# Bently Nevada 125720-01

## Relay Output Module

Product photograph, technical reference and selected Bently Nevada document pages.



### RELAY OUTPUT MODULE

Bently Nevada 125720-01 is the four-channel relay output spare listed for the 3500/32M family. The current manufacturer datasheet identifies this exact part as available for repair only.

**Component:** Four-channel relay output module
**Associated family:** 3500/32M
**Relay type:** Single-pole, double-throw (SPDT)

**Replacement check**
Match the complete part number and the documented system configuration before selecting a replacement.

### IDENTIFICATION AND REPLACEMENT

Bently Nevada 125720-01 is a four-channel relay output module for the 3500/32M relay assembly. It is the output-side spare, distinct from the 149986-02 relay control module. The current manufacturer spare-parts table marks 125720-01 as available for repair only, an important distinction when sourcing an existing installation.

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.

**Photo scope:** real front photograph from the model-specific archive. Confirm the actual offered unit and included accessories. This EWOLO CONTROL compilation is not the complete Bently Nevada manufacturer manual.

## Key specifications

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

## Mounting and connection

Match the field load to the applicable manufacturer contact-rating table. Standard, hazardous-area and functional-safety applications have different limits.

The output I/O occupies one full-height rear slot. Match it to the associated relay control assembly and retain the intended alarm-drive configuration.

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

Manufacturer references: 3500/32M 4-Channel Relay Module (141533 Rev. W). Selected original pages follow; the complete manufacturer document remains the governing reference.

# 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<br>(-22°F to +150°F) |
| Storage Temperature | -40°C to +85°C<br>(-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<br>(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<br>(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<br>0.75 A @ 48 Vdc<br>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

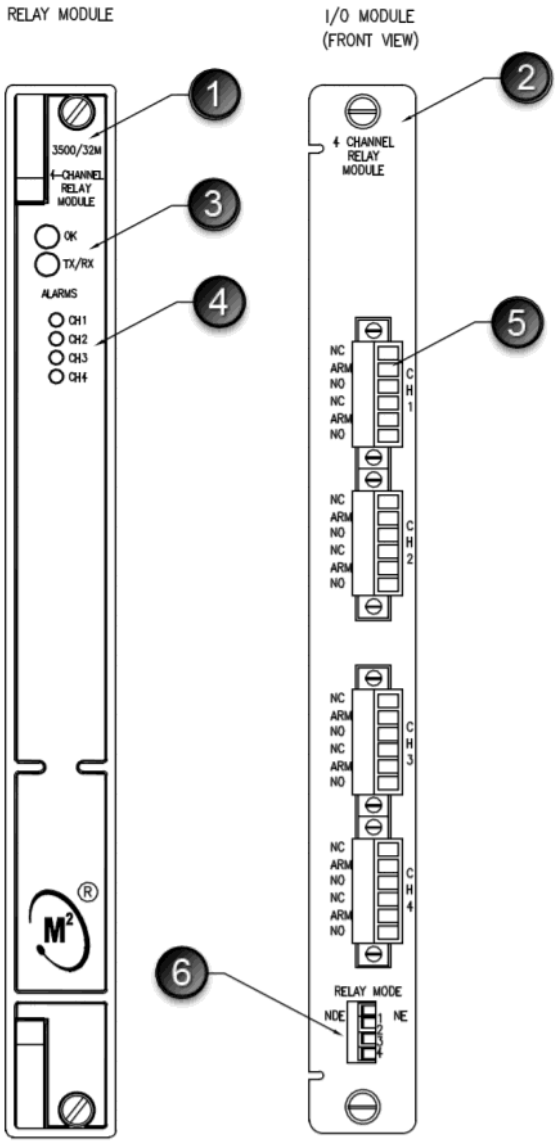
| **A: Output Module** | |
|---|---|
| **01** | 4-Channel Relay Output Module |
| **B: Agency Approval Option** | |
| **00** | None |
| **01** | cNRTLus (Class I, Div 2) |
| **02** | ATEX/IECEx/CSA (Class I, Zone 2) |

## 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**