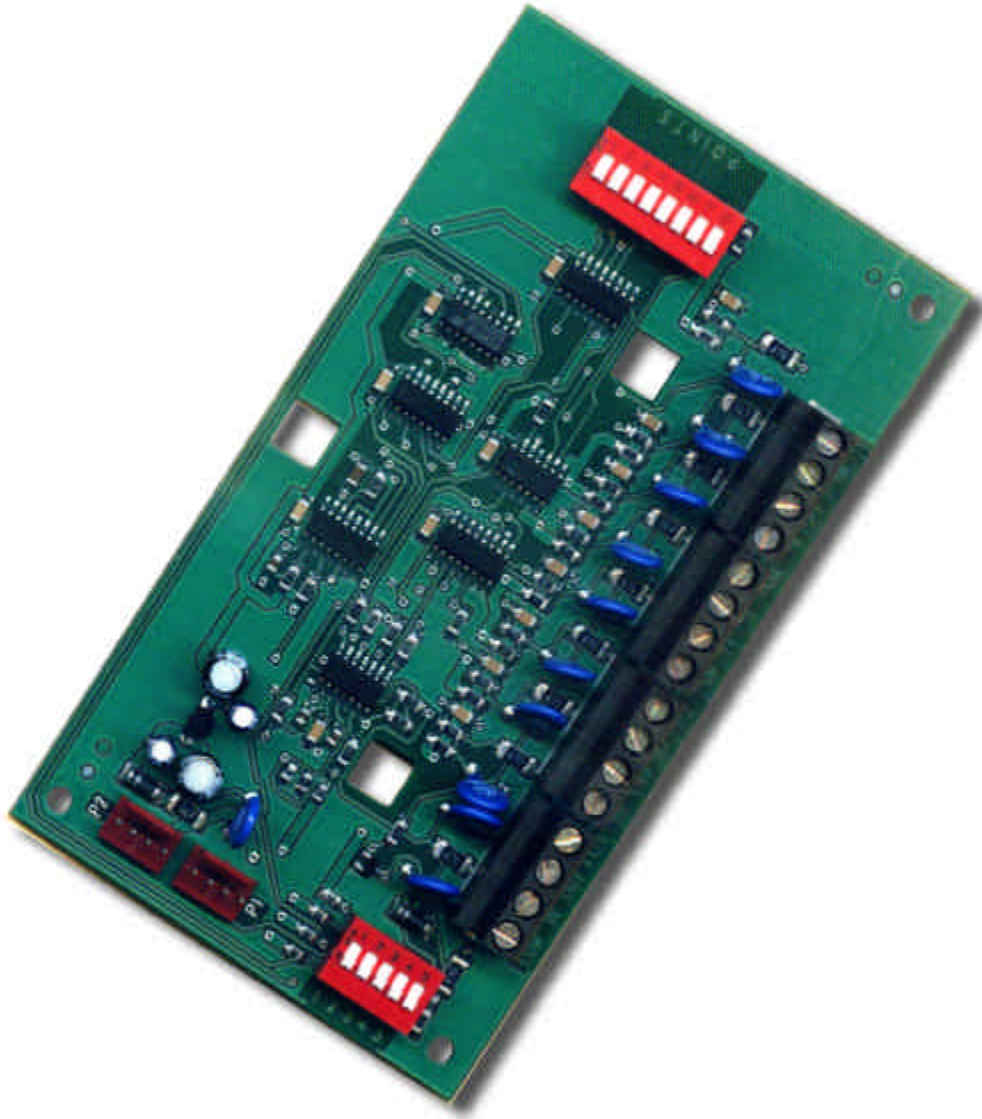


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1.0 Introduction

The D8128D OctoPOPIT Module combines the functions of the D8125 POPEX module and the D8127/D9127 POPIT modules to provide eight off-board points in a single module. You can wire both D8128D OctoPOPIT and D8125 POPEX modules in parallel to the ZONEX Bus terminals on the same panel.

For a list of compatible panels and accessories, please see section 2.0 D8128D Overview.

1.1 Manual Organization

This manual is divided into three sections and an index. A summary of each section and appendix is detailed in the table below.

Section	Description
1	Introduction
2	Overview
3	Installation
Index	The index for this installation guide

Table 1: D8128D Installation Instructions Organization

1.2 Documentation Conventions

These conventions are intended to call out important features, items, notes, cautions, and warnings that the reader should be aware of in reading this document.

1.2.1 Type Styles Used in this Manual

To help identify important items in the text, the following type styles are used:

- Bold text** usually indicates selections that you may use while programming your panel. It may also indicate an important fact that should be noted.
 - Bold Italicized*** used to denote notes, cautions and/or warnings
 - Italicized text* used to reference the user to another part of this manual or another manual entirely. It is also used to symbolize names for records that the user will create.
 - Courier Text** indicates what may appear on the D5200 Programmer display, command center/keypad or internal printer.
 - [CAPITALIZED TEXT] used to indicate to the user that a specific key should be pressed.
- Example:** ...press the [ESC] key...

1.2.2 Tips, Important Notes, Cautions and Warnings

Throughout this document, helpful tips, important notes, cautions and warnings will be presented for the reader to keep in mind. These appear different from the rest of the text as follows;



Important Notes - should be heeded for successful operation and programming. Also tips and shortcuts may be included here.



Caution - These caution the operator that physical damage to the program and/or equipment may occur.



Warning - These warn of the possibility of physical damage to the operator, program and/or equipment.

1.3 Listings

The D8128D OctoPOPIT Module is UL listed for Local or Police Connected Burglary Alarm, Central Station Burglary Alarm, and Household Burglary Alarm applications. The D8128D is also suitable for fire supervisory

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applications, such as indicating circuit supervision (using the D192C Bell Circuit Supervision Module), sprinkler supervision, and valve tamper protection. Do not connect fire alarm initiating devices directly to the D8128D.

1.3.1 Requirements for Fire Initiation Applications

You must use the D125B Powered Loop Interface Module or D129 Dual Class A initiation Circuit Module for fire initiation applications. Connect the initiating devices, smoke detectors for example, to the D125B powered loops or D129 Class A loops.

Connect the zone outputs on the D125B or D129 to the OctoPOPIT sensor loop inputs. The D125B or D129 and the OctoPOPIT must be mounted in the enclosure with the panel or in a separate enclosure connected to the panel's enclosure by conduit not more than 20 feet (6 m) in length.

2.0 D8128D Overview

2.1 Specifications

Operating Voltage	10.2 to 13.8 VDC supplied by the panel
Current	51 mA per OctoPOPIT module (all points shorted @ 13.8 VDC)
Sensor Loop Response Time	Approximately 1 second. OctoPOPIT sensor loops are supervised with a 1k Ω end-of-line resistor: Radionics model #D105BL or #D105FL (for fire supervisory applications)
Cabling	D8128D OctoPOPITs may be installed up to 200 feet (61 meters) from the control panel using standard 4-conductor 22 AWG (0.8 mm) wire. Each OctoPOPIT uses 51 mA (worst case). This affects the number of units that can be connected on a single wire run.
Resistance	Maximum loop resistance: 1 k Ω $\pm$ 100 Ω (with 1 k Ω end-of-line resistor installed)
Environmental	Temperature: +32°F to +120°F (0°C to +49°C); Non-condensing Relative Humidity: 5 to 85% @ 86°F (30°C)

Table 2: D8128D Specifications

2.2 Module Description

The D8128D OctoPOPIT Module combines the functions of the D8125 POPEX module and the D8127/D9127 POPIT modules to provide eight off-board points in a single module. You can wire both D8128D OctoPOPIT and D8125 POPEX modules in parallel to the ZONEX Bus terminals on the same panel.

Review the *Power Outputs* section of your panel's *Operation and Installation Manual* to be sure you provide enough power for the OctoPOPITs and other powered devices you wish to connect to your system.

The D8128D is designed for use with the Radionics' panels shown in the table below. (Also shown are previously manufactured D8128 OctoPOPIT Modules.)

	Radionics Control/Communicator							
OctoPOPIT	D7212B1	D7212	D7412	D8112	D9112B1	D9112	D9124	D9412
D8128A	☐				☐		*	
D8128B				☐				
D8128C	☐	☐	☐		☐	☐	*	☐
D8128D	☐	☐	☐		☐	☐	*	☐

* D9124 w/ D9112LTB uses D8128A, D9124 w/ D9112LTB-EX uses D8128D.

Table 3: Compatible Control Panels

Note: As shown in the table above, D8128A OctoPOPITs cannot be used on the new D7212, D7412, D9112, or D9412 Control Communicators. However, D8128D OctoPOPITs may be used and intermixed with D8128A OctoPOPITs on the D7212B1 and D9112B1 Control Communicators.

Notes:

3.0 Installation

Before installing the D8128D OctoPOPIT, you should be familiar with the *Operation and Installation Manual* and the *Program Entry Guide* that correspond to your system. Radionics recommends the following four-step process for the most effective installation. The steps are

- (1) setting the OctoPOPIT switches,
- (2) physically mounting the OctoPOPIT to the enclosure,
- (3) wiring the OctoPOPIT, and
- (4) wiring OctoPOPIT sensor loops.

Each step is explained more fully in the sections that follow.

3.1 Setting OctoPOPIT Switches

There are two sets of dipswitches on the D8128D OctoPOPIT. The dipswitches on the top of the unit (with the terminal strip along the left edge) are used to set the OctoPOPIT's address. The DIP switches at the bottom of the unit are used to enable or disable individual points connected to the OctoPOPIT.

3.1.1 Address Switches

The switches on the D8128D OctoPOPIT set point assignments and line termination (see Figure 1). These switches are easier to set before you mount the D8128D in the enclosure.

3.1.1.1 Address Assignment Switches

Switches 1, 2, 3, and 4 assign the OctoPOPIT sensor loops to point numbers on the panel. Table 5 to Table 8 shows the OctoPOPIT switch settings for point assignments, depending on the control panel you are using.

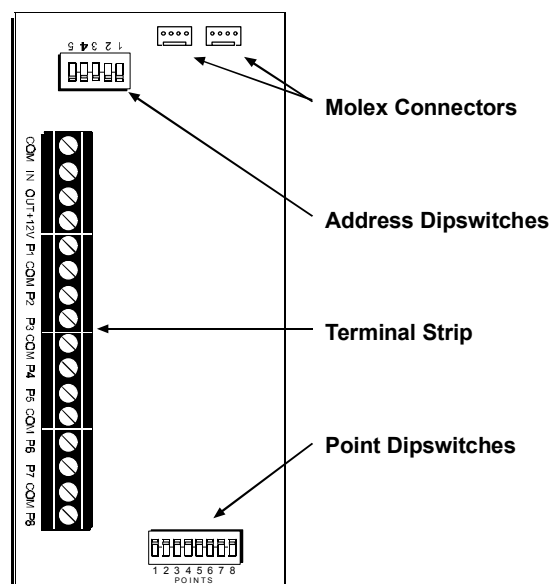


Figure 1: D8128D OctoPOPIT Layout

3.1.1.2 Line Termination Switch Settings

Switch 5 sets line termination.

- If there is no D8125 POPEX module connected to ZONEX 1, set switch 5 of **only one** D8128D connected to those terminals to the ON position.
- If there is a D8125 POPEX module connected to ZONEX 1, set switch 5 of **all** D8128Ds connected to those terminals to the OFF position.
- If there is no D8125 POPEX module connected to ZONEX 2, set switch 5 of **only one** D8128D connected to those terminals to the ON position.
- If there is a D8125 POPEX module connected to ZONEX 2, set switch 5 of **all** D8128Ds connected to those terminals to the OFF position.

3.1.2 Point Dipswitches

You can enable or disable each point connected to the D8128D by turning its respective dipswitch to the closed or open position. For example, if you wanted to disable a device connected to the P3 terminal (Point 3), you would move dipswitch number 3 into the OPEN position. Use the point dipswitches to disable conflicting points, such as when a D9210B Access Control module must be assigned to a point that falls within the range of the D8128D OctoPOPIT.

For example, a D9210B is assigned to Point 20. On the same system, a D8128D OctoPOPIT is assigned to Points 17-24. Moving the dipswitch for Point 4 to the OFF position would effectively disable Point 20, allowing normal operation of the D9210B and the OctoPOPIT.

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Installation

3.2 Mounting the OctoPOPIT

You can install the D8128D OctoPOPIT Module in the enclosure with the panel, or in a separate enclosure (model D8103, D8108A, or D8109) up to 200 feet (61 meters) from the panel using standard four-conductor 22 AWG (0.8 mm) wire. Refer to the section 1.3.1 *Requirements for Fire Initiation Applications*, when using the D125B or the D129.

If you mount the OctoPOPIT in a separate enclosure, use shielded cable to avoid electro-magnetic interference.

For UL Listed systems, mount the D8128D in a tampered-proof enclosure.

Follow the procedure below to install OctoPOPITs in the panel's enclosure. Use the D137 Mounting Bracket to install OctoPOPITs in enclosures with no module-mounting locations available.

1. Align the OctoPOPIT module with any of the four mounting locations in the enclosure. See Figure 2.
2. Use the screws provided with the module to secure it in the enclosure.

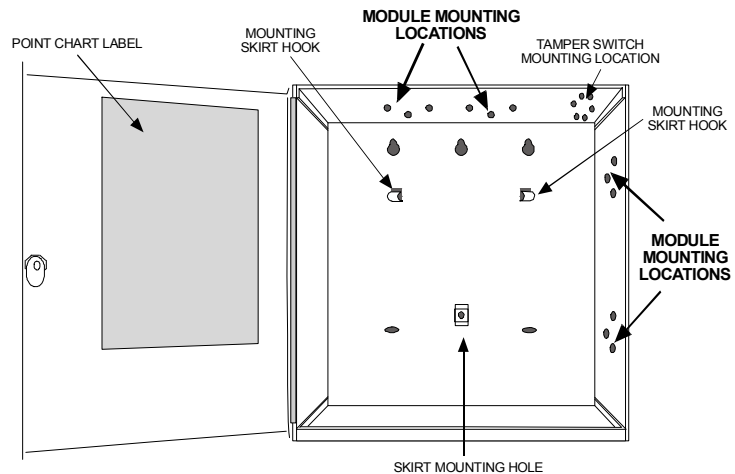


Figure 2: Mounting Enclosure

3.3 Wiring the OctoPOPIT



Disconnect all power to the Control Panel before beginning any work with the internal components. Serious injury could result from electrical shock.

Power down the panel by disconnecting the positive (red) battery lead at the battery and unplugging the transformer.

The D8128D can be up to 200 feet (61 meters) away from the Control/Communicator. There are two methods for connecting the D8128D to a Control/Communicator. You can wire the OctoPOPIT to the control/communicator using the terminal strip on the side of the module, or you can connect it using the Molex connectors (P1 and P2).

AC INDUCTION: Avoid installing ZONEX data wires and ZONEX input (sensor loop) wires around any AC conduit/wiring or electrical devices that emit fields of electromagnetic interference (EMI).

3.3.1 Connecting the D8128D to the Control/Communicator using the Terminal Strip

When connecting the D8128D to a D9412, D9112, D7412, or D7212 via the OctoPOPIT's terminal strip the following connections must be made:

D8128D	D9412/D9112
Common	Terminal 23
Out	Zonex 1 = Terminal 27
	Zonex 2 = Terminal 25
In	Zonex 1 = Terminal 28
	Zonex 2= Terminal 26
+12 V	Terminal 24

D8128D	D7412/D7212
Common	Terminal 9
In	Terminal 28
Out	Terminal 27
+12 V	Terminal 3

Table 4: Terminal Strip Connections

D8128D

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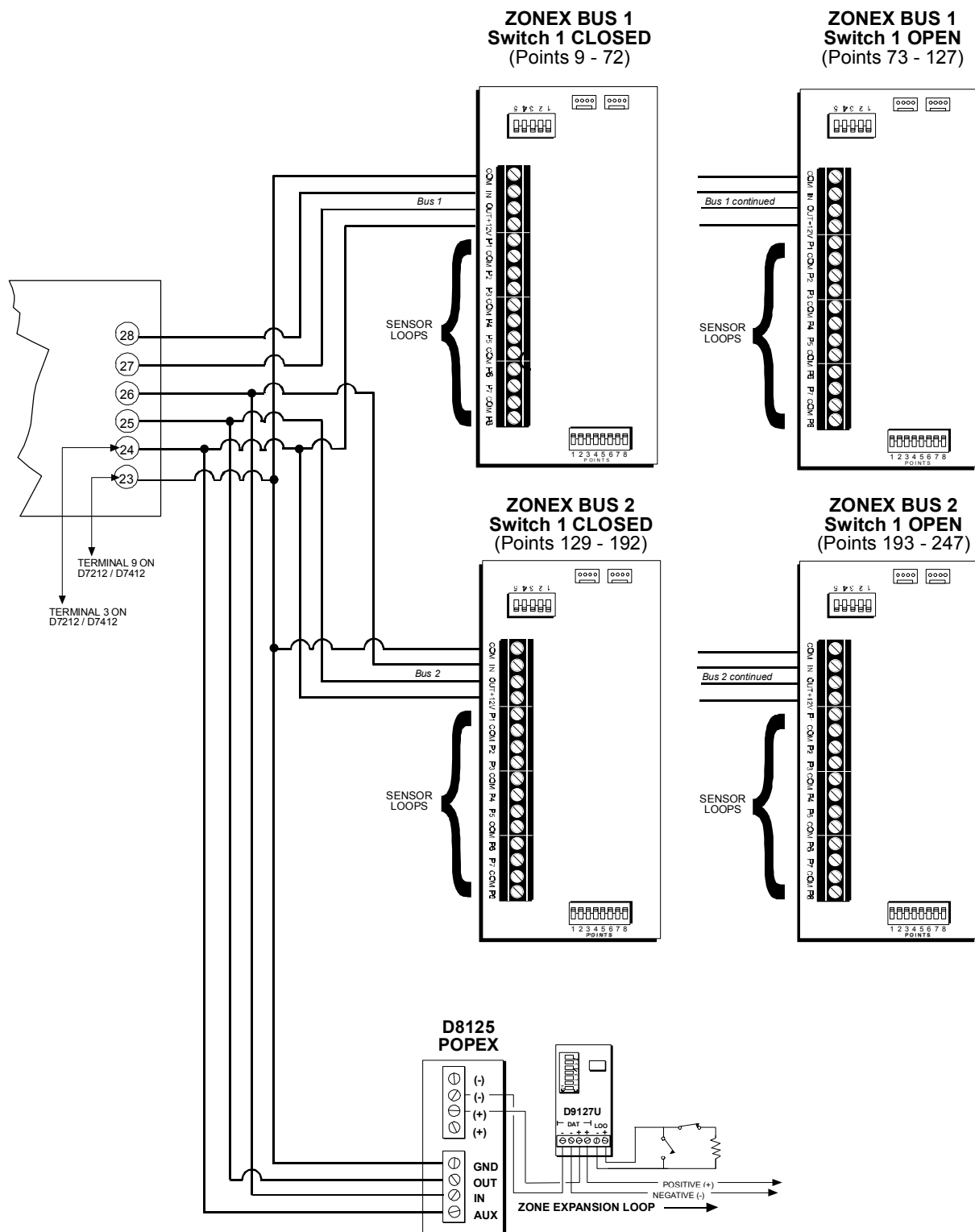


Figure 3: Wiring the D8128D to the Panel with a D8125 POPEX Module

3.3.2 Connecting the D8128D to the Control/Communicator Using Molex Connectors

Each D8128D module is supplied with a 12-inch female-to-female molex cable assembly.

P1 and P2 are Molex connectors which parallel the COM, IN, OUT and +12 VDC terminals on the terminal strip. In installations where there are multiple D8128Ds in use, you can use these connectors (as opposed to terminals) with the supplied cable instead. However, when connecting D8128D modules directly to the panel, the terminal strip may be easier to use.

The molex connectors provided are “keyed.” This means that the molex plug can only fit in one direction. However, to be sure the connector is attached correctly, make sure the red wire is on the bottom of P1 (or P2) and the black wire is on the top.

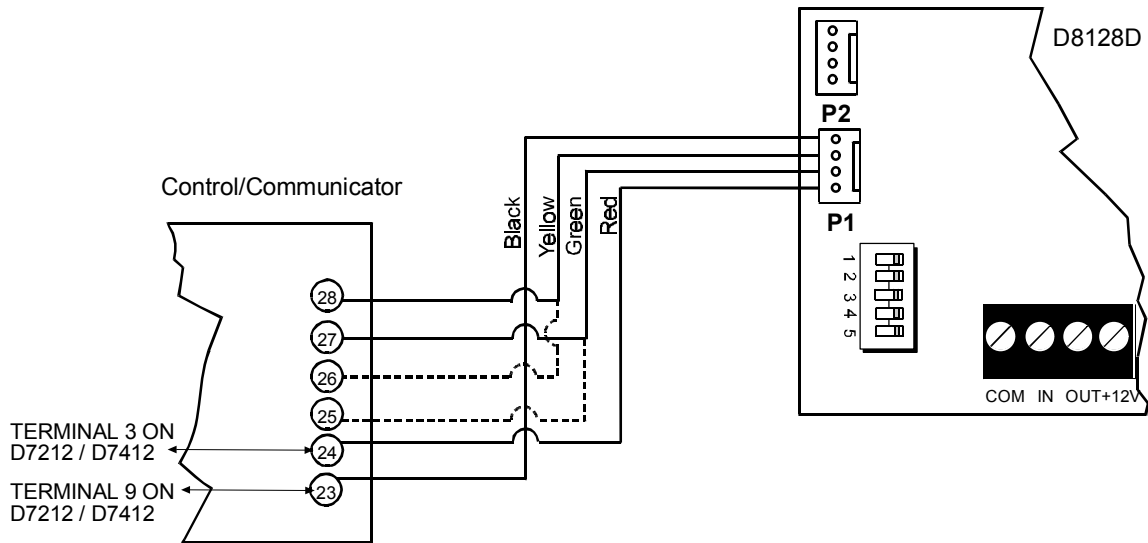


Figure 4: Wiring the D8128D to the Panel using the Molex Connectors

When connecting multiple D8128Ds to a control/communicator, you may connect the control/communicator terminals to P1 on the first D8128D and then connect P2 of the first D8128D to P1 of the second D8128D and so on.

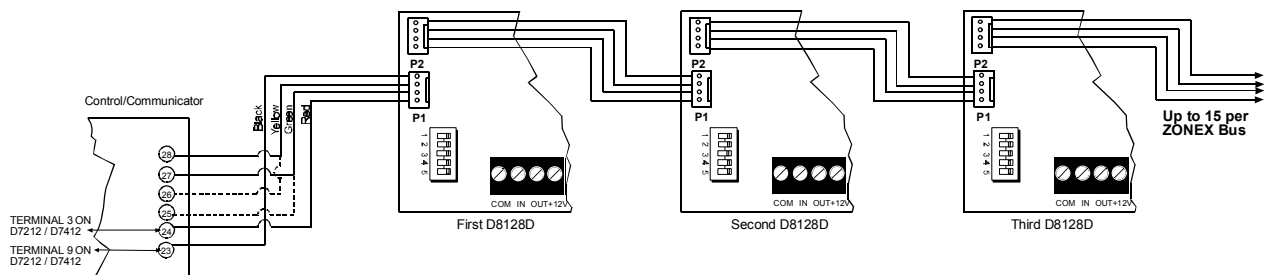


Figure 5: Wiring Multiple D8128Ds using Molex Connectors

D8128D

Installation

3.4 Wiring OctoPOPIT Sensor Loops

Only the resistance on the loop limits the number of normally-open and/or normally-closed detection devices each sensor loop can supervise. Resistance on each sensor loop must be less than 100 ohms with the detection devices connected.

Certain UL and NFPA applications may limit the number of detection devices. Consult the appropriate UL or NFPA standards.

The OctoPOPIT detects open, short, closed, normal, and grounded circuit conditions on its sensor loops and transmits the conditions to the panel. A ground on the positive leg of the sensor loop transmits a shorted condition for the point. Each sensor loop is assigned a point number and transmits to the panel separately.

Radionics recommends you use twisted-pair wire for the OctoPOPIT sensor loops to avoid EMI problems. Run wires away from the premises telephone and AC wiring. If you suspect a noisy environment, use shielded cable.

There are two rows of terminal numbers on the OctoPOPIT. In the row closest to the terminal blocks, the positive outputs for the sensor loops are labeled P1 to P8. Sensor loop outputs P1 and P2, P3 and P4, P5 and P6, and P7 and P8 share common terminals. The common terminals for each pair are labeled COM.

Terminate each OctoPOPIT sensor loop with a 1 k Ω end-of-line resistor. Attach a resistor even if you don't enable the loop. The OctoPOPIT comes with a D105BL resistor for each sensor loop.

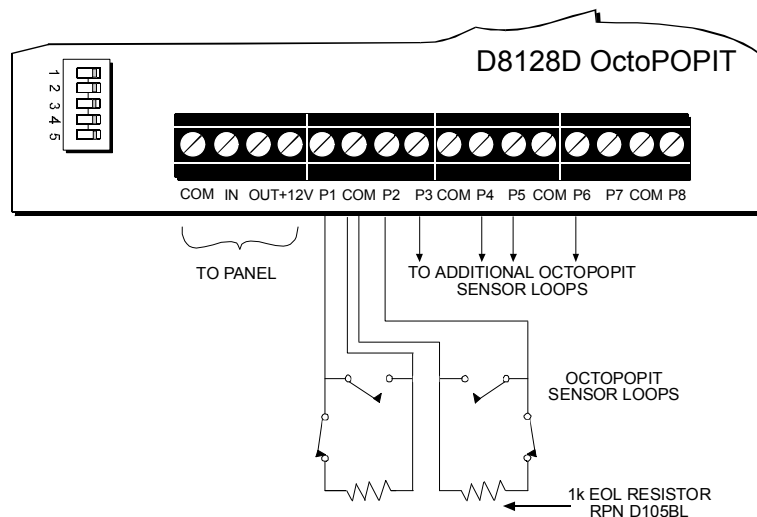


Figure 6: D8128D OctoPOPIT Sensor Loops

Take care not to duplicate point assignments. Points assigned to both an OctoPOPIT sensor loop and a POPIT, two OctoPOPIT sensor loops, or two POPITs do not function properly.

3.4.1 D8128D OctoPOPIT Switch Settings for D9412 and D9112

Refer to the table at right to set the OctoPOPIT switches for use with the D9412 and D9112 Control/Communicators.

Note: For the OctoPOPITs assigned to points 121-127 and 241-247, be sure to set Point Input Switch 8 to the OPEN position.

* Line Termination Switch (see section 3.1.1.2 Line Termination Switch Settings).

ZONEX 1	D8128D Address Switches					ZONEX 2
Points 9-127	1	2	3	4	5	Points 129-247
9-16	ON	ON	ON	ON	*	129-136
17-24	ON	ON	ON	OFF	*	137-144
25-32	ON	ON	OFF	ON	*	145-152
33-40	ON	ON	OFF	OFF	*	153-160
41-48	ON	OFF	ON	ON	*	161-168
49-56	ON	OFF	ON	OFF	*	169-176
57-64	ON	OFF	OFF	ON	*	177-184
65-72	ON	OFF	OFF	OFF	*	185-182
73-80	OFF	ON	ON	ON	*	193-200
81-88	OFF	ON	ON	OFF	*	201-208
89-96	OFF	ON	OFF	ON	*	209-216
97-104	OFF	ON	OFF	OFF	*	217-224
105-112	OFF	OFF	ON	ON	*	225-232
113-120	OFF	OFF	ON	OFF	*	233-240
121-127	OFF	OFF	OFF	ON	*	241-247

Table 5: OctoPOPIT Settings - D9412 and D9112

3.4.2 D8128D OctoPOPIT Switch Settings for D7412 and D7212

Refer to the table at right to set the OctoPOPIT switches for use with the D7412 and D7212

Control/Communicators.

* Line Termination Switch (see section 3.1.1.2 Line Termination Switch Settings).

Note: For the OctoPOPITs assigned to points 73-75, be sure to set Point Input Switches 4-8 to the OFF position.

ZONEX 1 Points 9-75	D8128D Address Switches				
	1	2	3	4	5
9-16	ON	ON	ON	ON	*
17-24	ON	ON	ON	OFF	*
25-32	ON	ON	OFF	ON	*
33-40	ON	ON	OFF	OFF	*
41-48	ON	OFF	ON	ON	*
49-56	ON	OFF	ON	OFF	*
57-64	ON	OFF	OFF	ON	*
65-72	ON	OFF	OFF	OFF	*
73-80	OFF	ON	ON	ON	*

Table 6: OctoPOPIT Settings - D7412 and D7212

3.4.3 D8128D OctoPOPIT Switch Settings for D9112B1

Refer to the table at right to set the OctoPOPIT switches for use with the D9112B1 Control/Communicator.

* Line Termination Switch (see section 3.1.1.2 Line Termination Switch Settings).

Note: For the OctoPOPITs assigned to points 65-72 or 129 - 135, be sure to set Point Input Switch 8 to the OFF position.

ZONEX 1 Points 9-72	D8128D Address Switches					ZONEX 2 Points 73-135
	1	2	3	4	5	
9-16	ON	ON	ON	ON	*	73-80
17-24	ON	ON	ON	OFF	*	81-88
25-32	ON	ON	OFF	ON	*	89-96
33-40	ON	ON	OFF	OFF	*	97-104
41-48	ON	OFF	ON	ON	*	105-112
49-56	ON	OFF	ON	OFF	*	113-120
57-64	ON	OFF	OFF	ON	*	121-128
65-72	ON	OFF	OFF	OFF	*	129-135

Table 7: OctoPOPIT Settings - D9112B1

3.4.4 D8128D OctoPOPIT Switch Settings for D7212B1

Refer to the table at right to set the OctoPOPIT switches for use with the D7212B1 Control/Communicator.

* Line Termination Switch (see section 3.1.1.2 Line Termination Switch Settings).

ZONEX 1 Points 9-48	D8128D Address Switches				
	1	2	3	4	5
9-16	ON	ON	ON	ON	*
17-24	ON	ON	ON	OFF	*
25-32	ON	ON	OFF	ON	*
33-40	ON	ON	OFF	OFF	*
41-48	ON	OFF	ON	ON	*

Table 8: OctoPOPIT Settings - D7212B1

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