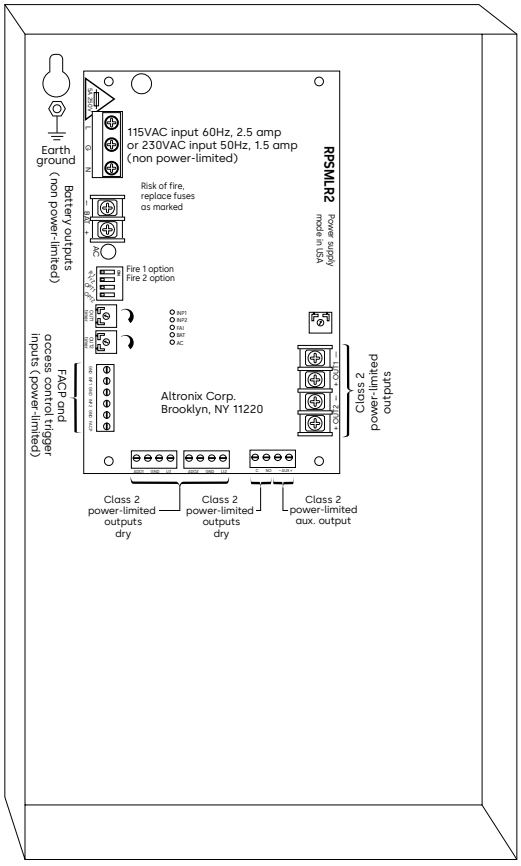
RPSMLR2/RPSMLR2BB

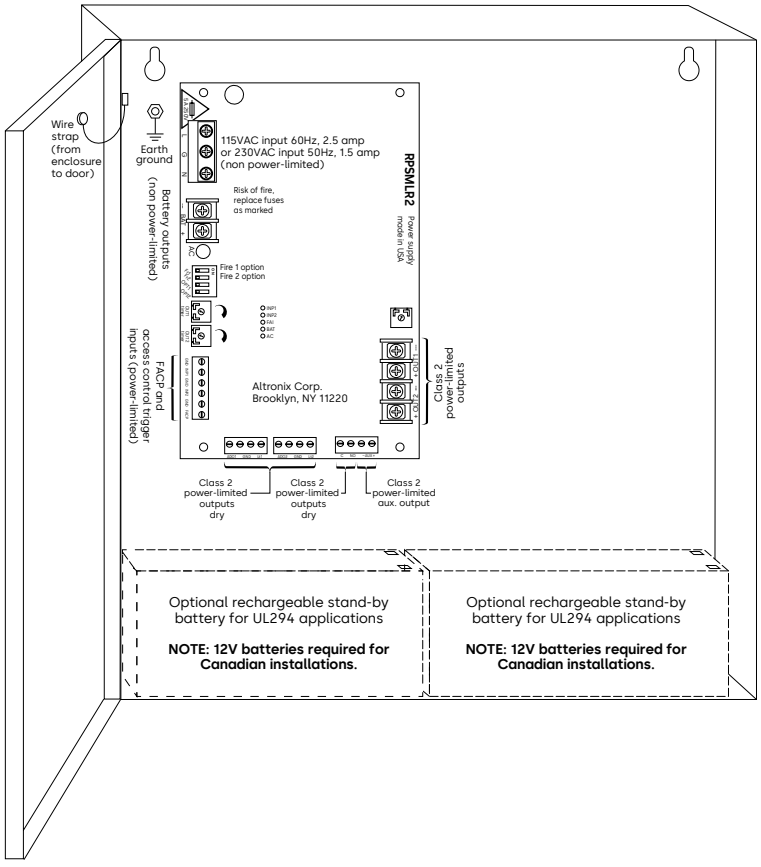
Panic device power controller

Installation Manual

RPSMLR2



RPSMLR2BB



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1 Product overview

1.1 RPSMLR2, RPSMLR2BB panic device power controller

- Operate up to two 24VDC panic hardware devices simultaneously.
- Designed to handle Motorized Latch Retraction (MLR) exit devices demand.
- Each lock output has an adjustable re-lock delay timer.
- Control a pair of doors simultaneously or independently control two individual doors.
- Has a relay for each output to trigger external door opening mechanisms.
- One un-switched auxiliary voltage output is provided.
- A configurable FACP interface will remove power from lock outputs when activated.
- LED status indicators are provided to monitor input status, battery condition, AC power, FACP status.
- Intelligent logic provides protection against accidental shorting of lock output.

2 Technical specifications

2.1 Agency approval

Table 1

UL 294: Access control unit power supply			
Evaluated to following levels of UL-294 6th ed:			
Destructive attack	I	Line security	I
Endurance	IV	Stand-by power	II
ULC S319: Access control unit power supply, class I			

2.2 Power supply input

Table 2

Features

- Input 115VAC 60Hz, 2.5 amp or 230VAC 50Hz, 1.5 amp
- Two (2) normally open (N.O.) trigger inputs (input1 and input2)
- FACP normally closed (N.C.) input
- Two (2) normally open (N.O.) latch status inputs

2.3 Power supply output

Table 3

Features

- Two (2) 19.8VDC-26.4VDC rated individually controlled lock outputs for applications with battery back-up. 24VDC-26.4VDC rated for applications without battery back-up (US applications only). Current rating 2 amp combined for 400ms, 200mA continuous supply current.
- One (1) 19.8VDC-26.4VDC @ 0.8A rated auxiliary output for applications with battery back-up, 24VDC-26.4VDC @ 0.8A rated for applications in US not requiring battery back-up. Not affected by FACP trigger.
- Two (2) delayed follower normally open relay outputs for triggering auto operators after 1 second time delay or after latch switch trigger, selected via dip switch.
- Trouble relay output indicating low AC voltage trouble.

2.4 Battery backup

Table 4

Features

- Battery leads are provided.
- Battery PTC rating is 6A.
- Maximum charge current is 650mA.
- Built-in charger designed for sealed lead acid batteries.
- Automatically switches over to stand-by battery when AC power fails.
- When using 7AH batteries, stand-by battery capacity is 30 minutes.

2.5 Enclosure dimensions

Table 5

H x W x D approx	
RPSMLR2	12.5" x 7.5" x 3.25" (317.5mm x 190.5mm x 82.55mm)
RPSMLR2BB	13.5" x 13" x 3.25" (342.9mm x 330.2mm x 82.55mm)

2.6 LED diagnostics

Table 6

LED diagnostics		
LED	**LED status**	**Panic device power controller status**
Power-green (AC)	On	Normal operating condition
	Off	Loss of AC
INP1-red **Trigger input 1**	On	Output 1- energized
	Rapid blink	Output 1- over current
	Off	Output 1- de-energized
INP2-red **Trigger input 2**	On	Output 2- energized
	Rapid blink	Output 2- over current
	Off	Output 2- de-energized
FAI-green	On	FACP input triggered (alarm condition)
	Off	FACP normal (non-alarm condition)
BAT trouble **Red**	Off	Bad battery or no battery
	Slow blink	Battery low
AC trouble **Green**	Off	AC normal
	Slow blink	AC low or missing

2.7 Terminal identification

Table 7

Terminal legend	Function/description
+ AUX –	24VDC auxiliary output @ 0.8 amp. 19.8-26.4VDC for applications with battery backup.
+ BAT –	24VDC stand-by battery connection (two 12VDC batteries wired in series).
– OUT 1 +	Connect 24VDC panic hardware device #1.
– OUT 2 +	Connect 24VDC panic hardware device #2.
FACP / GND	Normally closed dry contact from fire alarm control (100 ohm maximum wiring resistance).
INP1 / GND	Normally open trigger input controls output 1. May be held closed for extended unlocking (100 ohm maximum wiring resistance).
INP2 / GND	Normally open trigger input controls output 2. May be held closed for extended unlocking (100 ohm maximum wiring resistance).
ADO1	Dry form "A" contacts provide a signal for door opening mechanism. With dip switch [OPT1] in ON position, door opening mechanism will be triggered within 1 second after input 1 signal. With dip switch [OPT1] in OFF position, door opening mechanism will be triggered after latch switch contacts close indicating lock retraction.

2.7 Continued...

Table 7

ADO2	Dry form "A" contacts provide a signal for door opening mechanism. With dip switch [OPT2] in ON position, door opening mechanism will be triggered within 1 second after input 2 signal. With dip switch [OPT2] in the OFF position, the door opening mechanism will be triggered after the latch switch contacts close indicating lock retraction.
C, NO	Indicates AC trouble condition. Normally open, closed if AC is low or missing.
Lt1, GND	Dry normally open inputs for latch switch 1 connection.
Lt2, GND	Dry normally open inputs for latch switch 2 connection.

2.8 Maintenance

Table 8

Maintenance	
Unit should be tested at least once a year for proper operation as follows:	
FACP supervision	To ensure proper connection and operation of fire alarm disconnect hookup, remove wire from terminal marked [FACP] on RPSMLR2, RPSMLR2BB. With dip switches [Fr1] and [Fr2] in ON position, unlocked panic hardware devices will re-lock. With dip switches [Fr1] and [Fr2] in OFF position (see fig. 2, 3, pg. 10, 11), locked panic hardware devices will not be affected.
Output voltage test	Under normal load conditions DC output voltage should be checked for proper voltage level.
Battery test	Under normal load conditions check that battery is fully charged, check specified voltage both at battery terminal and at board terminals marked [+ BAT –] to ensure there is no break in battery connection wires.
Note	Maximum charging current under discharge is 650mA.
Note	Expected battery life is 5 years; however, it is recommended changing batteries in 4 years or less if needed.
⚠ **CAUTION**	For continuous protection against risk of electric shock and fire hazard, replace input fuse with same type and rating: 5 amp/250V. Do not expose to rain or moisture; indoor use only.

3 Installation instructions

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/NFPA 72/ANSI, and with all local codes and authorities having jurisdiction. Product is intended for indoor use only. For Canadian installations-shielded wiring of appropriate gauge must be used. Unit is to be serviced by authorized personnel and de-energized prior to opening.

3.1 Mounting unit

3.1.1 Mount unit in desired location within protected premises (see Maximum wiring distance, pg.9).

3.1.2 Mark and predrill holes in wall to line up with top two keyholes in enclosure.

3.1.3 Install two upper fasteners and screws in wall with screw heads protruding.

3.1.4 Place enclosure's upper keyholes over two upper screws, level and secure.

3.1.5 Mark position of lower two holes.

3.1.6 Remove enclosure.

3.1.7 Drill lower holes and install two fasteners.

3.1.8 Place enclosure's upper keyholes over two upper screws.

3.1.9 Install two lower screws and make sure to tighten all screws (see RPSMLR2, RPSMLR2BB enclosure dimensions, pgs.12-13).

3.1.10 Secure cabinet to earth ground.

3.2 Hardwiring unit

3.2.1 Connect unswitched AC power (115VAC 60Hz or 230VAC 50Hz) to terminals marked [L, N].

3.2.2 Use 14 AWG or larger for all power connections.

3.2.3 Secure green wire lead to earth ground.

⚠ **CAUTION: Do not touch exposed metal parts.**

⚠ **CAUTION: Shut branch circuit power before installing or servicing equipment.**

NOTE: Keep power-limited wiring separate from non power-limited wiring (115VAC 60Hz or 230VAC 50Hz input, battery wires). Minimum 0.25" spacing must be provided.

NOTE: There are no user serviceable parts inside.

NOTE: Refer installation and servicing to qualified service personnel.

3.2.4 Connect earth ground to a ground lug or ground lead.

NOTE: Do not connect to a receptacle controlled by a switch.

NOTE: Unit is intended for permanent connection using metal enclosed system.

NOTE: A fixed product shall be connected with one of applicable wiring systems in accordance with CSA C22.1, Canadian Electrical Code, Part I, Safety standard for electrical installations.

NOTE: RPSMLR2, RPSMLR2BB is intended to be permanently connected.

3.3 Measuring voltage

3.3.1 Measure aux. output voltage before connecting devices. This helps avoid potential damage.

3.4 Connecting panic hardware

NOTE: For ULC applications all interconnecting devices must be ULC Listed.

3.4.1 Connect panic hardware device # 1 to terminal marked [+ OUT1 –].

3.4.2 Connect panic hardware device # 2 to terminal marked [+ OUT2 –] (see Maximum wiring distance, pg. 9).

3.5 Setting lock output release

3.5.1 Set lock output release time by adjusting [OUT1] and [OUT2] potentiometers.

3.5.2 Turn potentiometer clockwise to increase time or counter-clockwise to decrease time. Timing range is 1 second to 4 minutes.

NOTE: When external control of door unlock time is desired, i.e., card reader, set time to minimum (completely counter-clockwise).

3.6 Connecting normally open (N.O.) dry contacts from actuating devices

3.6.1 Connect normally open (N.O.) dry contacts from actuating devices such as an access control panel, REX PIR, keypad, etc. to terminals marked [GND, INP1] and [GND, INP2] (see Maximum wiring distance, pg. 9) (100 ohm line resistance maximum).

3.7 Connecting auxiliary devices

3.7.1 Connect auxiliary devices to be powered (keypads, REX motion detectors, electronic timers, external relays) to appropriate auxiliary power output terminals (see Maximum wiring distance, pg. 9).

NOTE: Operating voltage range of device should be 19.8VDC- 26.4VDC or wider for applicators with battery backup and 24VDC-26.4VDC for applications not requiring battery backup.

3.8 Connecting automatic door openers

3.8.1 Connect automatic door operators to terminals marked [ADO1, ADO2].

3.8.2 Connect latch switch contacts to terminals marked [GND, Lt1] and [GND, Lt2] (if used), set OPT1 and OPT2 dip switches to ON position if no Lt contacts are used.

NOTE: For UL/ULC applications all interconnecting devices must be UL/ULC Listed respectively.

3.9 Connecting fire alarm disconnect feature

3.9.1 To hookup fire alarm disconnect feature, wire normally closed (NC) dry contact output from a fire alarm control panel to terminals marked [FACP] and [GND] of RPSMLR2, RPSMLR2BB.

3.9.2 The "Fire 1 option" and "Fire 2 option" dip switches [Fr1] and [Fr2] when in ON position will cause unit to re-lock mechanism if it was previously unlocked when FACP trigger input is activated (open circuit).

3.10 Batteries for ULC applications

3.10.1 Connect two (2) 12VDC batteries wired in series to terminals marked [+ BAT –].

NOTE: For ULC applications batteries must be connected.

NOTE: Stand-by batteries must be lead acid.

NOTE: 7AH batteries will provide 30 minutes of backup time.

NOTE: For Access Control applications in U.S. batteries are optional, for Canadian applications batteries are required. When batteries are not used, loss of AC will result in loss of output voltage.

3.11 Mounting UL listed tamper switch

3.11.1 Mount UL listed tamper switch (Sentrol model 3012 or equivalent) at top of enclosure.

3.11.2 Slide tamper switch bracket onto edge of enclosure approximately 2" from right side (see RPSMLR2BB, pg.11).

3.11.3 Connect tamper switch wiring to access control panel input or appropriate UL listed reporting device. To activate alarm signal open door of enclosure.

NOTE: Do not exceed voltage and current ratings of tamper switch. Please refer to tamper switch installation instructions.

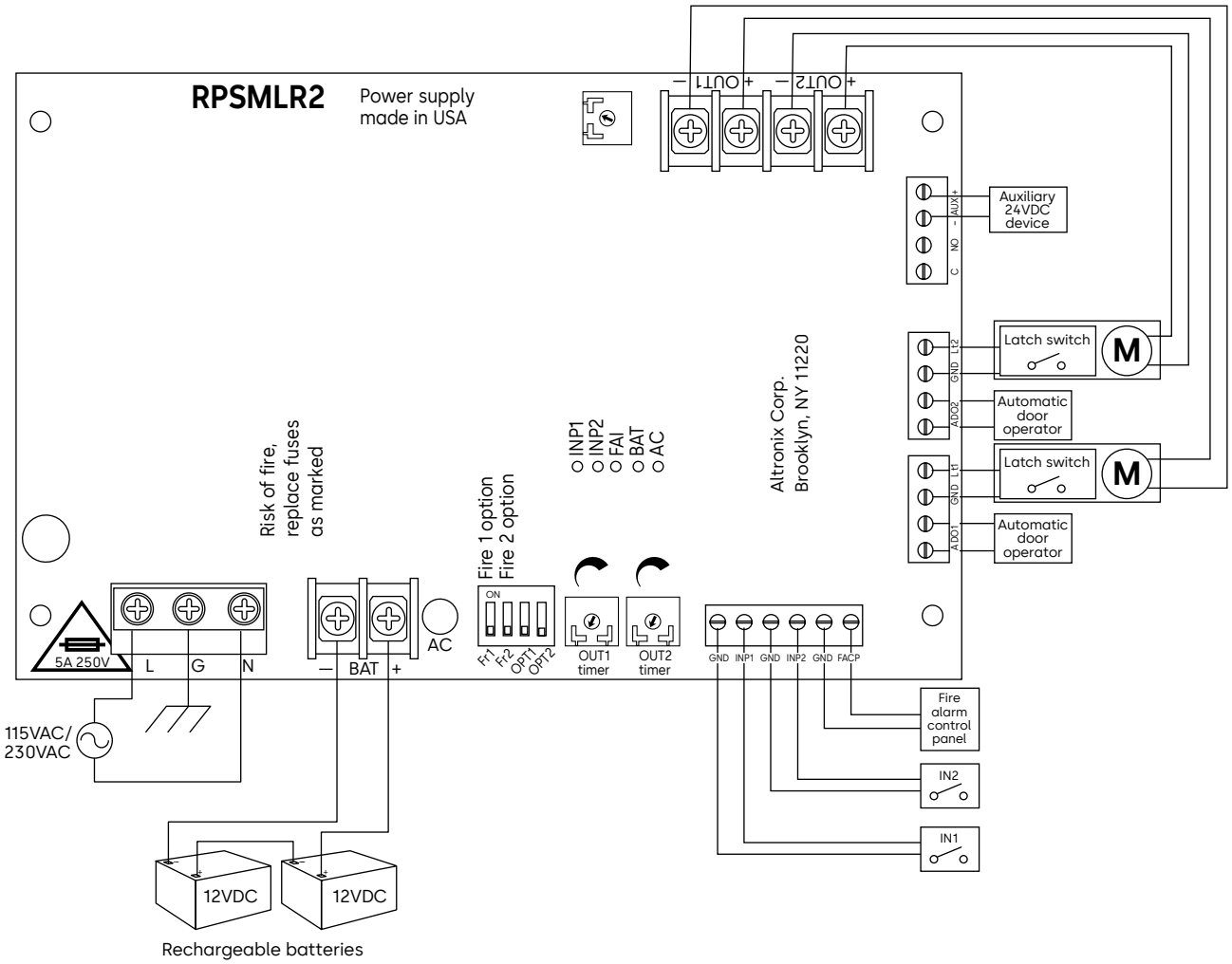
3.12 Securing enclosure

3.12.1 Upon completion of wiring secure enclosure door with screws or cam lock (supplied).

4 RPSMLR2/RPSMLR2BB

4.1 Maximum wiring distance

Fig. 1



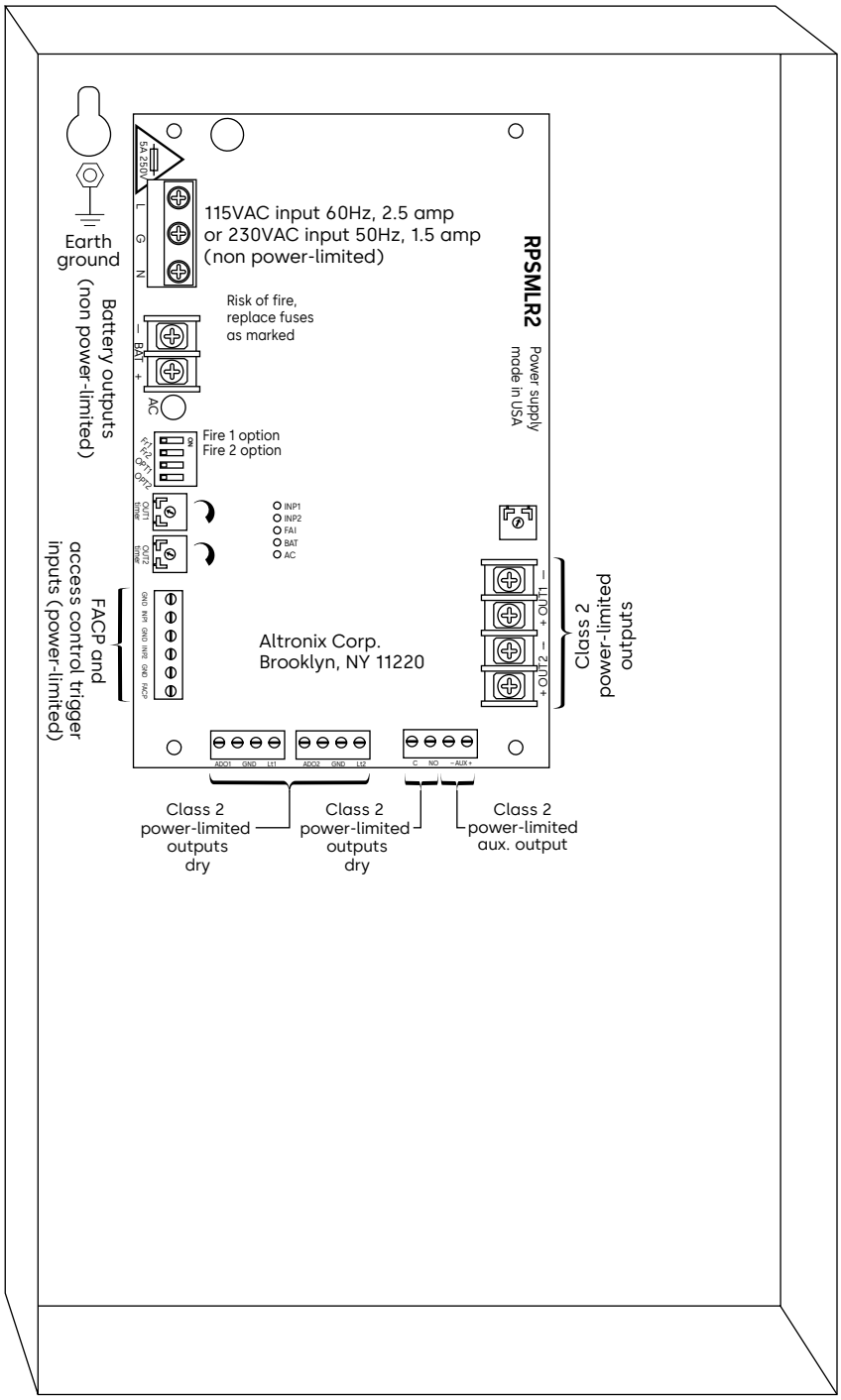
Wiring distance table	
Wire gauge	**Distance**
18 AWG stranded	200 ft.
16 AWG stranded	320 ft.
14 AWG stranded	500 ft.
12 AWG stranded	800 ft.

4.2 RPSMLR2

Fig. 2

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to rain or moisture.

WARNING: Replace fuse with the same type and rating: Input fuse is rated at 5A/250V, battery PTC rated at 6A.



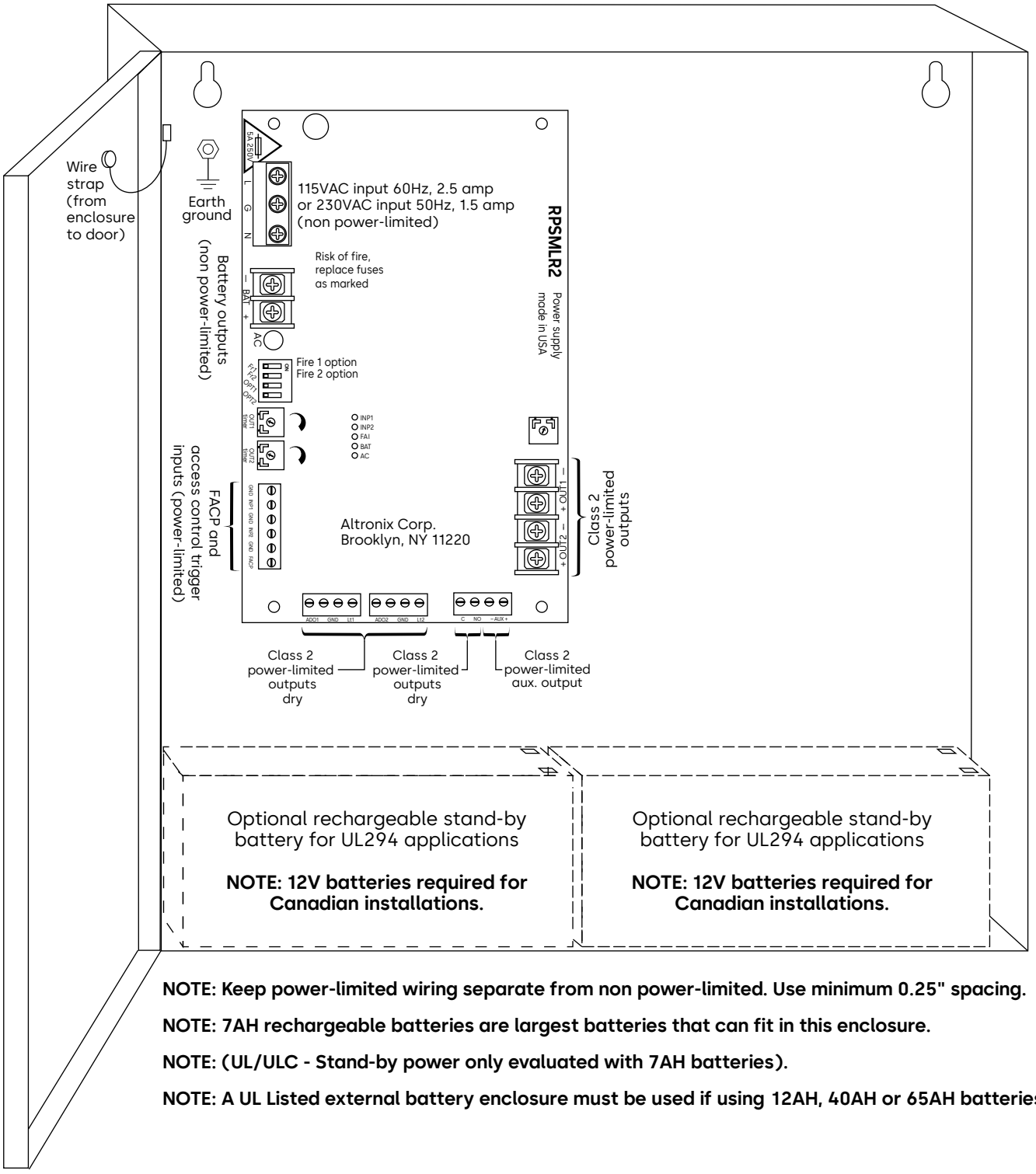
NOTE: Keep power-limited wiring separate from non power-limited. Use minimum 0.25" spacing.

4.3 RPSMLR2BB

Fig. 3

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to rain or moisture.

WARNING: Replace fuse with the same type and rating: Input fuse is rated at 5A/250V, battery PTC rated at 6A.



NOTE: Keep power-limited wiring separate from non power-limited. Use minimum 0.25" spacing.

NOTE: 7AH rechargeable batteries are largest batteries that can fit in this enclosure.

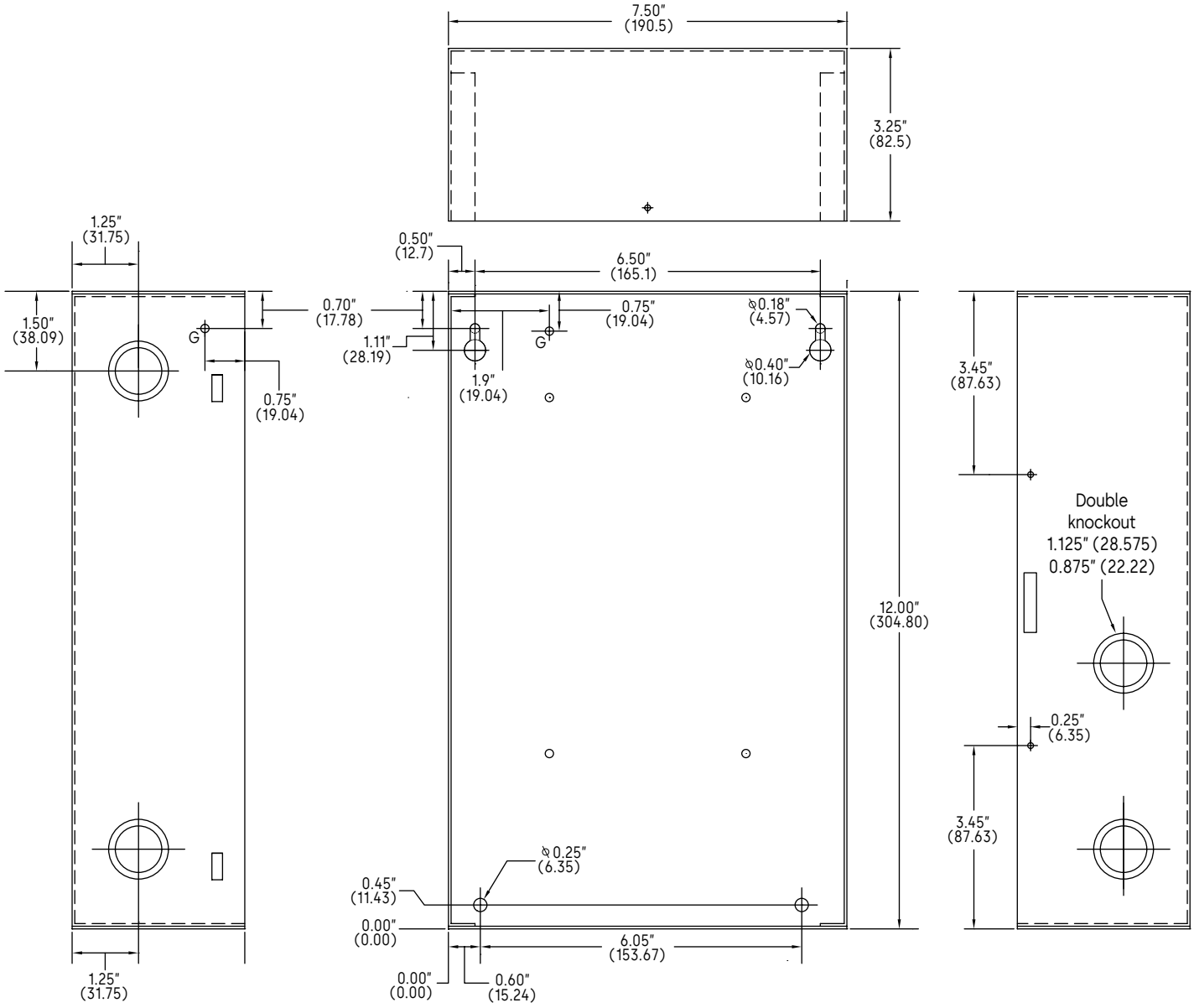
NOTE: (UL/ULC - Stand-by power only evaluated with 7AH batteries).

NOTE: A UL Listed external battery enclosure must be used if using 12AH, 40AH or 65AH batteries.

4.4 RPSMLR2 enclosure dimensions

Fig. 4

RPSMLR2 enclosure dimensions: (H x W x D approximate):
12" x 7.5" x 3.25" (304.80mm x 190.50mm x 82.5mm)

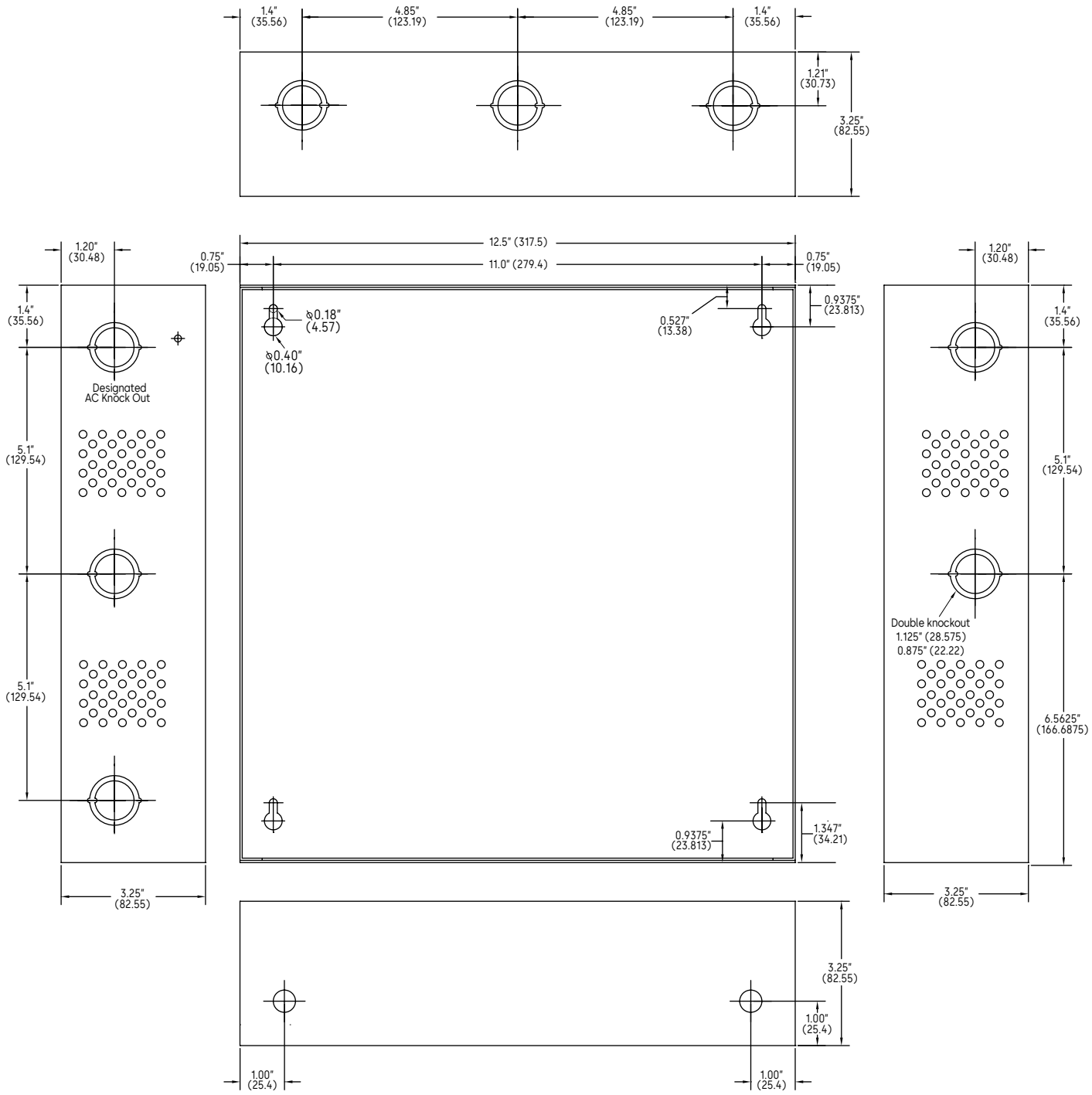


Not to scale. Measurements are for reference only.
Not a drilling template.

4.5 RPSMLR2BB enclosure dimensions

Fig. 5

RPSMLR2BB enclosure dimensions: (H x W x D approximate):
(13.5" x 13" x 3.25" (342.9mm x 330.2mm x 82.55mm)



Not to scale. Measurements are for reference only.
Not a drilling template.

5 Supplementary information

5.1 Notes

5.2 Service information

Installing company: _____ Service rep. name: _____

Address: _____ Phone#: _____

Scan for product details and downloads.
Call 1-800-392-5209 or visit
https://dhwsupport.dormakaba.com/hc/en-us
for assistance or warranty information.

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