energized or de-energized
Performance & Power	
Minimum standard switched load	100 mA at 5 Vdc
Maximum load selection	Apply voltage, current and power limits together; see contact ratings
Environment	
Relay environmental sealing	Epoxy-sealed relay construction

Selected original manufacturer pages follow on pages 3–6.

Compatibility & Selection Guide

System compatibility. 149992-01 pairs with the 149986-01 control module in the 3500/33 assembly. Relay alarm-drive logic is programmed using 3500 Rack Configuration Software. The minimum software versions are Rack Configuration v3.3, Data Acquisition v2.40 and Data Display v1.40. Each output has independently configurable alarm logic, while the energized/de-energized hardware mode is shared by its four-relay group.

Wiring & Installation Reference

Field connections

Match each relay circuit to its actual SPDT terminal assignments.

Apply all contact voltage, current and power limits together; use the DC rating curve when selecting DC loads.

Installation and replacement

Isolate power. Disconnect power before service and comply with the actual module warnings.

Match the output variant. Confirm standard, failsafe or low-current requirements before installing the module.

Verify relay behavior. Check each group's mode setting, configured logic and resulting contact states before return to service.

Installation precautions. Do not hot-insert this module; the pictured unit warns that module damage will result. Do not disconnect live equipment unless the area is known to be non-hazardous. Follow electrical-shock and hazardous-location precautions.

View connection reference (PDF) · PDF page 6 | View module reference · PDF page 6

Manufacturer sources: 3500/33 16-Channel Relay Module 162301 Rev. AC.

Contact Ratings for Standard Systems

Standard Relays

Min Switched Current	100 mA @ 5 Vdc
DC Specifications (Resistive Load)	
Max Switched Current	5 A
Max Switched Power	70 W @ 24 Vdc 10 W @ 48 Vdc 9 W @ 60 Vdc
Max Switched Voltage	125 Vdc
AC Specifications (Resistive Load)	
Max Switched Current	5 A
Max Switched Power	1200 VA
Max Switched Voltage	250 Vac

	WARNING
	**HAZARDOUS VOLTAGE** **RISK OF ELECTRIC SHOCK OR BURN** When you connect the field wiring to the 3500/3316-Channel Relay Module, conductors may be exposed, creating a shock hazard at high voltages.

Contact Ratings for Failsafe Systems and Hazardous Area Systems

Standard Relays

Min Switched Current	100 mA @ 5 Vdc
DC Specifications (Resistive Load)	
Max Switched Current	5 A
Max Switched Voltage	30 Vdc

- Minimum switched load for standard (silver) contacts is 100 mA @ 5 Vdc.
- Minimum switched load for Low Current (gold-plated) contacts is 1 mA @ 1 Vdc.

	WARNING
	**EXPLOSION HAZARD** **RISK OF BODILY INJURY** Disconnect power prior to servicing. Do not disconnect while circuit is live unless area is known to be non-hazardous. Consult manual prior to servicing.

Ordering Information

For the detailed listing of country and product-specific approvals, refer to the *Approvals Quick Reference Guide (108M1756)*.

For additional technical documentation, please log in to bntechsupport.com and access the Bently Nevada Media Library.

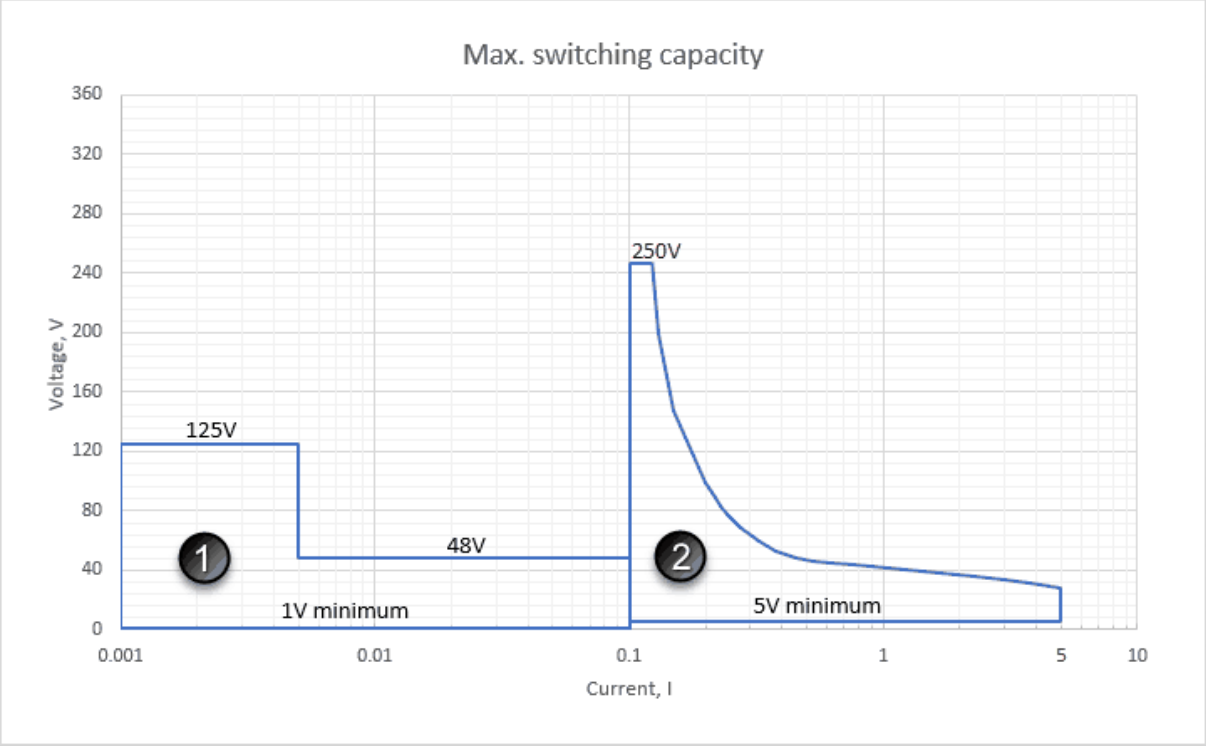
3500/33 AA-BB

A: Output Module	
01	16-Channel Relay Output Module
02	16-Channel Failsafe Relay Output Module
03	Low Current 16-Channel Relay Output Module
04	Low Current 16-Channel Failsafe Relay Output Module
B: Hazardous Area Approval Option	
00	None
01	cNRTLus (Class 1, Division 2)
02	ATEX / IECEx / CSA (Class 1, Zone 2)

Spares

149986-01	Spare 16-Channel Relay Control Module
149992-01	Spare 16-Channel Relay Output Module
149992-02	Spare 16-Channel Failsafe Relay Output Module
149992-03	Spare 16-Channel Low Current Relay Output Module
149992-04	Spare 16-Channel Low Current Failsafe Relay Output Module
04425545	Grounding Wrist Strap (single use)
162291	16-Channel Relay Module User Guide
00580453	Connector Header Internal Termination 16-position Green
166M2381	Connector Header Push-in-Spring Type (Alternative for PN 00580453)



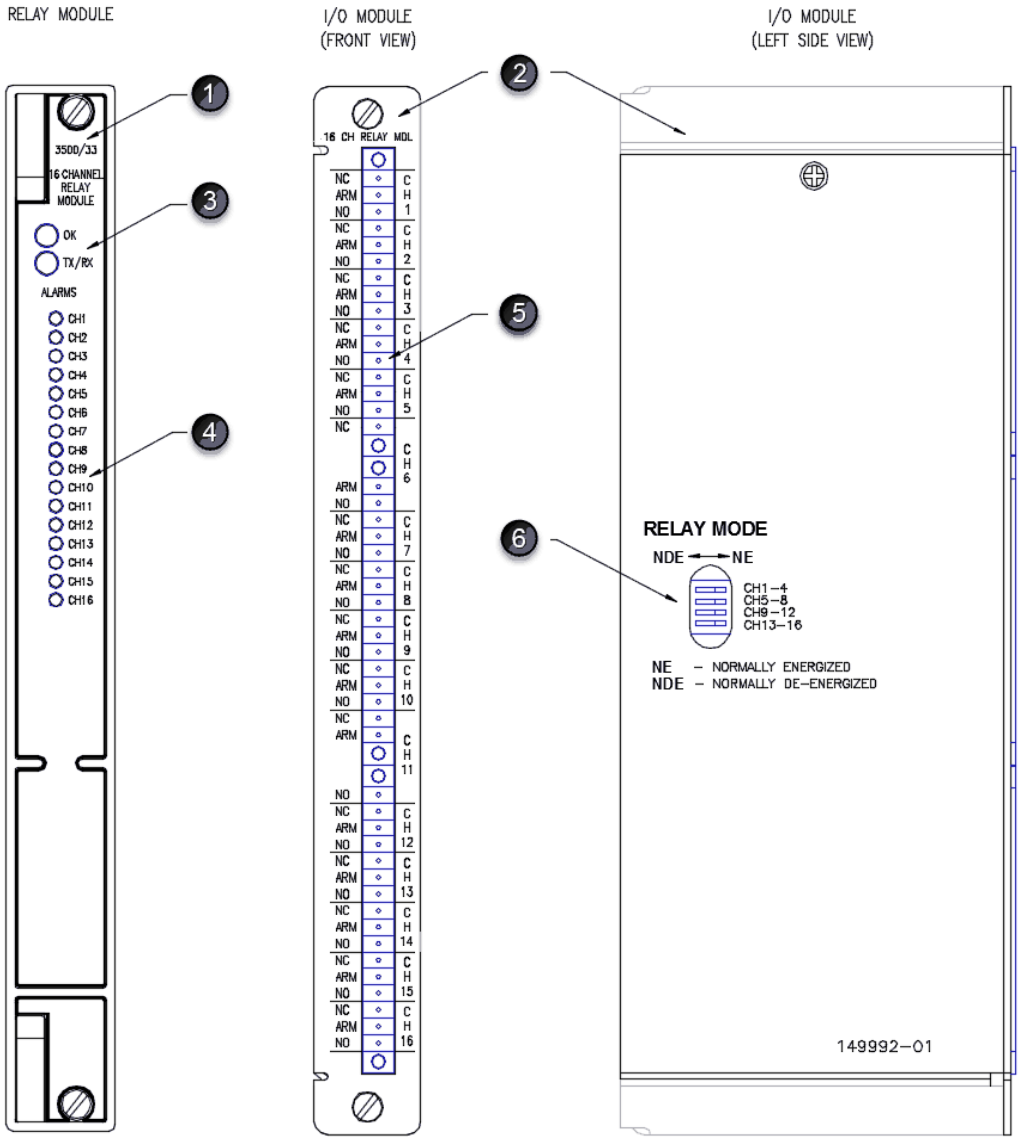


1. Low Current Output Modules (Ordering options A03 and A04) use gold-plated relay contacts
2. Standard Output Modules (Ordering options A01 and A02) use silver relay contacts

If the application is at the transition between the low current region and the high current region, the most appropriate choice is to select the Low Current option (with gold-plated contacts). If the gold plating is damaged by excessive load, the contacts will still behave as standard silver contacts.

Figure 2: Relay Contact Selection for DC Loads

Graphs and Figures



1. Relay Module
2. I/O Module
3. Status LEDs
4. Relay Channel LEDs
5. Relay Contacts
6. Relay Mode Selection Switch

Figure 1: Front and Rear View of the 3500/33 16-Channel Relay Module