

**PTQRM
(SA12080)****PassPoint Quad Relay Module**

INSTALLATION INSTRUCTIONS

General Information

The Quad Relay Module (QRM) provides additional output functions for the PassPoint access control system. The QRM provides four Form C, supervised relay outputs. The QRM also provides four open collector trigger outputs. Potential applications for these “additional” outputs could be for elevator control, the operation of valves and annunciators, the signaling of foreign security systems by shorting a zone on the foreign system, etc. The QRM mounts in a standard cabinet and communicates with the system’s MLB via a twisted pair network connection.

Power Requirements

When mounted in a cabinet with a dedicated power supply, the QRM obtains its power from the LOCAL (J1) power output connection of its associated power supply. When mounted in a cabinet along with an MLB, DCM or ZIM, the QRM obtains its power from the REMOTE (J5) power output connection of its associated power supply. The QRM requires 10.5-14VDC @ 190mA. The QRM also provides two power supply monitoring inputs: Low Battery and AC Loss. These two inputs are compatible with the corresponding monitoring outputs of the PassPoint PTDPSU power supply. (Do not enable AC or Low Battery monitoring without first wiring the power supply.)

QRM Relay Outputs

The QRM relay outputs can be used to control moderate size AC or DC amperage loads. All relay outputs are Form C, dry contacts, rated at 5 Amps (resistive load) at 28VDC. Each relay is accompanied by an LED that is illuminated when the relay is energized. All relay outputs have the same hardware circuitry, and all can be configured to supervise the presence of voltage on the relay’s common contact. Use appropriate transient suppression when relays are used to control inductive loads.

Relays can only be configured as “uncommitted”

All of the relays on a QRM can only be configured as uncommitted. That is, they can never be used to control an access point. (Only DCM relays are used to control access points.) Since the relay outputs of a QRM are uncommitted, they can be commanded to be ON or OFF, and can be used to control external devices. Uncommitted relays can be configured to operate in one of three modes: controlled, one-shot, or repeating. When a QRM relay output is turned on, the relay’s coil will be energized according to the relay’s operational mode. When the relay output is turned off, the relay’s coil is de-energized and remains de-energized (regardless of the relay’s operational mode). When a relay output is commanded off, its coil will be de-energized immediately.

All relay outputs are supervised

Each QRM relay output circuit provides for a supervision input (30VRMS or 30VDC max.) which, when connected to the common contact of the relay, indicates that a voltage of more than

approximately 4VAC or 4VDC is present at the relay contacts. The supervision input is rectified and filtered before going to the comparator, therefore DC & AC voltages can be supervised. The module's firmware doesn't know or care if the voltage is DC or AC. This supervision can be useful to determine if the power supply that is used to power a connected load is fully operational. Each relay can be programmed to monitor the relay contact voltage or to ignore it. If you choose to connect the supervision inputs, make sure that you enable the corresponding relay's voltage supervision.

QRM Trigger Outputs

The QRM has four trigger outputs (15mA, 15VDC open collector, sink to ground). All are solid state digital switches (transistors) that can be used to control small amperage DC loads such as Light Emitting Diodes (LEDs) and piezoelectric sounders. Each trigger contains a 680 ohm series resistor. Unlike the triggers on the PassPoint DCM, which can be configured as committed resources (i.e. assigned to an access point); the QRM triggers can only be configured as uncommitted (not assigned to an access point). Uncommitted trigger outputs can be commanded to be ON or OFF and can be used to signal foreign systems or control external devices. Uncommitted trigger outputs can be configured to operate in one of three modes: controlled, one-shot, or repeating. When the trigger is on, it will sink current to ground.

Installing the QRM in a Cabinet

There are two basic ways in which QRMs can be mounted in system cabinets. The first way is to mount the QRM in a cabinet along with a power supply and a Main Logic Board or Door Control Module. In this case, the QRM mounts on top of the MLB or DCM on standoffs, as shown in Figure 1. If there is an MLB or DCM in the cabinet, the QRM gets its power from the power supply's REMOTE power output, J5. The MLB or DCM will get power from J1.

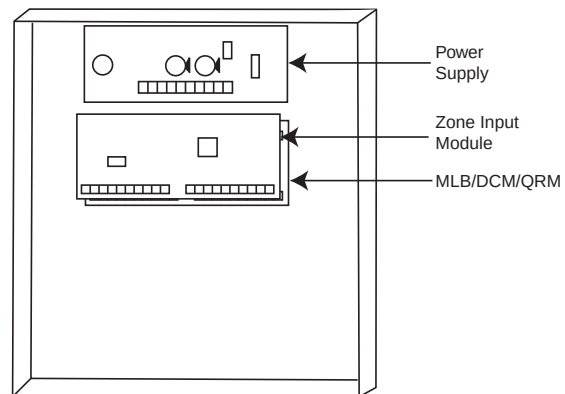


Figure 1 - Cabinet with MLB/DCM, QRM and Power Supply

Alternatively, a QRM can be mounted in a separate cabinet with a dedicated power supply, as shown in Figure 2. In this configuration, the dedicated power supply provides power to the QRM from its LOCAL power output, J1. But it can also provide power to another QRM through its REMOTE power output, J5. Therefore, another QRM can be mounted in the cabinet. The second QRM mounts on top of the first QRM on standoffs (see Figure 3).

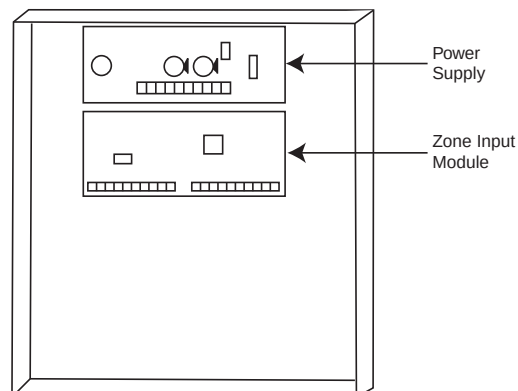


Figure 2 - Cabinet with QRM and Power Supply

Mounting the Quad Relay Module on another module

This procedure assumes you have already mounted a power supply and another module (e.g. a DCM) in a system cabinet. For this discussion, we will assume you are mounting the QRM to a DCM.

1. Secure six standoffs to the DCM using hardware provided.

There are holes in each corner and center of the DCM to accommodate standoffs. Standoffs are secured to the DCM using screws and lock washers.

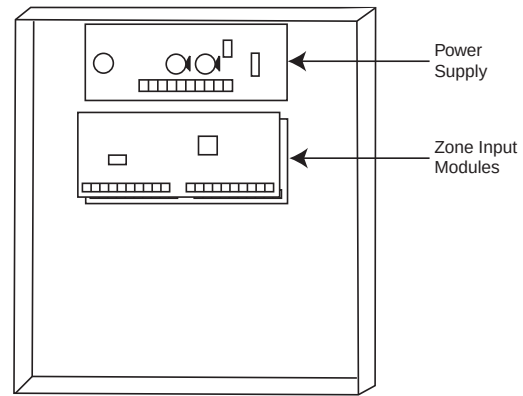


Figure 3 - Cabinet with 2 QRMs and Power Supply

2. Position the QRM on top of the DCM standoffs and push down gently.
Pushing down on the QRM will lock it onto the standoffs.

Mounting the Quad Relay Module without another module

1. If you haven't done so already, mount a power supply in the cabinet.

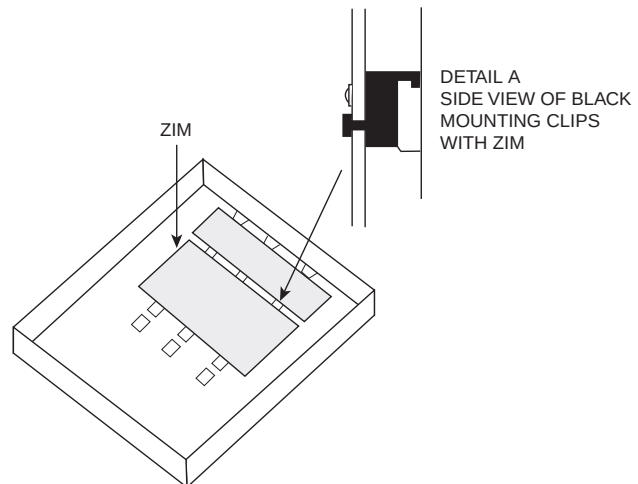
Each QRM you mount must have access to power from an ACS power supply.

2. Hang three black mounting clips (provided) on the three middle raised cabinet tabs.

The middle raised cabinet tabs are the row of tabs second from the bottom of the cabinet.

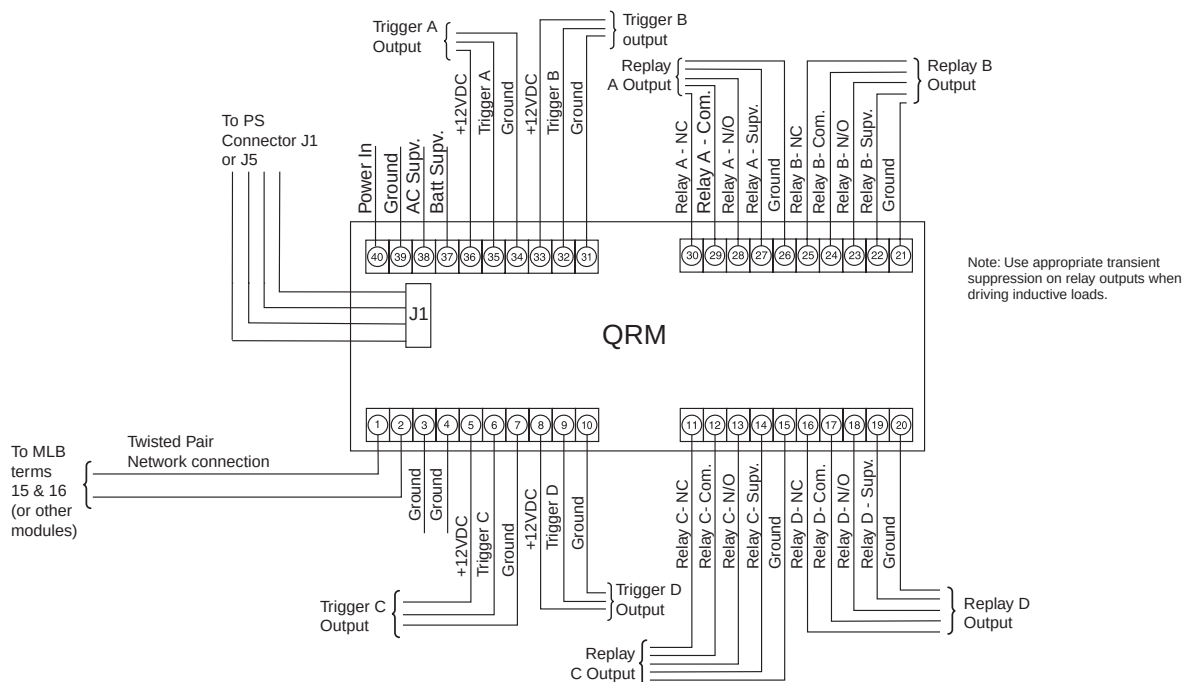
3. Insert the top of the QRM into the slots at the bottom of the *power supply's* mounting tabs.

The power supply has also been mounted to the cabinet using black mounting tabs. At the bottom of these tabs are grooves into which the top edge of the QRM fits.



4. Swing the base of the QRM into the black mounting clips and secure the board to the cabinet with the accompanying screws.

QRM Connections



Note: For detailed wiring information including gauges, wire-run lengths, etc., refer to your *PassPoint Express Installation and Setup Guide* (N8949) or *PassPoint Plus Installation and Setup Guide* (K4879).

QRM LEDs

Red: On when associated relay is energized.

Yellow: Blinks for 1 second during enrollment process. If this LED blinks or is on at any other time, there is a hardware problem. However, expect this LED to blink briefly when power is applied.

Green: $\overline{\text{I}}\overline{\text{I}}\overline{\text{I}}$ Three blinks = OK. Any other pattern indicates hardware problem.

Enrolling and Configuring the QRM

Once the QRM has been mounted and connected, it needs to be enrolled into the system and configured. Refer to the *PassPoint Express Installation and Setup Guide* (N8949) or the *PassPoint Plus Installation and Setup Guide* (K4879) for information on enrolling and configuring Quad Relay Modules.

Warranty Information

For complete warranty information, refer to the documentation accompanying your system.



5007 South Howell Avenue
Milwaukee, WI 53207

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