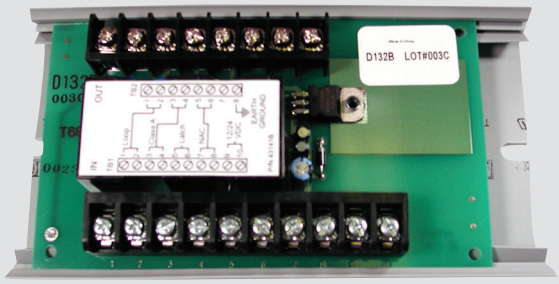


# Multi-use Reversing Relay Module

D132B

BOSCH

**en** Installation Instructions

# Table of contents

# 1 Notices

These instructions cover the installation of the D132B Multi-Use Reversing Relay Module in a fire system supervised by a fire alarm control panel (FACP).
Install, test and maintain the D132B according to these instructions, NFPA 72, local codes, and the authority having jurisdiction (AHJ). Failure to follow these instructions can result in failure of the detector to initiate an alarm event. Bosch Security Systems, Inc. is not responsible for improperly installed, tested or maintained devices.

**Warning!**
Follow these instructions to avoid personal injury and damage to equipment.

**Notice!**
NFPA 72 requires a complete system-wide functional test be performed following any modifications, repair, upgrades or adjustments made to the system’s components, hardware, wiring, programming and software/firmware.

# 2 Device Description

The D132B is a multipurpose, fully configurable, smoke power-reversing module for activating detectors with local annunciation. The module will operate both two-wire and four-wire 24 V circuits, and also works with Class A or Class B initiating circuits.

An alarm latch connection is provided to allow an initiating loop to be held in alarm after the detector loop power has been reversed to activate any sounders.

The module does not affect compatibility between the FACP and detectors, or the FACP and notification appliance circuits (NACs).

The maximum current available from the FACP smoke power terminals or NACs limits the total number of reversible smoke detectors that can be connected to the module.

Consult the FACP's installation instructions for compatibility with the D132B Multi-Use Reversing Relay Module.

# 3 Installing the module

The supplied screw and Snap Trac are required to mount the module. It can be mounted anywhere within the FACP's enclosure using the supplied screw with double sided tape as a mounting aid. Several methods of wiring the module can be used.

**Caution!**

The voltage supplied to the NAC sounder power terminals must be compatible with the detector voltage requirements when in alarm (reverse polarity). Unfiltered NAC output power is typically not compatible with detector sounder power requirements. Use a source of filtered power (for example, smoke power) for NAC sounder power on panels with unfiltered NAC output power, and ensure that the total current draw for detector sounders does not exceed the panel's rated filtered power output capacity.

**Notice!**

The D7022, D7024, D8024, D9024, and D10024 do not meet the requirements of UL864, 9th edition. For UL applications, use the FPD-7024.

# 4 Wiring the module

**Warning!**
Maintain a ¼ in. (6.35 mm) minimum distance between power limited and non-power limited wiring.

**Warning!**
Since full or auxiliary power is applied to loop output terminals TB 1 and TB 2 during an alarm, only connect reversing smoke detectors to these terminals. Do not connect pull stations, heat detectors or other such devices. Doing so will damage the D132B module and/or the FACP.

## 4.1 Wiring to a D7022 FACP

**Notice!**
The D132B module must be mounted within the control panel enclosure for this application and the D7022 must be set for 24 V operation.

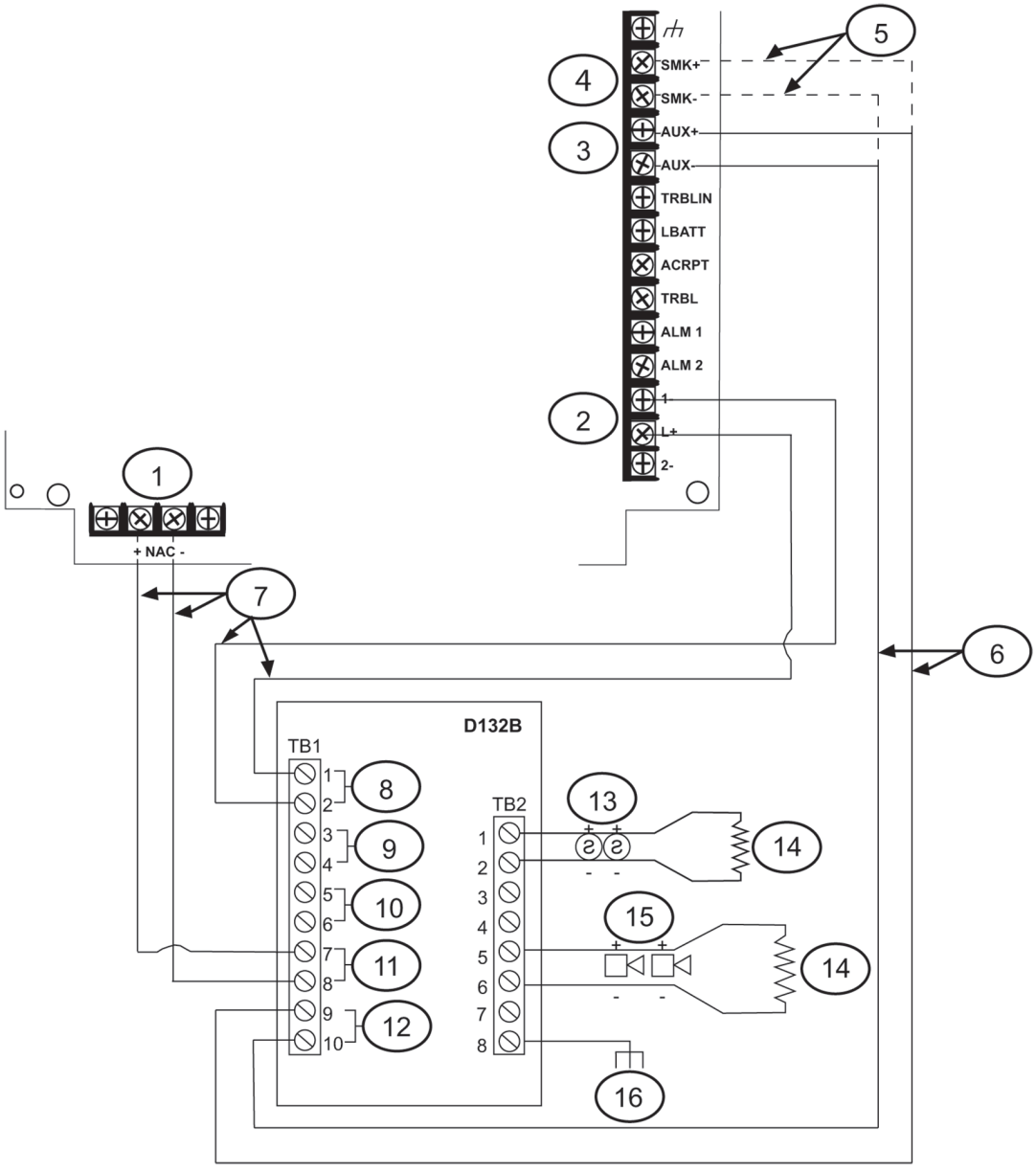


**Figure 4.1: Wiring a D132B (2-wire, Class B) to a D7022 FACP**

| | | | |
|---|---|---|---|
| 1 | NAC output | 9 | Class A |
| 2 | Input point | 10 | Latch |
| 3 | Auxiliary power | 11 | NAC |
| 4 | Smoke power | 12 | 24 VDC |
| 5 | Optional filtered power connections | 13 | 24 V 2-wire reversing detectors |
| 6 | Unfiltered power; power limited but **not** supervised | 14 | 2.2 kΩ EOL (power limited and supervised); P?N: F.01U.034.504 |
| 7 | Power limited and supervised | 15 | 24 V NACs |

| | | | |
|---|---|---|---|
| 8 | Loop | 16 | Earth ground |

## 4.2 Wiring to a D7024 or an FPD-7024 FACP

### 4.2.1 Two-wire configurations

**Class A**

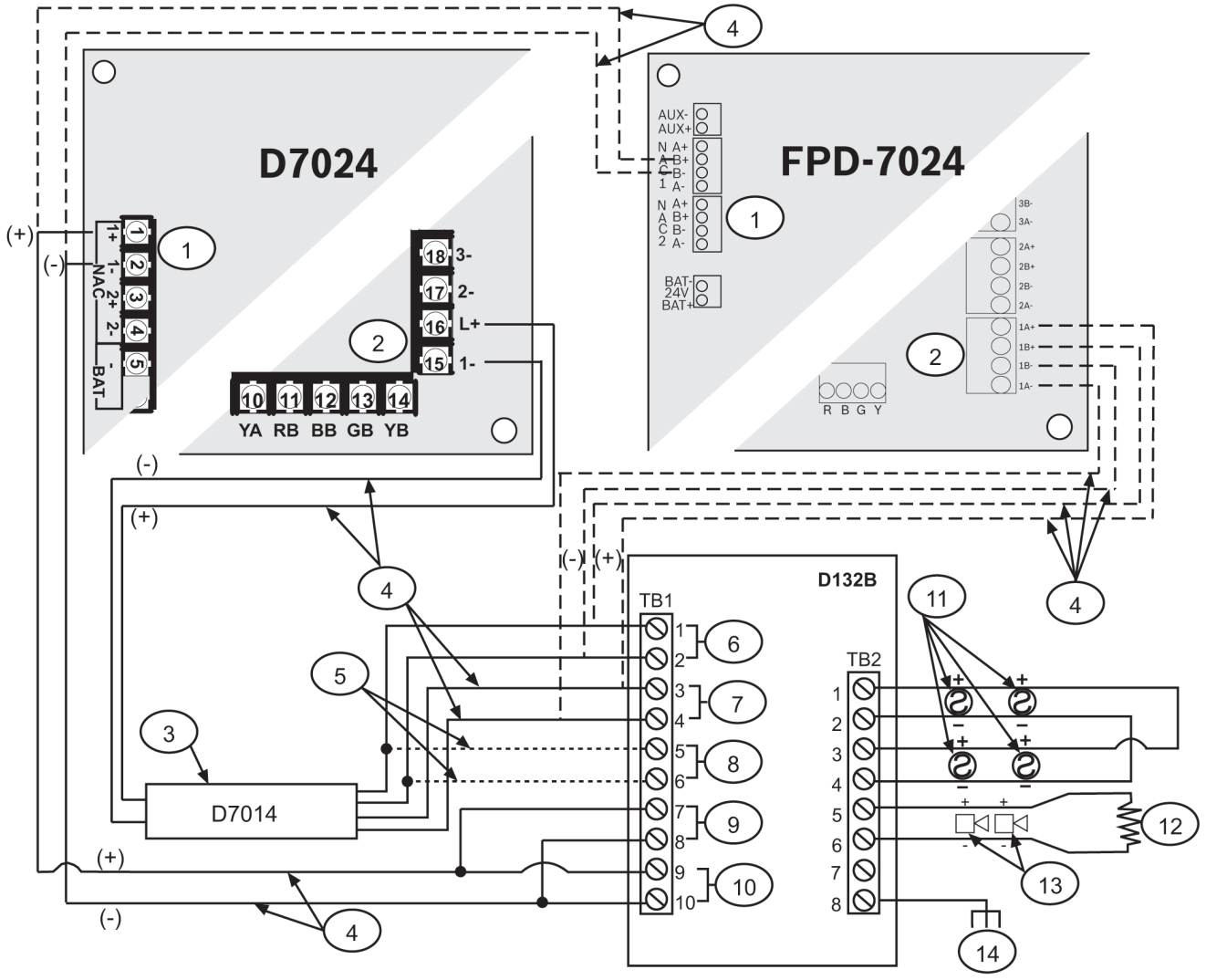


**Figure 4.2: Typical 2-wire, Class-A connection**

| | | | |
|---|---|---|---|
| 1 | NAC output | 8 | Latch |
| 2 | Input point | 9 | NAC |
| 3 | D7014 is discontinued; use only with D7024, Class A | 10 | 24 VDC |
| 4 | Power limited and supervised | 11 | 24 V reversing detectors |
| 5 | Optional alarm latch | 12 | 2.2 kΩ EOL (power limited and supervised); P/N: F.01U.034.504 |
| 6 | Loop | 13 | 24 V NACs |

| | | | |
|---|---|---|---|
| 7 | Class A | 14 | Earth ground |

**Class B**

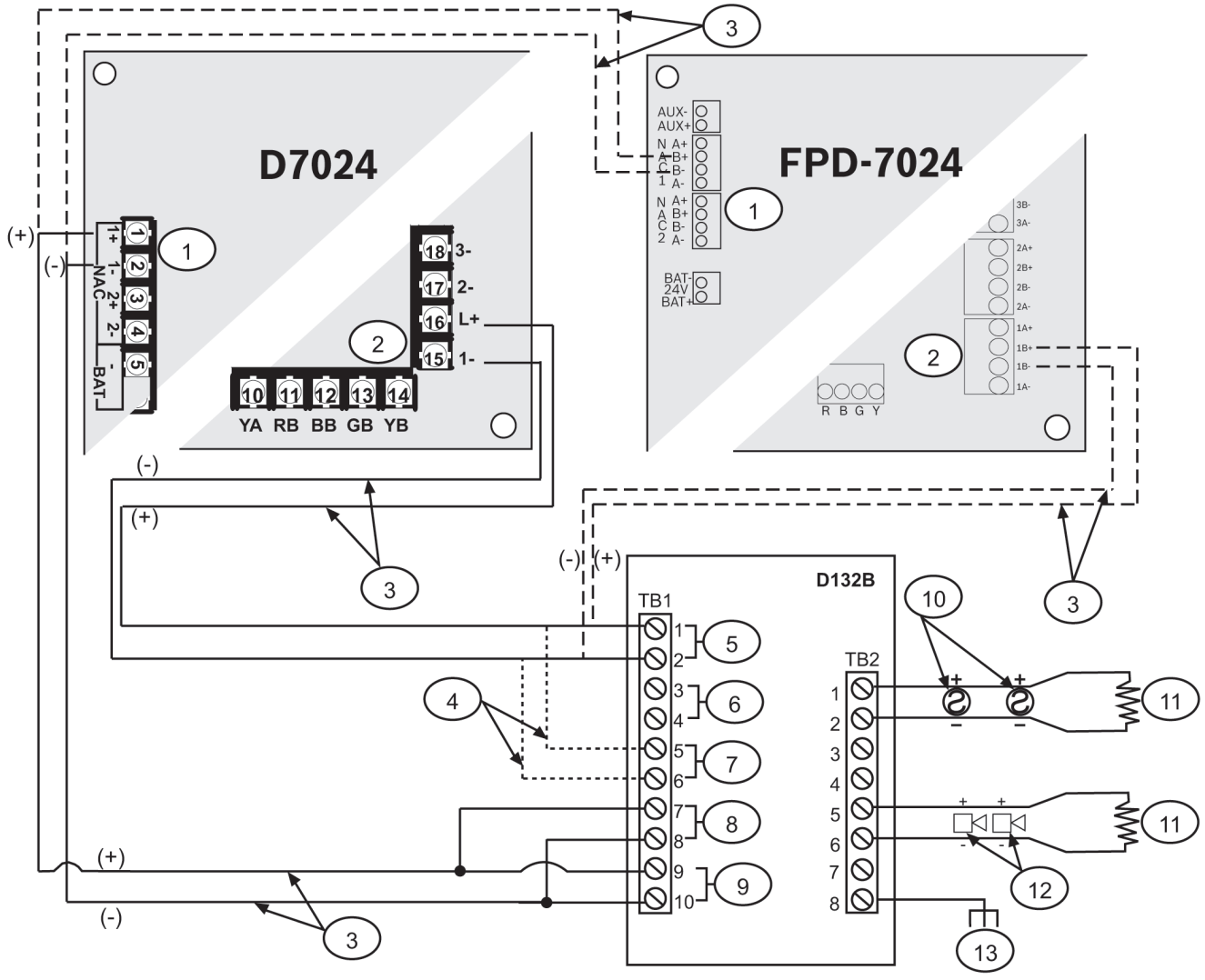


**Figure 4.3: Typical 2-wire, Class-B connection**

| | | | |
|---|---|---|---|
| 1 | NAC output | 8 | NAC |
| 2 | Input point | 9 | 24 VDC |
| 3 | Power limited and supervised | 10 | 24 V reversing detectors |
| 4 | Optional alarm latch | 11 | 2.2 kΩ EOL (power limited and supervised); P/N: F.01U.034.504 |
| 5 | Loop | 12 | 24 V NACs |
| 6 | Class A | 13 | Earth ground |
| 7 | Latch | | |

### 4.2.2 Four-wire configurations

**Warning!**

Use only Bosch Security Systems, Inc. D275 Supervisory Relay for 4-wire applications. Use of any other supervisory relay can damage the D132B module or the FACP.

**Class A**

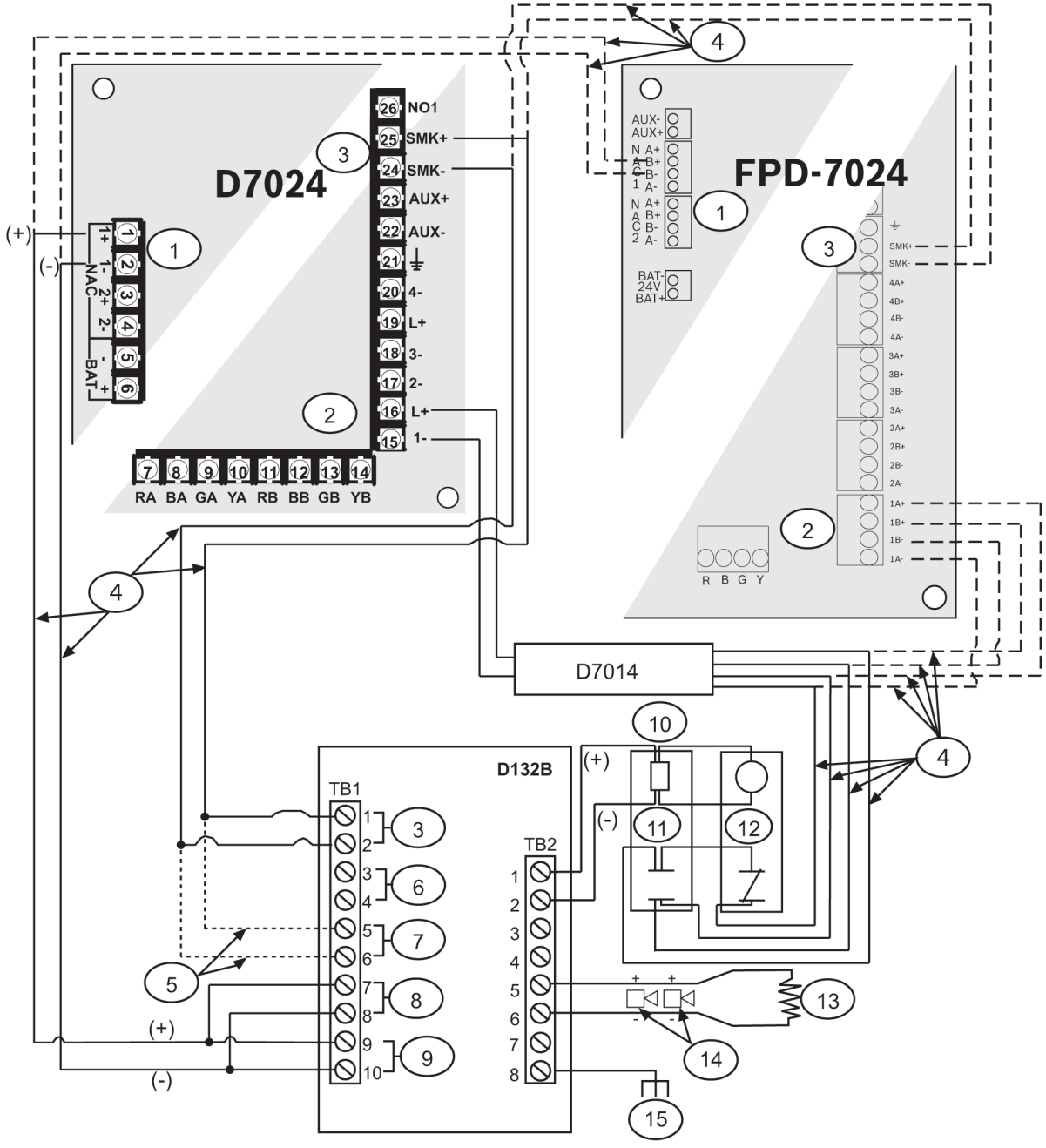


**Figure 4.4: Typical 4-wire, Class A connection**

| | | | |
|---|---|---|---|
| 1 | NAC output | 9 | NAC |
| 2 | Input point | 10 | 24 VDC |
| 3 | Smoke power | 11 | 4-wire reversing detectors |
| 4 | Power limited and supervised | 12 | EOL relay (D275 Supervisory Relay) |
| 5 | Optional alarm latch | 13 | 2.2 kΩ EOL; P/N: F.01U.034.504 |

| | | | |
|---|---|---|---|
| 6 | D7014 is discontinued; use only with D7024, Class A | 14 | 24 V NACs |
| 7 | NC | 15 | Earth ground |
| 8 | Latch | | |

**Class B**

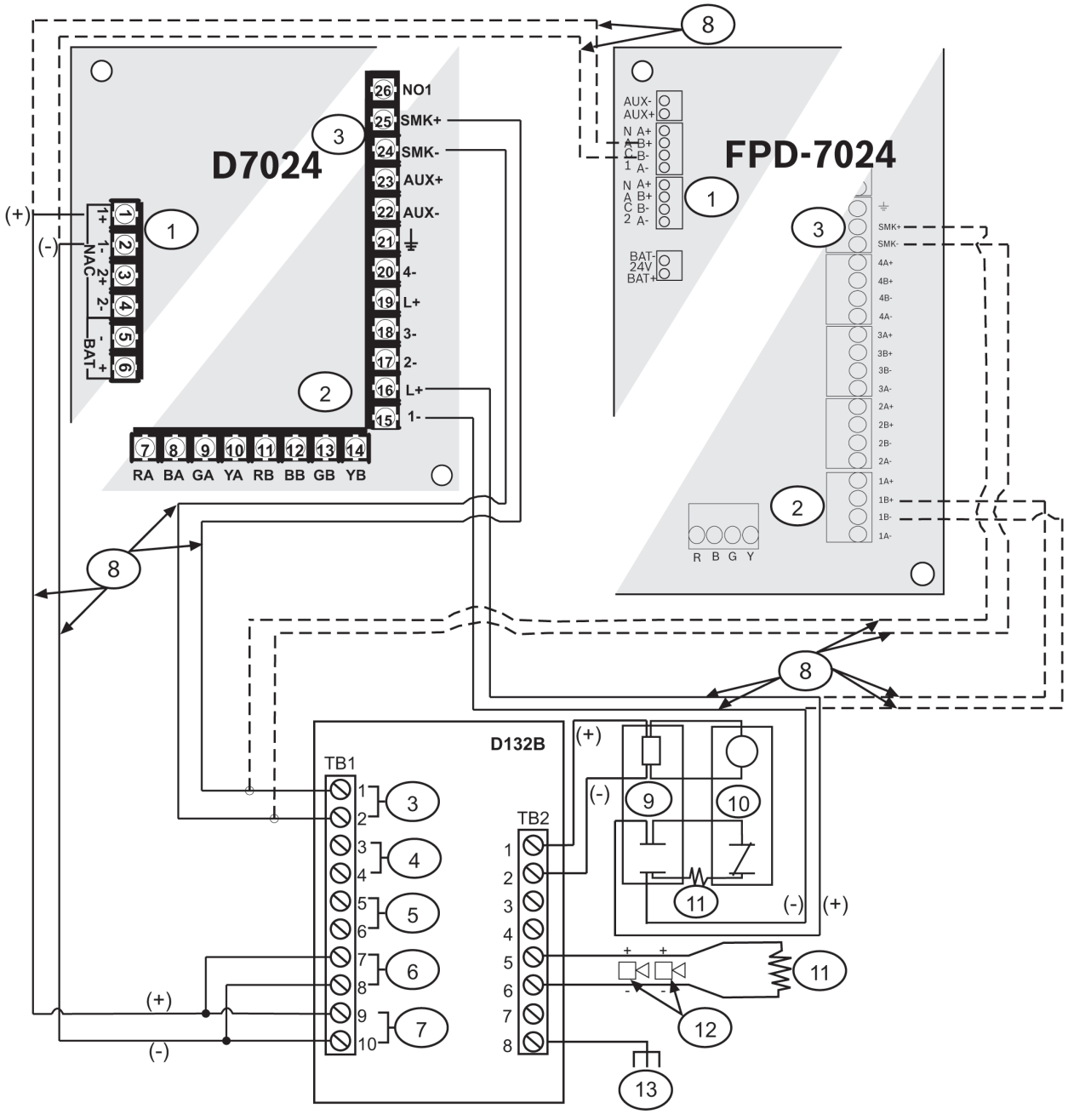


**Figure 4.5: Typical 4-wire, Class B connection**

| | | | |
|---|---|---|---|
| 1 | NAC outputs | 8 | Power limited and supervised |
| 2 | Input point | 9 | 4-wire reversing detectors |
| 3 | Smoke power | 10 | EOL relay (D275 Supervisory Relay) |

| | | | |
|---|---|---|---|
| 4 | NC | 11 | 2.2 kΩ EOL; P/N: F.01U.034.504 |
| 5 | Latch | 12 | 24 V NACs |
| 6 | NAC | 13 | Earth ground |
| 7 | 24 VDC | | |

### 4.2.3 Configurations using filtered power

**Notice!**

When using the D132B module on a loop input zone, program the FACP to “map” the loop input to the NAC output connected to the D132B ONLY. This will prevent unwanted troubles on the loop when the module is active. If your application requires that the other loop inputs trigger the NAC output connected to the module, you can prevent unwanted troubles by connecting an end-of-line resistor between FACP loop (+) (D132B TB1 Terminal 1) and D132B TB1 Terminal 5. FACP loop common (D132B TB1 Terminal 2) and D132B TB1 Terminal 6 must also be connected together.

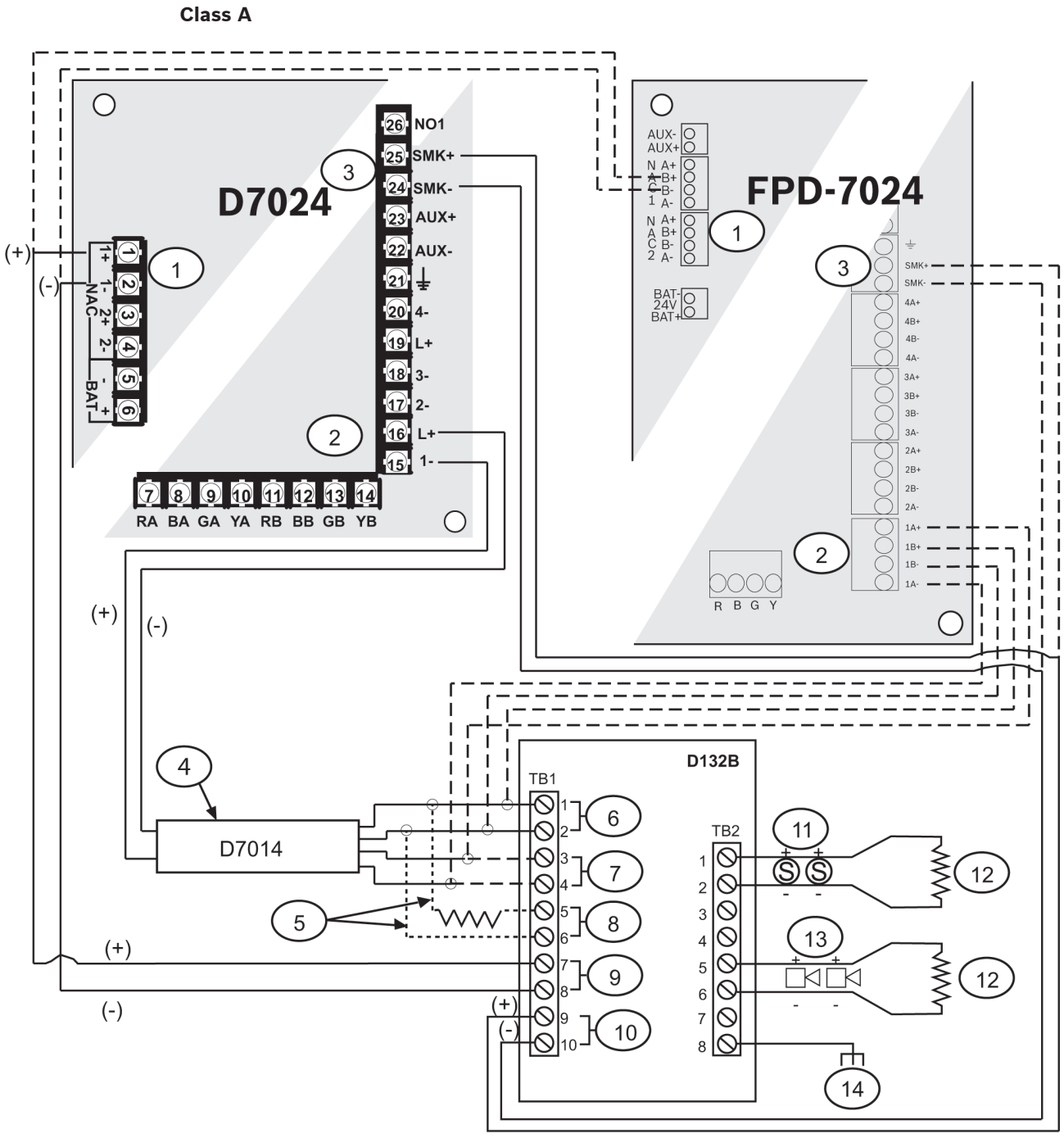


**Figure 4.6: Typical Class A connections with filtered power**

| | | | |
|---|---|---|---|
| 1 | NAC output | 8 | Latch |
| 2 | Input point | 9 | NAC |
| 3 | Smoke power | 10 | 24 VDC |
| 4 | D7014 is discontinued; use only with D7024, Class A | 11 | 24 V reversing Detectors |
| 5 | Optional alarm latch | 12 | 2.2 kΩ EOL; P/N: F.01U.034.504 |
| 6 | Loop | 13 | 24 V NACs |

| | | | |
|---|---|---|---|
| 7 | Class A | 14 | Earth ground |

**Class B**

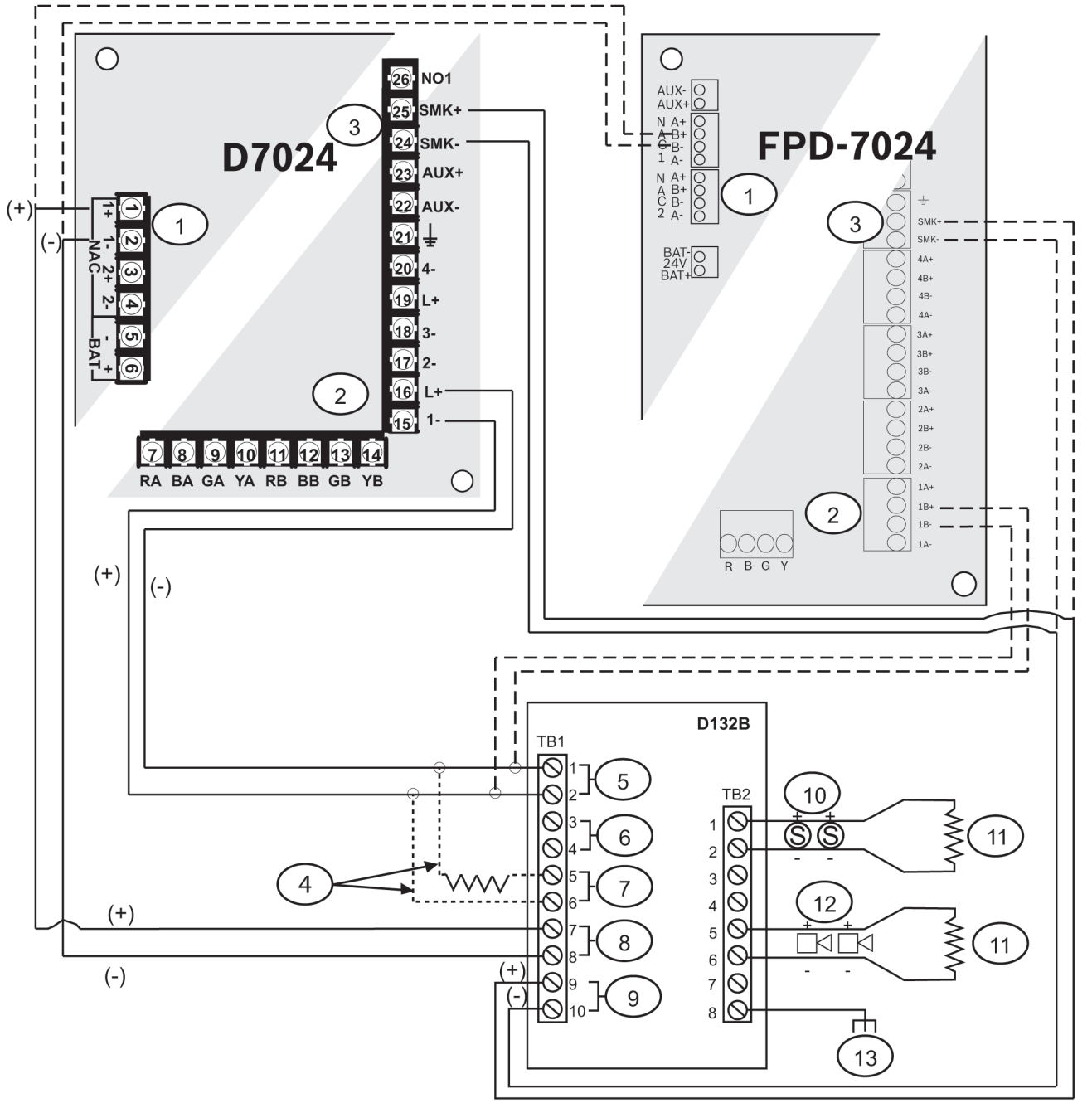


**Figure 4.7: Typical Class B connection with filtered power**

| | | | |
|---|---|---|---|
| 1 | NAC output | 8 | NAC |
| 2 | Input point | 9 | 24 VDC |
| 3 | Smoke power | 10 | 24 v reversing detectors |
| 4 | Optional alrm latch | 11 | 2.2 kΩ EOL; P/N: F.01U.034.504 |
| 5 | Loop | 12 | 24 V NACs |

| | | | |
|---|---|---|---|
| 6 | Not used | 13 | Earth ground |
| 7 | Latch | | |

## 4.3 Wiring to a D8024, D9024, or D10024 FACP

**Warning!**
Use only Bosch Security Systems, Inc. D275 Supervisory Relay for 4-wire applications. Use of any other supervisory relay can damage the D132B module or the FACP.

**Notice!**
Supervision relay must be connected to test detector in loop.

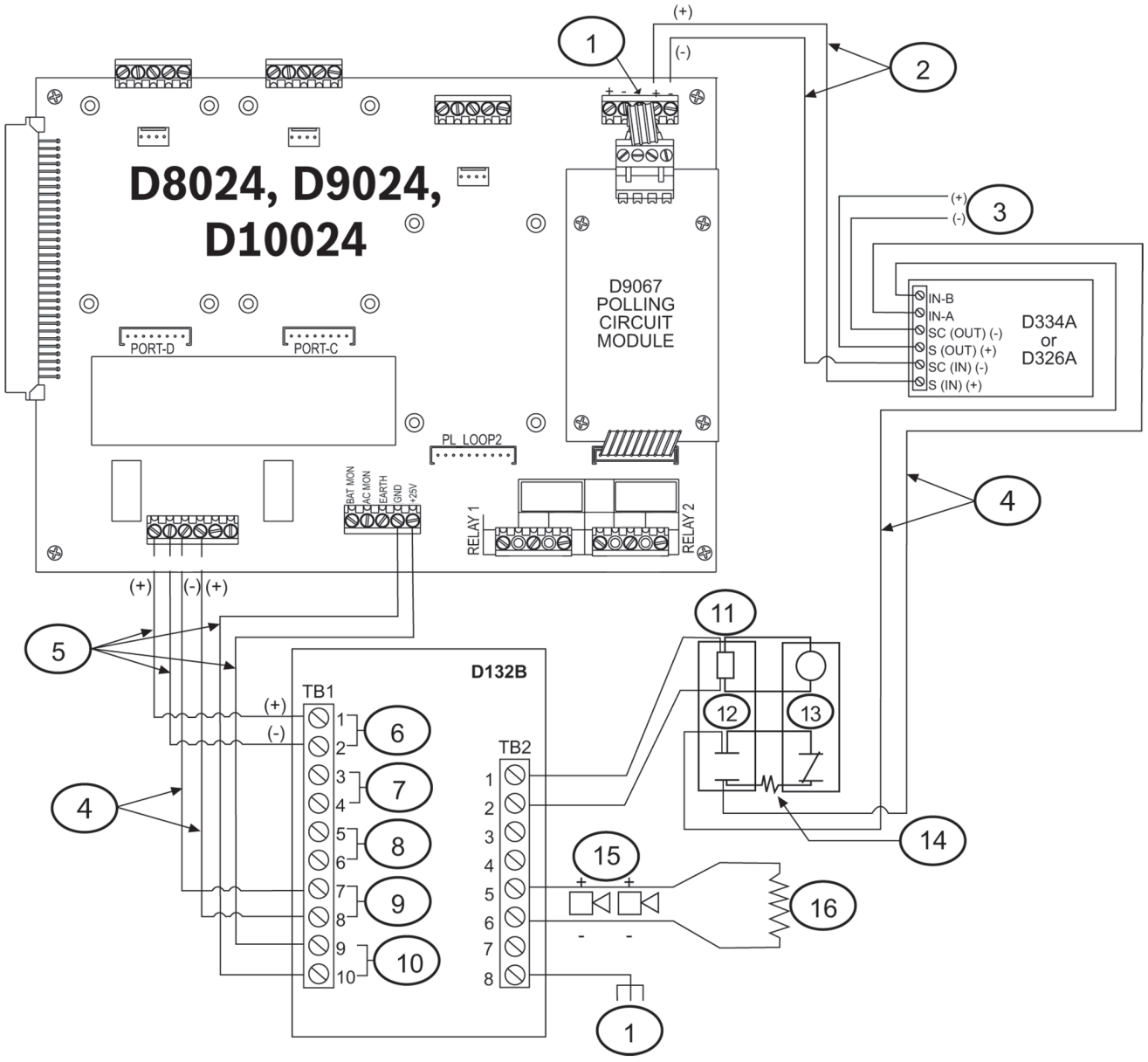


**Figure 4.8: Typical D8024, D9024, or D10024 wiring**

| | | | |
|---|---|---|---|
| 1 | Earth ground | 9 | NAC |
| 2 | Data/Power out (power limited and supervised) | 10 | 24 VDC |
| 3 | To other devices | 11 | 4-wire reversing detectors |
| 4 | Power limited and supervised | 12 | Smoke detector |
| 5 | Power limited but **not** supervised | 13 | D275 Supervisory Relay |
| 6 | Smoke power | 14 | 10 kΩ EOL; P/N: 30-01096-103 |
| 7 | Class A | 15 | 24 V NACs |

| | | | |
|---|---|---|---|
| 8 | Latch | 16 | 6.8 kΩ EOL (power limited and supervised); P/N: 170-073-682 |

# 5 Specifications

**Electrical**

| | |
|---|---|
| Operating Voltage: | 10.2 VDC to 30.0 VDC |
| **Current** | |
| Alarm[1]: | Approx. 150 mA (drawn from terminals 7, 8) |
| Standby: | <1 µA |
| Initiatiing Loop (maximum): | 4 A at 30 VDC (drawn from TB2 terminals 1, 2) supplied to terminals 9, 10 |
| [1] Alarm current must be figured into the NAC or auxiliary supply load | |

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