D8129

EN | Installation and Operation Guide
Octo-relay Module

BOSCH

1.0   G Series Control Panels

Use the D8129 Octo-relay Module to add programmable relay outputs to the system in groups of eight to the G Series Control Panels (D9412GV4, D7412GV4, D7212GV4, D9412GV3, D7412GV3, D7212GV3, D9412GV2, D7412GV2, D7212GV2, D9412G, D7412G, D7212G), the D9124 control panel, and the new G Series control panels (B9512G, B8512G).

The new G Series panels (B9512G, B8512G) require the B600 Retrofit (ZONEX) Module to use the B8129.

On the B9512G, D9412GV4, D9412GV3, D9412GV2, and D9412G, you can add up to 128 Octo-relay outputs (relay numbers 1 to 128) to the system using 16 D8129 Modules. The B8512G, D7412GV4, D7412GV3, D7412GV2, and D7412G allow up to 64 relay outputs. Review the control panel installation and compliance documents to determine the number of D8129 modules each panel can support and any power requirements and limitations.

The D7212GV4, D7212GV3, D7212GV2, and D7212G support up to 24 output relays (3 D8129 Modules).

The D8129 Modules for relay numbers 1 to 64 connect to ZONEX 1. The D8129 Modules for relay numbers 65 to 128 connect to ZONEX 2. Refer to *Figure 1* and *Figure 2* on page 3.

The D8129 outputs can be assigned functions individually. Functions include alarm, auxiliary relay, sensor reset, arming status, and point status. Review the control panel installation or programming documents, or RPS help for complete programming details.

> ☑ The D8129 relay outputs are not supervised and cannot be used for the primary indication device in commercial fire applications.

> ⚡ It is possible for relay outputs to activate while setting the D8129 switches, or changing the control panel programming. You can disconnect the equipment connected to relay outputs when performing these functions.
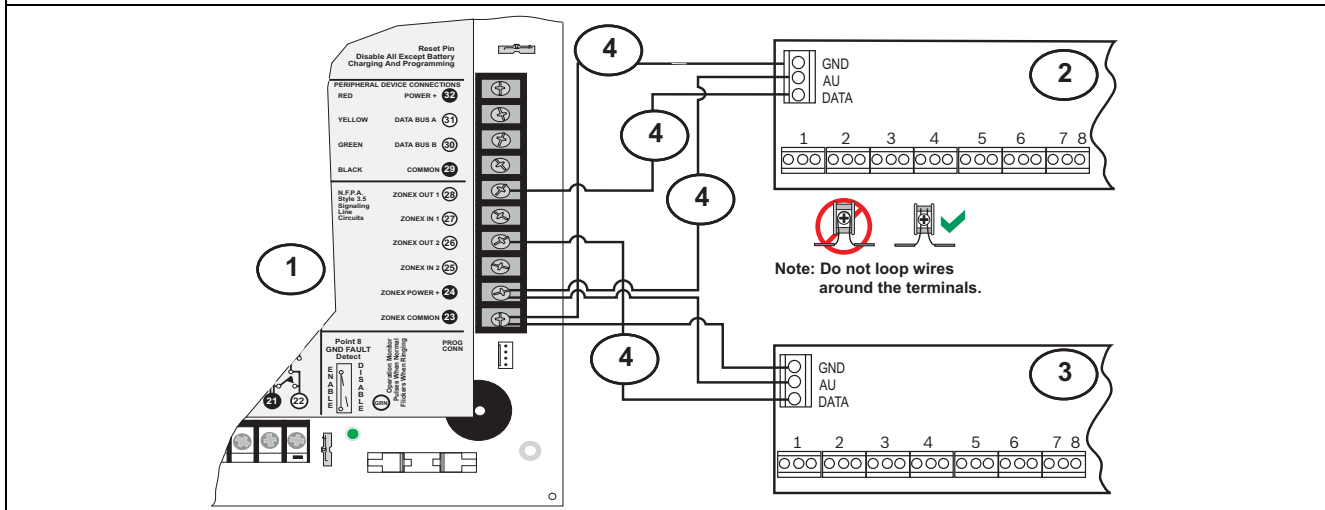
1.1   Specifications

Table 1:	Specifications
Voltage	Nominal 12 VDC
Current	130 mA maximum

Wiring	UL864 Control Panel Wiring Connection Requirements	
	Maximum Wire Resistance: 0.1 Ω	
	Maximum Distance	**Wire Size**
	5 ft	22 AWG
	5 ft	18 AWG
	1.5 m	0.6 mm
	1.5 m	1.0 mm
	Non-UL864 Control Panel Wiring Connection Requirements	
	Maximum Wire Resistance: 4 Ω	
	Maximum Distance	**Wire Size**
	200 ft	22 AWG
	200 ft	18 AWG
	60 m	0.6 mm
	60 m	1.0 mm

Relay Output (Form "C" dry contact)	Resistive Load Maximums	Voltage – 5-24 VDC
		Current – 1 mA - 1 Amp
	During pulsed operation, the relay will maintain closure for minimum of 1 sec.	

1.2   Configuration

Five D8129 switches determine the relay numbers for the eight relay outputs. *Table 2* shows the switch settings.
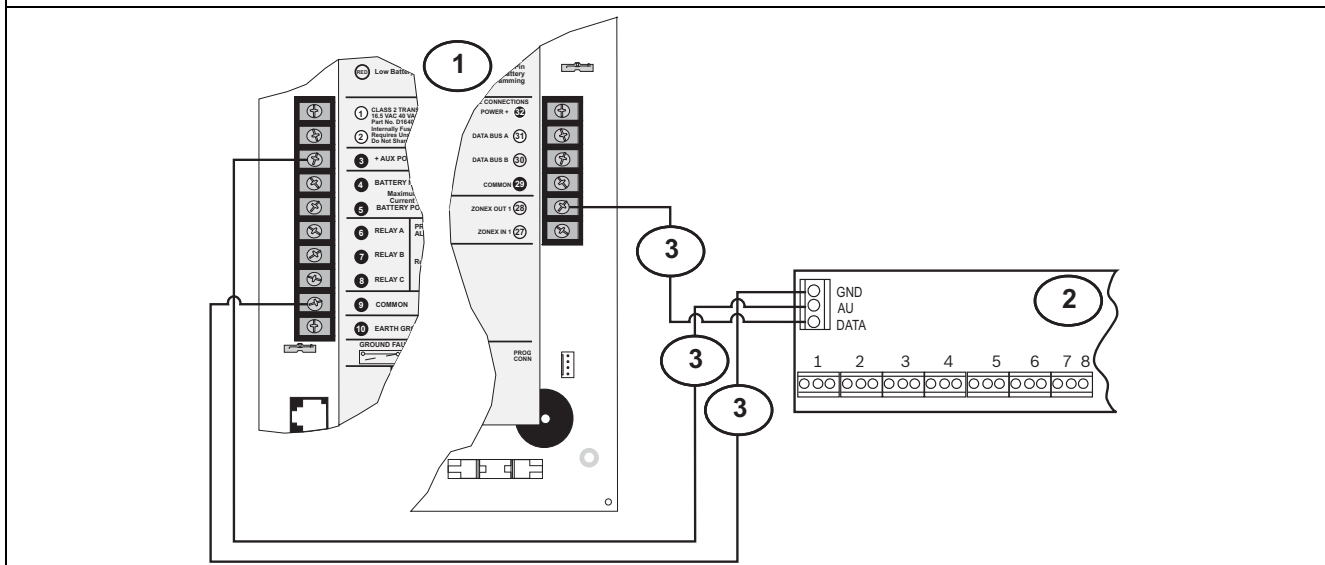
Table 2:	DIP Switch Settings	
Relay Number	**DIP Switch Setting**	**Control Panel or B600 Connection**
1 to 8	OFF-**ON-ON-ON-ON**	ZONEX 1
9 to 16	ON-OFF-**ON-ON-ON**	ZONEX 1
17 to 24	OFF-OFF-**ON-ON-ON**	ZONEX 1
25 to 32	**ON-ON**-OFF-**ON-ON**	ZONEX 1
33 to 40	OFF-**ON**-OFF-**ON-ON**	ZONEX 1
41 to 48	**ON**-OFF-OFF-**ON-ON**	ZONEX 1
49 to 56	OFF-OFF-OFF-**ON-ON**	ZONEX 1
57 to 64	**ON-ON-ON**-OFF-**ON**	ZONEX 1
65 to 72	OFF-**ON-ON-ON-ON**	ZONEX 2
73 to 80	**ON**-OFF-**ON-ON-ON**	ZONEX 2
81 to 88	OFF-OFF-**ON-ON-ON**	ZONEX 2
89 to 96	ON-ON-OFF-**ON-ON**	ZONEX 2
97 to 104	OFF-**ON**-OFF-**ON-ON**	ZONEX 2
105 to 112	**ON**-OFF-OFF-**ON-ON**	ZONEX 2
113 to 120	OFF-OFF-OFF-**ON-ON**	ZONEX 2
121 to 128	**ON-ON-ON**-OFF-**ON**	ZONEX 2

Figure 1:   D8129 Connections to the D9412GV2, D9412G, D9124

| 1 - | Control Panel | 4 - | Power limited |
| 2 - | ZONEX 1 Connection (Relays 1 to 64) - connect multiple D8129 modules in parallel. | | |
| 3 - | ZONEX 2 Connection (Relays 65 to 128) - connect multiple D8129 modules in parallel. | | |

Figure 2:   D8129 Connections to the D7412GV2, D7212GV2, D7412G, D7212G

| 1 - | Control Panel | 3 - | Power limited |
| 2 - | ZONEX 1 Connection for Relays 1 to 64 (1 to 24 for D7212GV2/D7212G). Connect multiple D8129 modules in parallel. | | |

Figure 3:   D8129 Connections to the B600 Retrofit (ZONEX) Module and B9512G or B8512G

1 -   Control Panel
2 -   ZONEX 1 Connection cable
3 -   SDI interconnect cable
4 -   B600 Retrofit (ZONEX) module
5 -   Power limited
6 -   ZONEX 1 Connection for Relays 1 to 64
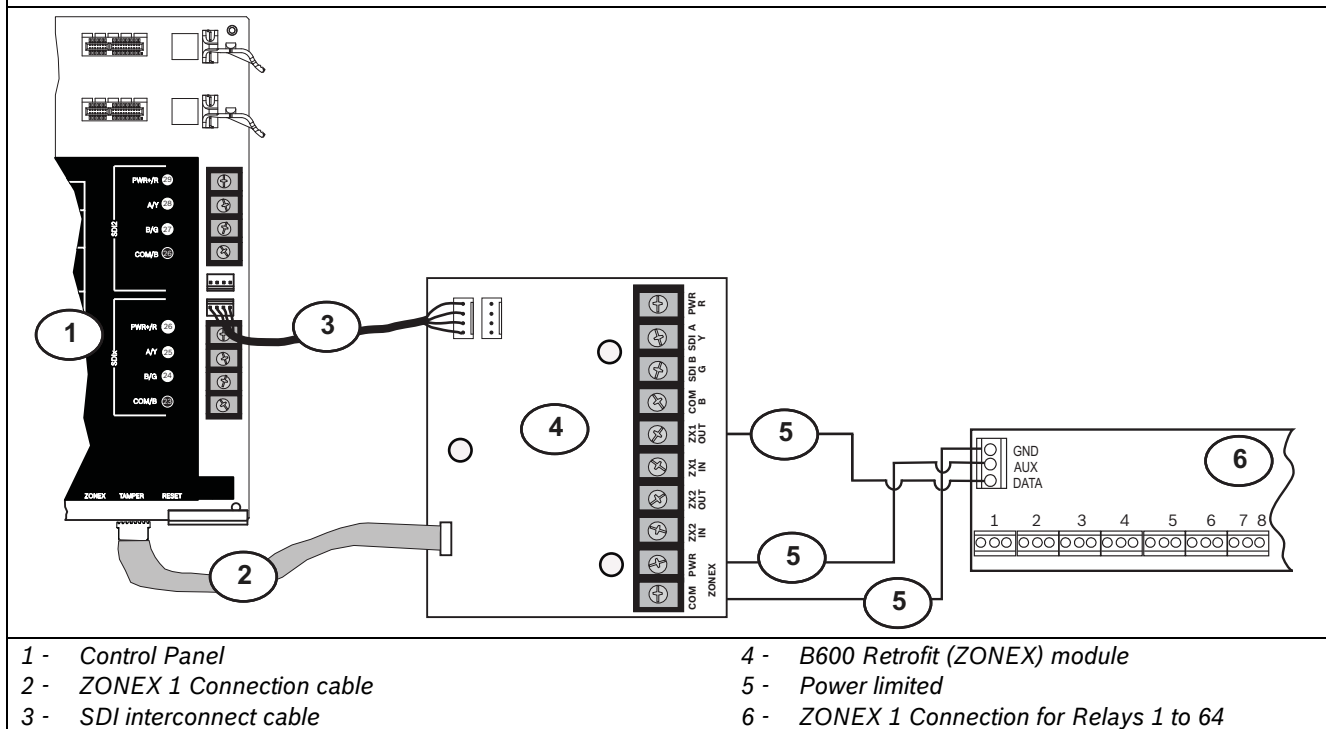
1.3   Relay Outputs

Each D8129 output provides a Form "C" dry contact relay. Normally open (NO), common (COMM), and normally closed (NC) terminals are available for each relay output. There is continuity between the NO and COMM terminals when an individual output is active. There is continuity between the NC and COMM terminals when the output is not active.

1.4   Installation

Set the D8129 switches before installing it in the enclosure. Refer to *Section 1.2 Configuration* on page 2. Install the D8129 in the control panel enclosure or in an adjacent enclosure. Refer to Table 1 on page 2 for wiring requirements.

To install the D8129 in the control panel enclosure:

1. Align the D8129 with a mounting location in the enclosure.
2. Use the supplied screws to secure the D8129 in the enclosure.

Use the D137 Mounting Bracket or the D9002 Mounting Skirt to install D8129 Modules in enclosures without module mounting locations.

1.5   Wiring Connections

Power down the control panel to connect the D8129. Refer to *Figure 1* and *Figure 2* on page 3.

> The Octo-relays for relay numbers 1 to 64 (1 to 24 for D7212GV4, D7212GV3, D7212GV2, D7212G) connect to ZONEX 1, Terminal 28. Octo-relays for relay numbers 65 to 128 connect to ZONEX 2, Terminal 26 (B9512G, D9412GV4, D9412GV3, D9412GV2, D9412G only).

In *Figure 1* and *Figure 2,* only one D8129 is shown wired to each ZONEX bus. Wire additional Octo-relays in parallel. Review the power outputs section in the control panel Installation and Operation Guide to ensure there is enough power for the relays.

The number of D8129 Modules you can connect to each ZONEX terminal is limited by the number of D8128D OctoPOPITs connected.

> Using D8129s with D8128C/D8128Ds on the same ZONEX terminals is limited, and depends on the number of D8128C/D8128Ds and D8129s connected to a single ZONEX bus. Refer to *Table 3* for information on the maximum number of D8128Ds and D8129s you can connect to a single ZONEX bus.

Table 3:   Maximum Number of D8129s Used with the D8128D

If the number of D8128D Modules connected to a single ZONEX Bus is:	Do not connect more than this number of D8129 Modules:
9	6
10	5
11	4
12	3
13	2
14	1

2.0   D8112 Series Control Panels

☑ When more than one D8129 is installed in a system, each D8129 responds in the same manner unless each D8129 is programmed for a different Operation Mode.

2.1   Configuring the Operation Mode

☑ Disconnect all external devices from the D8129 before setting the Operation Mode switches and before programming the control panel. The external devices might be unintentionally activated if they remain connected during configuration of switch settings and/or programming. Also, remove power when changing switch settings.

The following sections describe each Operation Mode characteristic listed in *Table 4* on page 5. Many relay response characteristics of an Operation Mode are subject to control panel programming. Refer to the applicable control panel program entry guide for programming options.

Use all switches **except** Switch 5 to configure the Operation Mode. The Switch 5 position (ON or OFF) has no effect on the Operation Mode configuration.

Table 4:   Operation Mode Switch Settings

	Switch Settings				
Operation Mode	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	A relay activated by a faulted zone provides a steady output until fault is cleared.
Alarm	A 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 for the Zone Status Mode to operate properly. Note that the response or condition for each relay output is the same in the Zone Status Mode as (*Table 6*).

Table 6:   Zone Status Mode Relay Output Response or Condition

Relay	Response or Condition
1 to 8	Steady output for Zone fault, rapid pulsing output for Zone Alarm, or slow pulsing output while the 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 activated from a protective zone. This 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 and Bell Output Mode Responses or Conditions

Relay #	Response or 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.
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 activated by specific system events. Refer to *Section 2.1.5 System Status-9 Mode* (Switch Settings: 1 = OFF, 2 = OFF, 3 = OFF, 4 = ON) for more system event responses.

Table 8:	System Status-12 Mode Responses or Conditions

Relay #	Response or Condition
1	Do not connect any device to this output.
2	Steady output begins when the system is armed, and remains energized until a Closing Report is successfully received.
3	Steady output after an alarm occurs. If the system is armed, the relay remains energized until the system is disarmed. • If the system is disarmed, the relay remains energized until Command 4 or Arm/Disarm passcode is entered.
4	Steady output when the system fails to send a report to a receiver after 10 dialing attempts. 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 is force-armed. • When programmed for local, the relay remains energized until the system is disarmed. • When programmed as a reporting system, the relay remains energized until a report is successfully received.
6	Steady output during AC power failure.
7	Steady output while low battery condition is shown.
8	Steady output while Listen-In is in progress. The 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. Refer to *Section* 2.1.4 *System Status-12 Mode (Switch Settings: 1 = ON, 2 = ON, 3 = OFF, 4 = ON)* for more system event responses). In this mode, the relay outputs **do not** correspond to protective zones.

Table 9:	System Status-9 Mode Responses or Conditions

Relay #	Response or Condition
1	Steady output while the system is perimeter armed with Command 2 only (Perimeter Instant).
2	Steady output when [Command] key is pressed. Relay remains energized until user exits from the 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 the system is perimeter armed with Command 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.

☑ Relay 5 (*Table 9*) continues to pulse until the Closing Report is acknowledged by the central station receiver. Then the relay 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 correctly programmed, the relay provides a steady output when activated.

Each relay output has the same identifying number as its corresponding protective zone. Some 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 does not energize.

When Swinger Shunt zones are manually shunted from the keypad or when the zone is shunted because of 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 energizes the relay output during the Exit Delay only.

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

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

2.1.8   Remote Control Mode (Switch Settings: 1 = OFF, 2 = ON, 3 = OFF, 4 = ON)
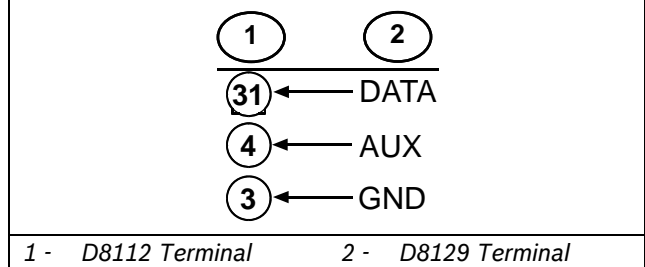
The Remote Control Mode allows the relay outputs to be manipulated by any one of the following methods:

- Commands entered by the central station operator using the Bosch 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   Wiring

The D8129 is linked to the control panel by three wire connections: =12 VDC, Common, and Serial Data-Out (*Figure 3*). These wires are connected to a three-wire terminal block on the D8129.

Figure 3:   **D8129 Wire Connections**

1 - D8112 Terminal	2 - D8129 Terminal