Securitron® R8 Power Relay Module

Quick Start Guide

ASSA ABLOY

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Overview

Specifications and more details found in the full manual here. *(Downloadable pdf)*

1 **FlexIO Connectors** – These connectors pass the FAI signal to the R8 board and pass the FlexIO buss on to other accessory boards in the system.

2 **B1, B2, and BR Connectors** – These connectors are the voltage inputs for the R8 board. BR is the DC Common buss in the system. B1 is the positive voltage input for the first power supply. In dual voltage systems, B2 is the input for the second power supply.

3 **Zone Inputs (IN1 – IN8)** – These are the zone input terminal strips. These terminal strips are removable and accept wire sizes from AWG 14 – AWG 22. The terminals are labeled on the PC board near the terminal strip.

- When using a normally open relay contact input, the contact is connected across the IN and GND terminals.
- When using an open collector (transistor) input, the open collector it connected to the IN terminal. Note that the input source must be common grounded with the R8 board's power source.

4 **Voltage Selection Jumpers** (YELLOW) – These jumpers select the power input to be used for each output. For single voltage systems, this jumper should stay in the B1 position. This jumper should be removed on any zones where a dry contact output is needed.

5 **Relay State LEDs** (RED) – These LEDs indicate the state of the output relay. The LED will be lit when the relay is active and extinguished when the relay is not active.

6 **Output Voltage LEDs** (Dual Color – BLUE/GREEN) – These LEDs indicate the voltage of the zone's output.

- **Blue** The output is set to 24 V
- **Green** The output is set to 12 V
- **Off** Fuse open or dry contact output selected

7 **Zone Outputs (01 – 08)** – These are the zone output terminal strips. These terminal strips are removable and accept wire sizes from AWG 14 – AWG 22. The terminals are labeled on the PC board near the terminal strip. See the Output Wiring section for more information. C, NC, and NO are the relay output. *Details next page.*

8 **Dry Output Selection** (BLACK) – When a dry contact output is needed, this jumper must be removed in addition to the yellow jumper for the zone. The output diodes must also be cut for the zone.

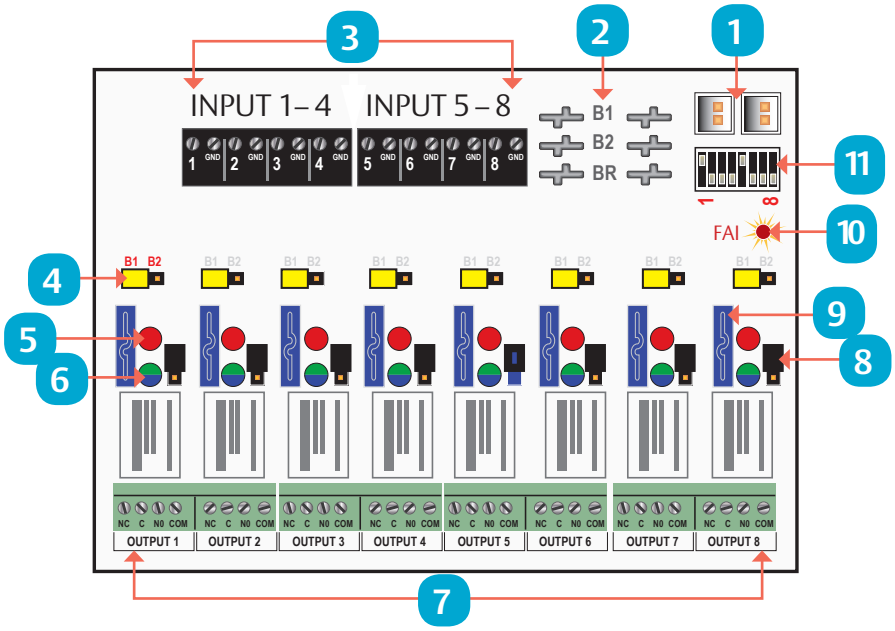
9 **Output Fuses (F1 – F8)** – These are the fuses for each zone output. Fuse numbers correspond with the zone number (e.g. F1 is the fuse for OUTPUT1). Fuses are not in the circuit when the zone is being used as a relay contact output.

CAUTION When powering magnetic loads such as maglocks, door strikes, solenoids, etc, each of these loads must have a reverse protection diode either built-in or external to the device.

NOTE When a dry contact output is needed, the Yellow and Black jumpers must be removed and the output diodes must be cut

10 **FAI LED** (RED) – These LED indicates that the R8 has received an FAI signal from the Securitron AQL power supply through the FlexIO connector. When lit, any zones selected to respond to FAI will unlock.

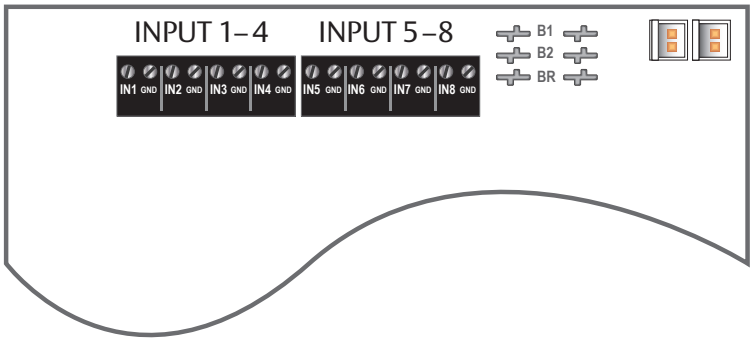
11 **FAI Selection Switches (SW1)** – These switches select FAI for each output. Switch 1 is for zone 1, switch 2 for zone 2, etc. When the switch is ON, the zone will unlock when an FAI is received.



Input Wiring

Each input on the R8 has an "IN" terminal and a "GND" terminal.

- When using a NO relay contact to activate the input, the contact is placed across these terminals.
- To use a DC ground or an open collector (transistor) as an input, connect the ground/open collector to the "IN" terminal to activate the input. Note that the input source must be common grounded with the R8 board's power source.



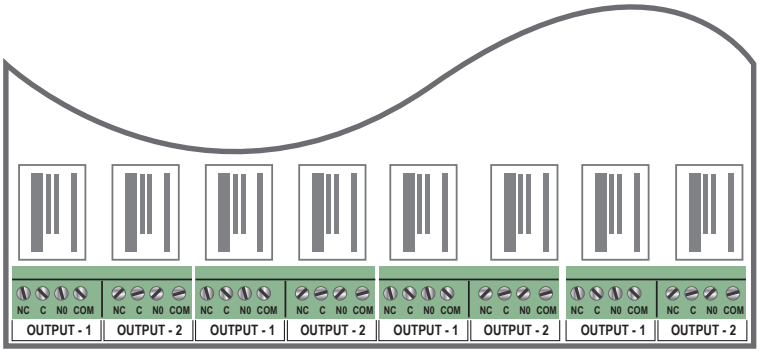
Output Wiring

- Each output on the R8 has "NC", "C", "NO", and "COM" terminals.
- When set for a dry contact output, the C, NC, and NO terminals may be used as any relay would. C to NC will have a connection when the red LED for the zone is not lit. C to NO will have a connection when the red LED is lit.

> **NOTE:** To set the output as a dry contact, the yellow and black jumpers for the zone must be removed and the output diodes must be cut.

- When set for a voltage output, the terminal use is as follows:
  - **COM –** This is the negative DC Common for the device being powered
  - **C –** This terminal always has positive voltage, regardless of the relay state. This terminal may be used to power auxiliary devices such as REX or readers.
  - **NC –** This output has positive voltage when the relay is NOT ACTIVE. This terminal is used for FAIL SAFE locks
  - **NO –** This output has positive voltage when the relay is ACTIVE. This terminal is used for FAIL SECURE locks

> **NOTE:** Other Securitron Power Boards (not part of AQL series) use C as a negative DC common.



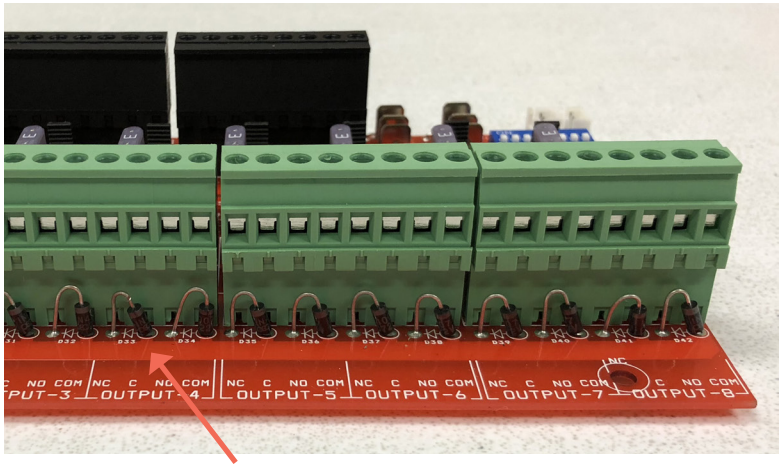
Power Control Dry Contact Output

The outputs of the R8 have built-in reverse protection diodes. If a delay in lock release is present or if the zone is being used as a dry contact output, the diode from that zone may be removed from the circuit as shown below.

> **NOTE:** Only remove the diodes from outputs requiring their removal

Diode Removal

The diodes on the R8 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.



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