



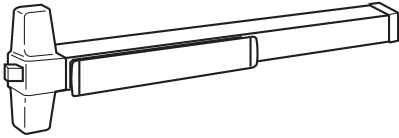
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Remote Chexit Module System

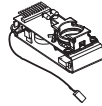
RCM

VON DUPRIN®

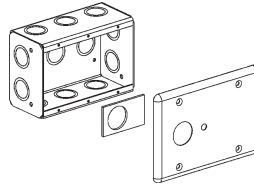
Installation Instructions - Electrical



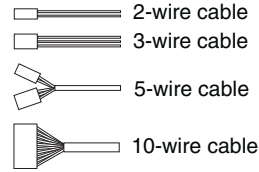
RCM Device



Chexit Module



RCM Control
(5.57”L x 3.75”W
x 2.50”D)
Box, Lens, Cover



RCM Cables



Door Sign

GENERAL INFORMATION

The Von Duprin RCM system is designed for accident hazard or fire exit applications. It meets both life safety and security needs as well as all requirements of NFPA101® for “Special Locking Arrangement” and UBC “Special Egress-Control Devices.”

The Von Duprin RCM system sounds an alarm and keeps an exit door secured for 15 seconds following an attempt to exit. The RCM device releases immediately upon a fire alarm condition.

ELECTRICAL SPECIFICATIONS

Voltage	24 VDC
Current	0.4 A
Current on arming	300-mS 16-A in-rush
External alarm contact (NO and C) ..	24 VDC, 1 A

Normally closed inputs from other hardware: Fire alarm (FA; **required**)
External inhibit (EI)
Door position switch (DPS)

⚠ WARNING

Do not exceed rated specifications.

⚠ WARNING

The RCM system must be installed in accordance with these instructions by a qualified electrician.

⚠ WARNING

Wiring must be in accordance with all local codes and regulations.



Customer Service

1-877-671-7011 www.allegion.com

PRE-INSTALLATION CHECKLIST


Complete items on the checklist below before installing RCM system electrical components. Each component should be prepared and installed according to the installation instructions supplied with it.

Mechanical Preparation


- 1. Door and frame have been prepared for power transfer.
- 2. RCM device has been installed. (See instructions packaged with RCM device.)
- 3. Trim such as a lever handle, if used, has been installed.
- 4. Suggested: Obtain a 1¹/₄" or 1³/₈" mortise cylinder. (It is easier to install the mortise cylinder during electrical installation than after electrical installation.)

Electrical Preparation

- 1. Read all of these instructions before installing the RCM system.
- 2. If available, get a wiring diagram for your installation. Otherwise, refer to Figure 1 and Table 1 in "Typical Wiring" and mark the components you use in Table 1.
- 3. Determine the physical location of each component used, including the RCM control box.
- 4. Pull field wiring between component locations and RCM control box.

 **IMPORTANT**
The wiring requirements in Figure 2 in "Typical Wiring" **must** be followed.

- 5. Mount components and connect them to field wiring. Mount RCM control box (without cover).

 **IMPORTANT**
Components **must** be connected to wire colors as shown in Figure 1 in "Typical Wiring."

- 6. Get the requirements for Chexit module option switches, record in Table 2 in "Options," and set switches.
- 7. Complete steps 1 through 11 of "Installation."

Record here any incomplete steps, additional materials, etc. needed to complete the installation:

TYPICAL WIRING

Figure 1. Single Door Application

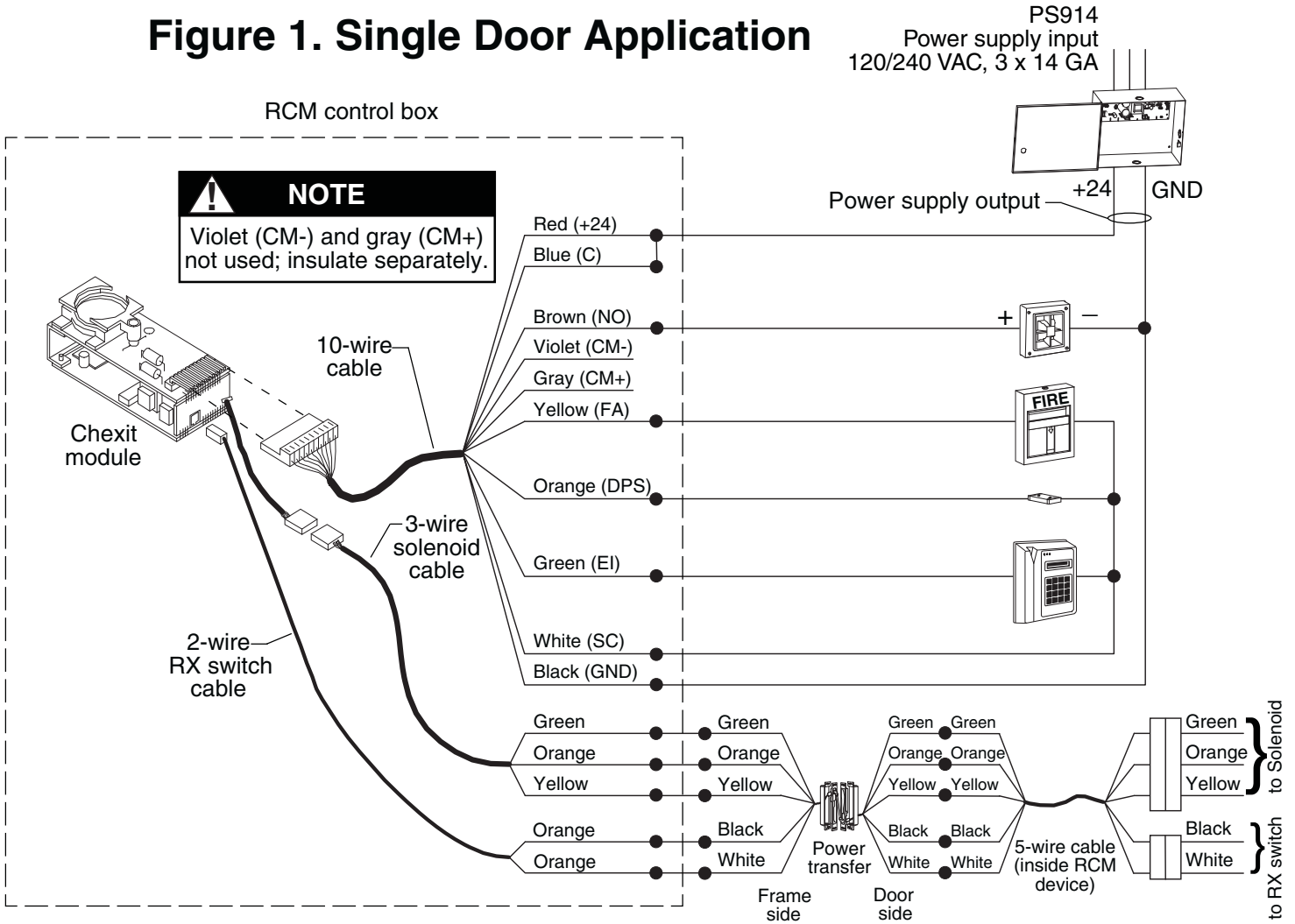
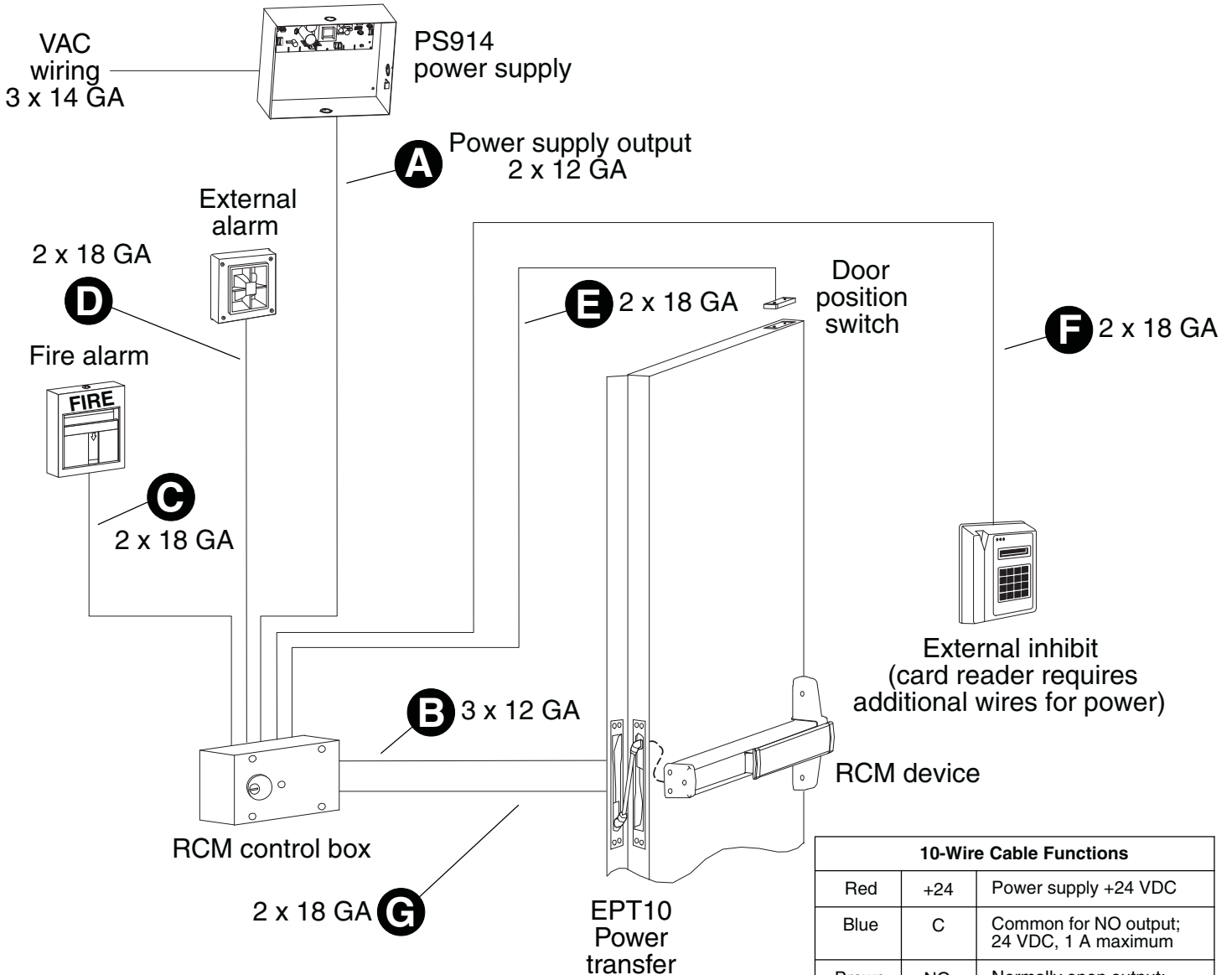


Table 1. Installation Components

Picture	Component	Function	Optional/Required	Used?	If Not Used...
	PS914 24 VDC power supply	Supplies power to RCM system	Required (Von Duprin PS914)	Yes	Required
	Building fire alarm (normally closed contacts)	Unlocks RCM device in case of fire alarm	Required	Yes	Required
	Power transfer (EPT-10 shown)	Transfers electrical power through frame to door (wires concealed)	Highly recommended		Use door loop or electric hinge
	External inhibit device (card reader, key switch, etc.; normally closed contacts)	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in series)		Connect green (EI) wire to white (SC) wire
	Door position switch (normally closed contacts)	Arms RCM system 2.5 sec. after door closes; sounds alarm if door forced open	Optional		Connect orange (DPS) wire to white (SC) wire
	External alarm	Provides louder alarm than RCM system internal horn	Optional		Insulate blue (C) and brown (NO) wires separately

TYPICAL WIRING (continued)

Figure 2. Wiring Requirements



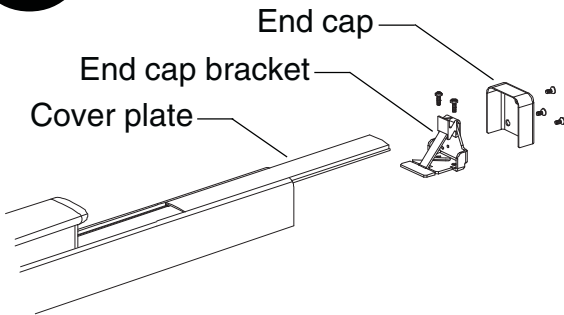
10-Wire Cable Functions		
Red	+24	Power supply +24 VDC
Blue	C	Common for NO output; 24 VDC, 1 A maximum
Brown	NO	Normally open output; closes during alarm
Violet	CM-	Communication line; used to connect RCM systems
Gray	CM+	Communication line; used to connect RCM systems
Yellow	FA	Fire alarm input; 0 VDC = fire, 24 VDC = no fire
Orange	DPS	Door position switch input; 0 VDC = door open, 24 VDC = door closed
Green	EI	External inhibit input; 0 VDC = RCM inhibited, 24 VDC = RCM active
White	SC	Signal common +24 VDC; can be used to power FA, DPS, and EI inputs
Black	GND	Power supply ground

IMPORTANT

Wire runs **A** and **B** must be 12 GA wire.
 Distance **A** plus distance **B** must not exceed 200 feet.
 There are no distance restrictions on wire runs **C** through **G**.
 As stated in Table 1, external alarm, door position switch, and external inhibit are optional.

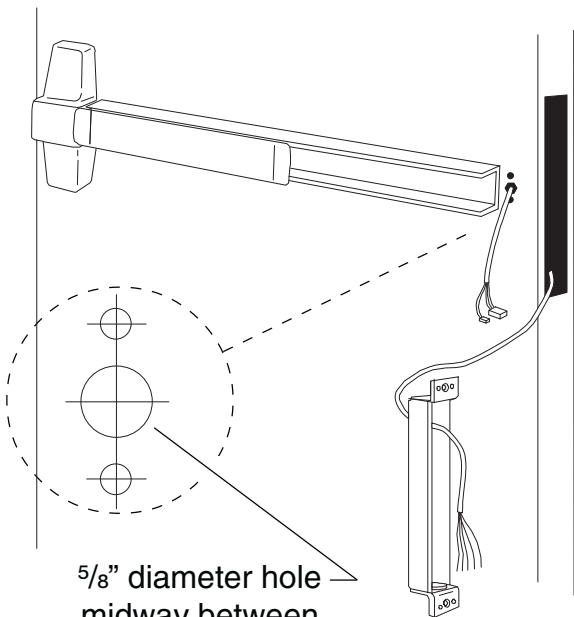
INSTALLATION

- 1** Remove end cap, end cap bracket, and cover plate from RCM device.

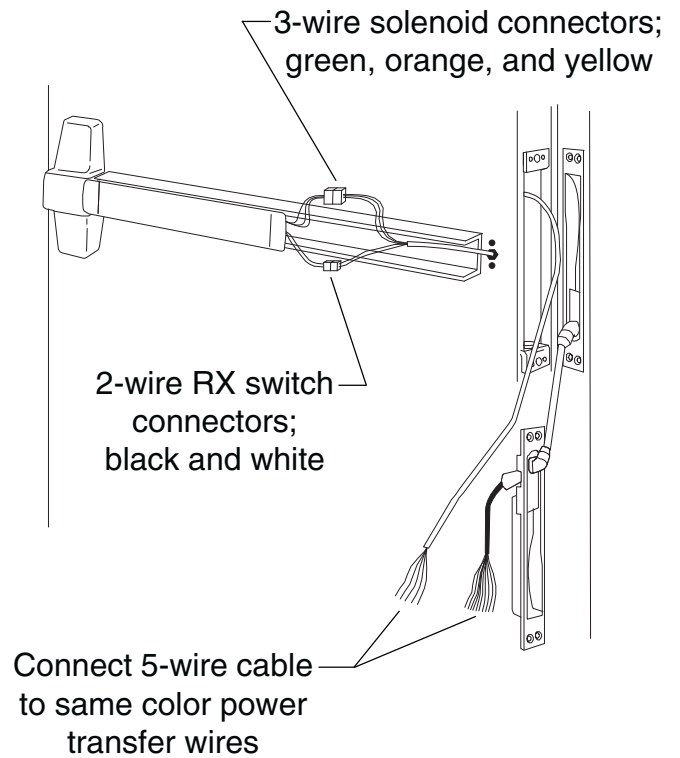


CAUTION
Support hinge end of mechanism case while end cap bracket is not installed.

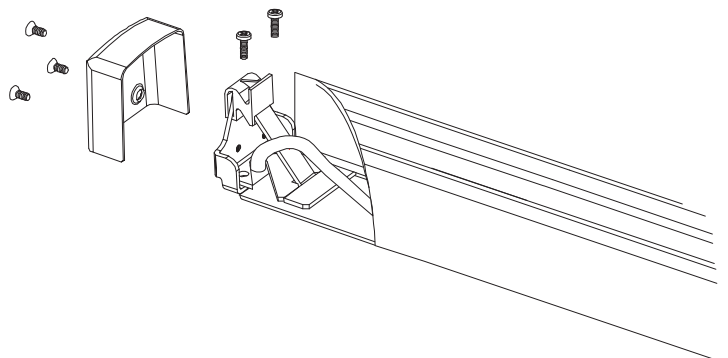
- 2** Drill $\frac{5}{8}$ " diameter cable hole. Run 5-wire cable through cable hole and door back box. Install door back box.



- 3**
- Connect cable wires to same color power transfer door side wires.
 - Install door side of EPT-10 (shown) or finish installing electric hinge.
 - Make connections inside RCM device as shown.



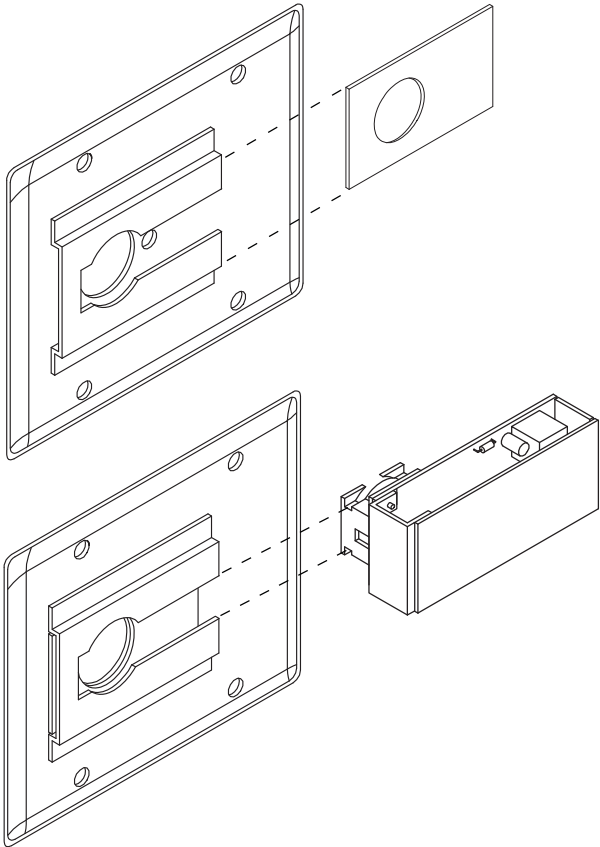
- 4** Install cover plate, end cap bracket, and end cap. End cap bracket fits around cable as shown.



INSTALLATION (continued)

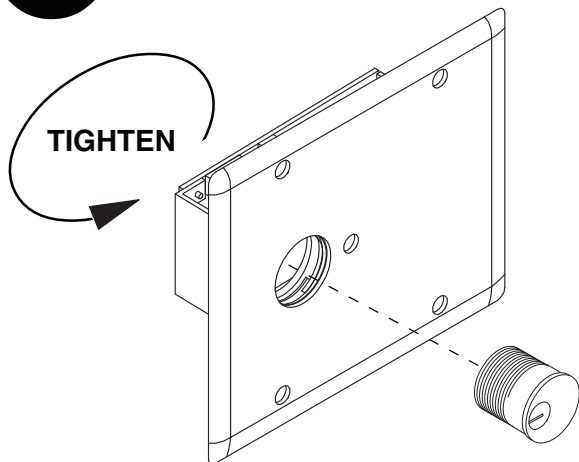
5

Slide red plastic plate into bracket on bottom of control box cover plate, then slide Chexit module into bracket.



6

Install cylinder and secure by turning knurled ring on Chexit module.



CAUTION

Orient cylinder as shown or unit will not operate.

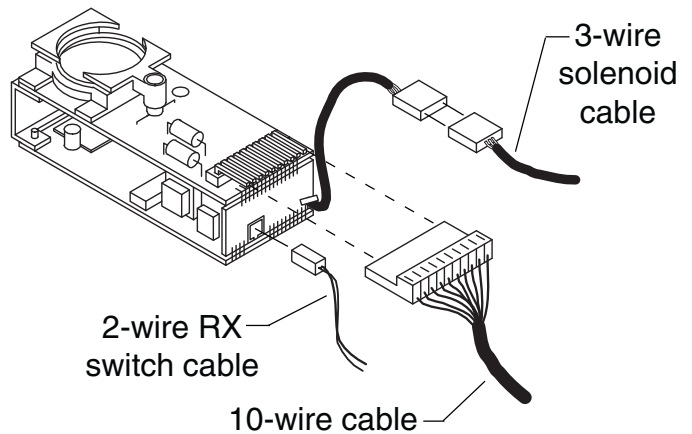
7

Connect three cables to Chexit module as shown.



CAUTION

Turn off power supply before making connections.

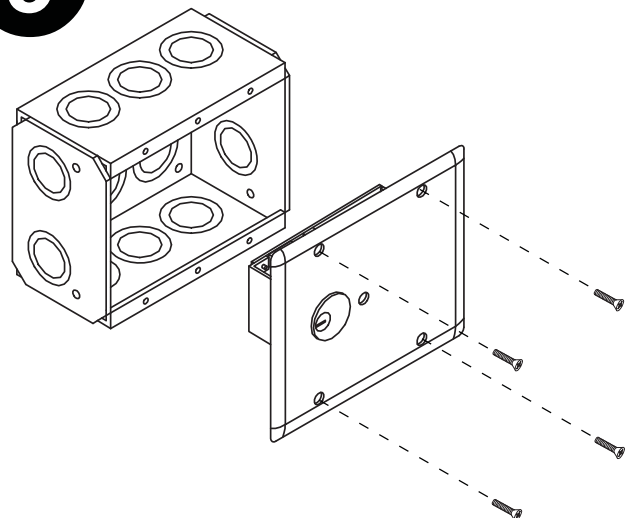


8

In control box, make all connections between field wiring and the 2-wire, 3-wire, and 10-wire cables. Refer to Figure 1 in "Typical Wiring."

9

Mount cover assembly on control box.



10

Remove backing from door sign and put on door above RCM device. (Sign is packed in cardboard tube.)

11

Go to "Operation" for testing and troubleshooting.

OPERATION

The basic function of an RCM system is to sound an alarm and keep an exit door secured for 15 seconds following an attempt to exit. Test the operation of your system by performing actions No. 1 through 6 in the summary below. Make sure your system matches the descriptions given. If it does not, see “Troubleshooting.”

Summary of RCM System Modes					
Action	Mode	Pushpad	Red LED	Alarm	Duration
1. Turn on RCM system with key switch (turn key clockwise)	Rearm	Unlocked	On solid	Off	Rearm time (2-28 seconds)
2. Rearm time expires	Armed	Locked	Slow flash	Off	Continuous
3. Press pushpad	Release delay	Locked	Fast flash	On	15 seconds
4. 15 second release delay expires	Alarm	Unlocked	Fast flash	On	Continuous
5. Turn off keyswitch or activate EI (external inhibit)	Inhibit	Unlocked	Off	Off	Returns to rearm mode when key switch turned on or EI reset
6. Fire alarm contacts open	Alarm	Unlocked	Fast flash	On if option switch No. 8 is off	Continuous (turn off key switch to clear)

The operation of an RCM system with a **door position switch** is the same as described above, but:

- The RCM system enters **Armed** mode 2.5 seconds after the door position switch contacts close.
- If the door is held open and rearm time expires, the RCM system goes into **Alarm** mode.
- In **Armed** mode, the RCM system goes into **Alarm** mode if the door position switch contacts open.

TROUBLESHOOTING

Turn system off, then back on, using key switch. Compare system operation with the following table to identify problems and solutions. After troubleshooting, re-test system using steps under “Operation.”

Symptom	Problem	Solution
Red LED does not light	Power not reaching RCM system	Replace/reset AC fuse/circuit breaker; check power supply input/output voltages; check input voltage at 10-wire cable connector (black = GND, red = +24 VDC)
Red LED flashes fast and horn sounds	Fire alarm contacts open	Connect normally closed fire alarm contacts across yellow (FA) and white (SC) wires of 10-wire cable
Red LED flashes once	1. External inhibit contacts open 2. External inhibit function not used and wires not terminated properly	1. Connect normally closed external inhibit contacts across green (EI) and white (SC) wires of 10-wire cable 2. If not used, connect together green (EI) and white (SC) wires of 10-wire cable
Red LED on solid then flashes fast and horn sounds	1. Pushpad pressed 2. Pushpad RX switch disconnected	1. Release the pushpad 2. Verify that the 2-wire RX switch cable is connected properly (see steps No. 3 and 7 of “Installation”)
Red LED on solid then flashes fast, horn sounds, and solenoid pulls in for one second (two sharp sounds)	1. Door open 2. Door position switch contacts open 3. Door position function not used and wires not terminated properly	1. Close door 2. Connect normally closed door position switch across orange (DPS) and white (SC) wires of 10-wire cable 3. If not used, connect together orange (DPS) and white (SC) wires of 10-wire cable

OPTIONS

Options are set by switches on the Chexit module. Before changing option settings, turn the RCM system off. Changes in option settings take effect when the RCM system is turned on.

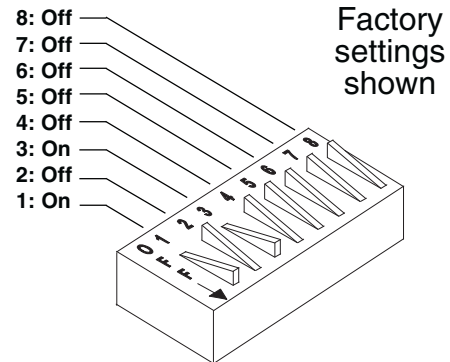
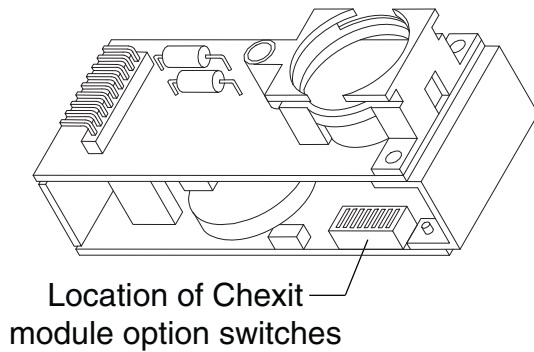


Table 2. Chexit Module Options

Option	Function	Settings for Door No: ____
Rearm time	Switches No. 1 through 4 set amount of time you have to pass through door after turning on key switch or using an external inhibit device (see table below)	_____ seconds
Nuisance delay	If switch No. 5 is on, the pushpad must be pressed 2 seconds to set off alarm	on off
Nuisance alarm	If switch No. 6 is on, the RCM system horn sounds while pushpad is pressed during nuisance delay; use in accordance with local code	on off
Self-test	If switch No. 7 is on, the RCM system performs a self-test when turned on; this switch must be off for normal operation	on <input type="radio"/> off
Local fire alarm	If switch No. 8 is off, the RCM system internal horn sounds during a fire alarm	on off

Rearm Time Switch Settings

Seconds	Switch No. 1	Switch No. 2	Switch No. 3	Switch No. 4
0	off	off	off	off
2	on	off	off	off
4	off	on	off	off
6	on	on	off	off
8	off	off	on	off
10	on	off	on	off
12	off	on	on	off
14	on	on	on	off
16	off	off	off	on
18	on	off	off	on
20	off	on	off	on
22	on	on	off	on
24	off	off	on	on
26	on	off	on	on
28	off	on	on	on
infinite	on	on	on	on

Rearm Time Notes

1. Set the rearm time a few seconds longer than the door will be open so the door closes before the RCM system arms.
2. The RCM system is shipped from the factory with the rearm time set to 10 seconds.
3. When the rearm time is infinite, the RCM system arms when the door position switch detects that the door is closed.
4. When rearm time is infinite, you must open and close the door after the RCM system is turned on.
5. If a door position switch is used, the RCM system arms 2.5 seconds after the door closes.
6. If you are using a door position switch but you want the full rearm time to expire before the RCM system arms, call Technical Support at 1-877-671-7011.
7. For proper operation, the rearm time of ganged RCM systems must differ by at least 2 seconds.