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RS Series Installation Manual

LifeSafety Power®



**FLEXPOWER®**



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**The ISCAN RS models are factory pre-set for 120VAC.**  
 For 230VAC operation, 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

 The RS Series must use FPO G2 (Generation 2) boards - to maintain UL listing, do not replace with Generation 1 FPO boards.

## Regulatory Information

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

- UL294, UL603, UL1076
- ULC S318, ULC S319
- CSA C22.2 #205-12

## 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** iSCAN RS Rackmount series of power supplies provide Network Managed DC Lock or Camera 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 Rackmount chassis.

### ISCAN Series

The iSCAN RS provides 12 and/or 24 VDC power at 150W - 250W of total power. They are available with 8 or 16 outputs and provide remote monitoring of the supply's parameters and full management of all outputs via internet or local network connection. Ideal for Access Control or Burglar applications. The iSCAN RS series delivers maximum flexibility for large projects by providing increased current ca-

pability and allowing the user to select either 12 VDC or 24 VDC on each output (dual supply units only).



## Section 1 – Installation & Operation

The following pages cover the installation of the ISCAN rack-mountable power supplies.

### 1.1 Mounting the Rackmount Supply into a Standard 19" Rack

Use the following procedure when mounting an ISCAN-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:** A 1" space must be maintained between the bottom of the RS rack enclosure and the bottom of the rack or any other equipment.

**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.

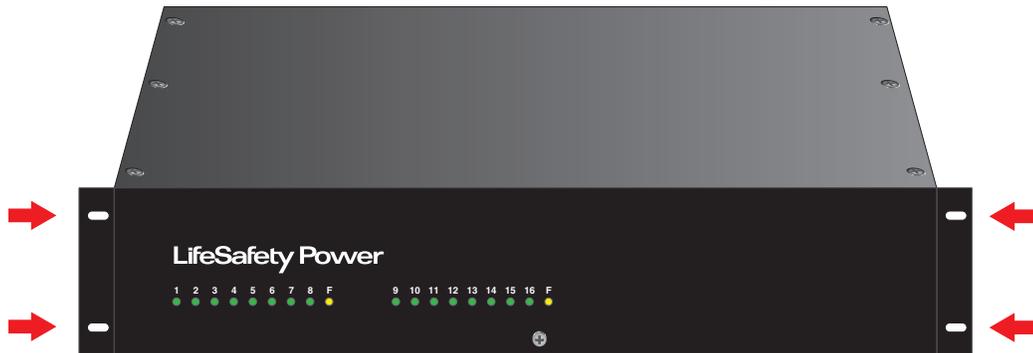
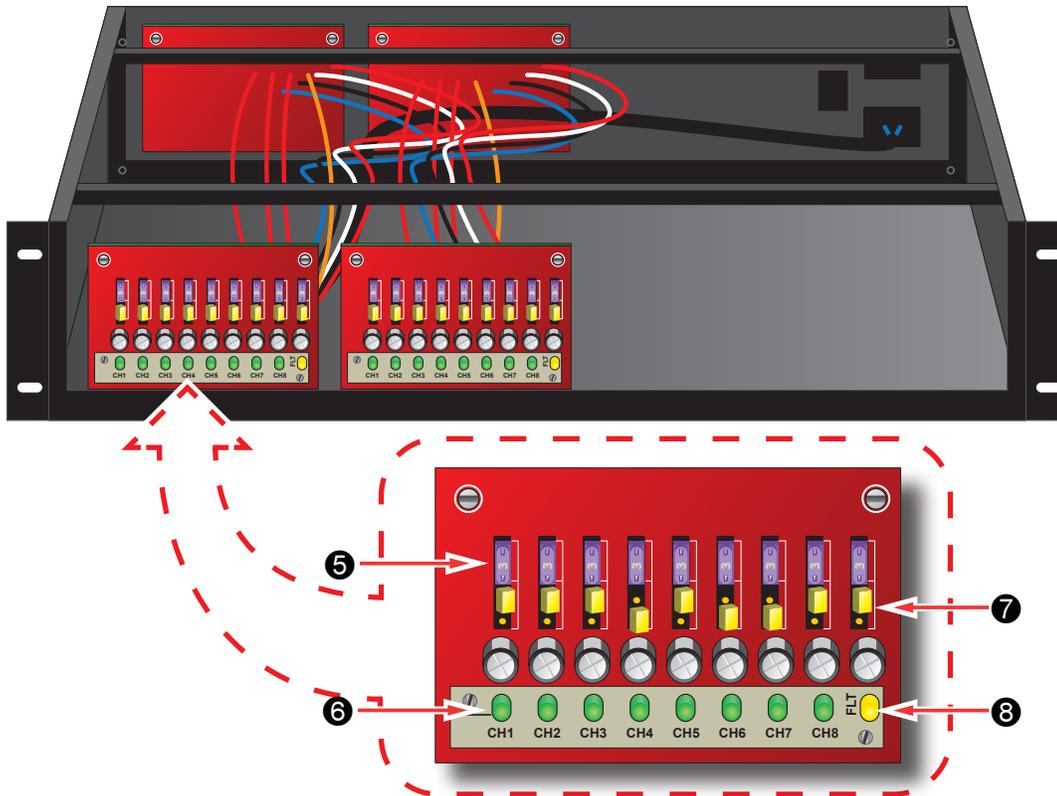
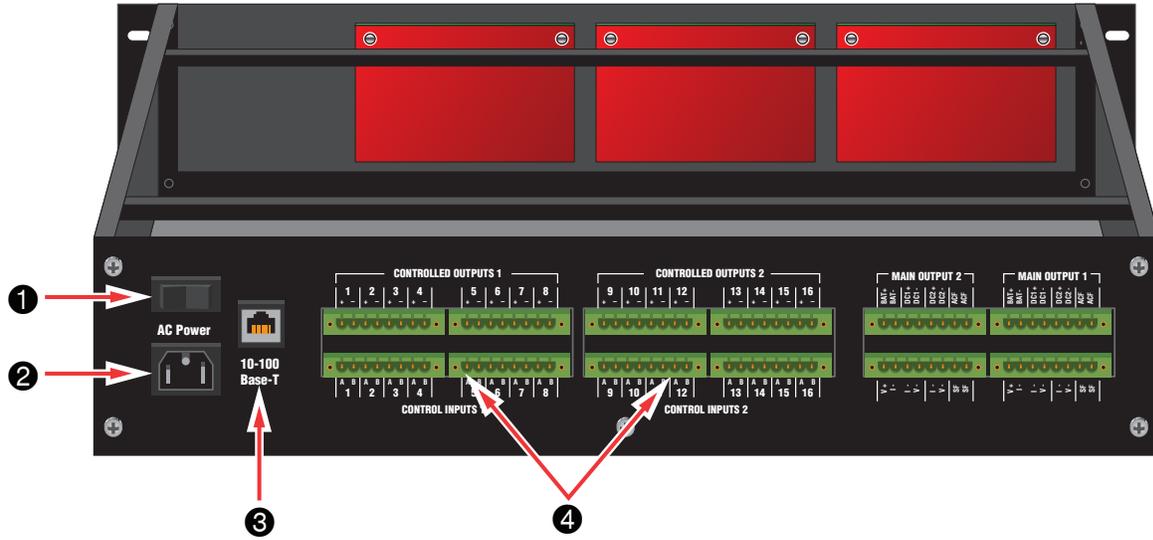


Figure 1 - The Enclosure Mounting Holes



**The ISCAN RS series is factory set for 120VAC. For 230VAC operation, see page 4 Section 1.3.2 for configuration steps**

## 1.2 ISCAN RS 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 iSCAN Rackmount Series is factory set for 120VAC input. For 230VAC configuration, see page 4, section 1.3.2*

### 3 Ethernet Connection

This is the RJ45 jack for the network connection for the internal NetLink board. The ethernet cable is plugged into this jack. See Section 2.4 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.

- **Controlled Outputs 1&2** — These are the zone outputs. The iSCAN Series is available with 8 or 16 outputs. The output numbers correspond with the output zone numbers on the front panel. See Section 1.4.1 for more information.
- **Control Inputs 1&2** — These terminals are the inputs which control the corresponding outputs. These inputs accept a NO or NC dry contact, voltage, or open collector (transistor) input. The input type is configured in the PowerCom browser interface. See section 1.4.1 for more information.
- **Distributed Outputs (Optional)** — Model numbers containing D8 contain non-controlled distributed outputs in addition to the controlled outputs. The output numbers correspond with the output zone numbers on the front panel. See section 1.4.1 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 1.41 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 1.4.1 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 1.4.1 for more information.
- **ACF & SF** — These terminals accept the optional FAI input for controlling the DC2 outputs and any controlled output which has FAI control enabled. See Section 1.4.1 for more information.
- **V+, I+, I-, V-, L, L** — These terminals accept the optional FAI input for controlling the DC2 outputs. See Section 1.4.1 for more information.

### 5 Output Fuses

These are the fuses for each zone output. Each fuse corresponds to the zone LED below it.

### 6 Output Status LEDs (GREEN)

These LEDs indicate the status of the zone's output.

*When Powering Lock Devices.*

- On Steady Door Locked (Fuse or PTC Intact)
- Slow Flashing (1 per second) Door Unlocked (Either due to Zone Input or FAI)
- Fast Flashing (4 per second) Fault Detected on Zone
- Off Fuse open or jumper missing

*When Set for Constant Output:*

- On Steady Output Powered (Fuse Intact)
- Slow Flashing (1 per second) Output Unpowered (Due to FAI)
- Fast Flashing (4 per second) Fault Detected on Zone
- Off Fuse open or jumper missing

### 7 Buss Selection

These jumpers select the output voltage for each output in dual voltage systems. Single voltage systems should leave these jumpers in the DC1 (UP) Position. For dual voltage systems, selection is as follows:

- DC1 (UP) - 24VDC
- DC2 (DOWN) - 12VDC

### 8 Fault Status LED (YELLOW)

This LED lights when the internal M8 board detects a fault condition. Fault conditions reported by this LED include ruptured output fuse(s) or missing voltage, or output voltage or current out of range. This LED does not indicate problems with the internal power supply or connected batteries. See Section 2.3 for more information.

### 1.3 Internal Pre-Configuration

Configuration internal to the enclosure is required on ISCAN power supplies prior to installation into a rack. 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 rackmount 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.

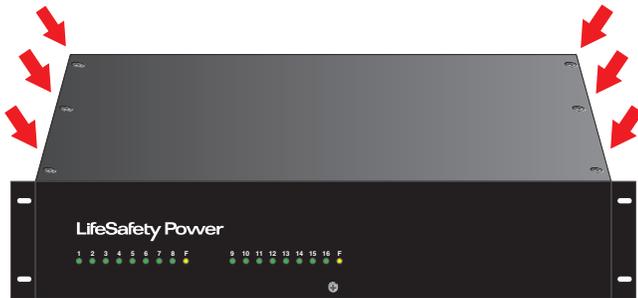


Figure 2 - The Top Cover Mounting Screws

#### 1.3.2 Configuring for a 230VAC Input Voltage

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

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

#### 1.3.3 Setting the Output Voltage

The iSCAN Rackmount series will contain one internal FPO power supply. Models with a "B" in the model number will also contain a B100 Secondary Power Supply board.

In single voltage systems, the voltage may be set on the FPO power supply to 12 or 24VDC. After removing the top cover, set the output voltage of the FPO power supply by moving SW1 to either 12V or 24V (See #4 in Figure 3).

Systems with a B100 installed must leave the FPO set for 24VDC. The B100 should be left as set for a 12V output.

See the FPO and B100 manuals for more information on

setting the output voltage.

#### 1.3.4 Enabling or Disabling Battery Presence Detection

The 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 #3 in Figure 3)

#### 1.3.5 Enabling or Disabling Earth Ground Detection

The 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 #2 in Figure 3)

**NOTE:** Only one device in a system should have earth ground fault detection enabled or conflicts may occur.

#### 1.3.6 Changing the Operation of the Fault Contact Output

From the factory, ISCAN Rackmount 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.

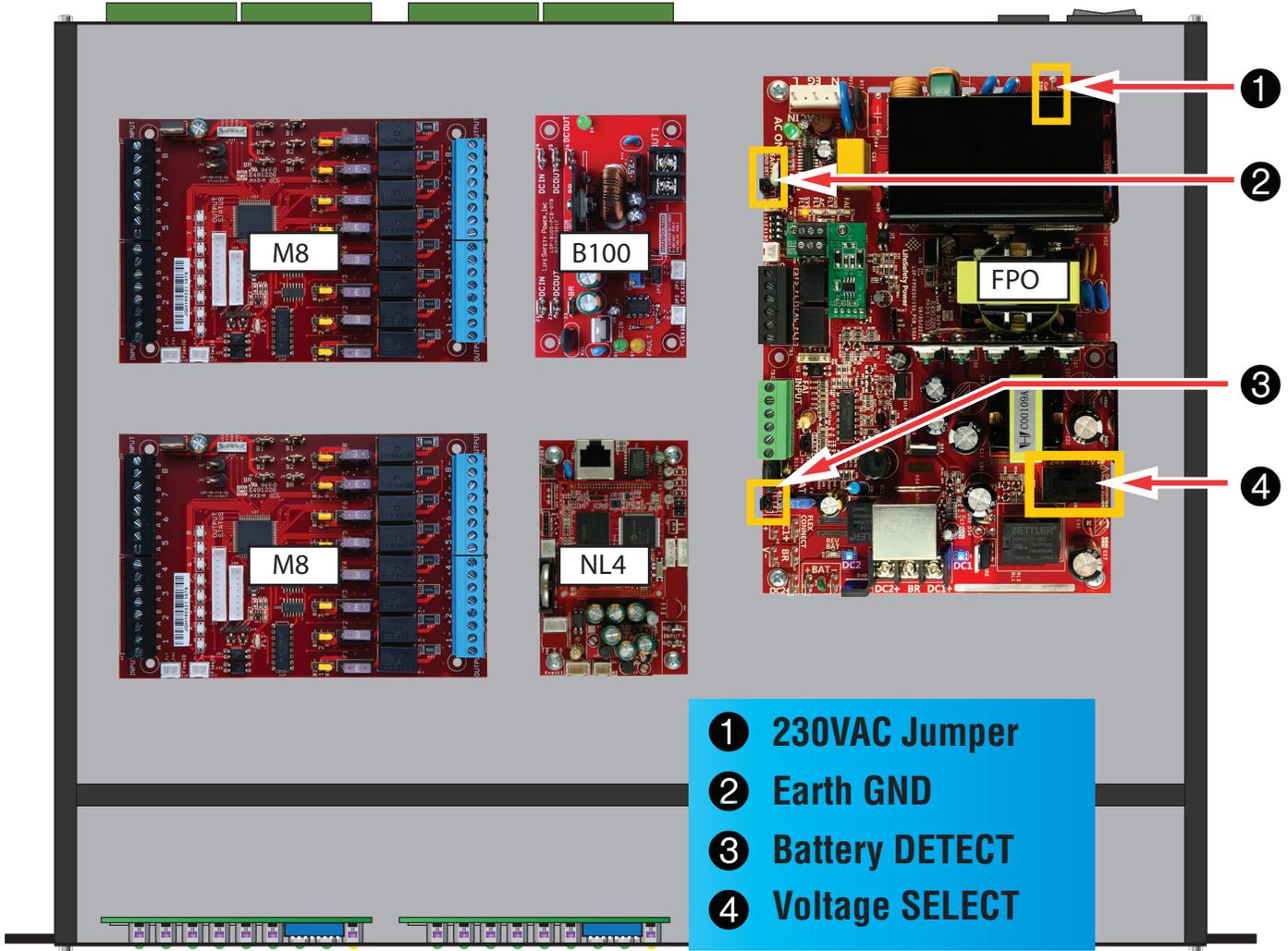


Figure 3 - Configuring the Internal ISCAN Power Supplies

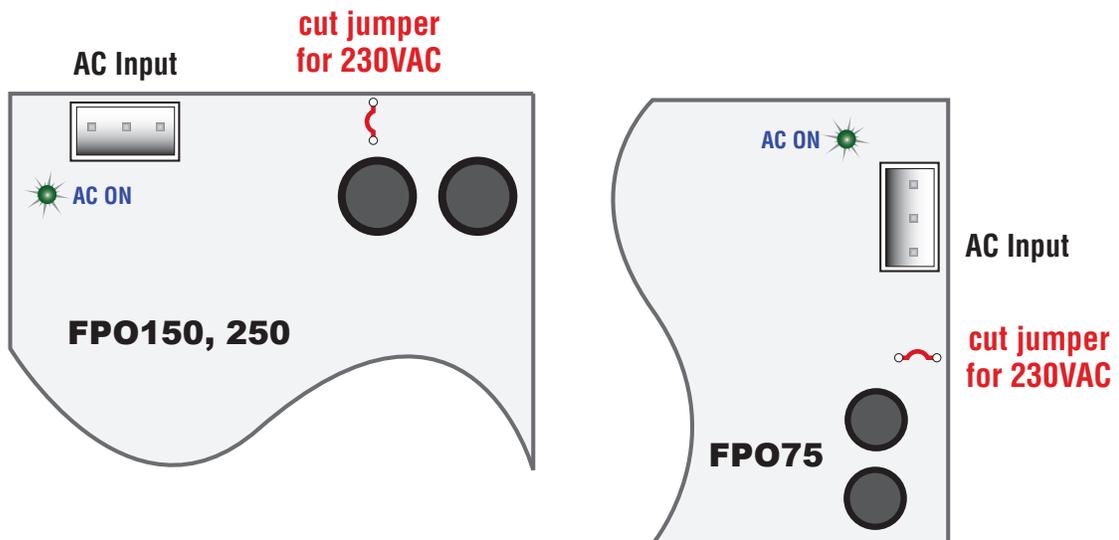


Figure 4 - FPO 230VAC jumper location

## 1.4 Making the Wiring Connections

Field wiring connections are made on the rear panel after installing the iSCAN 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 Field Wiring

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

#### Controlled Outputs

These terminals provide the distributed, controlled outputs to the load devices. 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. Polarity is indicated adjacent to each terminal. The output is configured using the PowerCom browser interface.

#### Control Inputs

These are the zone input terminal strips. The terminals are labeled on the back panel near the terminal strip.

- When using a dry contact input, the contact is connected across the A and B terminals. When configured for a dry contact input, it is normal to measure a voltage across these two terminals. This voltage is current limited and will not damage the activation contact.
- When using a voltage input, the voltage is connected to the B terminal. The activation voltage must be common grounded with the system voltage. The activation voltage must be between 12 and 24VDC nominal. Do not connect anything to the A terminal of the input.
- When using an open collector (transistor) input, place a jumper across the A and B terminals and connect the open collector to the B terminal. Note that the input source must be common grounded with the iSCAN's power source.

#### Distributed Outputs (optional)

If present, these terminals provide the non-controlled distributed outputs. The output zone numbers will correspond with the numbering of the zones on the front panel. Polarity is indicated adjacent to each terminal.

#### 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 will drop power when an FAI signal is received.

#### 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 1.3.5 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 1.3.5 of this manual.

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

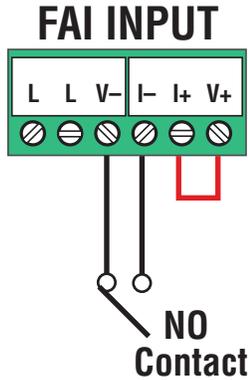
These terminals accept the optional FAI / Access Control input for controlling the DC2 output. See *Figure 4 - FAI Input Usage* for more information. Connections are as follows:

- 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.



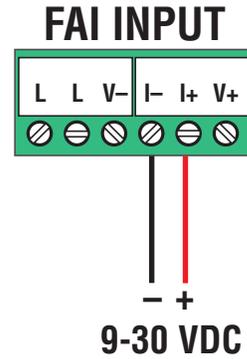
**Activation with a Normally Open Relay Contact**

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



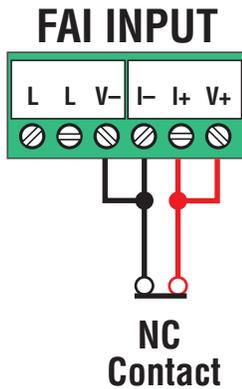
**Activation with a Voltage Input**

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.



**Activation with a Normally Closed Relay Contact**

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



**Latching 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

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

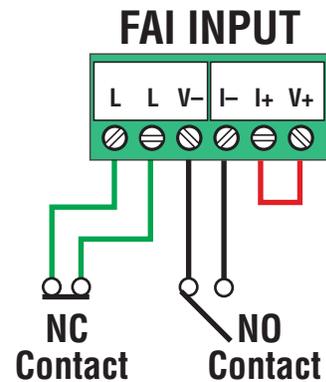


Figure 4 - FAI Input Usage

### 1.4.2 Main AC Power Connection

To connect the iSCAN RS 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. See Figure 5. Connect the other end of the AC cord into a suitable AC power outlet.

 *ISCAN RS is factory set for 120VAC input. For 230VAC configuration, see page 4, section 1.3.2*

### 1.4.3 Ethernet Connection

All iSCAN RS Rackmount products contain a Netlink communication Ethernet module. The Netlink allows configuration and access to the iSCAN Rackmount via the Internet or local intranet. See Section 2.4 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 iSCAN Rackmount power supply. See Figure 5. Connect the other end of the Ethernet cable to a live network connection.

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

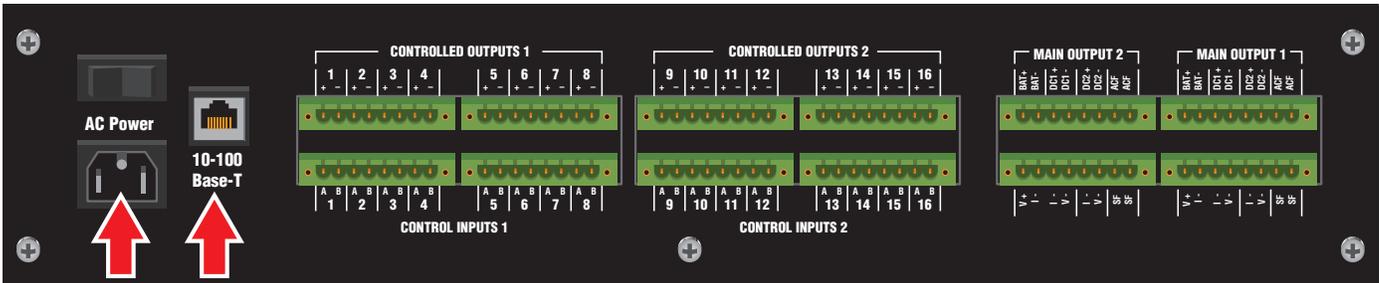


Figure 5 - Power and Ethernet Connections



## Section 2 – Configuration and Usage

This section describes the final configuration as well as operation details for the iSCAN RS Rackmount series power supplies.

### 2.1 Removing the Faceplate of the Enclosure

Use the following steps to remove the faceplate of the rackmount 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. See Figure 6.

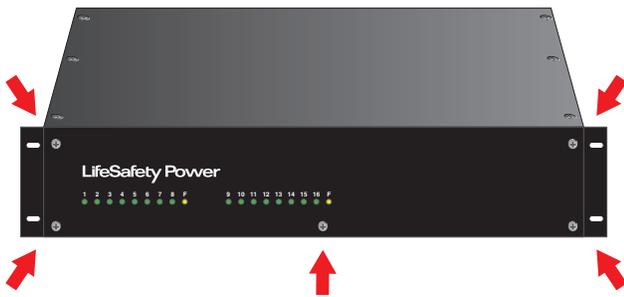


Figure 6 - Removing the Faceplate

### 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 yellow jumper. (See figure 7).

Single Voltage iSCAN models should leave all jumpers in the DC1 position. Dual voltage iSCAN systems may select 12 or 24V as follows:

- **B1 (Up)** 24VDC Output
- **B2 (Down)** 12VDC Output

### 2.3 Status LEDs

Each front board has nine LEDs (See figure 7).

The eight green LEDs indicate the status of the zone's output.

*When Powering Lock Devices:*

- On Steady – Door Locked (Fuse or PTC Intact)

- Slow Flashing (1 per second) – Door Unlocked (either due to Zone Input or FAI)
- Fast Flashing (4 per second) – Fault Detected on Zone
- Off – Fuse open or jumper missing

*When Set for Constant Output:*

- On Steady – Output Powered (Fuse Intact)
- Slow Flashing (1 per second) – Output Unpowered (Due to FAI)
- Fast Flashing (4 per second) – Fault Detected on Zone
- Off – Fuse open or jumper missing

The yellow LED will light if a fault condition is detected by the internal M8 board.

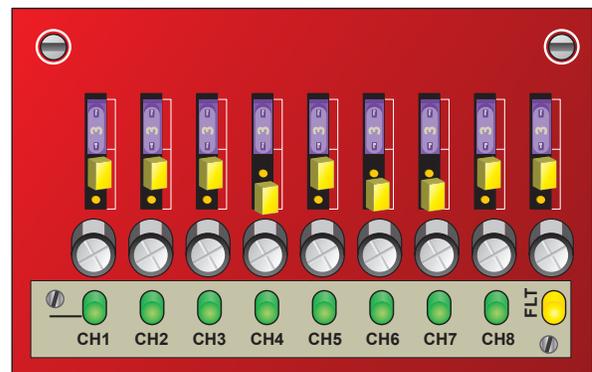


Figure 7 - The Front Board

### 2.4 Remote Access via Ethernet

All iSCAN Rackmount power supplies may be accessed over the internet or local intranet via the ethernet port on the back of the enclosure (Figure 8).

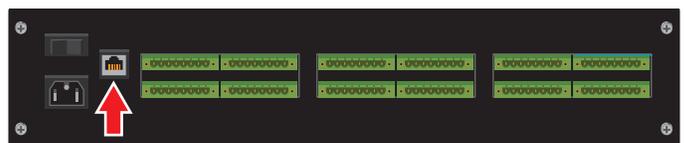


Figure 8- Ethernet Network Connection

## Section 3 – Electrical Specifications

### 3.1 Electrical Specifications

#### ISCAN RS Power Supplies

| Specifications   |                    | RS75 Series                               | RS75B Series                              | RS150 Series                              | RS150B Series                             |
|--|--------------------|---|---|---|---|
| <b>Contains</b>  | Power Supply       | FP075                                     | FP075 & B100                              | FP0150                                    | FP0150 & B100                             |
| <b>AC Input</b>  | Voltage            | 120/230VAC<br>±15% at 50-60Hz             | 120/230VAC<br>±15% at 50-60Hz             | 120/230VAC<br>±15% at 50-60Hz             | 120/230VAC<br>±15% at 50-60Hz             |
|  | Power              | 100 Watts                                 | 100 Watts                                 | 200 Watts                                 | 200 Watts                                 |
| <b>Standby</b>   | Current            | 100mA                                     | 100mA                                     | 100mA                                     | 100mA                                     |
| <b>Rated Current for UL603 Proprietary Alarm Installations</b> | Current            | 2.5A maximum from all circuits in system  |
| <b>DC Output</b>   | Voltage            | 12.5V and 25.0V ±0.5V nominal             |
|  | Max Current        | 6A@12V and 3A@24V                         | 2A@12V and 2A@24V                         | 12A@12V and 6A@24V                        | 4A@12V and 4A@24V                         |
|  | Ripple             | 120mV                                     | 120mV                                     | 120mV                                     | 120mV                                     |
|  | Regulation         | ±2%                                       | ±2%                                       | ±2%                                       | ±2%                                       |
|  | Efficiency         | 83% (120VAC 60Hz In, Full Load, No Batt)  | 83% (120VAC 60Hz In, Full Load, No Batt)  | 88% (120VAC 60Hz In, Full Load, No Batt)  | 88% (120VAC 60Hz In, Full Load, No Batt)  |
| <b>Battery</b>   | Size & Type        | 4-80AH Lead Acid or Gel Cell              |
|  | Charge Current     | 1A (±10%) Maximum                         | 1A (±10%) Maximum                         | 2A (±10%) Maximum                         | 2A (±10%) Maximum                         |
| <b>Fuse Ratings</b>  | DC1 (Internal)     | ATM 7.5A                                  | ATM 7.5A                                  | ATM 15A                                   | ATM 15A                                   |
|  | DC2 (Internal)     | ATM 7.5A                                  | ATM 7.5A                                  | ATM 15A                                   | ATM 15A                                   |
|  | Battery (Internal) | ATM 7.5A                                  | ATM 7.5A                                  | ATM 15A                                   | ATM 15A                                   |
|  | Distributed Zones  | ATM 3A                                    | ATM 3A                                    | ATM 3A                                    | ATM 3A                                    |
| <b>BTU Output</b>  | BTU                | 33  | 33  | 66  | 66  |
| <b>Fault Setpoints</b>   | Low AC             | 95V (±6%)                                 | 95V (±6%)                                 | 95V (±6%)                                 | 95V (±6%)                                 |
|  | Earth GND          | 2000 Ohms                                 | 2000 Ohms                                 | 2000 Ohms                                 | 2000 Ohms                                 |
|  | Output Voltage     | ±10% of nominal                           | ±10% of Nominal                           | ±10% of nominal                           | ±10% of Nominal                           |
|  | Batt Voltage       | ±10% of nominal                           | ±10% of Nominal                           | ±10% of nominal                           | ±10% of Nominal                           |
|  | Batt Presence      | 6–15V (12V Setting), 11–29V (24V Setting) |
| <b>Fault Relay Contacts</b>                                    | AC FLT             | 1A at 24VDC                               | 1A at 24VDC                               | 1A at 24VDC                               | 1A at 24VDC                               |
|  | SYS FLT            | 1A at 24VDC                               | 1A at 24VDC                               | 1A at 24VDC                               | 1A at 24VDC                               |
| <b>Distributed Outputs</b>                                     | Count              | 8 or 16                                   | 8 or 16                                   | 8 or 16                                   | 8 or 16                                   |
|  | Current Fused      | 3A  | 3A  | 3A  | 3A  |
|  | Current PTC        | 2.5A                                      | 2.5A                                      | 2.5A                                      | 2.5A                                      |



### 3.1 Electrical Specifications - continued

#### ISCAN RS Power Supplies

| Specifications   |                    | RS250 Series                              | RS250B Series                             |
|--|--------------------|---|---|
| <b>Contains</b>  | Power Supply       | FPO250                                    | FPO250 & B100                             |
| <b>AC Input</b>  | Voltage            | 120/230VAC<br>±15% at 50-60Hz             | 120/230VAC<br>±15% at 50-60Hz             |
|  | Power              | 300 Watts                                 | 300 Watts                                 |
| <b>Standby</b>   | Current            | 100mA                                     | 100mA                                     |
| <b>Rated Current for UL603 Proprietary Alarm Installations</b> | Current            | 2.5A maximum from all circuits in system  | 2.5A maximum from all circuits in system  |
| <b>DC Output</b>   | Voltage            | 12.5V and 25.0V ±0.5V nominal             | 12.5V and 25.0V ±0.5V nominal             |
|  | Max Current        | 20A@12V and 10A@24V                       | 4A@12V and 8A@24V                         |
|  | Ripple             | 120mV                                     | 120mV                                     |
|  | Regulation         | ±2%                                       | ±2%                                       |
|  | Efficiency         | 89% (120VAC 60Hz In, Full Load, No Batt)  | 89% (120VAC 60Hz In, Full Load, No Batt)  |
| <b>Battery</b>   | Size & Type        | 4-80AH Lead Acid or Gel Cell              | 4-80AH Lead Acid or Gel Cell              |
|  | Charge Current     | 2A (±10%) Maximum                         | 2A (±10%) Maximum                         |
| <b>Fuse Ratings</b>  | DC1 (Internal)     | ATM 30A                                   | ATM 30A                                   |
|  | DC2 (Internal)     | ATM 30A                                   | ATM 30A                                   |
|  | Battery (Internal) | ATM 30A                                   | ATM 30A                                   |
|  | Distributed Zones  | ATM 3A                                    | ATM 3A                                    |
| <b>BTU Output</b>  | BTU                | 109                                       | 109                                       |
| <b>Fault Setpoints</b>   | Low AC             | 95V (±6%)                                 | 95V (±6%)                                 |
|  | Earth GND          | 2000 Ohms                                 | 2000 Ohms                                 |
|  | Output Voltage     | ±10% of Nominal                           | ±10% of Nominal                           |
|  | Batt Voltage       | ±10% of Nominal                           | ±10% of Nominal                           |
|  | Batt Presence      | 6–15V (12V Setting), 11–29V (24V Setting) | 6–15V (12V Setting), 11–29V (24V Setting) |
| <b>Fault Relay Contacts</b>                                    | AC FLT             | 1A at 24VDC                               | 1A at 24VDC                               |
|  | SYS FLT            | 1A at 24VDC                               | 1A at 24VDC                               |
| <b>Distributed Outputs</b>                                     | Count              | 8 or 16                                   | 8 or 16                                   |
|  | Current Fused      | 3A  | 3A  |
|  | Current PTC        | 2.5A                                      | 2.5A                                      |

**IMPORTANT**

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