Bently Nevada 125720-01

Four-Channel Relay Output Module



Bently Nevada 125720-01 is the four-channel relay output component used with the 3500/32M relay control assembly to turn machinery-monitoring conditions into external relay signals. The assembly's programmable alarm-drive logic can combine Alert, Danger and Not-OK conditions from selected monitor channels, allowing each relay to respond to the application's alarm requirements. The 125720-01 provides the output-side hardware; the separately listed 149986-02 is the relay control module. This distinction matters when sourcing a replacement, and the current spare-parts listing identifies 125720-01 as available for repair only.

Technical Specifications

Product Identity	
Part number	125720-01
Component	Four-channel relay output module
I/O dimensions (H x W x D)	241 x 24.4 x 99.1 mm
Rack space	One full-height rear slot
Manufacturer spare listing	Available for repair only
Functional Configuration	
Associated family	3500/32M
Relay type	Single-pole, double-throw (SPDT)
Performance & Power	
Standard-system resistive DC limits	2 A at 0-30 Vdc; 0.75 A at 48 Vdc; 0.2 A at 125 Vdc
Environment	
Operating temperature	-30 to +65 degrees C
Storage temperature	-40 to +85 degrees C
Humidity	95%, non-condensing
Hazardous / functional-safety limits	Restricted to 30 Vdc / 30 Vac; observe the complete ratings and approval conditions

Selected original manufacturer material follows on pages 3–7.

Compatibility & Selection Guide

System compatibility. The associated 3500/32M control module provides programmable alarm-drive voting logic using 3500 Rack Configuration Software and requires a compatible 3500/22 TDI environment. For an existing system, review the control module, firmware, configured relay logic and approval requirements together. The separately listed 125720-02 has a specified hazardous-area and functional-safety role; the datasheet alone does not establish unconditional interchangeability with 125720-01.

Wiring & Installation Reference

Contact and load selection

1. Identify the circuit Confirm AC or DC, resistive-load requirements and the installed approval category.

2. Apply the correct limits Use the restricted voltage limits where required; do not use the contact-life test current as the circuit rating.

Relay assembly and rear slot

1. Verify both assemblies Distinguish output module 125720-01 from control module 149986-02.

2. Review host requirements Check the existing 3500/32M TDI and software environment against the manufacturer ordering notes.

Installation precautions

Relay field wiring can present a shock hazard. Do not exceed the applicable rated voltages; hazardous-area and functional-safety systems have restricted limits.

View relay module layout (PDF) — page 7 · View mounting reference (PDF) — page 7

Specifications

Inputs	
Power Consumption	5.8 Watts typical
Outputs	
OK LED	Illuminated when module is functioning properly.
TX/RX LED	Transmit and Receive. Flashes to indicate proper communications between this module and other modules within the rack.
CH ALARM LED	Illuminated to indicate that the Relay Channel is in an alarm state.
Relays	
Type	Single-pole, double-throw (SPDT) relays
Environmental Sealing	Epoxy-sealed
Arc Suppressor	250 Vrms, installed as standard
Contact Life	100,000 cycles @ 5 A, 24 Vdc or 240 Vac
Operation	Each relay of the four channels is switch selectable for Normally De-energized or Normally Energized.

Environmental Limits

Operating Temperature	-30°C to +65°C (-22°F to +150°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Humidity	95%, non-condensing

Physical Characteristics

Main Module

Dimensions (Height x Width x Depth)	241 mm x 24.4 mm x 242 mm (9.50 in. x 0.96 in. x 9.52 in.)
Weight	0.7 kg (1.6 lb.)

I/O Module

Dimensions (Height x Width x Depth)	241 mm x 24.4 mm x 99.1 mm (9.50 in. x 0.96 in. x 3.90 in.).
Weight	0.4 kg (1.0 lb.)

Rack Space Requirements

Main Module	1 full-height front slot.
I/O Modules	1 full-height rear slot.

Contact Ratings for Standard Systems

Standard Relays

Minimum switched current	100 mA @ 12 Vdc
DC specifications (Resistive load)	
Maximum switched current	2 A @ 0V to 30 Vdc 0.75 A @ 48 Vdc 0.2 A @ 125 Vdc
Max switched voltage	125 Vdc
AC specifications (Resistive load)	
Maximum switched voltage	250 Vac
Maximum switched current	2 A
Maximum switched power	450 VA

Contact Ratings For Functional Safety Systems and Hazardous Area Systems

Standard Relays

Minimum switched current	100 mA @ 12 Vdc
DC specifications (Resistive load)	
Maximum switched current	2 A @ 0V to 30 Vdc
Maximum switched voltage	30 Vdc
AC specifications (Resistive Load)	
Maximum Switched Voltage	30 Vac
Maximum Switched Current	2 A

WARNING



Due to the potential for varying voltage levels, please review the following:

- 3500 monitors ordered with hazardous approvals options (01 & -02) are certified to Division 2/Zone 2 standards (including ATEX/IECEx and North American Zones and Divisions). The Division 2 /Zone 2 standards specify increased spacing requirements at higher voltages, and the 3500/32M relays **do not** meet these spacing requirements. For this reason, 3500/32M relays ordered with the hazardous area approvals options (including country-specific hazardous area approvals options) have historically been limited to a lower voltage than those ordered with non-hazardous approvals options. Using higher voltages would violate the hazardous area certificates associated with the hazardous area approvals option.
- If the 3500/32M is part of a functional safety (SIL) system, the functional safety certificate requires the restricted voltage. Higher voltages are not allowed for functional safety (SIL) systems.
- It is possible to connect field wiring to the 3500/32M relays such that conductors are exposed to potential human contact. This could present a shock hazard at high voltages. Customers shall only use the 3500/32M relays at the voltages specified. Appropriate safety precautions must be taken with respect to the shock hazard.

Ordering Considerations

Firmware, Software, and Hardware Requirements

The 3500/32M requires the 3500/22 Transient Data Interface (TDI) module. It also requires these or newer versions of the following firmware and software:

3500/32M Firmware	N.NN, Rev. X
3500/22 Firmware (TDI)	Rev 1.71
3500/01 Software (Rack Config)	Rev 4.5
3500/02 Software (Op Display)	Rev 2.21
3500/03 Software (Data Acquisition)	Rev 2.4
3500/94 VGA display	Rev C
3500/93 LCD display	Rev P

- The 3500/32M requires 3500 Rack Configuration software, version 4.5 or later.
- The 3500/32M requires 3500 Data Acquisition software, version 2.40 or later.
- The 3500/32M requires 3500 Data Display software, version 1.40 or later.
- When used with a 3500/93 LCD Display module, the 3500/93 will require firmware revision P or later.
- When used with a 3500/94 VGA Display module, the 3500/94 will require firmware revision C or later.

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 4-Channel Relay Module

3500/32 -AA-BB

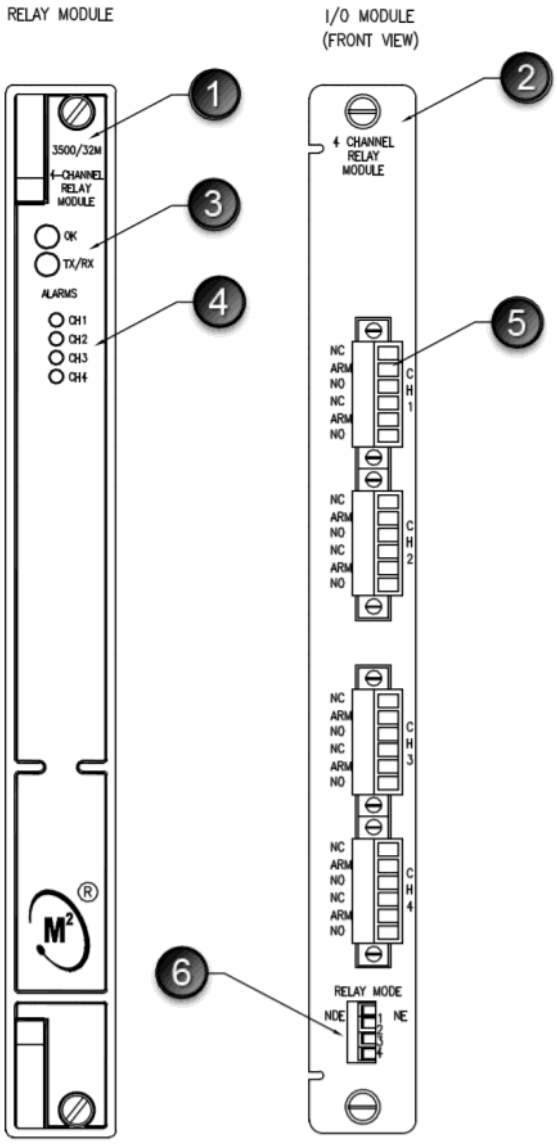
A: Output Module	
01	4-Channel Relay Output Module
B: Agency Approval Option	
00	None
01	cNRTLus (Class I, Div 2)
02	ATEX/IECEx/CSA (Class I, Zone 2)

Spares

149986-02	Spare 4-Channel Relay Control Module
125720-01	Spare 4-Channel Relay Output Module (available for repair only)
125720-02	Spare 4-Channel Relay Output Module for hazardous area systems and functional safety systems
04425545	Grounding wrist strap (single use)
00580453	Connector header, internal termination, 16-position, green
00580436	Connector header, internal termination, 6-position, green
166M2390	Connector header, push-in-spring type (alternative for PN 00580436)

For more information, please refer to the 3500/32 and 3500/32M 4-Channel and 3500/34 TMR Relay Modules User Guide (document 129771).

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 4-Channel Relay Module