

D8129



Security Systems

EN | Operation and Installation Guide
OctoRelay Module

BOSCH

1. G Series Control Panels

The D8129 OctoRelay Module allows the addition of relay outputs to the system in groups of eight to the G-Series Control Panels (D9412G/D7412G/D7212G). On the D9412G, up to 128 OctoRelay outputs (relay numbers 1 to 128) can be added to the system using 16 OctoRelay modules. The D7412G allows up to 64 relay outputs. Review the *Power Outputs* section in the *D9412G/D7412G Operation and Installation Guide* (P/N: 43488) to be sure to provide enough power for the OctoRelays and other powered devices that will be connected to the system.

The D7212G supports up to 24 output relays (three D8129 OctoRelay Modules). Review the *Power Outputs* section in *D7212G Operation and Installation Guide* (P/N: 4998138544).

OctoRelays for relay numbers 1 to 64 connect to ZONEX 1, Terminal 28. OctoRelays for relay numbers 65-128 connect to ZONEX 2, Terminal 26 (D9412G only). See *Figure 1* and *Figure 2*.

Alarm output, auxiliary relay, sensor reset, arming status, point status, alarm memory, or remote functions can be assigned to the OctoRelay outputs individually. See the *Relay Parameters* section in the *D9412G/D7412G Program Entry Guide* (P/N: 47775) and the *D7212G Program Entry Guide* (P/N: 4998138538) for programming details.



The D8129 relay outputs are not supervised and cannot be used in fire or combined fire/burglary installations for primary indicating devices.

1.1 Specifications

Table 1: D8129 Specifications

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Power	Nominal 12 VDC supplied by the control panel	
Current Required	Idle	20 mA
	Maximum	200 mA (all relays energized)
Wire Requirement	D8112 Series	16 AWG to 22 AWG (1.5 mm to 0.8 mm) from 8112 Series Control Panel to D8129 (up to 61 m [200 ft.])
	G Series (D9412G/D7412G/D7212G)	16 AWG to 22 AWG (1.5 mm to 0.8 mm) from G Series Control Panel to D8129 (up to 1.5 m [5 ft.])
Relay Output	Form "C" dry contact (1.0 Amp at 12 VDC). During pulsed output, relay maintains closure for minimum of 1 second	

1.2 D8129 Configuration

Five switches on the OctoRelay determine the relay numbers for the eight relay outputs. *Table 2* shows the switch settings.

Table 2: D8129 OctoRelay Switch Settings

Relay Number	D8129 DIP Switch Setting	Connect to Control Panel:
1 to 8	OFF-ON-ON-ON-ON	ZONEX 1 Terminal 28
9 to 16	ON-OFF-ON-ON-ON	ZONEX 1 Terminal 28
17 to 24	OFF-OFF-ON-ON-ON	ZONEX 1 Terminal 28
25 to 32	ON-ON-OFF-ON-ON	ZONEX 1 Terminal 28
33 to 40	OFF-ON-OFF-ON-ON	ZONEX 1 Terminal 28
41 to 48	ON-OFF-OFF-ON-ON	ZONEX 1 Terminal 28
49 to 56	OFF-OFF-OFF-ON-ON	ZONEX 1 Terminal 28
57 to 64	ON-ON-ON-OFF-ON	ZONEX 1 Terminal 28
D9412G Only		
65 to 72	OFF-ON-ON-ON-ON	ZONEX 2 Terminal 26
73 to 80	ON-OFF-ON-ON-ON	ZONEX 2 Terminal 26
81 to 88	OFF-OFF-ON-ON-ON	ZONEX 2 Terminal 26
89 to 96	ON-ON-OFF-ON-ON	ZONEX 2 Terminal 26
97 to 104	OFF-ON-OFF-ON-ON	ZONEX 2 Terminal 26
105 to 112	ON-OFF-OFF-ON-ON	ZONEX 2 Terminal 26
113 to 120	OFF-OFF-OFF-ON-ON	ZONEX 2 Terminal 26
121 to 128	ON-ON-ON-OFF-ON	ZONEX 2 Terminal 26



Relay outputs may activate while setting the OctoRelay switches or programming the panel. You may wish to disconnect equipment connected to relay outputs when performing these functions.

1.3 Relay Outputs

Each OctoRelay output provides a Form “C” dry contact rated for 1.0 A at 12 VDC. Normally Open, Common, and Normally Closed terminals are available for each relay output. When an individual output is activated, there is continuity between the Normally Open and Common terminals. When the output is not activated, there is continuity between the Normally Closed and Common terminals.

1.4 Installation

Set the switches on the OctoRelay before installing it in the enclosure. See *Section 1.2 D8129 Configuration*.

Install the OctoRelay in the enclosure with the panel (see *Figure 3*) or in an adjacent enclosure no more than 1.5 m (5 ft.) from the panel. Use 16 AWG to 22 AWG (1.5 mm to 0.8 mm) wire.

Follow the steps below to install OctoRelays in the enclosure with the panel.

1. Align the module with one of the mounting locations in the enclosure. See *Figure 3* on page 7.
2. Use the screws provided with the module to secure it in the enclosure.

Use the D137 Mounting Bracket or D9002 Mounting Skirt to install OctoRelays in enclosures with no module mounting locations available.

1.5 Wiring Connections

Power down the panel to connect OctoRelays as shown in *Figure 1* and *Figure 2*.



OctoRelays for relay numbers 1 to 64 (1 to 24 for D7212G) connect to ZONEX 1, Terminal 28. OctoRelays for relay numbers 65 to 128 connect to ZONEX 2, Terminal 26 (D9412G only).

Only one OctoRelay is shown wired to each ZONEX bus in *Figure 1* and *Figure 2*. Wire additional OctoRelays in parallel. Review the *Power Outputs* section in the *D9412G/D7412G Operation and Installation Guide* (P/N: 43488) to be sure to provide enough power for the relays. Review the *Power Outputs* section in *D7212G Operation and Installation Guide* (P/N: 4998138544).

The number of D8129 OctoRelays that can be connected to each ZONEX terminal on the D9412G is limited by the number of D8128D OctoPOPITs connected.

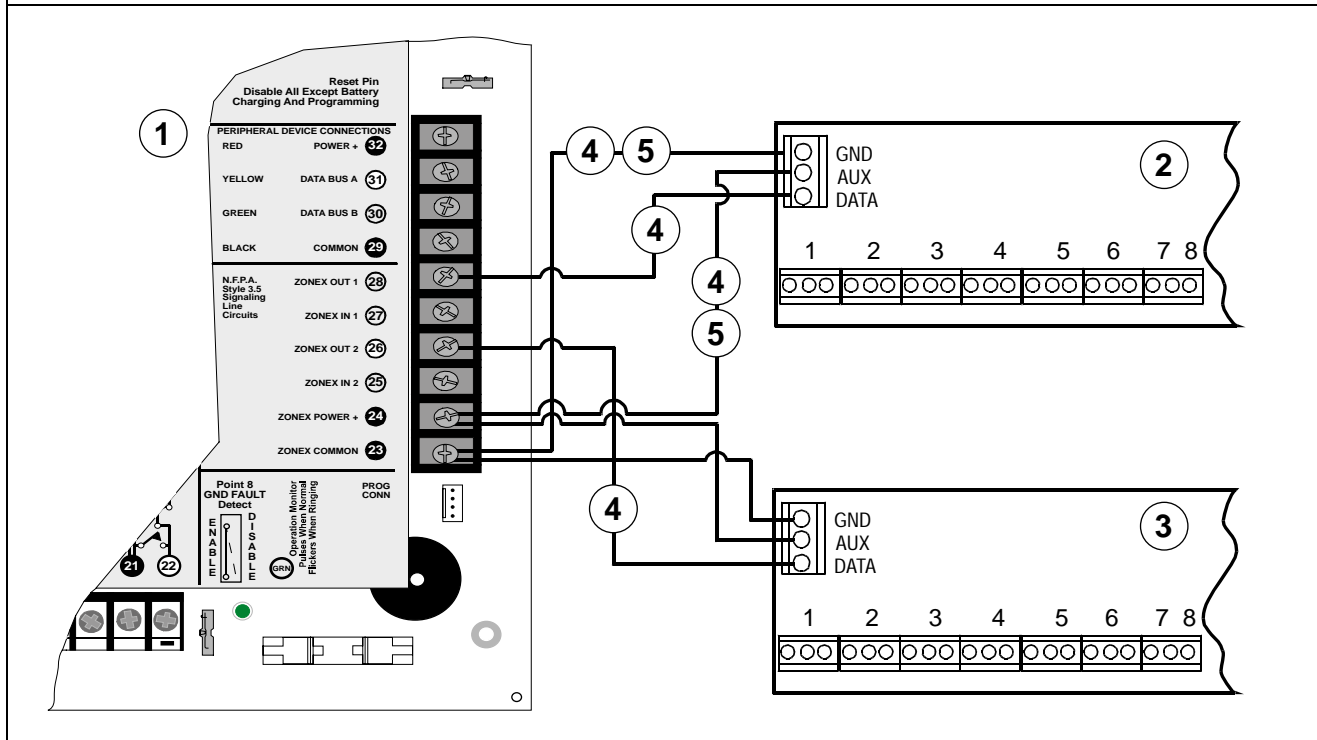


Using D8129 OctoRelays and D8128C/D8128D OctoPOPITs together on the same ZONEX terminals is limited, and depends on the number of D8128C/D8128D OctoPOPITs and D8129 OctoRelays connected to a single ZONEX Bus. Refer to *Table 3* for information on the maximum number of D8128Ds and D8129s that may be connected to a single ZONEX Bus. The D8114 Quad Serial Output Module can be used to add more OctoRelays when using OctoPOPITs. See the *D8114 Operation and Installation Manual* (P/N: 74-04984-000) and *Technogram* (P/N: 38776) for more information.

Table 3: Maximum Number of D8129s used with D8128Ds

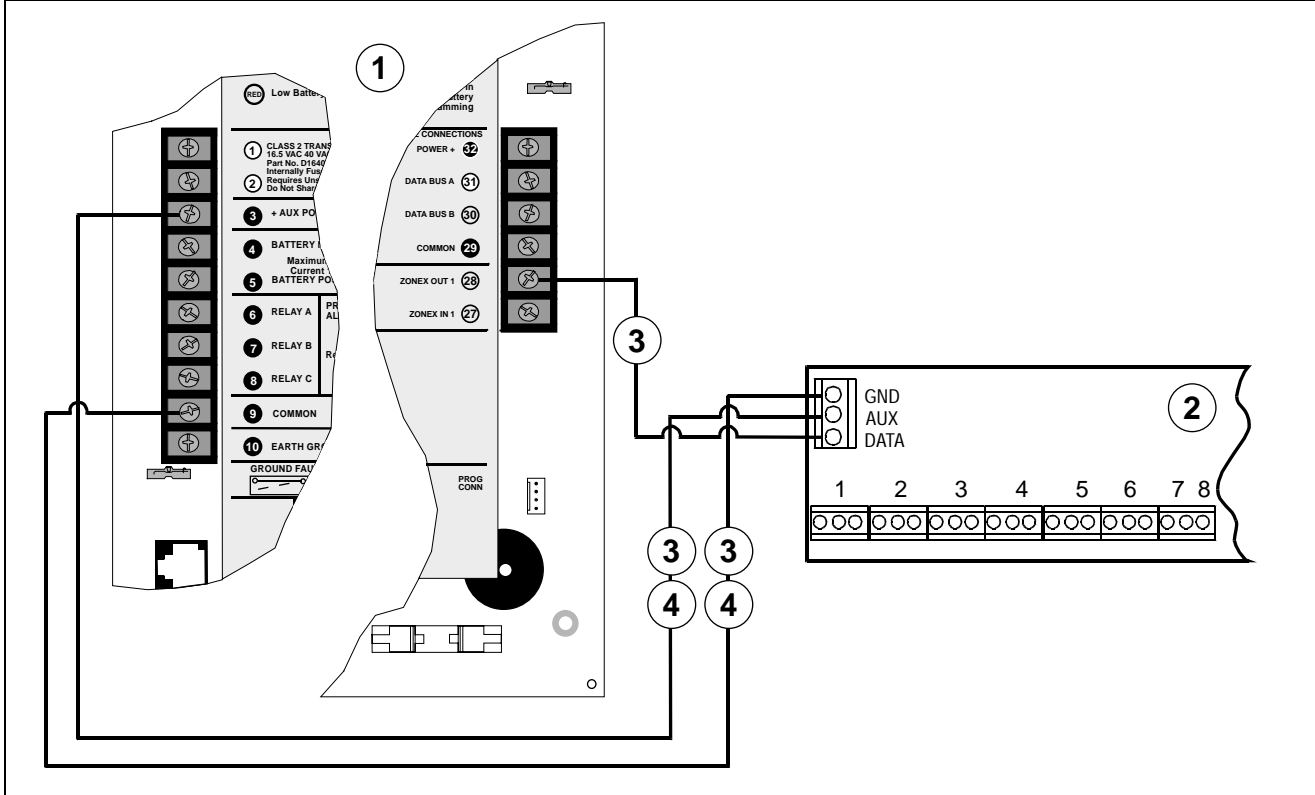
If the number of D8128Ds connected to a single ZONEX bus is:	then DO NOT connect more than this number of D8129s
9	6
10	5
11	4
12	3
13	2
14	1

Figure 1: D8129 Connections to the D9412G



- 1 - D9412G Control Panel
- 2 - D8129 OctoRelays for Relays 1 to 64. Connect OctoRelays in parallel.
- 3 - D8129 OctoRelays for Relays 65 to 128. Connect OctoRelays in parallel.
- 4 - Power Limited
- 5 - Supervised

Figure 2: D8129 Connections to the D7412G/D7212G



- 1 - D7412G/D7212G Control Panel
- 2 - D8129 OctoRelays for Relays 1 to 64 (1 to 24 for D7212G)
Connect OctoRelays in parallel.
- 3 - Power Limited
- 4 - Supervised

2. D8112 Series Control Panels

The D8129 OctoRelay Module is a relay-switching accessory for the D8112 Control panel. This module has eight dry contact relay outputs. Each relay provides Form “C” switching (rated at 1 A) to control various user-selected functions. The OctoRelay Module uses information taken from the D8112 serial data-out to selectively activate the relay outputs.

The Operation Mode determines how the OctoRelay Module responds to serial data. The Operation Mode selects the data needed to switch a specific relay, or set of relays, ON or OFF. Programming within the control panel affects OctoRelay responses to certain system conditions.



When more than one D8129 Module is installed in a system, each module responds in the same manner to Serial Data-Out unless each module is programmed for a different Operation Mode (see Section 2.1 Configuring the Operation Mode).

The D8129 may operate erratically when the control panel is connected to AC power only. Therefore, Bosch Security Systems recommends keeping the battery connected to the D8112 at all times. In addition to providing backup power, the battery also filters the AC power supply. The amount of ripple that appears on the control panel outputs depends on the condition of the battery.

2.1 Configuring the Operation Mode

A slide switch with multiple switch settings on the OctoRelay circuit board allows you to configure the D8129 OctoRelay Module for a specific mode of operation. The different modes of operation and associated switch settings are shown in Table 4.



Disconnect all external devices from the OctoRelay Module BEFORE setting the Operation Mode switches and BEFORE programming the control panel. The external devices may be unintentionally activated if they remain connected during configuration of switch settings and/or programming. Also, remove power when changing switch settings.



When the control panel’s CPU is busy processing other tasks, relay responses may be delayed. If a pulsed relay output is in progress when the CPU begins processing data, the relay may lock momentarily causing an irregular pulsed output.

The characteristics of each Operation Mode listed in Table 4 are described in the sections that follow. Many of the relay response characteristics of an Operation Mode are subject to control panel programming. See the applicable control panel Program Entry Guide for programming options.

All switches **except** Switch 5 are used in configuring the Operation Mode. The position of Switch 5 (ON or OFF) has no effect on the configuration of the Operation Mode.

Table 4: Operation Mode Switch Settings

Operation Mode	Switch Settings				
	1	2	3	4	5
Zone Status	ON	ON	ON	OFF	---
Alarm Memory	ON	OFF	ON	ON	---
Buzzer/Bell Output	OFF	OFF	ON	ON	---
System Status 12	ON	ON	OFF	ON	---
System Status 9	OFF	OFF	OFF	ON	---
Shunt Status	OFF	ON	ON	ON	---
Remote Control	OFF	ON	OFF	ON	---

2.1.1 Zone Status Mode (Switch Settings: 1 = ON, 2 = ON, 3 = ON, 4 = OFF)

The Zone Status Mode provides a relay output each time a protective zone is faulted, in alarm, shunted or force-armed. Each relay output has the same identifying number as its corresponding zone.

Table 5: Zone Conditions and Relay Responses

Zone Condition	Relay Response
Faulted	Relay activated by a faulted zone provides a steady output until fault is cleared.
Alarm	Relay activated by an alarm condition provides a rapid pulsing output and remains active until Command 4 is entered or until the arm/disarm passcode is re-entered.
Shunted or Force Armed	A relay activated by a zone that has been shunted provides a slow pulsing output.



D8112:MAIN, Program Item 103 SHOW must be programmed YES in order for the Zone Status Mode to operate properly. Also notice that the Response/Condition for each relay output is the same in the Zone Status Mode as shown in *Table 6*

Table 6: Zone Status Mode Relay Output Response Conditions

Relay	Response/Condition
1 to 8	Steady output for Zone fault, or rapid pulsing output for Zone Alarm, or slow pulsing output while Zone is shunted or force-armed.

2.1.2 Alarm Memory Mode (Switch Settings: 1 = ON, 2 = OFF, 3 = ON, 4 = ON)

The Alarm Memory Mode provides a steady relay output when an alarm is triggered from a protective zone. The relay remains energized until Command 4 is entered or until the Arm/Disarm passcode is re-entered. Each relay output has the same identifying number as its corresponding protective zone.

2.1.3 Buzzer/Bell Output Mode (Switch Settings: 1 = OFF, 2 = OFF, 3 = ON, 4 = ON)

The Buzzer/Bell Output Mode activates relays that correspond to specific system buzzer and bell responses. This mode also provides relay outputs in response to certain command center conditions. Specific relay responses enabled by this mode are shown in *Table 7*

In this mode, the relay outputs **do not** correspond to protective zones.

Table 7: Buzzer/Bell Output Mode Responses/Conditions

Relay #	Response/Condition
1	Steady output while any system keypad is lit.
2	Steady output while pulsed (Fire) bell is active.
3	Momentary closure each time a keystroke is acknowledged at a command center.
4	Steady output during buzzer activation from a command center or control panel.
5	Steady or momentary output depending on bell output from Terminal 6 of D8112.
6	Momentary closure when a perimeter zone is faulted during Watch Mode.

Table 7: Buzzer/Bell Output Mode Responses/Conditions

Relay #	Response/Condition
7	Steady output during silent alarm output (8112:MAIN, Program Item 94 Cmd 47 must be programmed NO) or when Command 47 is activated.
8	Do not connect any device to this output.

2.1.4 System Status-12 Mode (Switch Settings: 1 = ON, 2 = ON, 3 = OFF, 4 = ON)

System Status-12 Mode offers a set of relay responses that are activated by specific system events (see *Section 2.1.5 System Status-9 Mode* for more system event responses).

Table 8: System Status-12 Mode Responses/Conditions

Relay #	Response/Condition
1	Do not connect any device to this output.
2	Steady output begins when system is armed and remains energized until closing report is successfully received.
3	Steady output after an alarm has occurred. <ul style="list-style-type: none"> If the system is armed, relay remains energized until the system is disarmed. If the system is disarmed, relay remains energized until Command 4 or Arm/Disarm passcode is entered.
4	Steady output upon failure to communicate a report to a receiver after ten dialing attempts. <ul style="list-style-type: none"> Relay remains energized until Command 4 or Arm/Disarm passcode is entered, or until a subsequent report is successfully received.
5	Steady output when any zone has been force-armed. <ul style="list-style-type: none"> When programmed for local, relay remains energized until system is disarmed. When programmed as a reporting system, relay remains energized until a report is successfully received.
6	Steady output during AC power failure.
7	Steady output while low battery condition is displayed.
8	Steady output while listen-in is in progress. Relay remains energized until the programmed listen-in time expires.


2.1.5 System Status-9 Mode (Switch Settings: 1 = OFF, 2 = OFF, 3 = OFF, 4 = ON)

System Status-9 Mode offers a set of relay responses that are activated by specific system events (See *Section 2.1.4 System Status-12 Mode* for more system event responses).

In this mode, the relay outputs **do not** correspond to protective zones.

Table 9: System Status-9 Mode Responses/Conditions


Relay #	Response/Condition
1	Steady output while system is perimeter armed with Cmd 2 only (Perimeter Instant).
2	Steady output when the Command key is pressed. Relay remains energized until user exits Command Mode or until Command Mode times out.
3	Steady output while battery is discharging faster than it can be recharged. Relay remains energized until battery charging returns to normal.
4	Steady output while listen-in is in progress. Relay remains energized until listen-in expires.
5	Pulsing output during Exit Delay; steady when armed.
6	Steady output while system is perimeter armed with Cmd 2, 3 or 8.
7	Steady output while AC power is supplied to the system; pulsed output during AC fail.
8	Do not connect any device to this output.

 In Relay number 5 in *Table 9*, Relay continues to pulse until Closing Report is acknowledged by the central station receiver, then becomes a steady output and remains energized until the system is disarmed. If a COMFAIL occurs, the relay pulses until the system arming state is changed (from armed to disarmed or vice versa) with the arm/disarm passcode, or, when disarmed, use Command 4.

2.1.6 Shunt Status Mode (Switch Settings: 1 = OFF, 2 = ON, 3 = ON, 4 = ON)

The Shunt Status Mode allows individual relay responses when a zone is shunted or force armed. The specific relay response depends on zone code programming for the corresponding zone. When the control panel is appropriately programmed, the relay provides a steady output when activated.

Each relay output has the same identifying number as its corresponding protective zone. Some of the relay responses for systems using ZONEX are different from responses of non-ZONEX systems.

 When a zone programmed for “no Swinger Shunt” is force armed, the relay is energized until the system is disarmed.

When a zone programmed for “Swinger Shunt” is force armed, the relay is not energized.

When Swinger Shunt zones are manually shunted from the keypad or when the zone is shunted due to a swinger shunt condition, the relay is energized.

2.1.7 Systems using ZONEX (Bosch Zone Expansion System)

Force arming a zone programmed for **no** Swinger Shunt causes the relay output to be energized during the Exit Delay only.

When a zone programmed for Swinger Shunt is force armed, the relay is **not** energized.

When zones programmed for Swinger Shunt are manually shunted from the keypad, the relay is energized. When a Swinger Shunt zone is shunted by the system, the relay is **not** energized.

2.1.8 Remote Control Mode (Switch Settings: 1 = OFF, 2 = ON, 3 = OFF, 4 = ON)

The Remote Control Mode allows the relay outputs to be manipulated by any one of the following means:

- Commands entered by the central station operator using the Bosch Security Systems Remote Programming Software (RPS)
- Command 54 entered by the user from an Alpha II Command Center
- Systems with the Access Control feature
- Systems with the Skeds feature

2.2 Installation

The OctoRelay Module is designed for mounting as follows:

- As a local installation, inside the control panel enclosure
- As a remote installation, in a separate security enclosure

When mounting the D8129 inside the enclosure (such as the D8103, D8108A, D8109, or the D203), align the module with any of the four mounting locations and secure the module in place with three mounting screws, or use a D137 Mounting Bracket. See *Figure 3*.

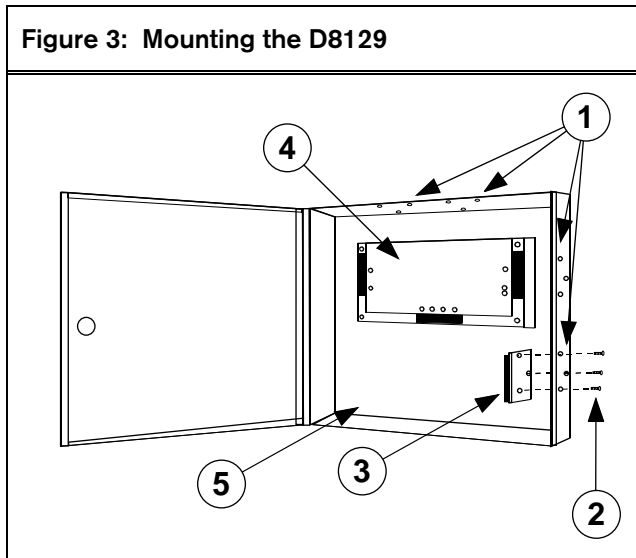


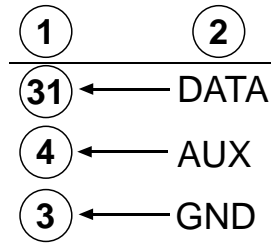
Figure 3: Mounting the D8129

- 1 - Mounting Locations (4)
- 2 - Mounting Screws (3)
- 3 - D8129 OctoRelay Module
- 4 - Control Panel
- 5 - Control Panel Enclosure

2.3 Wiring

The OctoRelay is linked to the control panel by three wire connections: =12 VDC, Common and Serial Data-Out (see *Figure 4*). These wires are connected to a three-wire terminal block on the D8129 module.

Figure 4: D8129 Wire Connections



1 - D8112 Terminal

2 - D8129 Terminal

2.4 Relay Outputs

Each relay output provides a Normally-Open and a Normally-Closed output. Three terminals are available in each relay output position: (1) Normally-Open, (2) Common [pole], and (3) Normally-Closed. The silkscreen on the edge of the D8129 circuit board clearly identifies the function of each terminal and the relay output number.

The middle terminal of each output position is the pole of the relay and is labeled COMM. When the relay is in an inactive state, the Normally-Closed terminal (labeled NC) has continuity with the COMM terminal. When the relay is in an active (energized) state, the Normally-Open terminal (NO) has continuity with the COMM terminal.

Notes:

Notes:

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