



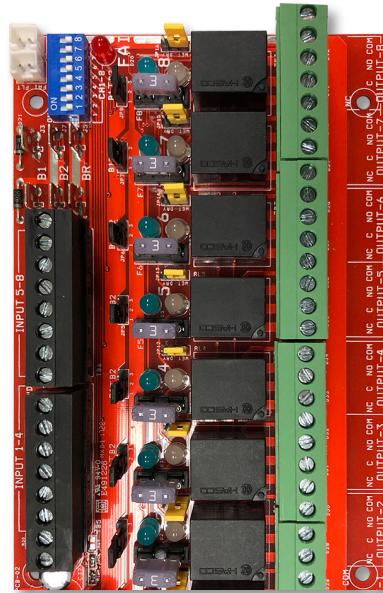
Power is knowledge.™

R8/R8P Installation Manual

LifeSafety Power®



FLEXPOWER®



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Table of Contents

Description 1
 Specifications 1
 Regulatory Information 1
 Mounting the Power Control Modules 1
 Power Control Accessory Overview 2
 Connecting the Power Control Modules 5
 R8 Output Diode Removal 5

Description

The R8 module accepts one or two voltage sources, either of which are selectable for output on a zone-by-zone basis. Each zone is fully controllable via a zone input which accepts a NO dry contact. Each zone output is selectable for FAI operation and is compatible with fail safe or fail secure locks. The suffix "P" added to the model number denotes Class 2 Power Limited outputs.

Specifications

Input	Voltage	12-24VDC -15%
	Current	12A maximum
	Standby Current	0.6A@12V, 0.3A@24V (All relays energized)
Output	Voltage	Same as input
	Current (R8)	3A Resistive
	Current (R8P)	2.5A Resistive (Class 2 Power Ltd)
	Current (Dry Contact)	5A @ 28VDC Resistive
		5A @ 120VAC Resistive
Fuse (R8 Only)	3A ATM automotive style	

For ULC S533 Installations: Wiring methods shall be in accordance with CAN/ULC-S524 Installation of Fire Alarm Systems

Use Typical Wiring Material Type: UL/CSA recognized insulated wire, Insulation rating 300V or higher, 105C or higher, such as UL AWM Style 1581

The maximum length of output wire on OUT1 - OUT8 is limited to the allowable voltage drop on the wire. As a reference, with AWG14 wire (2.525 Ohm/1000ft), connected to an electric strike rated at 24V/0.25A, minimum allowable voltage at the strike terminals is 21.6V (-10% of nominal), the allowable voltage drop on round trip wire is 3.4V. The maximum length of output wire is calculated to be 2693 feet (one way).

Regulatory Information

The equipment discussed within this manual has been tested to the following standards:

- UL294, UL603, UL1076
- ULC S318, ULC S319, ULC S533
- CSA C22.2 #205
- CSFM Approved

Mounting the R8/R8P Power Control Modules

Mounting of the board to an enclosure is via the four snap-in standoffs supplied.

1. Locate the appropriate mounting holes in the enclosure and snap the standoffs into the holes.
2. Align the board mounting holes with the standoffs (be sure the PC board is properly oriented) and snap the board onto the standoffs.



Class 2 power limited wiring must be seperated from non-power limited wiring by a minimum of 1/4 inch and must use seperate knockouts.

The installation and all wiring methods shall be in accordance with ANSI/NFPA70 and all local codes.

For ULC compliance, installation and all wiring methods shall be in accordance with the Canadian Electrical Code, C22.1, Part I, Section 32 .

All input wiring to the module shall be located within the same room (3 m).

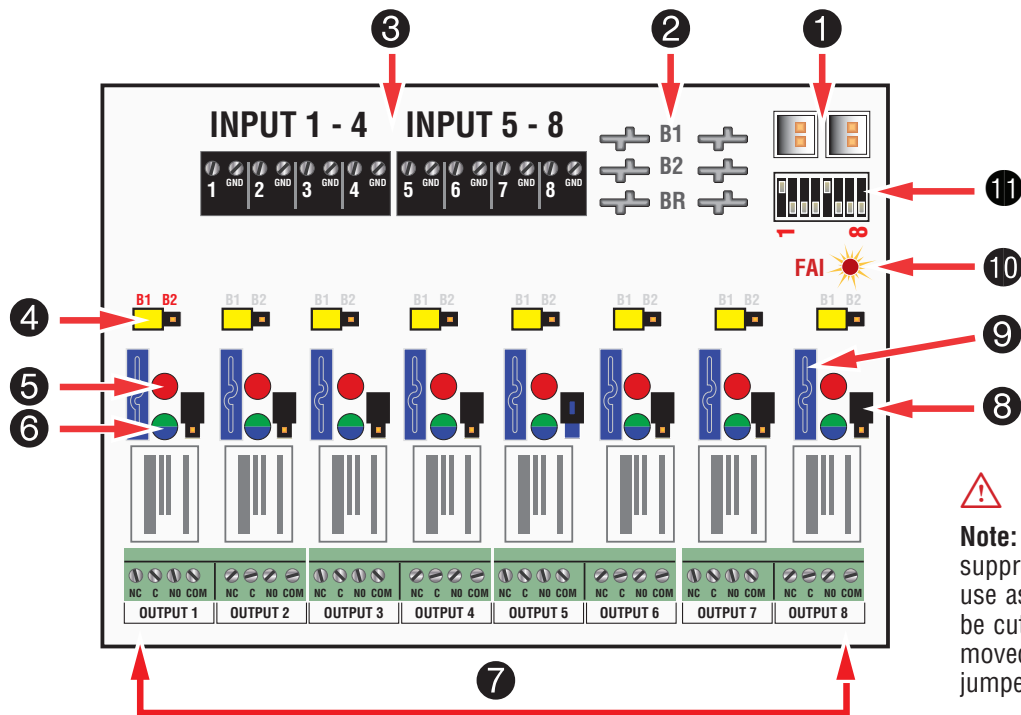
Le câblage à puissance limitée de classe 2 doit être séparé du câblage sans limitation de puissance d'au moins 1/4 de pouce et doit utiliser des débouchures séparées.

• L'installation et toutes les méthodes de câblage doivent être conformes à la norme ANSI / NFPA70 et à tous les codes locaux.

Pour la conformité ULC, l'installation et toutes les méthodes de câblage doivent être conformes au Code canadien de l'électricité, C22.1, partie I, section 32.

Les connexions au module doivent être réalisées dans la même pièce, ne dépassant pas une longueur de 3 m.

R8/R8P Power Control Accessory Overview



Note: The relay contact outputs have suppression diodes across them. To use as a dry contact, these diodes must be cut, the Voltage Selection Jumper removed, and the Wet/Dry Output Selection jumper must be set for a DRY output.

1 FlexIO Connectors

These connectors pass the FAI signal to the R8/R8P board and pass the FlexIO buss on to other accessory boards in the system.

2 Power Inputs

These connectors are the power input to the R8/R8P board. Connections are as follows:

B1 Connectors - These fastons are for connection to the B1 buss in the system. This voltage will be directed to any outputs whose Yellow Jumper is set to B1.

B2 Connectors - These fastons are for connection to the B2 buss in the system. This voltage will be directed to any outputs whose Yellow Jumper is set to B2. If the R8 is being used in a single voltage system, these fastons can be left unused.

BR Connectors - The DC Common buss in the system. All boards in the system must have their BR fastons wired together for proper operation.

3 Zone Inputs (IN1 – IN8)

These are the zone input terminal strips. These terminal strips are removable and accept wire sizes from AWG14 – AWG22. The terminals are labeled on the PC board near the terminal strip. The NO dry contact must be connected between the INx and GND terminals. When the relay closes, the output relay will activate.

4 Voltage Buss Selection Jumpers (JP1-JP8) -Yellow

The R8/R8P can each accept up to two power supply inputs connected to B1 and B2. This jumper selects which of the two power supply inputs are used for the zone's output. If only a single power supply is being used, set this jumper for B1. (Note: if the zone's output is being used as a relay contact output, this jumper must be removed.)

B1 This position selects the power supply connected to the B1 input of the R8/R8P board.

B2 This position selects the power supply connected to the B2 input of the R8/R8P board.

5 Relay Activation LEDs (RED)

These LEDs indicate the status of the output relay for each zone. When the LED is lit, the output relay is ACTIVE. When the LED is extinguished, the relay is INACTIVE. These LEDs will also extinguish when FAI is active on the zone.

6 12/24V Indicator LEDs (GREEN/BLUE)

These LEDs indicate the voltage level of each output.

- **Green** The output is set for 12V
- **Blue** The output is set for 24V
- **Off** There is no voltage on the output, either because it is set for a dry output, or because the fuse or PTC is open or other problem

NOTE LED colors are range based. Voltage Less than 13V will show Green. Voltage above 20V will show Blue. Voltage between 13 and 20 may show either voltage or a combination Green & Blue. Always verify voltage with a voltmeter.

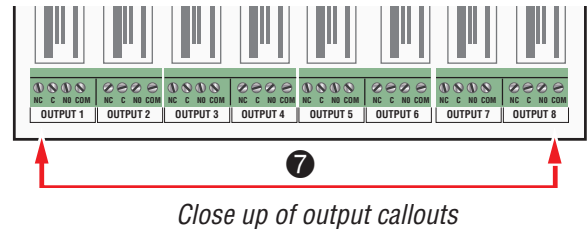
7 Zone Outputs (OUTPUT 1 – OUTPUT 8)

These are the zone output terminal strips. These terminal strips are removable and accept wire sizes from AWG12 – AWG26. The terminals are labeled on the PC board near the terminal strip.

Switched Voltage Outputs - Connect the negative of the device being powered to the COM terminal of the output. For a FAIL SAFE device, connect the positive of the device to the NC terminal of the output. For a FAIL SECURE device, connect the positive of the device to the NO terminal of the output.

Dry Contact Outputs - Set the output as a dry contact output by removing the Yellow Voltage Buss Selection Jumper, Setting the Wet/Dry Selection Jumper to DRY, and cutting the output diodes for the zone. Once set as a dry output, use C, NC, NO as a standard relay output.

Auxiliary Outputs - To use the output as a continuous auxiliary output that will not switch with the input: Connect the negative of the device being powered to the COM terminal of the output. Connect the positive of the device to the C terminal of the output.



8 Wet/Dry Selection Jumpers (BLACK)

These jumpers disconnect the 12/24V Indicator LEDs to allow a dry contact output. To set the output to be dry, the Voltage Buss selection jumper must also be removed and the output diodes for the zone must be cut. See page 5 for more information

9 Output Fuses or PTCs (F1-F8)

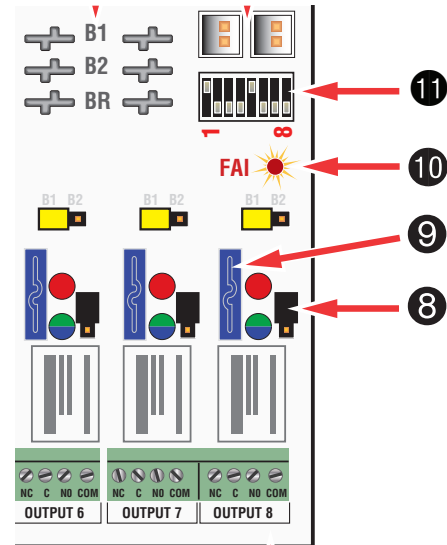
When using the fused version of the R8, these are the fuses for each zone output. Fuse numbers correspond with the zone number (e.g. F1 is the fuse for OUTPUT 1). When using the R8P, the fuse will be replaced with a soldered-in PTC. Fuses or PTCs are not in the circuit when the zone is configured as a dry contact output.

10 FAI LED (RED)

This LED lights when a valid FAI signal is received from the power supply through the FlexIO cable. See the appropriate power supply manual for more information on FAI activation.

11 FAI Disable Switches (SW1)

These switches select whether each output's relay will respond to the Fire Alarm Input on the power supply. Each switch number corresponds to the output number. When the switch is set to OFF, the output will respond to FAI. When the switch is ON, the output will remain unchanged when an FAI signal is received.

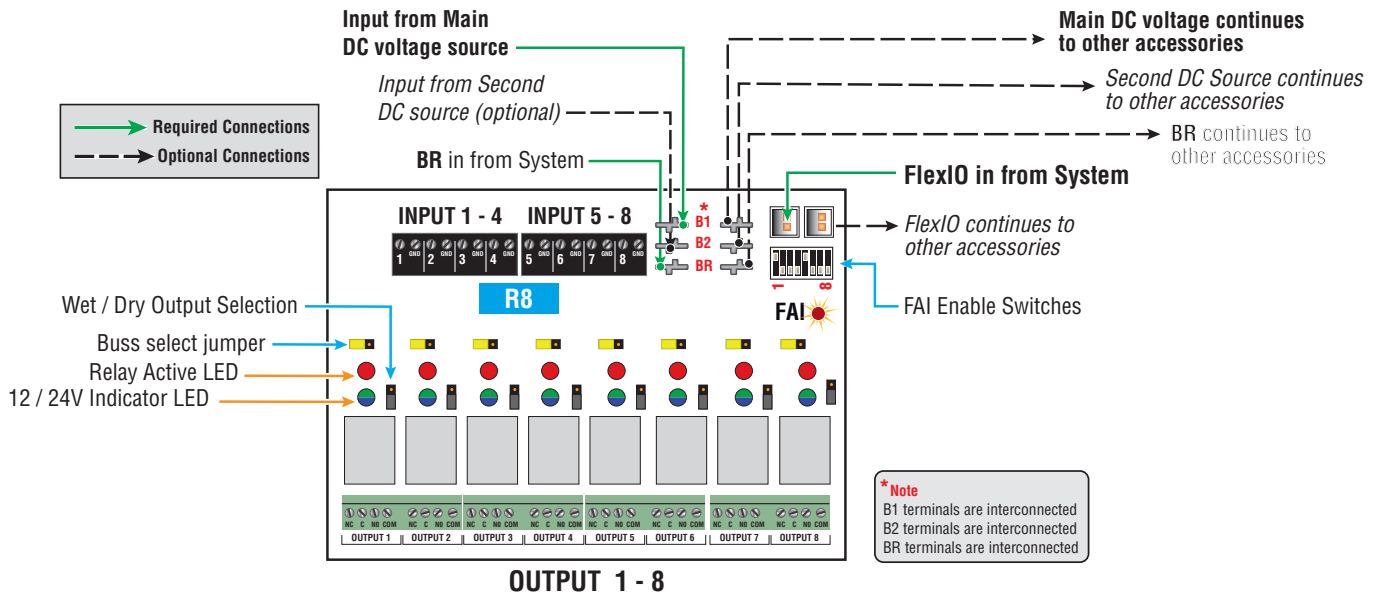


Close up of 8 -11 callouts

Connecting the R8 Module

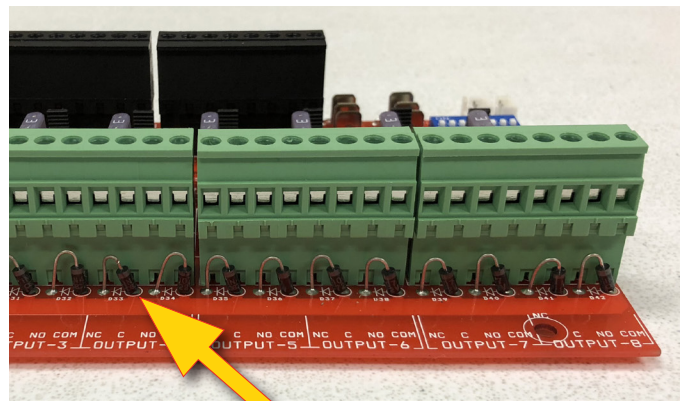
⚠ Remove all AC and battery power from the power supply before adding or replacing the R8 board.

Each of the B1, B2, BR, and FlexIO busses has two connectors. These connectors may be used interchangeably. For example: FlexIO from the power supply may be connected to either of the R8's FlexIO connectors, the Main DC voltage source may connect to either B1 terminal, etc.



R8 Output Diode Removal

The diodes on the R8/R8P are on the top side of the board between the output terminals and the edge of the board. To remove the diode from the output circuit, simply cut the exposed diode lead for the desired output zone - leave the diode body soldered to the pcb.



Topside of board

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IMPORTANT

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