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RDB4

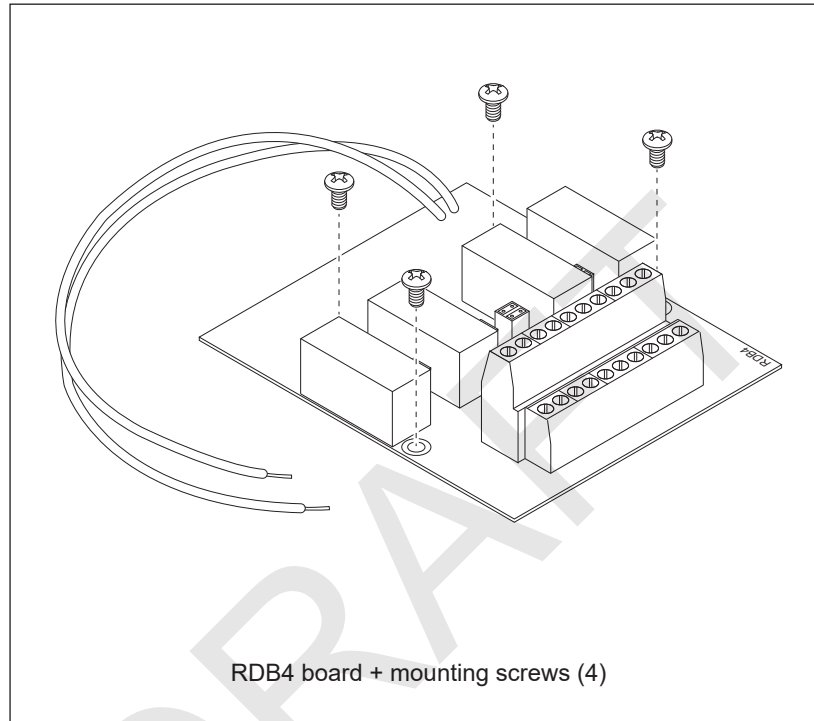
LOCKNETICS™

Option Board

Installation Instructions

The RDB4 option board is to be used with the LP250 power supply when additional features are required. These features include a distribution of 4 controllable outputs. Each output can be individually configured as powered NO/NC outputs or dry (isolated) NO/NC outputs.



This instruction covers:



RDB4 Specifications:

Inputs I1 - I4	Dry contacts required (Closed = Active), rated at 12/24 VDC, 10mA
Outputs O1 - O4	Powered jumper setting: 12/24 VDC, 2.5A Dry jumper setting: 30 VDC, 2.5A, NO/NC Form C contacts
Environment	32°-120° F (0° - 49° C), up to 85% relative humidity, indoor use only, protected area
Compliance	UL294, CSA22.2, CSFM, FCC

Definitions

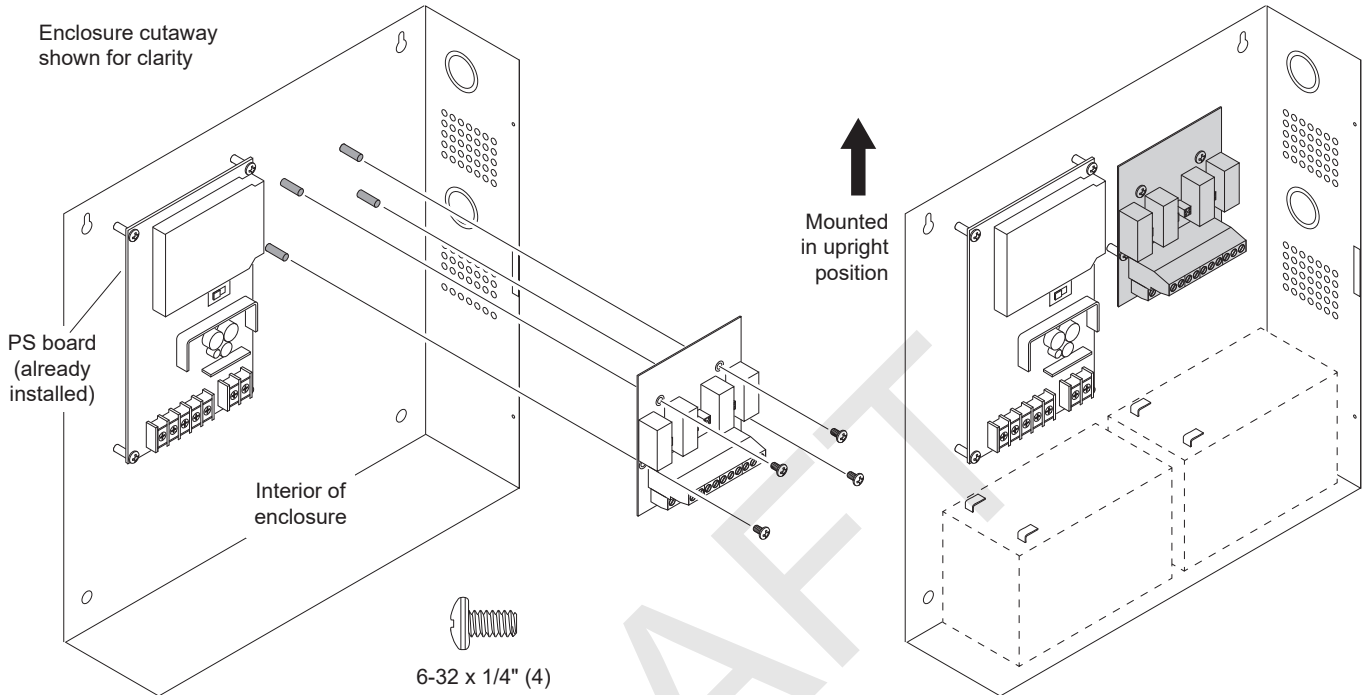
-  Normally closed contacts (NC)
-  Normally open contacts (NO)
- FSE - Fail secure (needs power to lock)
- FACP - Fire Alarm Control Panel
- ACC - Access Control Contacts
- FS - Fail safe (needs power to unlock)

See Section 7 for an explanation of the Warnings and Cautions used in this booklet.

1 RDB4 Installation

WARNING

To avoid risk of electric shock, turn off AC power to power supply before installing or wiring option board.



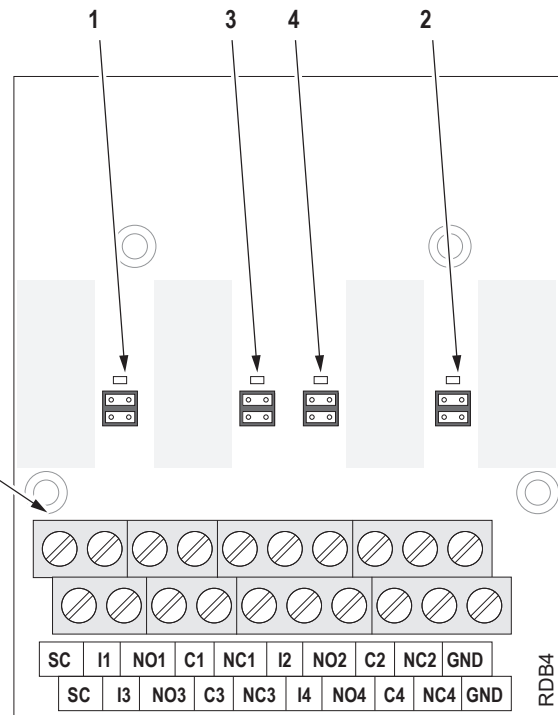
2 RDB4 - Features and Operation

Output LED's and Output Jumpers

	OUTPUT JUMPER	INPUT	OUTPUT	
Each control input 1-4	Powered Contact (default) 	Jumpers factory installed	SC to I: open NC to GND: DC+ out NO to GND: 0V	
			SC to I: closed NC to GND: 0V NO to GND: DC+ out	
	Dry Contact (optional) 	Jumper rotated 90°	SC to I: open	NC to C: Closed NO to C: Open
			SC to I: closed	NC to C: Open NO to C: Closed

Notes:

- When SC to I is closed, the corresponding red LED for that output will turn on.
- When jumper is set to powered contact, the C terminal always has DC Out voltage on it.



3 Typical Wiring (see pages 4-6)

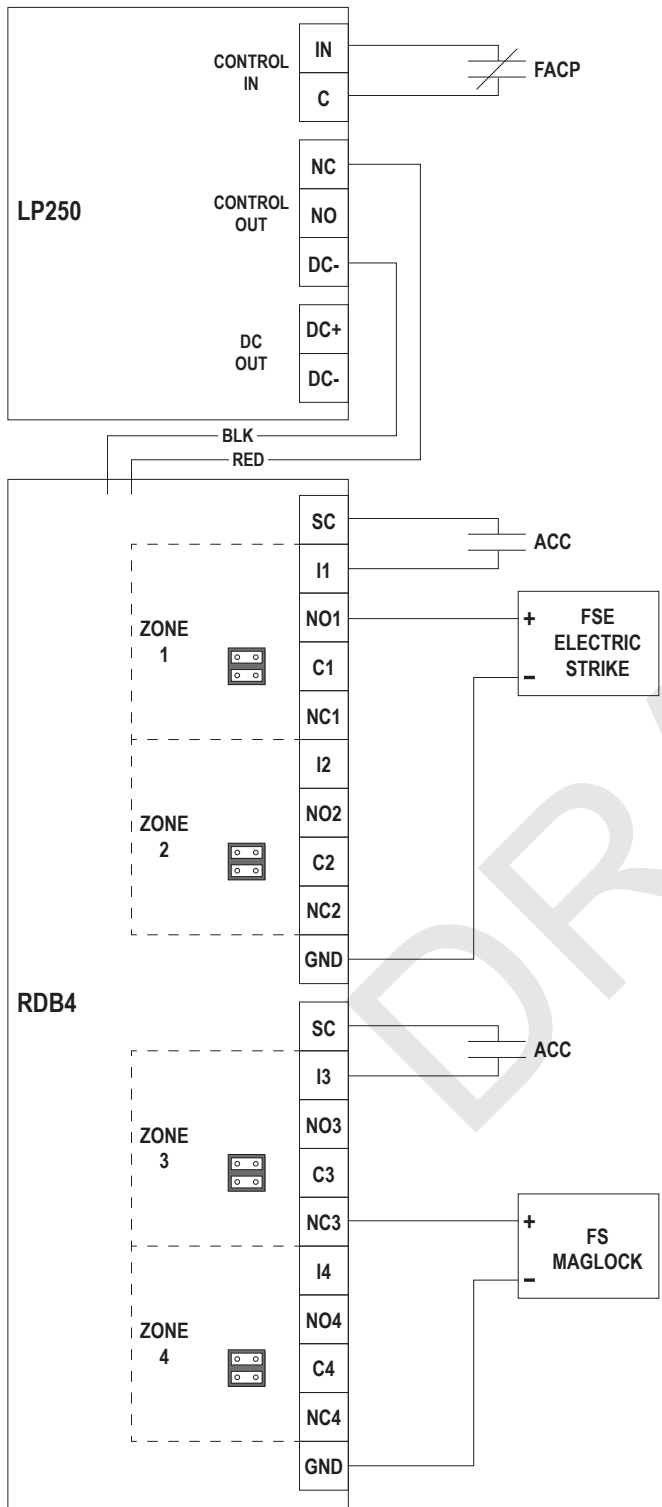
Wiring methods shall be applied in accordance with the National Electric Code/NFPA 70/NFPA 72/ANSI, and with all local codes and authorities having jurisdiction.

WARNING

To avoid risk of electric shock, turn off AC power before installing or servicing LP150/LP250 power supply.

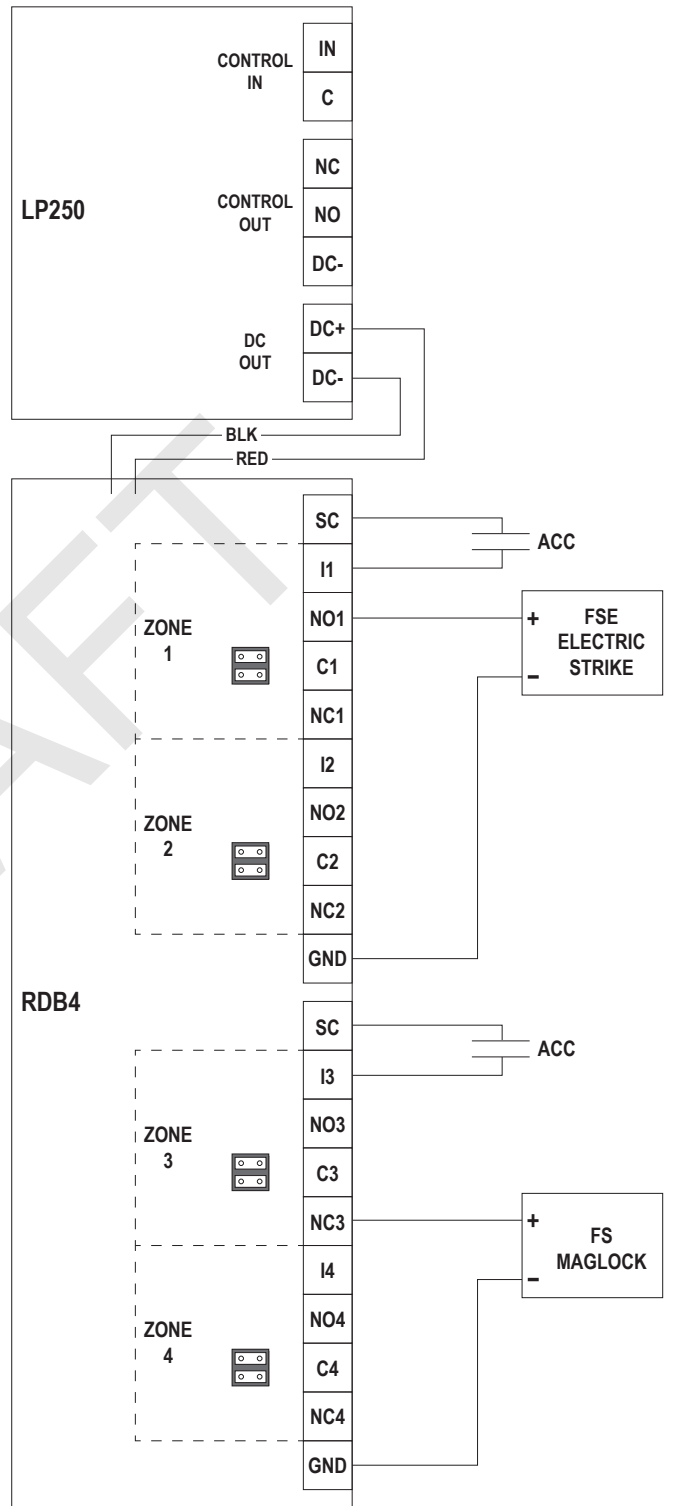
DRAFT

FS & FSE device connected to RDB4 with FACP override (power cut off)



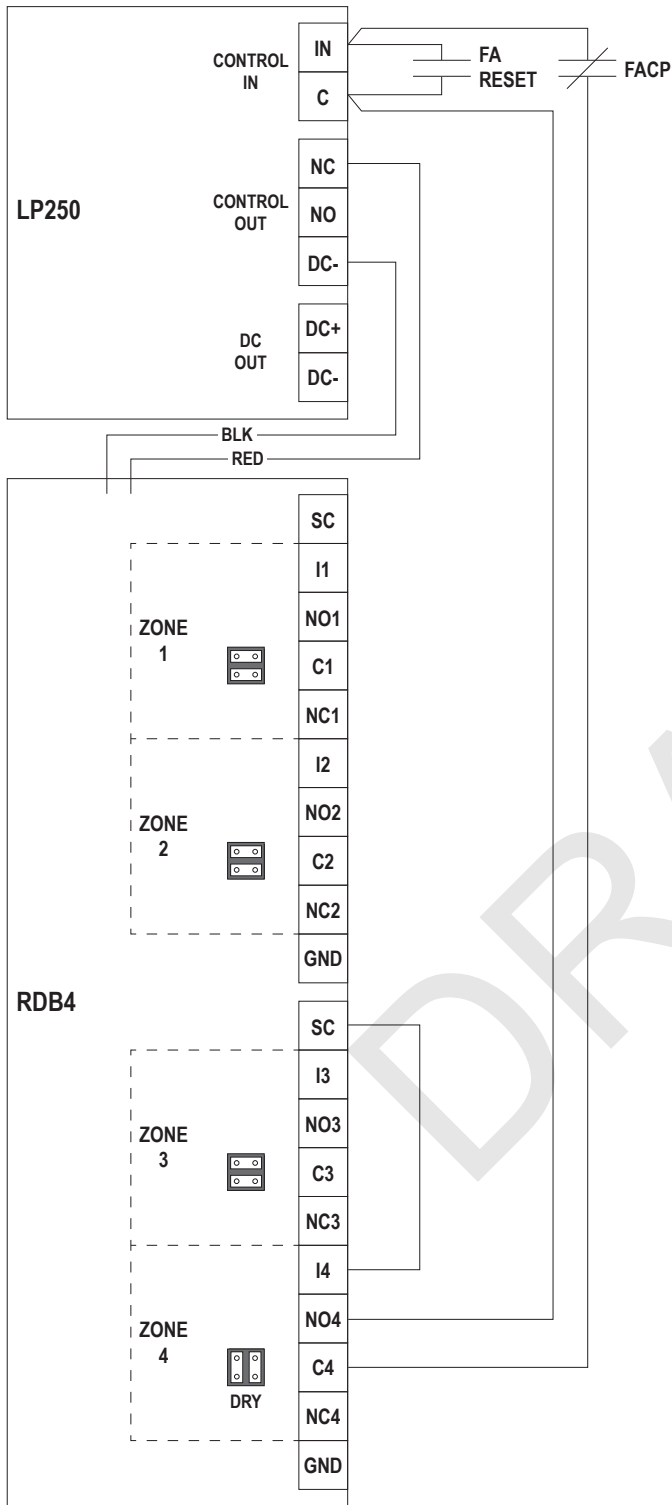
Operation:
 1. All power to RDB4 NC/NO outputs is completely cut off when FACP contacts open. Any devices connected to them will return to their unpowered state.
 2. Each output is controlled by its own individual ACC.

FS & FSE device connected to RDB4 without FACP connection



Operation:
 1. All outputs on the RDB4 are powered and controlled by their individual ACC contacts.
 2. The FACP contacts are not connected.

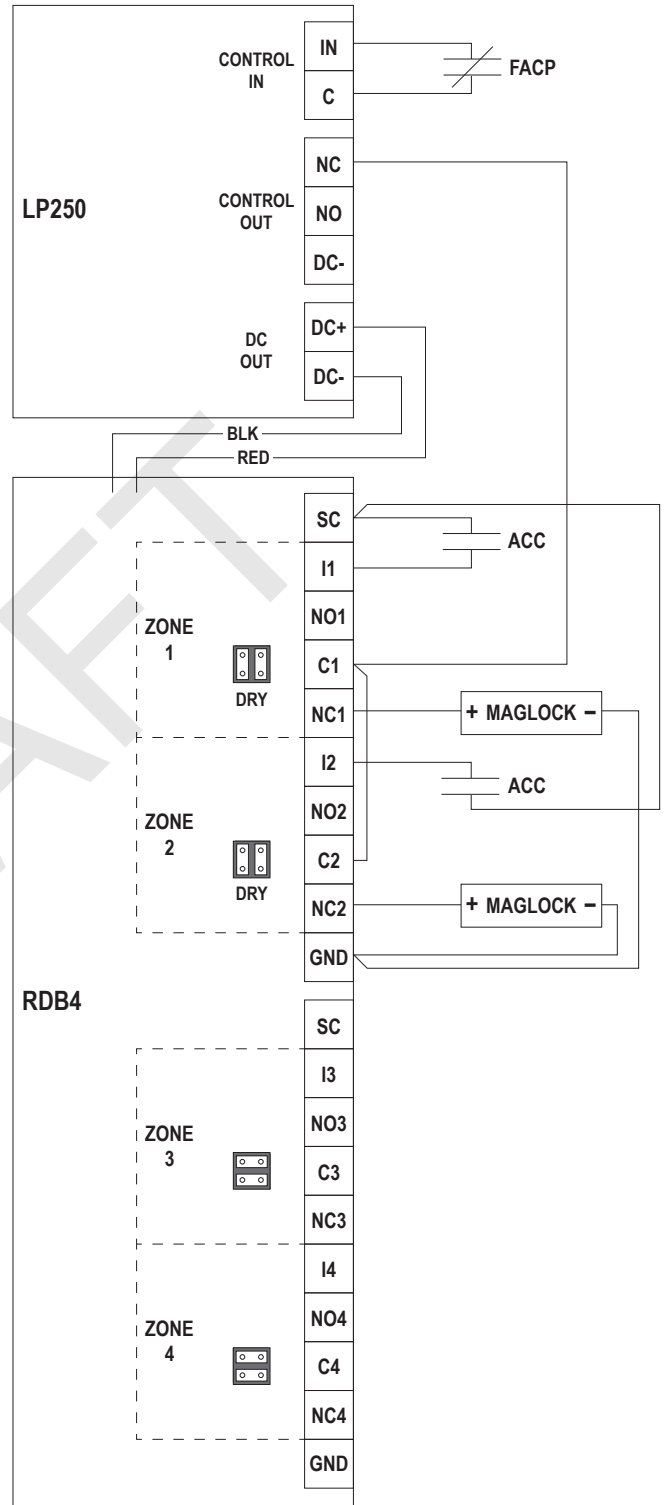
FACP with RDB4 Manual Reset



Operation:

1. Output 4 is used for FACP manual reset. Outputs 1-3 are available for lock control functions.
2. FA RESET contacts must be momentarily closed (and FACP contacts closed) before power can be applied to the RDB4 board. Once power is applied, the RDB4 will function normally. Opening the FACP contacts will disconnect power from the RDB4 board completely. Closure of the FACP contacts will not reapply power to the RDB4. To reapply power for normal operation, momentarily close the FA RESET contacts again.

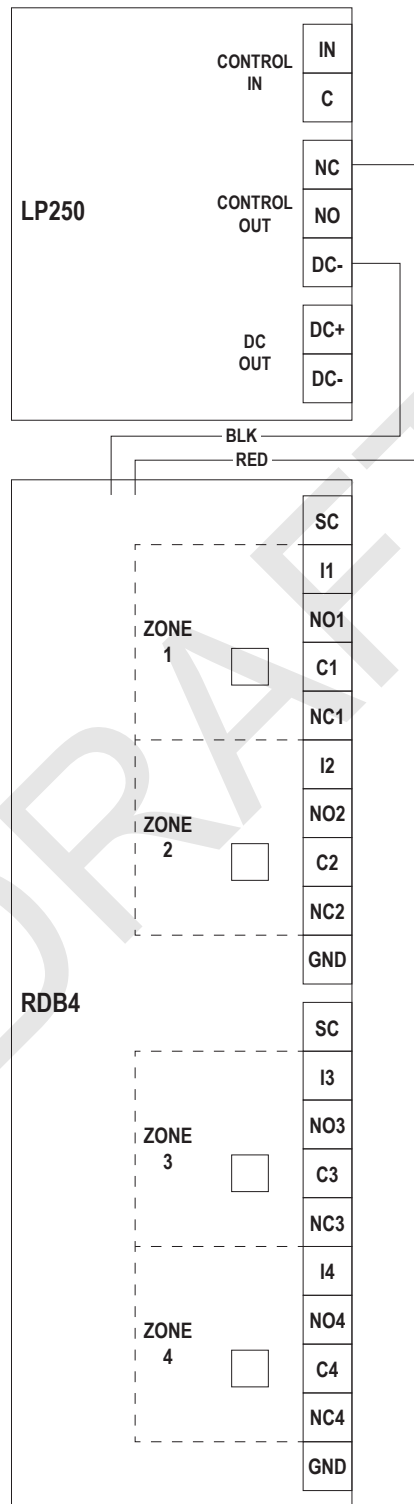
FACP controlling individual zones on RDB4



Operation:

1. Outputs 1 and 2 have FACP override and will completely lose power when FACP contacts are open. Outputs 3 and 4 have normal function and will not change if FACP contacts are open.

Blank diagram for customer use



4 Wire run lengths

- Use the following table to estimate the gauge of wire required for the application.
- Wire length based on 15% voltage drop at 12 or 24V using stranded copper wire.
- The wire gauge listed is a minimum. The gauge can be increased if desired.
- Distance = total one way wiring distance between power supply and powered device (includes both power wires).

CAUTION

Keep power-limited wiring separate from non power-limited wiring.
 Minimum 1/4" spacing must be provided.
 When installing, route field wiring away from sharp projections,
 corners, and internal components. Deburr all conduit fittings.

DISTANCE (FEET)	WIRE GAUGE (AWG)									
	100	24	22	18	16	14	24	24	22	20
200	22	18	16	14	12	24	22	18	16	14
300	20	16	14	12		24	20	16	14	12
400	20	16	14			22	18	16	14	12
500	18	14	12			22	18	14	12	
	0.2	0.5	1.0	1.5	2.5	0.2	0.5	1.0	1.5	2.5
	LOAD CURRENT AT 12V (AMPS)					LOAD CURRENT AT 24V (AMPS)				

5 Maintenance

Unit should be tested at least once a year for proper operation as follows:

Voltage Output:

- Verify the proper DC output voltage by measuring the DC+ and DC- terminals.

Fire Alarm Release (if used):


- Verify proper operation by opening the wiring to the CONTROL IN input. Confirm that all locks on outputs controlled by the CONTROL OUT unlock properly.

6 Troubleshooting

Refer to Section 2 for LED status of outputs and jumper settings to determine the cause for any abnormal condition. Each LED has the definition of its ON or OFF state.


7 Warnings and Cautions

Warnings look like this:

 **WARNING**


Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

Cautions look like this:


 **CAUTION**

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Notices look like this:

 Notices indicate a condition that may cause equipment or property damage only.

Directions look like this:

 Directions identify a step that may or may not apply to your product configuration. It also may direct you to another part of the instruction.

Customer Service

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Printed in U.S.A.
829768-00 Rev. 01/19-a-10