Installation Guide

1.0   Notice

These instructions cover the installation of the Radionics D7048(B) Octal Driver Modules in a fire system supervised by a Radionics D7024 Fire Alarm Panel (FACP).

Install, test and maintain the D7048(B) according to their instructions, NFPA 72, Local Codes and the Authority Having Jurisdiction. Failure to follow these instructions may result in failure of the device to operate properly. Radionics is not responsible for improperly installed, tested or maintained devices.

WARNING

These instructions contain procedures to follow in order to avoid personal injury and damage to equipment.

IMPORTANT

Test the D7048(B) in accordance with NFPA 72.

2.0   Device Description

The D7048(B) is a Solid State Octal Driver Module that provides eight open collector transistor outputs for addition to the D7024 Fire Alarm Control/Communicator. It connects to the panel via the Option Bus. The outputs are fully programmable and can be activated by several system events. Each output operates individually of the other seven outputs for complete flexibility.

3.0   Installation

NO STATIC

The D7048(B) is static-sensitive. Use proper static controls when handling the D7048(B).

WARNING

Before installing the D7048(B), disconnect all power (AC and battery) from the system. Failure to do so may result in personal injury and/or damage to the equipment.

3.1   Installing the D7048 inside the FACP Enclosure

Use the following steps when installing the D7048 inside the FACP enclosure:

1) Disconnect all power from the FACP by turning off the AC supply circuit and disconnecting the red battery lead.

2) Remove the two optional transformer studs from the enclosure using either pliers or a hammer to rock them loose. Push the studs back through the enclosure. If the enclosure is already mounted, pull the studs forward through the back of the enclosure instead of pushing them back. See Figure 1 for details.
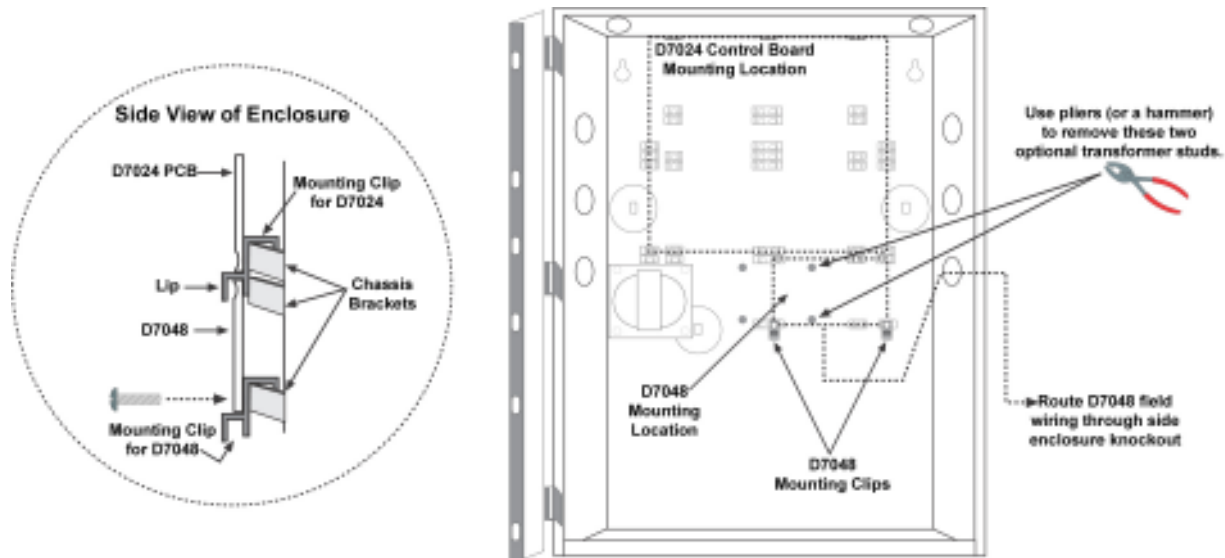
radionics

Installing the D7048(B)

Figure 1: Installing the D7048 in the D7024 Enclosure

3) Place the mounting clips in the enclosure as shown in Figure 1.

4) Insert the upper length of the D7048 board underneath the lips of the mounting clips holding the control panel board in place. See Figure 1.

5) Fasten screws through the lower mounting holes on the D7048 and mounting clips from step 3. See Figure 1.

6) Refer to section 4.0 for wiring instructions.

3.2 Installing the D7048B Outside the FACP Enclosure

The preferred mounting for the D7048 is directly inside the FACP enclosure, using the provided mounting site. The D7048B kit (which contains a D7048 Octal Driver Module, one MP-D203 Mounting Skirt, and one AE203R Fire Enclosure) may, however, be mounted in its own enclosure near the FACP using the following procedure.

IMPORTANT

The D7048B may be mounted up to 250 feet (76 m) from the D7024 panel using #18 AWG (1.2 mm) wire. No more than 4,000 ft. (1,219 m) of wire may be attached to the FACP option bus terminals. Refer to the FACP's installation manual for additional option bus wiring information. The length of wiring connected to the outputs on the D7048(B) must be less than 20 ft. (6.1 m).

1) Choose an appropriate location for the AE203R enclosure.

2) Using the enclosure as a template, mark the mounting holes on the mounting surface and make openings for the unit's wiring. It is recommended that the option bus wiring enter the AE203R enclosure from the left and the D7048 output wiring exit the enclosure to the right. See Figure 2.
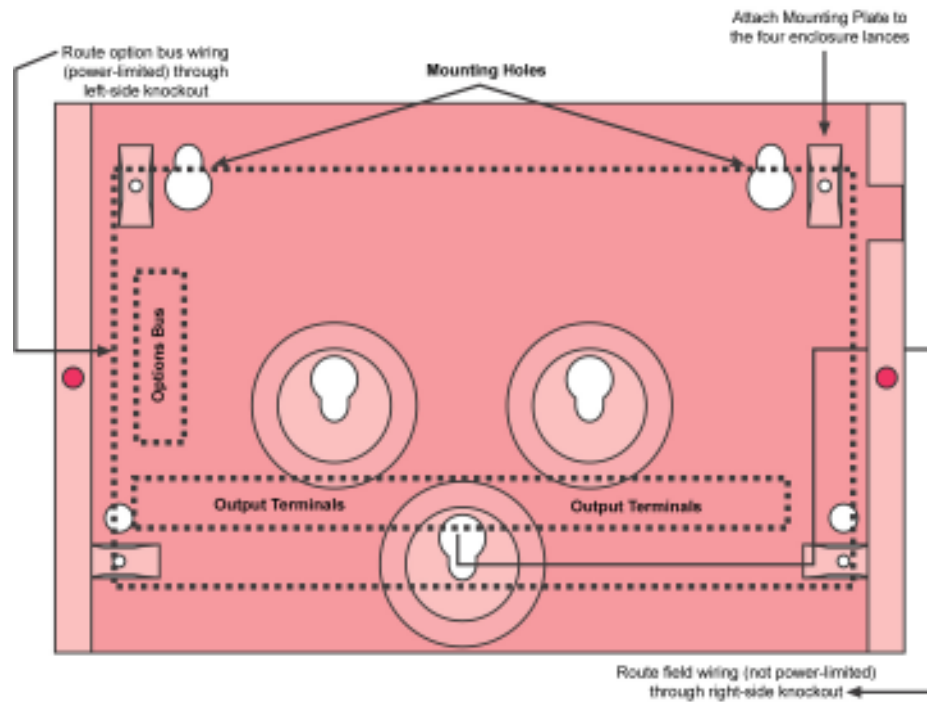
Figure 2: Mounting the AE203R Enclosure

3) Snap the four plastic standoffs onto the appropriate raised tabs on the mounting skirt (see Figure 3) and then use the longer supplied screws to attach the D7048 module to the plastic standoffs.
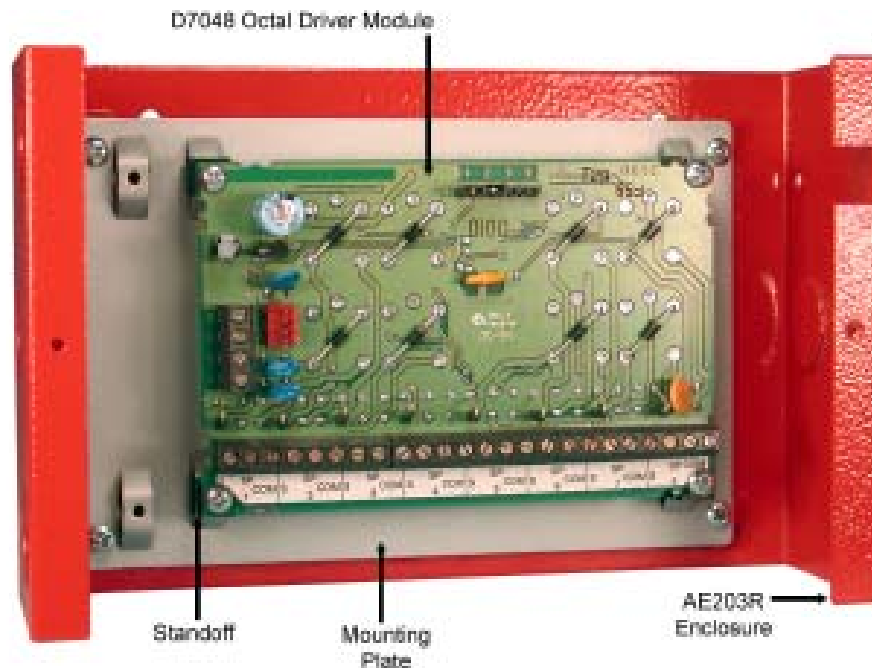

Figure 3: Mounting Plate Assembly

4) Attach the mounting skirt (with the circuit board attached) to the AE203R enclosure using the hardware provided. See Figure 2 and/or Figure 3.

5) Refer to section 4.0 for wiring instructions.

4.0   Wiring the D7048(B)

IMPORTANT

For UL listed fire applications, minimum #18 AWG (1.2 mm) wire is required. All wiring outside the enclosure must be in conduit.

CAUTION

Observe these cautions when wiring the D7048(B):

- Observe correct polarity when wiring the D7048(B). Reversing polarity may damage the unit.
- Never attempt to switch AC Line voltages with this device. Switching AC Line voltages will place dangerous voltages inside the panel and will damage the panel and its modules. If external power supplies are used, they must be fully isolated from the AC Lines.
- Do not use voltages over 12 VDC or any AC voltages on the D7048(B). Voltages over 12 VDC may damage the D7048(B) and the control panel.
- Avoid earth grounding any wires or terminals on this device.
- Do not exceed 50 mA maximum per device (240 mA total).
- All Commons on the D7048(B) are tied together to Option Bus Negative (-). Do not mix voltages and power supplies.
- For D7048B, route power-limited wiring (option bus) away from non-power limited (field wiring). See Figure 2.

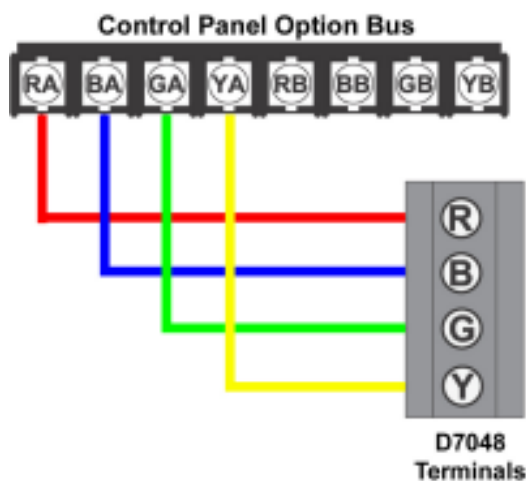The D7048(B) is wired to the control panel's option bus. See Figure 4.

Figure 4: Option Bus Wiring

CAUTION

All option bus devices must be connected to the same bus (either Bus A or Bus B). Do not connect some devices to Bus A data terminals (YA, GA) and some to Bus B (YB, GB). Power (RA and RB terminals) and ground (BA and BB) may be connected interchangeably to either set of terminals.

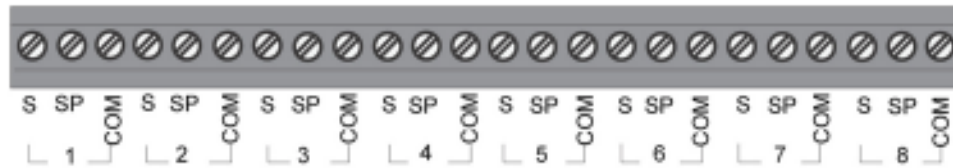To wire the contacts, see Figure 5. See Table 1 for terminal designations.

Figure 5: Output Wiring

Terminal	Function
S	Sink. This terminal switches the applied voltage to common when activated.
SP	Spare. Not used.
COM	Common. All Commons are tied together.

Table 1: Terminal Designations

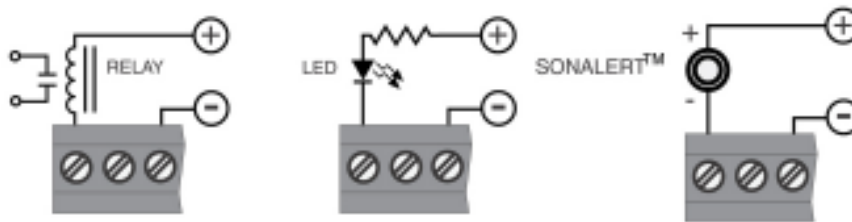For typical wiring examples of commonly used devices, see Figure 6.

Figure 6: Typical Wiring Examples

Selecting Option Bus Address & Programming

5.0 Selecting the Option Bus Address

The D7048(B) must be selected as an option address 1-15. Use the Option Address Pins to select an option address with the jumper plugs provided. See Figure 7.
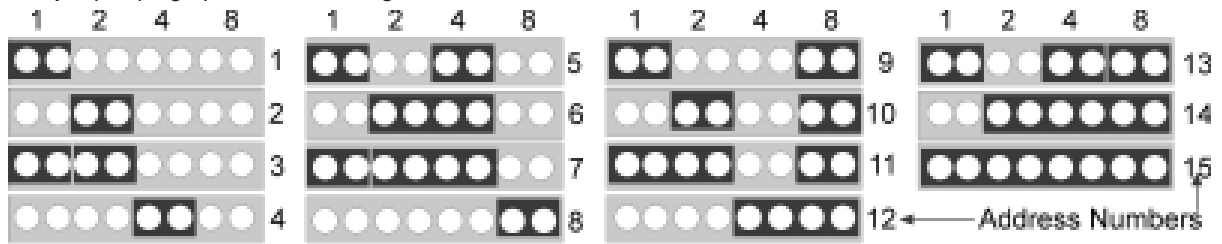
Figure 7: D7048(B) Option Bus Addresses

6.0 Programming the D7048(B)

The D7048(B) must be programmed through the control panel. See your control panel's installation guide for output programming information.

7.0   Specifications

D7048/D7048B Specifications	
Control Panel Compatibility	D7024 Fire Alarm Control/Communicator (FACP)
Operating Voltage	12 VDC option bus power
Current Draw	10 mA
Outputs	Provides a current sink [the output shorts to Common (-) when activated]. Maximum current draw for all eight outputs combined cannot exceed 240 mA. Unsupervised outputs.
Wiring	Refer to the *D7024 Operation and Installation Guide* (P/N: 31499) for option bus wiring lengths. The length of wiring connected to each of the outputs on the D7048(B) must be less than 20 feet (6.1 m).

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