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RA, RD Rackmount Installation Manual

LifeSafety Power®



FLEXPOWER®



LifeSafety Power, Inc. | PH 888.577.2898 | TechSupport@LifeSafetyPower.com

P03-032 Rev A08

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RA and RA-N AC systems only operate off 120VAC input.

RD and RD-N DC systems are factory set for 120VAC input. To configure for 230VAC, see page 4, section 1.3.2

Notes and Warnings

Symbol Definitions

The following symbols are used throughout this manual



This symbol is intended to alert the installer of shock hazards within the enclosure. Service should only be performed by qualified service personnel



This symbol is intended to alert the installer of important information intended to help the installer avoid personal injury or property damage

Warnings



Installation and service should be performed only by qualified service personnel and should conform to all local codes



To reduce the risk of electric shock or fire, do not expose this equipment to rain or moisture



This equipment shall be installed in a manner which prevents unintentional operation by employees, cleaning personnel, or others working in the premises, by falling objects, customers, building vibration, or similar causes



This equipment is not intended for use within the patient care areas of a Health Care Facility



Replace fuses only with the same type and rating as indicated in the specifications section of this manual.



To prevent impaired operation, ensure that all wiring is routed and secured to prevent accidental open or short circuit conditions



The system and any batteries (if used) should be tested at least once per year to ensure proper operation

Regulatory Information

The equipment discussed within this manual has been tested to the following standards:

- UL294, UL603, UL864, UL1076, UL1481, UL2044, UL2572
- ULC S318, ULC S319, ULC S527
- CSA C22.2 #107.1, CSA C22.2 #60950

FCC Information

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense

Conventions Used Within this Manual

Positional information (e.g. top, bottom, up, down, left, right, etc.) is referenced with the board or enclosure in the orientation shown in the illustrations in this manual

Introduction

Product Description

The **FLEXPOWER** rackmount series of power supplies provide AC or DC power for lifesafety applications. Designed to fit neatly into standard 19" equipment racks, the streamlined cabinetry and exceptional features combine to significantly reduce installation and service costs. Features

include removable terminal strips for field wiring, input and output surge suppression, automotive blade fuses for improved reliability, a front removable chassis face plate for serviceability and is enclosed in a 16 gauge steel 2U rack mount chassis.

RA Series

The **FLEXPOWER RA Series** of AC power supplies provide 24 and 28 VAC power at 100W - 600W of total power. They are available with 8, 16, or 24 outputs and the *capability of remote power reset by output bank via internet or intranet connection (with RA-N option)*. Ideal for CCTV applications in retail, health care, gaming, entertainment, transportation, government and educational facilities. The

RA series delivers maximum flexibility for large multicamera projects by providing increased current capability and allowing the user to select either 24 VAC or 28 VAC on each individual output. For fused models each output is fused at 3A, but may be increased up to 7.5A by the installer for powering high power devices such as heater/blowers or PTZs. Models ending in P are Class 2 Power Limited to 2.5A each.

RA Models	Power	Outputs	Description		
RA100 Series	100VA	8, 16, 24	4.16A @ 24VAC	3.57A @ 28VAC	programmable outputs 24 or 28VAC
RA150 Series	150VA	8, 16, 24	6.2A @ 24VAC	5.4A @ 28VAC	programmable outputs 24 or 28VAC
RA300 Series	300VA	8, 16, 24	12.5A @ 24VAC	10.7A @ 28VAC	programmable outputs 24 or 28VAC
RA600 Series	600VA	8, 16, 24	25A @ 24VAC	21A @ 28VAC	programmable outputs 24 or 28VAC
RA-N Models with remote reset					
RA150-16N	150VA	16	6.2A @ 24VAC	5.4A @ 28VAC	16 programmable outputs, remote reset
RA300-16N	300VA	16	12.5A @ 24VAC	10.7A @ 28VAC	16 programmable outputs, remote reset
RA600-16N	600VA	16	25A @ 24VAC	21A @ 28VAC	16 programmable outputs, remote reset

RD Series

The **FLEXPOWER RD Series** of DC power supplies provide 12 and/or 24 VDC power at 25W - 500W of total power. They are available with 8, or 16 outputs and the *capability of remote monitoring of the supply's parameters via internet or intranet connection (with RD-N option)*. Ideal for Access Control, CCTV, Burglar, Fire, or Mass Notification applications. The RD series delivers max-

imum flexibility for large projects by providing increased current capability and allowing the user to select either 12 VDC or 24 VDC on each output (dual supply units only). For fused models each output is fused at 3A, but may be increased up to 7.5A by the installer for powering high power devices. Models ending in P are Class 2 Power Limited to 2.5A each.

RD Models	Power	Outputs	Description	
RD75 Series	75W	2	Single Voltage	6A @ 12VDC or 3A @ 24VDC / dual output
RD150 Series	150W	2	Single Voltage	12A @ 12VDC or 6A @ 24VDC / dual output
RD250 Series	250W	2	Single Voltage	20A @ 12VDC or 10A @ 24VDC / dual output
RD75/75 Series	150W	8, 16	Dual Voltage	6A @ 12VDC or 3A @ 24VDC (X2) / multiple outputs
RD150/150 Series	300W	8, 16	Dual Voltage	12A @ 12VDC or 6A @ 24VDC (X2) / multiple outputs
RD250/250 Series	500W	8, 16	Dual Voltage	20A @ 12VDC or 10A @ 24VDC (X2) / multiple outputs
RD-N Models with network monitoring				
RD75-XN	75W	8, 16	Single Voltage / Network	6A @ 12VDC or 3A @ 24VDC / multiple outputs / network
RD150-XN	150W	8, 16	Single Voltage / Network	12A @ 12VDC or 6A @ 24VDC / multiple outputs / network
RD250-XN	250W	8, 16	Single Voltage / Network	20A @ 12VDC or 10A @ 24VDC / multiple outputs / network

Section 1 – Installation

The following pages cover the installation of the RA and RD Series rack-mountable power supplies.

1.1 Mounting the Rack Mount Supply into a Standard 19" Rack

Use the following procedure when mounting an RA or RD series supply into a standard EIA 19" equipment rack.

1. Ensure any internal configuration (voltage selection, fault detection settings, etc) are complete before mounting. See Section 1.3 of this manual for more information.
2. Securely mount the included ears to the enclosure sides using the eight included 6-32 countersunk screws (four per ear).
3. Locate the rack-mounting holes in the ears of the enclosure. (Figure 1)
4. Slide the enclosure into an open 2U location in the rack
5. Center the enclosure in the rack and secure with the four 10-32 x 3/4" screws provided.

NOTE: Use rails or other appropriate support for heavy enclosures. Keep heavier components near the bottom of the rack to reduce the risk of toppling of a top-heavy rack.

NOTE: For UL864 Installations, the Rack Mount Supply must be mounted in an ENCLOSED rack where the field wiring will be protected. Add:

NOTE: Ensure adequate spacing between the systems for proper ventilation. If the internal temperature of the rack is high, a ventilation fan for the rack should be considered.

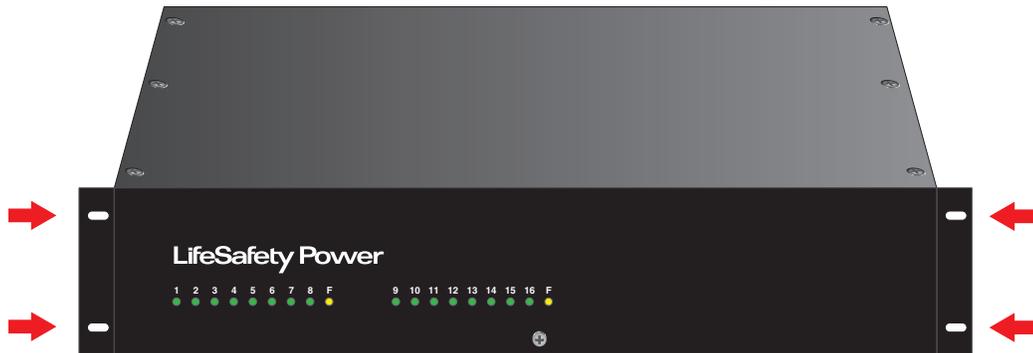


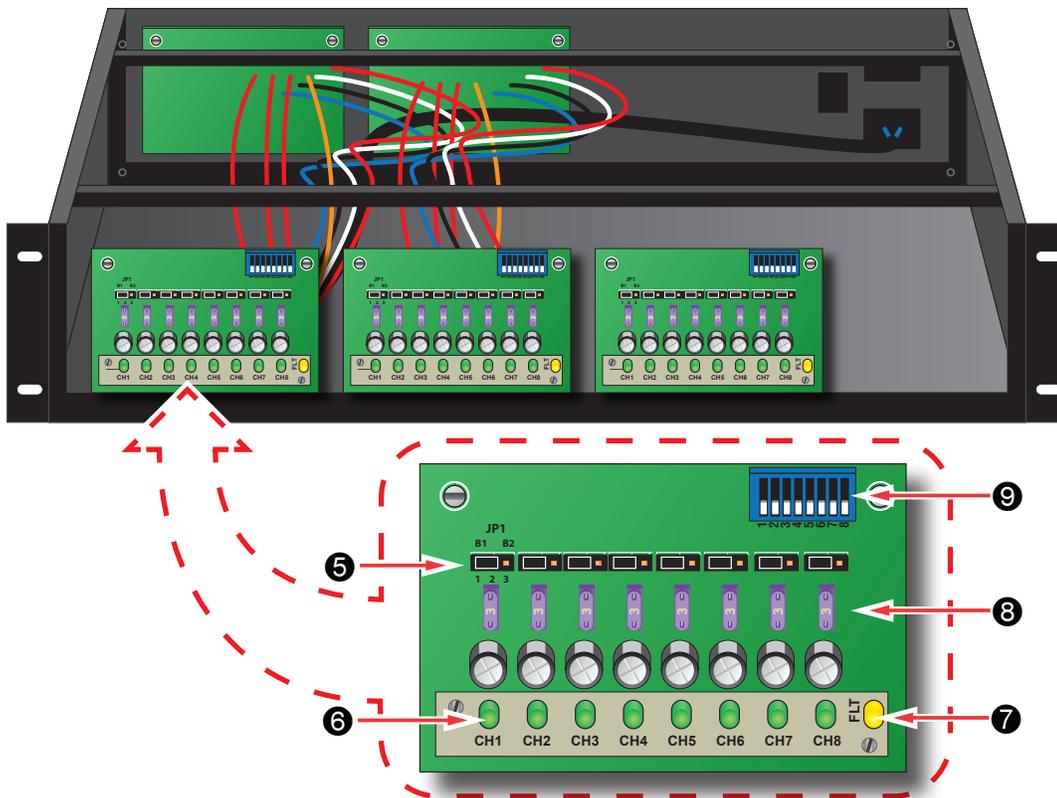
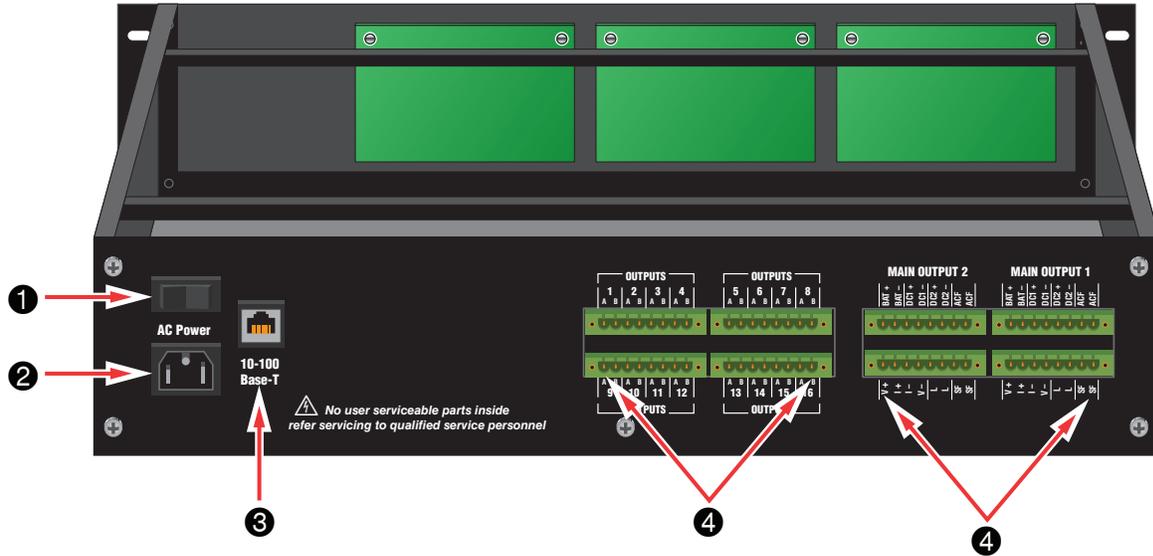
Figure 1 - The Enclosure Mounting Holes

⚠ The RA AC series is 120VAC input only.

The RD DC Series is factory set for 120VAC input.

See section 1.3.2 for 230VAC configuration.

1.2 RA & RD Rackmount Power Supply Overview





The following are basic descriptions. Refer to the appropriate section for more detailed information. Note that the front and back panels may appear different based on the configuration of your system.

① **Main AC Power Switch / Circuit Breaker**

This is the main AC power switch for the enclosure. This switch lights when power is on and also has a built-in circuit breaker rated at 8A. If the circuit breaker trips, reset it by cycling the switch to off then back to on.

② **AC Line Input**

This is the connector for the AC line cord. Plug the included computer-style line cord into this connector. Connect the other end of the cord to the power strip inside the rack or another suitable AC power receptacle.

 *The RA series is 120VAC input only.*

The RD Series is factory set for 120VAC input - see section 1.3.2 for 230VAC configuration

③ **Ethernet Connection (Optional)**

This is the RJ45 jack for the network connection for the internal NetLink board (if present). The ethernet cable is plugged into this jack. This jack is only present on RA and RD series power supplies with a model number ending in "N". See Section 2.5 and the corresponding NetLink manual for more information.

④ **Field Wiring**

These terminals provide the field wiring connections. Terminal quantity and function varies based on configuration and the function is marked adjacent to each terminal. All rear terminal blocks may be secured with the screw on either end of the block. These terminals all accept AWG 12-22.

RA Series

- **Outputs** — These are the zone outputs. The RA Series is available with 8, 16, or 24 outputs. The output numbers correspond with the output zone numbers on the front panel. See Section 1.4.1 for more information.

RD Series

- **Distributed Outputs** — These are the zone outputs. The RD Series is available with 8 or 16 outputs. The output numbers correspond with the output zone numbers on the front panel. Bulk Output models without distribution will not have these terminals. See Section 1.4.2 for more information.
- **Bat(±)** — This is where the battery connection is made. The voltage of the battery set must match the voltage of the associated power supply. Dual power supply models will have two independent battery connections. See Section 1.4.2 for more information.
- **DC1(±)** — This is a bulk power output with the full power of the associated power supply available on these terminals. Dual power supply models will have two DC1 outputs. See Section 1.4.2 for more information.
- **DC2(±)** — This is an FAI-controllable bulk power output

with the full power of the associated power supply available on these terminals. Dual power supply models will have two DC2 outputs. See Section 1.4.2 for more information.

- **ACF & SF** — These are the AC and System Fault outputs. From the factory these are set to provide a closed connection when there is no fault. Dual power supply models will have two sets of AC and System Fault outputs. See Section 1.4.2 for more information.
- **V+, I+, I-, V-, L, L** — These terminals accept the optional FAI input for controlling the DC2 outputs. The FAI input will control the DC2 output on all RD models, and will control any outputs set for the B2 bus on single power supply RD models. See Section 1.4.2 and Appendix 1 for more information.

⑤ **Output Selection Jumpers (JP1 – JP8)**

These jumpers select which voltage buss input is selected for the output. Jumper numbers correspond with the zone number (e.g. JP1 is the jumper for OUT1). Possible settings are as follows:

- **Position 2 (Right)** – B2 Buss
- **Position 1 (Left)** – B1 Buss
- **Removed** – Disable Output

⑥ **Output LEDs (GREEN/BLUE)**

These LEDs indicate when voltage is available on the output terminals on the rear of the unit and the voltage level as follows:

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

See Section 2.4 for more information.

⑦ **Fault LED (YELLOW)**

This LED lights when the front board detects a fault condition. Fault conditions reported by this LED include ruptured output fuse(s) or missing voltage. This LED does not indicate problems with the internal power supply. See Section 2.4 for more information.

⑧ **Output Fuses (F1 – F8) – Optional**

For fused models, these are the fuses for each zone output. Fuse numbers correspond with the zone number for the board (e.g. F1 is the fuse for CH1). For models ending in P, the fuse will be replaced with a soldered-in PTC.

⑨ **Fault Disable Switches**

These switches disable fault detection by individual zone. This allows removal of the fuse for unused zones without causing a fault condition. See Section 2.3 for more information.

1.3 Internal Pre-Configuration - RD Series Only

Configuration internal to the rack mount enclosure is required on RD series power supplies prior to installation into a rack. The RA Series does not require internal configuration. Ensure all power is disconnected before performing this initial configuration.

1.3.1 Removing the Top Cover of the Enclosure

Use the following steps to remove the top cover of the rack-mount enclosure and gain access to the configurable settings. (Figure 2)

1. Lay the enclosure flat on its bottom surface
2. Remove and retain the six philips head screws from the top cover
3. Remove the top cover and set it aside in a safe location

When configuration is complete, reverse the removal procedure to replace the cover.

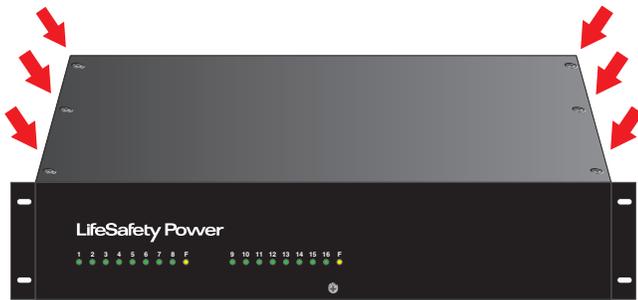


Figure 2 - The Top Cover Mounting Screws

1.3.2 Configuring for a 230VAC Input Voltage

The RD series is factory set for a 120VAC input. If the RD is to be used with a 230VAC input, jumper JP1 must be cut on ALL FPO power supplies internal to the RD. (Figures 3 and 4). See the FPO manual for more information.

⚠ Failure to cut JP1 on both supplies when connecting to a 230VAC input will damage the system and void the warranty.

1.3.3 Setting the Output Voltages

The RD series will contain one or two internal power supplies, depending on model. The voltage may be set on each FPO power supply for 12 or 24VDC .

After removing the top cover, set the output voltage of the FPO power supplies by moving SW1 to either 12V or 24V (See #3 in Figure 3). Looking from the front of the enclosure, the left power supply powers the B1 bus and the right power supply powers the B2 bus.

See the FPO manual for more information on setting the output voltage.

1.3.4 Enabling or Disabling Battery Presence Detection

Each FPO power supply may be set to detect a missing battery set. To enable battery presence detection, place the BATDET jumper ON. To disable battery presence detection, remove the BATDET jumper, or place it on only one pin. (See #2 in Figure 3)

1.3.5 Enabling or Disabling Earth Ground Detection

Each FPO power supply is able to detect earth ground faults. To enable earth ground fault detection, place the EARTH GND DET jumper ON. To disable earth ground fault detection, remove the EARTH GND DET jumper or place it on only one pin. (See #1 in Figure 3)

NOTE: Only one device in a system should have earth ground fault detection enabled or conflicts may occur. In addition, only ONE FPO power supply in a dual-supply RD system should have earth ground fault detection enabled or a conflict may occur.

1.3.6 Changing the Operation of the Fault Contact Output

From the factory, RD series supplies are shipped with a normally open fault contact operation (relay contact closed until a fault occurs).

This operation may be switched to a normally closed contact (relay contact open until a fault occurs) by moving a wire on each fault contact.

To switch from the default NO fault contact to a NC contact, locate the fault output terminal strip on the FPO power supply. Identify the contact you want to change (SYS FLT or AC FLT), loosen the terminal, remove the wire from the NO terminal, move it to the NC terminal, and tighten the terminal.

NOTE: This must be done on BOTH power supplies in dual-supply models.

1.3.7 Changing the FAI Operation

The DC2 output may be set to either power up when an FAI is received or to drop power when an FAI is received by changing the position of the DC2 fuse on the FPO board. This also changes the operation of any FAI controlled outputs in a single supply system.

- DC2 NO Position - DC2 output has no voltage until a valid FAI input signal is received.
- DC2 NC Position - DC2 output has voltage present in the normal state. This voltage goes away when a valid FAI input signal is received.

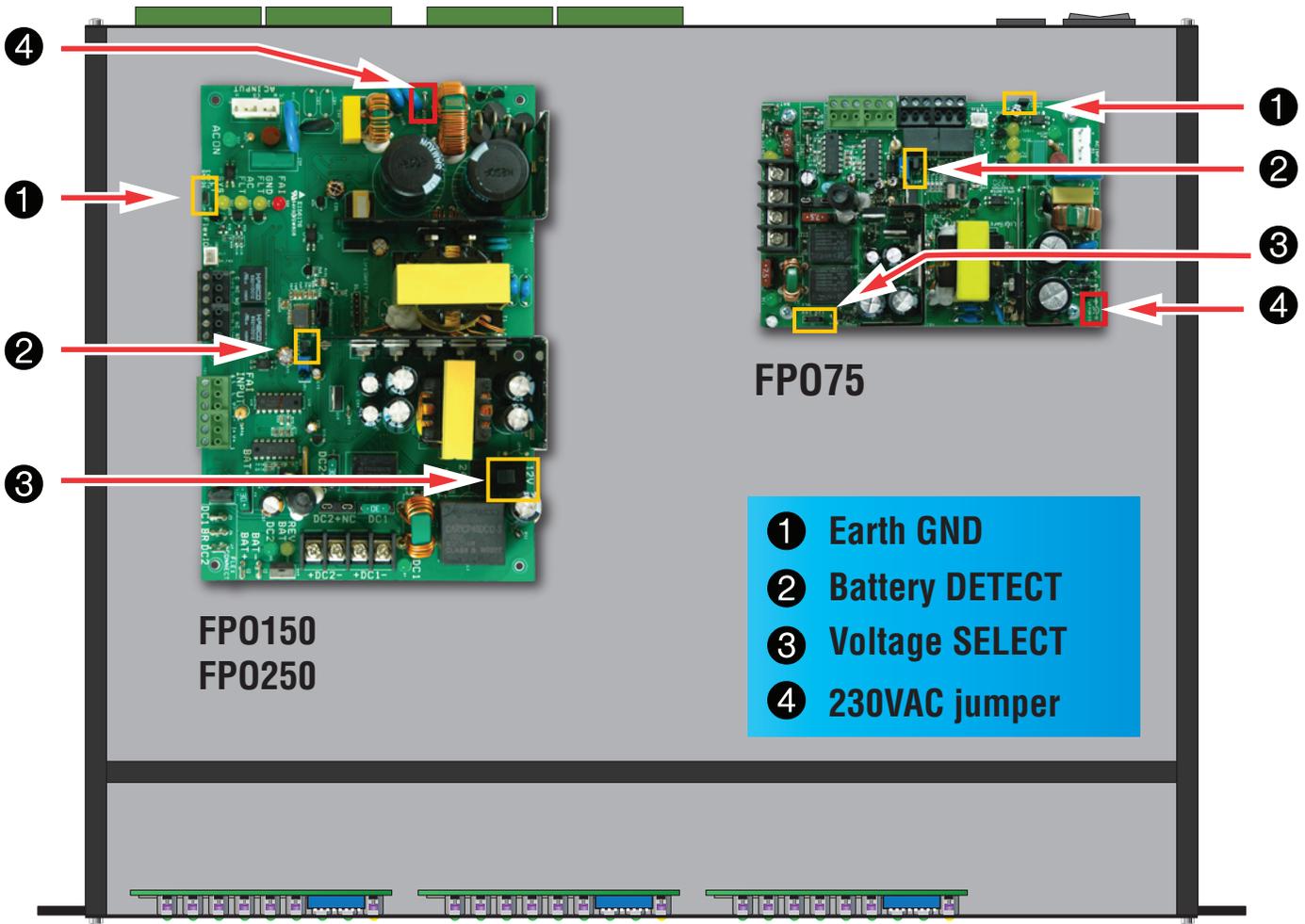


Figure 3 - Configuring the Internal FPO Power Supplies in an RD Series Supply

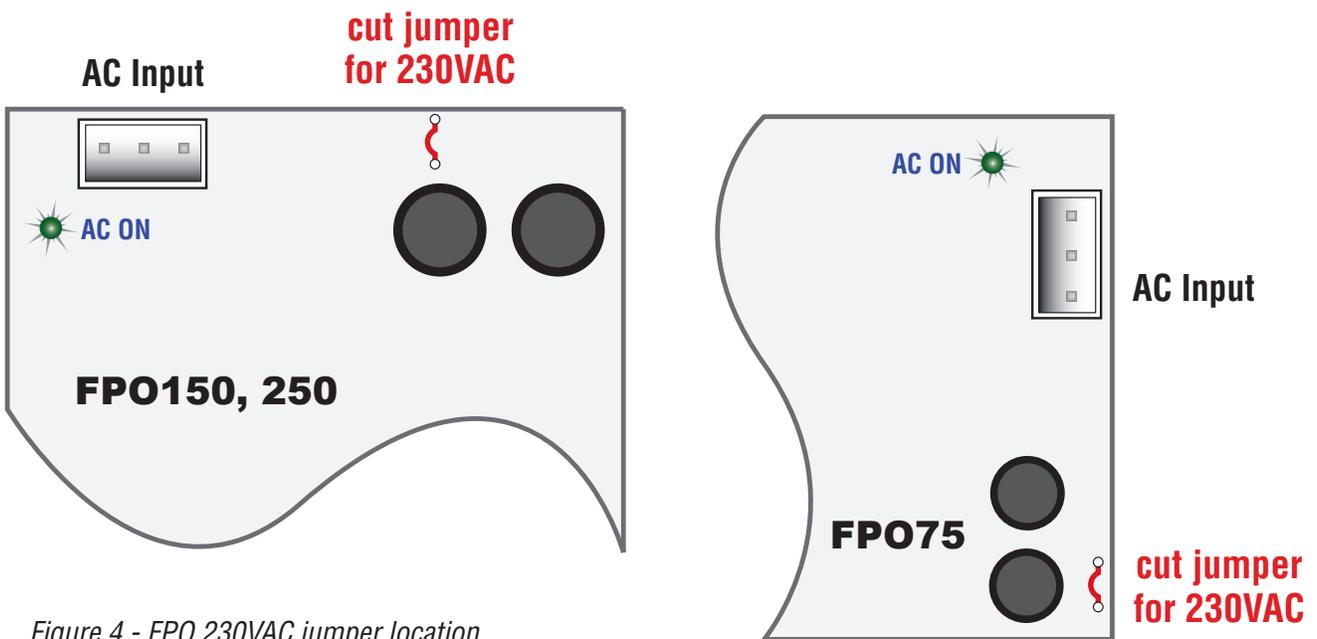


Figure 4 - FPO 230VAC jumper location

1.4 Making the Wiring Connections - RA and RD Series

Field wiring connections are made on the rear panel after installing the RA or RD enclosure into the rack. Field wiring connections are made to the removable terminal strips, which accept AWG 12-22 wire. The back panel is also where the main AC power and optional ethernet connections are made.

1.4.1 RA Series Field Wiring

The RA Series provides AC voltage on each output terminal pair on the rear of the enclosure. Depending on model, there will be 8, 16, or 24 output zones. The output zone numbers will correspond with the numbering of the zones on the front panel.

Each output has two terminals, labeled A and B. Although there is no polarity for AC voltage, consistent phasing between the powered devices should be maintained to minimize noise and other issues.

1.4.2 RD Series Field Wiring

The RD series has terminals for various inputs and outputs as follows:

Distributed Outputs

RD Series models with distributed outputs provide DC voltage on each output terminal pair on the rear of the enclosure. Depending on model, there will be either 8 or 16 output zones. The output zone numbers will correspond with the the numbering of the zones on the front panel. Single supply RD models are selectable for continuous or FAI controlled output by zone. Dual supply RD models are continuous output when set for internal power supply 1, and are FAI controllable when set for power supply 2.

Battery (Bat+, Bat-)

This pair of terminals is for connection to a backup battery set, if required for the installation. Polarity is noted adjacent to the terminals. These terminals also charge the battery set.

NOTE: Observe polarity or damage to the system will occur. Ensure the voltage of the battery set matches the voltage of the power supply.

NOTE: It is the installer's responsibility to determine the proper battery size for the installation. See the Specifications section for battery standby current requirements.

DC1+, DC1-

The main DC output of the FPO power supply. The full current of the FPO is available on these terminals at all times and is unaffected by the FAI input.

DC2+, DC2-

The DC2 output may optionally be controlled by the FAI input. The full current of the FPO is available on these terminals. The DC2 output may be set to power up when

an FAI signal is received or to drop power when an FAI signal is received by changing the position of the DC2 fuse on the FPO before installing the RD into the rack.

AC Fault (ACF)

These terminals provide the AC Fault relay output from the FPO power supply. This relay signals when the internal FPO power supply detects a low or missing AC input voltage.

From the factory this output is set to provide a CLOSED connection when there is no fault. During a fault condition, the connection between these terminals will OPEN.

To reverse this operation, see Section 1.3.6 of this manual.

System Fault (SF)

These terminals provide the System Fault relay output from the FPO power supply. This relay signals when any of the following conditions occur:

- Missing Battery (If BAT DET jumper is ON)
- Earth Ground Fault (If EARTH GND DET jumper is ON)
- Battery voltage out of range
- DC output voltage out of range
- Ruptured fuse
- Accessory Board Fault
- Internal Fault

From the factory this output is set to provide a CLOSED connection when there is no fault. During a fault condition, the connection between these terminals will OPEN.

To reverse this operation, see Section 1.3.6 of this manual.

FAI Input (V+, I+, I-, V-, L, L)

These terminals accept the optional FAI / Access Control input for controlling the DC2 output. See **FAI Input Usage** diagrams on the next page for more information.

Connections are as follows:

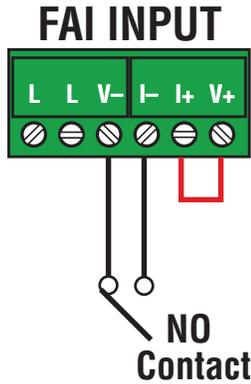
- L Terminals Latch Reset contact input. If a latching FAI Input is desired, a normally closed contact is placed across these terminals. When the FAI Input is activated, it will latch in the activated state until this contact is momentarily opened. If the latching feature is not desired, leave these terminals open.
- V+ & V- Terminals These terminals are a low-current auxiliary voltage output to be used with a dry contact or open collector for activating the FAI Input.
- I+ & I- Terminals These terminals are the input terminals for the FAI Input. The FAI input is activated when a voltage between 9 and 30 volts is applied across these terminals in the correct polarity.



This section provides more detailed information on the connection and usage of the FAI input.

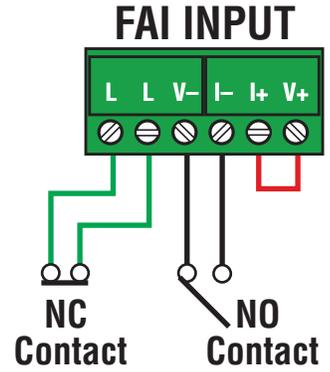
Activation with a Normally Open Relay Contact

FAI Activates when the NO contact CLOSES.
FAI Deactivates when the NO contact OPENS.



Latching the FAI Input

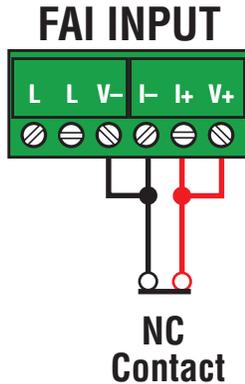
Latching of the FAI Input is achieved by placing a NC contact across the two 'L' terminals. The FAI may be activated by any of the methods listed. FAI Deactivates when the input is deactivated AND the NC Latching contact is momentarily OPENED.



Example – NO Contact activation with latching

Activation with a Normally Closed Relay Contact

FAI Activates when the NC contact OPENS.
FAI Deactivates when the NC contact CLOSES.

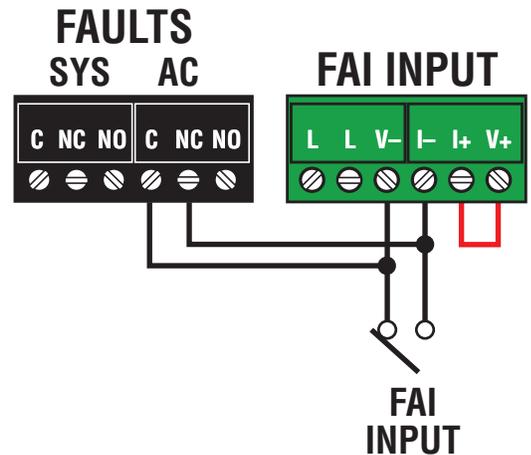


Note: FAI with a NC contact cannot be tested by removing the terminal strip, as this will remove the jumper wires from V+ and V- as well. To test, remove one wire going to the NC Contact.

FAI Activates when the NO contact CLOSES. FAI Deactivates when the NO contact OPENS AND the NC contact momentarily OPENS.

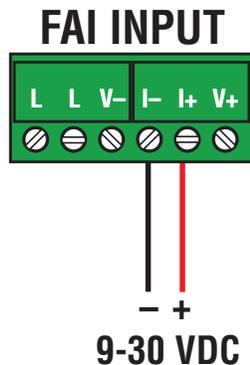
FAI Activation with a Normally Open Relay Contact and FPO AC Fault Lock Over Ride

FAI Activates either, when the Fire Alarm NO contact CLOSES, **or** when the AC Fault NC contact CLOSES
FAI Deactivates either, when the Fire Alarm NO contact OPENS, **or** when the FPO AC Fault NC contact OPENS



Activation with a Voltage Input

FAI Activates when voltage is APPLIED in the correct polarity.
FAI Deactivates when voltage is REMOVED or the polarity of the voltage is REVERSED. Polarity shown in the ACTIVATED state



1.4.3 Main AC Power Connection

To connect the RA or RD series to the main AC power source, plug one end of the included computer-style AC cord into the AC Power connector on the back of the enclosure. Connect the other end of the AC cord into a suitable AC power outlet.

If connecting the RA or RD to a 230VAC source, cut JP1 on all internal FPO power supplies - See section 1.3.2

 Failure to cut JP1 on both supplies when connecting to a 230VAC input will damage the system and void the warranty.

1.4.4 Ethernet Connection (Optional)

RA and RD models with a model number ending in "N" contain a Netlink communication ethernet module. The Netlink allows access to the RA or RD via the internet or local intranet. Functionality varies by model type. See Section 2.5 for more information.

To make the ethernet connection, connect one end of a standard (RJ45) ethernet cable to the connector on the back of the RA or RD power supply. Connect the other end of the ethernet cable to a live network connection.

NOTE: *The internal Netlink communication module must be configured before connecting to a network. See the included Netlink manual for more information.*



Section 2 – Configuration and Usage

This section describes the final configuration as well as operation details for the RA and RD series power supplies.

2.1 Removing the Faceplate of the Enclosure

Use the following steps to remove the faceplate of the rack-mount enclosure and gain access to the front boards.

1. Remove and retain the five philips head 6-32 screws from the faceplate. DO NOT remove the four 10-32 screws securing the enclosure to the rack.
2. Carefully remove the faceplate and set it aside in a safe location

When configuration is complete, reverse the removal procedure to replace the cover, taking care to align the LEDs with the holes in the faceplate.

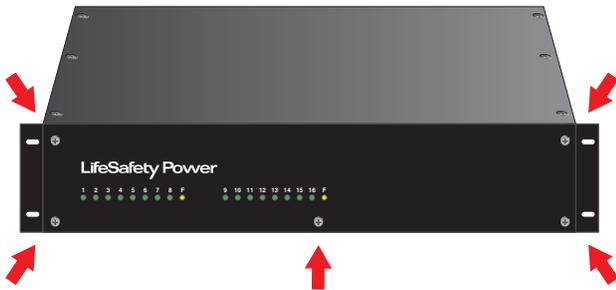


Figure 4 - Removing the Faceplate

2.2 Configuring the Outputs

Each output zone is configurable for one of two selections which vary by model type. Selections are made by moving the zone's corresponding jumper (marked as B1 and B2 on the PC Board). See Figure 5.

RA Series

Each output is configurable for 24VAC or 28VAC

- **B1 (Left)** 24VAC Output
- **B2 (Right)** 28VAC Output

RD Series - Single Supply Models

Each output is configurable for continuous or FAI controlled. To set the operation of the FAI controlled outputs, see Section 1.3.6.

- **B1 (Left)** Continuous Output (No FAI control)
- **B2 (Right)** FAI Controlled Output

RD Series - Dual Supply Models

Each output is configurable for either internal power supply. FPO#1 is the power supply on the left when looking from the front and FPO#2 is the power supply on the right. FAI control is provided on any distributed outputs set for FPO#2 and the DC2 terminals of both FPO power supplies.

- **B1 (Left)** FPO #1
- **B2 (Right)** FPO #2

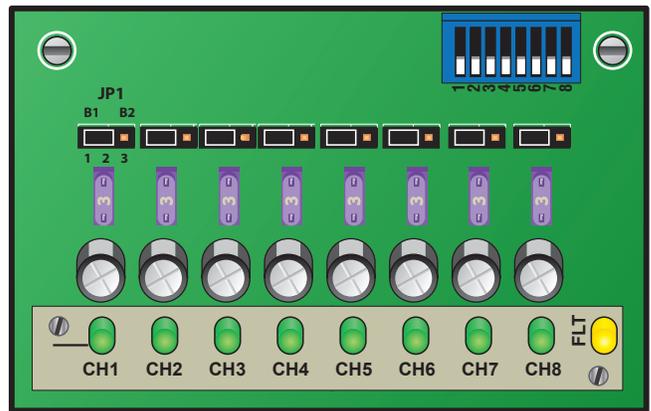


Figure 5 - The Front Board

2.3 Disabling Faults

Sometimes it is desirable to disable fuse fault detection for individual zones. This allows removal of the fuse for specific unused zones or zones with unfinished wiring.

Faults can be disabled via the block of switches on the top right of each front board (See Figure 2.2). Note that the color of this switch block may vary. Switch numbers correspond with zone numbers of the board (Switch 1 disables faults for Zone 1, etc.). Switch settings are as follows:

- **ON** Fault Detection Enabled
- **OFF** Fault Detection Disabled

2.4 Status LEDs

Each front board has nine LEDs (See Figure 5). The eight LEDs give the voltage level and availability of the associated zone (See Section 1.2). The yellow LED will light if a fault condition is detected.

2.5 Remote Access via Ethernet

RA and RD Series power supplies with model numbers ending in "N" may be accessed over the internet or local intranet via the ethernet port on the back of the enclosure (Figure 6). Functionality varies by model type. This section only gives basic information. See the included Netlink manual for more information.

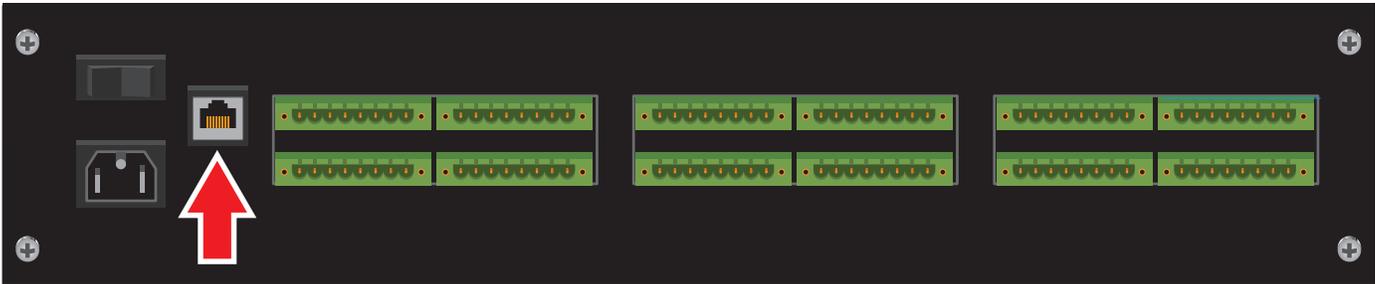


Figure 6 - Ethernet Network Connection

RA Series

In the RA Series, ethernet functionality is limited to power reset, buss voltage presence, and fault notification only. Accurate voltage measurement, current measurement, etc are not available in AC systems.

Power Reset — To reset frozen IP cameras or other devices, use the "Control Output" selection on the home page of the NL2 Home screen. Setting Control Output 1 to "On" will break power between the transformer #1 in the system and the output zones, using transformer 1. Setting Control Output 2 to "On" will break power between transformer #2 (for dual transformer systems) and the output zones using transformer 2.

Buss Voltage Detection — Voltage presence is shown in the ADC1 and ADC2 readings on the Home screen of the NL2. The labeling of these fields will vary, depending on the settings on the Configure Page. The voltages shown in these fields are not accurate measurements and only show the presence of voltage. An approximate reading may be determined by multiplying the shown voltage by 0.71.

Fault Notification — Fault conditions will be announced via the Event Input of the NL2. This can be seen visually on the NL2 Home Screen and by email notification, if used.

RD Series

The RD Series has full Netlink NL4 functionality. See the NL4 network communication module manual for information on using and configuring the NL4.

Features available with the NL4 in an RD product include monitoring and email reporting of voltage, battery status, AC and System Fault status and other parameters. Additionally, a periodic status report can be emailed.



Section 3 – Specifications

3.1 Electrical Specifications

RD Series DC Power Supplies - Single Voltage

Specifications		RD75 Series	RD150 Series	RD250 Series
AC Input	Voltage	120/230VAC ±15% at 50-60Hz	120/230VAC ±15% at 50-60Hz	120/230VAC ±15% at 50-60Hz
	Power	100 Watts	200 Watts	300 Watts
Standby	Current	100mA	100mA	100mA
Rated Current for UL603 Proprietary Alarm Installations	Current	1.25A maximum from all circuits in system	2.5A maximum from all circuits in system	2.5A maximum from all circuits in system
DC Output at 12V Setting	Voltage	12.5V ±0.5V nominal	12.5V ±0.5V nominal	12.5V ±0.5V nominal
	Max Current	6A	12A	20A
	Ripple	120mV	120mV	120mV
	Regulation	±2%	±2%	±2%
	Efficiency	85% (120VAC 60Hz In, Full Load, No Batt)	88% (120VAC 60Hz In, Full Load, No Batt)	89% (120VAC 60Hz In, Full Load, No Batt)
DC Output at 24V Setting	Voltage	25.0V ±0.5V nominal	25.0V ±0.5V nominal	25.0V ±0.5V nominal
	Max Current	3A	6A	10A
	Ripple	120mV	120mV	120mV
	Regulation	±2%	±2%	±2%
	Efficiency	85% (120VAC 60Hz In, Full Load, No Batt)	88% (120VAC 60Hz In, Full Load, No Batt)	89% (120VAC 60Hz In, Full Load, No Batt)
Battery	Size & Type	4-40AH Lead Acid or Gel Cell	4-80AH Lead Acid or Gel Cell	4-80AH Lead Acid or Gel Cell
	Charge Current	1A (±10%) Maximum (Adjustable via PowerCom Software)	2A (±10%) Maximum (Adjustable via PowerCom Software)	2A (±10%) Maximum (Adjustable via PowerCom Software)
Fuse Ratings	DC1 (Internal)	ATM 7.5A	ATM 15A	ATM 30A
	DC2 (Internal)	ATM 7.5A	ATM 15A	ATM 30A
	Battery (Internal)	ATM 7.5A	ATM 15A	ATM 30A
	Distributed Zones (Fused Models)	ATM 3A	ATM 3A	ATM 3A
BTU Output	BTU	33	66	109
Fault Setpoints	Low AC	95V (±6%)	95V (±6%)	95V (±6%)
	Earth GND	2000 Ohms	2000 Ohms	2000 Ohms
	Output Voltage	±10% of nominal	±10% of Nominal	±10% of Nominal
	Batt Voltage	±10% of nominal	±10% of Nominal	±10% of Nominal
	Batt Presence	6–15V (12V Setting), 11–29V (24V Setting)	6–15V (12V Setting), 11–29V (24V Setting)	6–15V (12V Setting), 11–29V (24V Setting)
Fault Relay Contacts	AC FLT	1A at 24VDC	1A at 24VDC	1A at 24VDC
	SYS FLT	1A at 24VDC	1A at 24VDC	1A at 24VDC
	Count	2, 8, or 16	2, 8, or 16	2, 8, or 16
Distributed Outputs	Fused	3A (7.5A max with fuse change)	3A (7.5A max with fuse change)	3A (7.5A max with fuse change)
	Models ending in "P"	2.5A (PTC)	2.5A (PTC)	2.5A (PTC)

Section 3 – Specifications

RD Series DC Power Supplies - Dual Voltage

Specifications		RD75/75 Series	RD150/150 Series	RD250/250 Series
AC Input	Voltage	120/230VAC ±15% at 50-60Hz	120/230VAC ±15% at 50-60Hz	120/230VAC ±15% at 50-60Hz
	Power	200 Watts	400 Watts	600 Watts
Standby	Current	200mA	200mA	200mA
Rated Current for UL603 Proprietary Alarm Installations	Current	1.25A maximum from all circuits in system	2.5A maximum from all circuits in system	2.5A maximum from all circuits in system
DC Output for EACH internal supply at 12V Setting	Voltage	12.5V ±0.5V nominal	12.5V ±0.5V nominal	12.5V ±0.5V nominal
	Max Current	6A	12A	20A
	Ripple	120mV	120mV	120mV
	Regulation	±2%	±2%	±2%
	Efficiency	85% (120VAC 60Hz In, Full Load, No Batt)	88% (120VAC 60Hz In, Full Load, No Batt)	89% (120VAC 60Hz In, Full Load, No Batt)
DC Output for EACH internal supply at 24V Setting	Voltage	25.0V ±0.5V nominal	25.0V ±0.5V nominal	25.0V ±0.5V nominal
	Max Current	3A	6A	10A
	Ripple	120mV	120mV	120mV
	Regulation	±2%	±2%	±2%
	Efficiency	85% (120VAC 60Hz In, Full Load, No Batt)	88% (120VAC 60Hz In, Full Load, No Batt)	89% (120VAC 60Hz In, Full Load, No Batt)
Battery for EACH internal supply	Size & Type	4-40AH Lead Acid or Gel Cell	4-80AH Lead Acid or Gel Cell	4-80AH Lead Acid or Gel Cell
	Charge Current	1A (±10%) Maximum (Adjustable via PowerCom Software)	2A (±10%) Maximum (Adjustable via PowerCom Software)	2A (±10%) Maximum (Adjustable via PowerCom Software)
Fuse Ratings	DC1 (Internal)	ATM 7.5A	ATM 15A	ATM 30A
	DC2 (Internal)	ATM 7.5A	ATM 15A	ATM 30A
	Battery (Internal)	ATM 7.5A	ATM 15A	ATM 30A
	Distributed Zones (Fused Models)	ATM 3A	ATM 3A	ATM 3A
BTU Output	BTU	66	132	218
Fault Setpoints	Low AC	95V (±6%)	95V (±6%)	95V (±6%)
	Earth GND	2000 Ohms	2000 Ohms	2000 Ohms
	Output Voltage	±10% of nominal	±10% of Nominal	±10% of Nominal
	Batt Voltage	±10% of nominal	±10% of Nominal	±10% of Nominal
	Batt Presence	6–15V (12V Setting), 11–29V (24V Setting)	6–15V (12V Setting), 11–29V (24V Setting)	6–15V (12V Setting), 11–29V (24V Setting)
Fault Relay Contacts	AC FLT	1A at 24VDC	1A at 24VDC	1A at 24VDC
	SYS FLT	1A at 24VDC	1A at 24VDC	1A at 24VDC
	Count	2, 8, or 16	2, 8, or 16	2, 8, or 16
Distributed Outputs	Fused	3A (7.5A max with fuse change)	3A (7.5A max with fuse change)	3A (7.5A max with fuse change)
	Models ending in "P"	2.5A (PTC)	2.5A (PTC)	2.5A (PTC)



Section 3 – Specifications

RA Series AC Power Supplies

Specification		RA100A	RA150A	FPA300A	FPA600A
AC Input	Voltage	120VAC ±15% at 60Hz	120VAC ±15% at 60Hz	120VAC ±15% at 60Hz	120VAC ±15% at 60Hz
	Power	120 Watts	180 Watts	360 Watts	720 Watts
Output	Voltage	24/28VAC	24/28VAC	24/28VAC	24/28VAC
	Total Current	4.1/3.5A	6.2/5.3A	12.5/10.7A	25/21.4A
	Total Power	100 Watts	150 Watts	300 Watts	600 Watts
	Current/Zone	3A per output 7.5A/zone max			
Fuse Ratings	Fused Models	ATM 3A (7.5A Max)			
BTU Output	BTU	68	102	204	410

3.2 Temperature Specifications

All Models

Ambient Temperature	0°C to 49°C (32°F to 120°F)
Ambient Humidity	93% at 32°C (90°F) maximum
Storage Temperature	-30°C to 70°C (-22°F to 158°F)

3.3 Mechanical Specifications

Visit www.lifesafetypower.com for AutoCAD files.

2U Enclosure

Size (Without Ears)	17.5" W x 3.8" H x 14.0" D (445mm W x 97mm H x 356mm D)
Approximate Weight	Varies, based on configuration

IMPORTANT

All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. LifeSafety Power makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. LifeSafety Power's only obligations are those in the LifeSafety Power Standard Terms and Conditions of Sale for this product, and in no case will LifeSafety Power or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, LifeSafety Power reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.