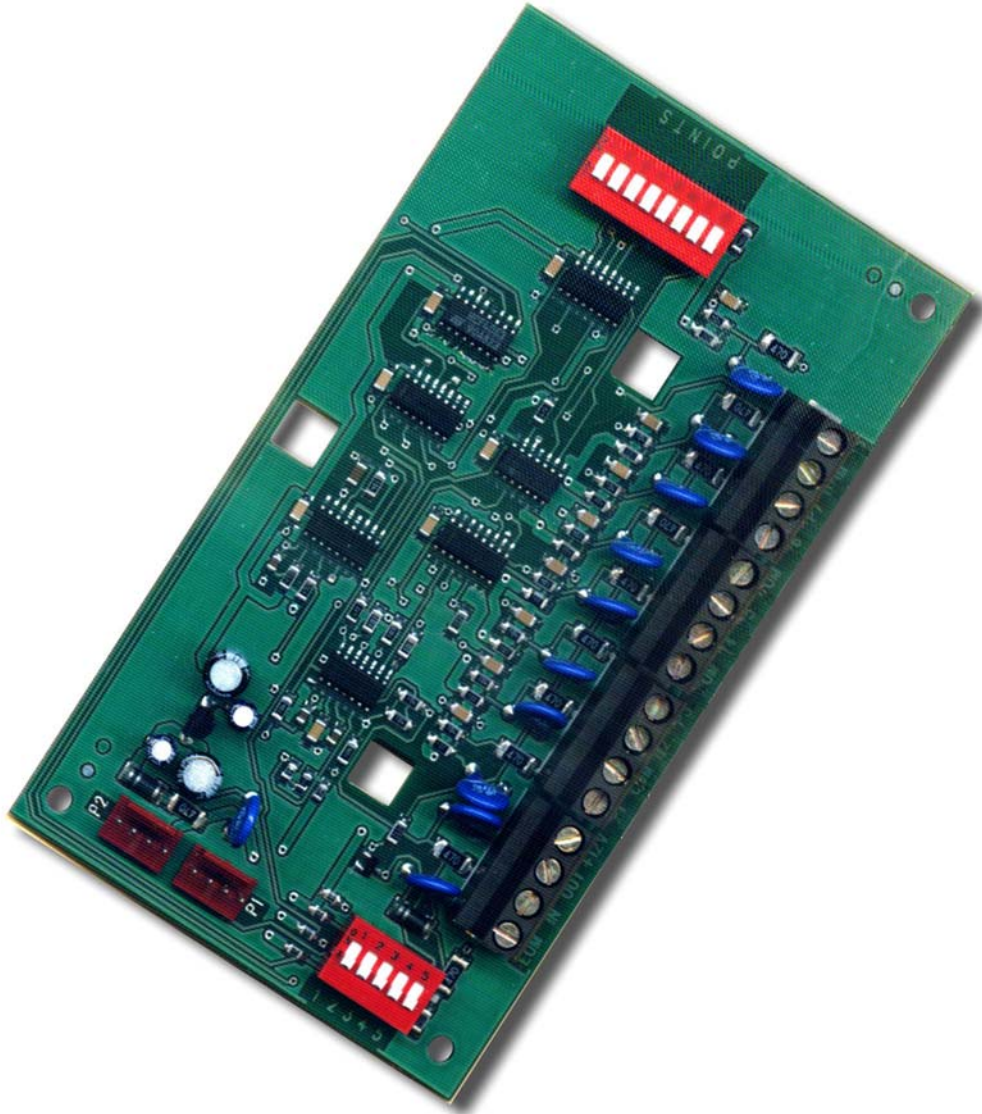


# D8128D OctoPOPIT Module

## Installation Guide



**BOSCH**

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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 (Class B [Style B]) in a single module. You can wire both the D8128D OctoPOPIT and D8125 POPEX in parallel to the ZONEX Bus Terminals on the same control panel.

### 1.1 Document Organization

Table 1 identifies the sections of this document.

Section	Description
1	Introduction
2	Overview
3	Installation

Table 1: Document Organization

### 1.2 Tips, Important Notes, Cautions, and Warnings

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



*Heed for successful operation and programming. Can also include tips and shortcuts.*



*Caution the operator that physical damage to the program and/or equipment can occur.*



*Warn of the possibility of physical damage to the operator, program, and/or equipment.*

### 1.3 Listings

The D8128D is Underwriters Laboratories, Inc. (UL) Listed for Local or Police Connected Burglary Alarm, Central Station Burglary Alarm, Household Burglary Alarm applications, and Commercial Fire applications (UL864 and NFPA 72). The D8128D is also suitable for Fire Supervisory applications, such as indicating circuit supervision using the D192G (D192C) Bell Circuit Supervision Module, sprinkler supervision, and valve tamper protection.

#### 1.3.1 Requirements for Fire Initiation Applications

You can connect non-powered, fire initiating devices such as pull-stations, heat detectors, and UL Listed four-wire smoke detectors directly to the D8128D point inputs.

The D125B Dual Powered Loop Interface Module or the D129 Dual Class A Module zone outputs can be connected directly to the D8128D point inputs. Use the D125B to connect two-wire smoke detectors. Generally, the D129 is used for connecting waterflow switches.

The D125B or D129 and the OctoPOPIT can be mounted in the same enclosure with the control panel or in a separate enclosure connected to the control panel's enclosure by conduit no more than 20 ft (6 m) long.



*The D7212GV4, D7212GV3, D7212GV2, and D7212G Control Panel is not listed for commercial fire applications.*

# D8128D

## 2.0 Overview

### 2.1 Specifications

<b>Compatible Panels</b>	Refer to <i>Table 3</i> .	
<b>Power Requirements</b>		
<b>Voltage:</b>	12 VDC nominal	
<b>Current:</b>	Standby (supervised): 25 mA maximum Alarm (all points shorted): 50 mA maximum	
<b>Environmental Considerations</b>		
<b>Operating Temperature:</b>	+32°F to +120°F (0°C to +49°C)	
<b>Relative Humidity:</b>	0% to 93%	
<b>Loop</b>		
<b>End-of-Line (EOL) Resistance:</b>	1 k $\Omega$	
<b>Wiring Resistance:</b>	100 $\Omega$ maximum	
<b>Response Time:</b>	Approximately 1 sec. OctoPOPIT sensor loops are supervised with a 1 k $\Omega$ EOL resistor, D105BL or D105FL, for fire supervisory applications.	
<b>Cabling</b>		
<b>Burglary Applications:</b>	D8128D OctoPOPITs can be installed up to 200 ft (61 m) 4 $\Omega$ maximum from the control panel using standard 4-conductor 22 AWG (0.8 mm) wire.	
<b>Fire Applications:</b>	Use UL Listed fire rated cable approved by the AHJ when connecting fire-initiating or fire-supervisory devices to the D8128D. You can locate the D8128D OctoPOPITs up to 200 ft (61 m), 4 $\Omega$ maximum from the control panel. You must mount the D8128D in a D8109 or D8108A Enclosure. When a D125B or D129 is required, mount it in the same enclosure as the D8128D OctoPOPIT.	
	<b>Control Panel Wiring Connection Requirements (Maximum Wire Resistance: 4 <math>\Omega</math>)</b>	
	<b>Maximum Distance</b>	<b>Wire Size</b>
	200 ft	22 AWG
	200 ft	18 AWG
	60 m	0.6 mm
	60 m	1.0 mm

**Table 2: D8128D Specifications**

**2.2 Compatible Control Panels and Maximum Number of D8128 Connections**

Review the power outputs section of your control panel’s operation and installation guide to ensure you provide enough power for the OctoPOPITs and other powered devices you want to connect to your system.

Use the D8128D with the control panels shown in *Table 3* below. The maximum number of D8128D Modules that can be connected to your system depends on the control panel being used. Refer to *Table 6* on page 11 for proper switch settings.

<b>Control Panel</b>	<b>Maximum Number of D8128D Modules</b>
B9512G <sup>1</sup>	30
B8512G <sup>1</sup>	9
D9412GV4	30
D7412GV4	9*
D7212GV4	4
D9412GV3	30
D7412GV3	9*
D7212GV3	4
D9412GV2	30
D9124GV2	30
D7412GV2	9*
D7212GV2	4
D9412G	30
D7412G	9*
D7212G	4
D9412	30
D7412	9*
D7212	4
D9112	30
D9112B1	16
D7212B1	4
D9124 w/D9112LTB	16
D9124 w/D9112LTB-EX	30
D9124 w/D9412GLTB	30

\* Use three points on the last OctoPOPIT.

<sup>1</sup>Requires a B600 Retrofit (ZONEX) Module

**Table 3: Compatible Control Panels and Maximum D8128D Connections**

# D8128D

The number of D8128D OctoPOPITs connected limits the number of D8129 Octo-relays that can be connected to each ZONEX Terminal.



**Using the D8129 Octo-relays and D8128D OctoPOPITs together on the same ZONEX Terminals is limited and depends on the number of D8128D OctoPOPITs and D8129 Octo-relays connected to a single ZONEX Bus. Table 4 shows the maximum number of D8128Ds and D8129s you can connect to a single ZONEX Bus.**

Number of D8128D Modules Connected to a Single ZONEX Bus	Maximum Number of D8129 Modules to Connect
9	6
10	5
11	4
12	3
13	1
14	1

**Table 4: Number of D8128D Modules Used with the D8129 Modules**

## 3.0 Installation

Before installing the D8128D OctoPOPIT, become familiar with the operation and installation guide and the program entry guide corresponding to your system. Follow the four-step process for the most effective installation:

- Set the OctoPOPIT switches.
- Mount the OctoPOPIT to the enclosure.
- Wire the OctoPOPIT.
- Wire the OctoPOPIT sensor loops.

### 3.1 Setting OctoPOPIT Switches

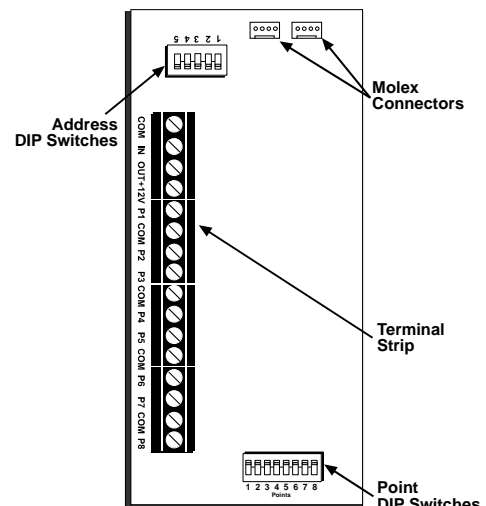
The D8128D has two sets of DIP switches. Use the DIP switches on the top of the unit (with the terminal strip along the left edge) to set the OctoPOPIT address. Use the DIP switches at the bottom of the unit to enable or disable individual points connected to the OctoPOPIT.

#### 3.1.1 Address Switches

The switches on the D8128D OctoPOPIT set point assignments and line termination (*Figure 1*). These switches are easier to set before mounting 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 control panel. *Table 6* on page 11 show the OctoPOPIT switch settings for point assignments, depending on the control panel being used.



**Figure 1: D8128D OctoPOPIT Layout**

##### 3.1.1.2 Line Termination Switch Settings

Switch 5 sets line termination.

- If no D8125 POPEX is connected to ZONEX 1, set switch 5 of **only one** D8128D connected to those terminals to the ON position.

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

### 3.1.2 Point DIP Switches

Each point connected to the D8128D is enabled or disabled by turning its respective DIP switch to the closed or open position, respectively. For example, to disable a device connected to Terminal P3 (Point 3), move DIP Switch 3 to the OPEN position.

Use the point DIP switches to disable conflicting points, such as when a D9210B Access Control Module must be assigned to a point within the range of the D8128D OctoPOPIT. In this example, a D9210B is assigned to Point 20. On the same system, a D8128D OctoPOPIT is assigned to Points 17 through 24. Moving the DIP switch for Point 4 to the OFF position effectively disables Point 20, allowing normal operation of the D9210B and the OctoPOPIT.

Terminate each OctoPOPIT sensor loop with a 1 k $\Omega$  EOL resistor. Attach a resistor even if you do not enable the loop.

## 3.2 Mounting the D8128D

You can install the D8128D in the enclosure with the control panel using standard four-conductor 22 AWG (0.8 mm) wire or in a separate enclosure (such as D8103, D8108A, or D8109) up to 200 ft (61 m) from the control panel. Use the recommended shielded standard four-conductor 22 AWG (0.8 mm) wire. Refer to the cabling specifications in *Table 2* on page 4 when using the D125B or the D129.

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

To install the D8128D in the control panel enclosure:

1. Align the D8128D with any of the four mounting locations in the enclosure (*Figure 2*).
2. Secure the module to the enclosure using the supplied screws.

Use the D137 Mounting Bracket to install D8128D Modules in enclosures with no module-mounting locations available.

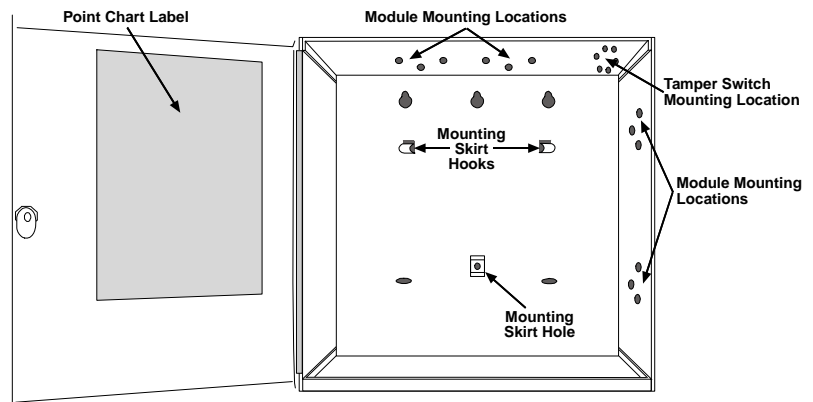


Figure 2: Mounting Enclosure

# D8128D

## 3.3 Wiring



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

To power down the control panel, disconnect the positive (red) battery lead at the battery and unplug the transformer.

- The D8128D can be installed up to 200 ft (61 m) from the control panel.



**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 Connect the D8128D to the Control Panel using the Terminal Strip

When connecting the D8128D to the control panel using the D8128D terminal strip, make the following connections.

D8128D	D9412GV4, D9412GV3, D9412GV2, D9412G, D9412, D9112, D9112B1, D9124
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	D7412GV4, D7212GV4, D7412GV3, D7212GV3, D7412GV2, D7212GV2
Common	Terminal 23
Out	Terminal 27
In	Terminal 28
+12 V	Terminal 24

D8128D	D7412G, D7412, D7212G, D7212B1, D7212
Common	Terminal 9
Out	Terminal 27
In	Terminal 28
+12 V	Terminal 3

D8128D	B600 connected to B9512G, B8512G
Common	COM ZONEX
Out	ZX 1 IN
	ZX 2 IN
In	ZX 1 OUT
	ZX 2 OUT
+12 V	PWR ZONEX

Table 5: Terminal Strip Connections



Figure 3 shows how to wire a D8128D to the control panel wired to a D8125 POPEX module.

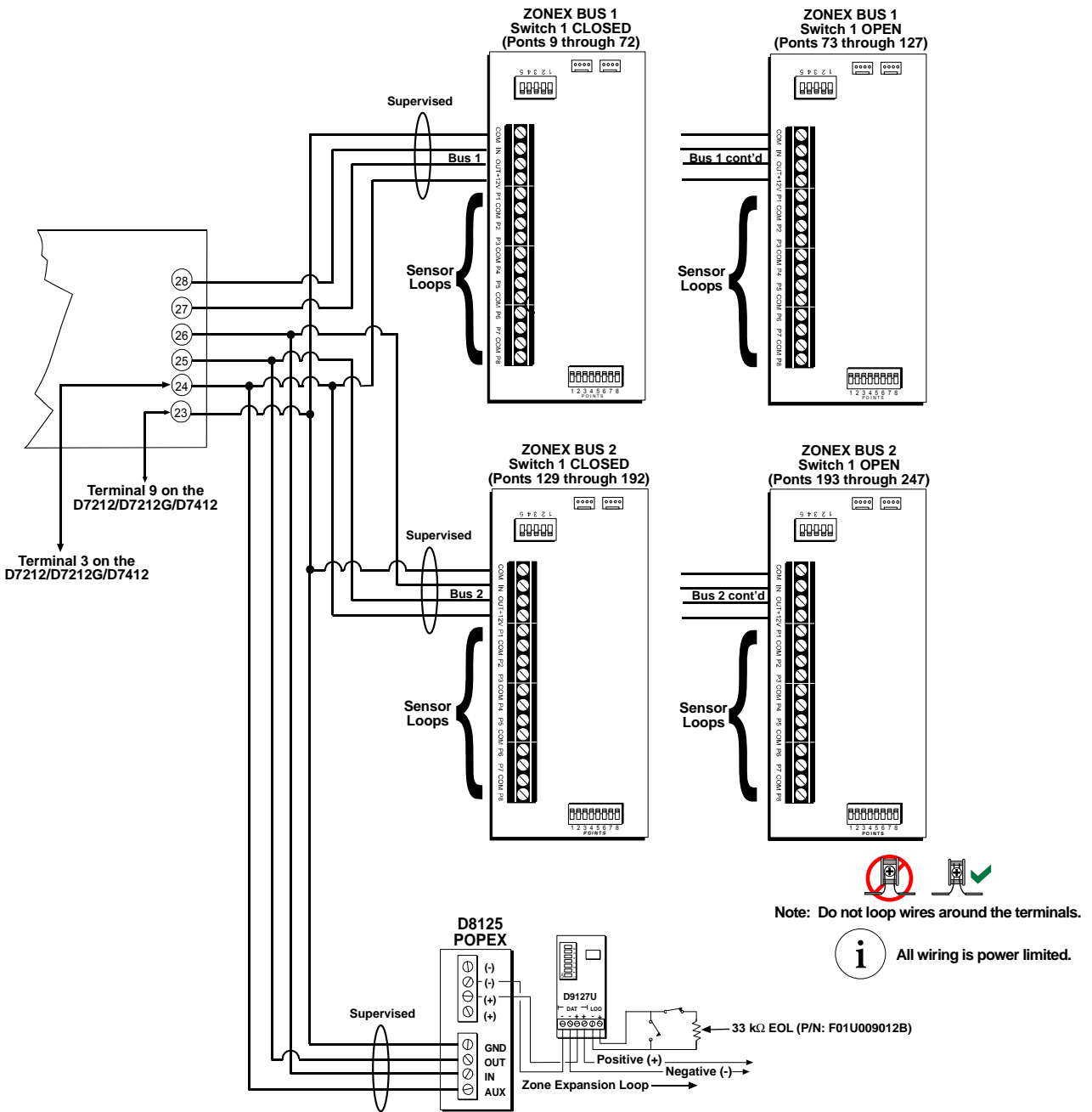


Figure 3: Wiring the D8128D to a Control Panel Wired to a D8125 POPEX Module

# D8128D

## 3.3.2 Wiring Multiple D8128D Modules to the Control Panel using Molex Connectors

Each D8128D includes a 12-in. (30 cm) female-to-female Molex cable assembly.

P1 and P2 are Molex connectors that parallel the COM, IN, OUT and +12 VDC terminals on the terminal strip. In installations using multiple D8128D Modules, use these connectors (as opposed to terminals) with the supplied cable. When connecting D8128D Modules directly to the control panel, use the terminal strip.

The supplied Molex connectors are keyed. A Molex plug can only fit in one direction. Ensure the connector is correctly attached, the red wire is on the bottom of P1 (or P2), and the black wire is on the top.

When connecting multiple D8128D Modules to a control panel, connect the control panel terminals to P1 or the Com, In, Out, and +12 V Terminals on the first D8128D. Then connect P2 of the first D8128D to P1 of the second D8128D and so on. Refer to *Figure 4*.

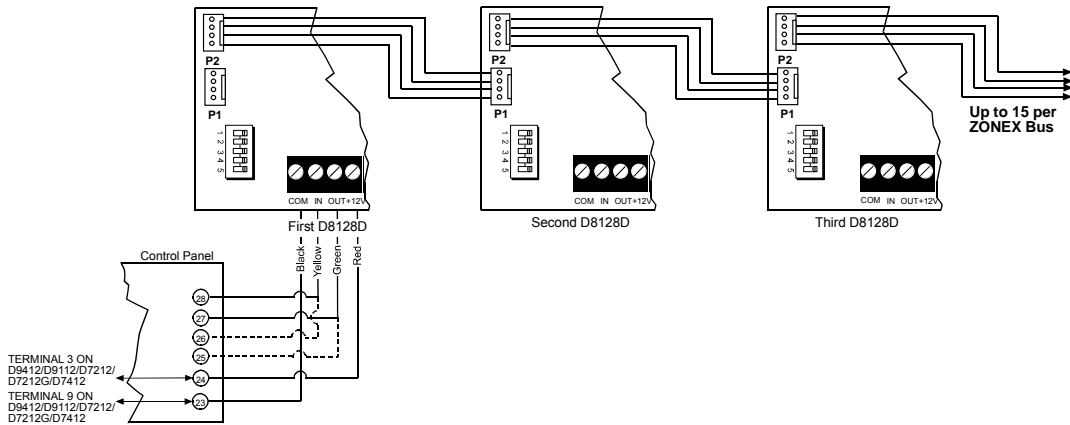


Figure 4: Wiring Multiple D8128D Modules Using Molex Connectors

## 3.4 Wiring OctoPOPIT Sensor Loops

### 3.4.1 OctoPOPIT Sensor Loops

Only the resistance on the loop limits the number of normally open (NO) and/or normally closed (NC) detection devices each sensor loop can supervise. Resistance on each sensor loop must be less than 100  $\Omega$  with the detection devices connected.

The OctoPOPIT detects open, short, normal, and grounded circuit conditions on its sensor loops and transmits the conditions to the control panel. Each sensor loop is assigned a point number and transmits to the control panel separately. 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.

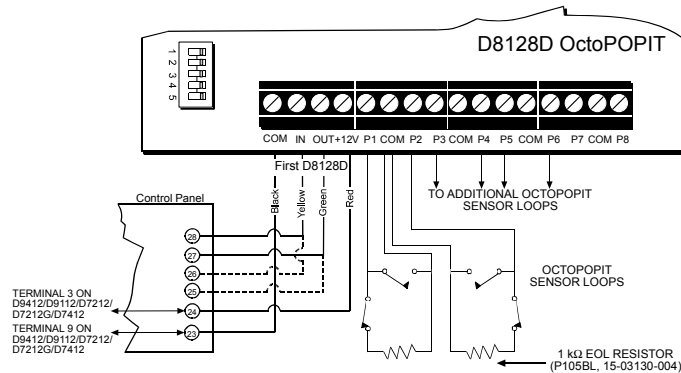


Figure 5: D8128D Sensor Loops

The OctoPOPIT has two rows of terminal numbers. 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  $\Omega$  EOL resistor.

Attach a resistor even if you do not enable the loop. The OctoPOPIT includes a D105BL resistor for each sensor loop.

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

### 3.4.2 Switch Settings for Control Panels

Refer to *Table 6* to set the OctoPOPIT address switches. Points 128 and 248 are reserved for ZONEX Bus supervision.

**Note: These settings work for all control panels.**

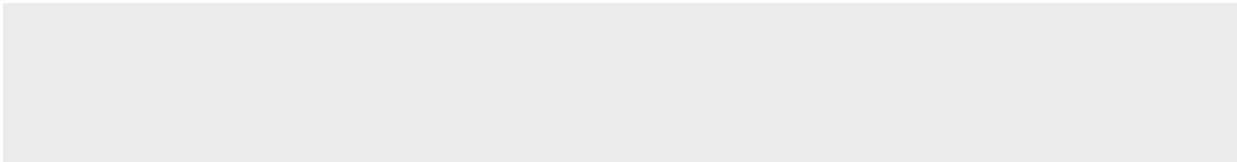
\* Line Termination Switch. Refer to *Section Line Termination Switch Settings* on page 6.

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

Table 6: D8128D Address Switch Settings



*After any programming or hardware change, do a functional test of the system as required by local codes.*



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