



***FN-300ULX***  
***Power Supply/Charger***  
***Installation Guide***



## Overview:

The FN-300ULX is a power supply that converts a 115VAC / 60Hz input to a 12VDC or 24VDC regulating output (see specifications below).

## Specifications:

### Agency Listings:

- UL File # S4707:  
UL Listed for Access Control System Units (UL 294), UL Listed Standard for Power Supplies for Use with Burglar-Alarm Systems (UL 603), UL Listed Hospital Signaling and Nurse Call Equipment (UL 1069), UL Listed Standard for Safety for Fire Protective Signaling Systems (UL 1481).
- MEA - NYC Department of Buildings Approved.
- CSFM - California State Fire Marshal Approved.



### Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- Maximum charge current 0.7 amp.
- Zero voltage drop when switched over to battery backup.

### Supervision:

- AC fail supervision (form “C” contacts).
- Low battery supervision (form “C” contacts).
- Battery presence supervision (form “C” contacts).

### Additional Features:

- Power supply, enclosure, cam lock and battery leads.

### Enclosures:

FN-300ULX-R (Red)

FN-300ULX-C (Charcoal Grey)

### Enclosure Dimensions (H x W x D):

13.5” x 13” x 3.25” (342.9mm x 330.2mm x 82.55mm)

### Input:

- Input 115VAC, 60Hz, 3 amp.
- AC input and DC output LED indicators.

### Output:

- Class 2 Rated power-limited output.
- 12VDC or 24VDC selectable output.
- 2.5 amp total supply current at 12VDC or 24VDC.
- Filtered and electronically regulated outputs.
- Short circuit and thermal overload protection.

## Power Supply Voltage Output Selections:

| Output | Switch Position                 |
|--------|---------------------------------|
| 12VDC  | SW1 - CLOSED (Fig. 1, on right) |
| 24VDC  | SW1 - OPEN (Fig. 1, on right)   |

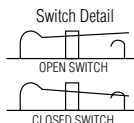
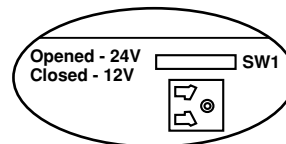


Fig. 1



## Stand-by Specifications:

| Output               | 4 hr. of Stand-by & 5 Minutes of Alarm | 24 hr. of Stand-by & 5 Minutes of Alarm | 60 hr. of Stand-by & 5 Minutes of Alarm |
|----------------------|--|---|---|
| 12VDC / 40AH Battery | Stand-by = 2.5 amp<br>Alarm = 2.5 amp  | Stand-by = 1.0 amp<br>Alarm = 2.5 amp   | Stand-by = 300mA<br>Alarm = 2.5 amp     |
| 24VDC / 12AH Battery | —                                      | Stand-by = 200mA<br>Alarm = 2.5 amp     | —                                       |
| 24VDC / 40AH Battery | Stand-by = 2.5 amp<br>Alarm = 2.5 amp  | Stand-by = 1.0 amp<br>Alarm = 2.5 amp   | Stand-by = 300mA<br>Alarm = 2.5 amp     |

## Installation Instructions:

The unit should be installed in accordance with article 760 of The National Electrical Code as well as NFPA 72 and all applicable Local Codes.

- Mount unit in the desired location. Mark and predrill holes in the wall to line up with the top two keyholes in the enclosure. Install two upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two upper screws; level and secure. Mark the position of the lower two holes. Remove the enclosure. Drill the lower holes and install two fasteners. Place the enclosure's upper keyholes over the two upper screws. Install the two lower screws and make sure to tighten all screws (Enclosure Dimensions, pg. 4).
- Set the FN-300ULX to the desired DC output voltage by setting SW1 (Fig. 1, pg. 2, Fig. 2c, pg. 3) to the appropriate position (refer to Power Supply Voltage Output Selections chart).
- Connect AC power (115VAC 60Hz) to terminals marked [L, G, N] (Fig. 2, pg. 3). Use 14 AWG or larger for all power connections (Battery, DC output, AC input). Use 22 AWG to 18 AWG for power-limited circuits (AC Fail/Low Battery reporting).

**Keep power-limited wiring separate from non power-limited wiring (115VAC / 60Hz Input, Battery Wires).**

**Minimum 0.25” spacing must be provided.**

**CAUTION: Do not touch exposed metal parts. Shut branch circuit power before installing or servicing equipment.**

**There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.**

- Connect devices to be powered to terminals marked [+ DC -] (Fig. 2, pg. 3).

5. Measure output voltage before connecting devices. This helps avoid potential damage.
6. For Access Control applications, batteries are optional. When batteries are not used, a loss of AC will result in the loss of output voltage. When the use of stand-by batteries is desired, they must be lead acid or gel type. Connect battery to terminals marked [+ BAT -] (Fig. 2, pg. 3). Use two (2) 12VDC batteries connected in series for 24VDC operation (battery leads included).
7. Connect appropriate signaling notification devices to AC FAIL & BAT FAIL (Fig. 2a, pg. 3) supervisory relay outputs. **Note:** When used in fire alarm, burglar alarm or access control applications, "AC Fail" relay should be utilized to visually indicate that AC power is on. To delay report 6 hours cut "AC Delay" jumper (Fig. 2b, pg. 3).
8. Please ensure that the door is secured with the provided cam lock.

**Wiring:**

Use 14 AWG or larger for all power connections.

**Note:** Take care to keep power-limited circuits separate from non power-limited wiring (115VAC, Battery).

**Maintenance:**

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

**Output Voltage Test:** Under normal load conditions, the DC output voltage should be checked for proper voltage level (refer to Power Supply Voltage Output Specifications chart).

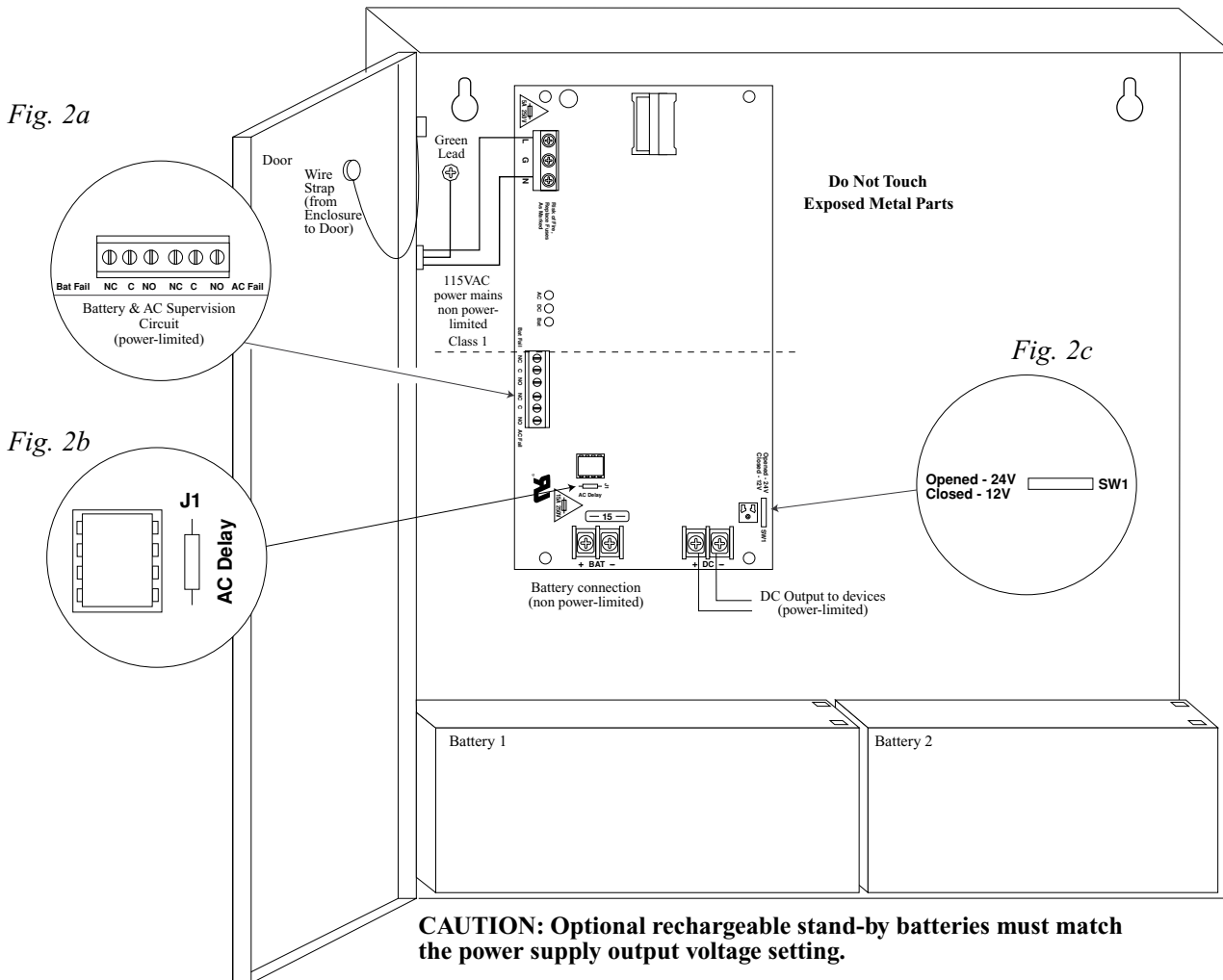
**Battery Test:** Under normal load conditions check that the battery is fully charged, check specified voltage both at battery terminal and at the board terminals marked [+ BAT -] to ensure that there is no break in the battery connection wires.

**Note:** Maximum charging current under discharge is 0.7 amp.

**Note:** Expected battery life is 5 years, however it is recommended changing batteries in 4 years or less if needed.

Fig. 2

**CAUTION: De-energize unit prior to servicing. For continued protection against risk of electric shock and fire hazard replace fuse with the same type and rating. Do not expose to rain or moisture.**



**CAUTION: Optional rechargeable stand-by batteries must match the power supply output voltage setting.**

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

## LED Diagnostics:

| Red (DC) | Green (AC) | Red (BAT) | Status   |
|----------|------------|-----------|--|
| ON       | ON         | ON        | Normal operating condition.                                  |
| ON       | OFF        | ON        | Loss of AC. Stand-by battery supplying power.                |
| OFF      | ON         | OFF       | No DC output. Battery Trouble                                |
| OFF      | OFF        | OFF       | Loss of AC. Discharged or no stand-by battery. No DC output. |
| ON       | ON         | OFF       | Battery missing / Low battery.                               |

## Terminal Identification:

| Terminal Legend       | Function/Description   |
|-----------------------|--|
| L, G, N               | Connect 115VAC 60 Hz. to these terminals: L to hot, N to Neutral. Do not use the [G] terminal..  |
| + DC -                | 12VDC or 24VDC @ 2.5 amp continuous power-limited output.  |
| AC Fail<br>NC, C, NO  | Indicates loss of AC power, e.g. connect to audible device or alarm panel. Relay normally energized when AC power is present. Contact rating 1 amp @ 28VDC. AC or brownout fail is reported within 1 minute of event. To delay reporting of up to 6 hrs., cut "AC delay" jumper and reset power to unit. |
| Bat Fail<br>NC, C, NO | Indicates low battery condition, e.g. connect to alarm panel. Relay normally energized when DC power is present. Contact rating 1 amp @ 28VDC.   |
| + BAT -               | Stand-by battery connections. Maximum charge current 0.7 amp.  |

## Enclosure Dimensions (H x W x D):

13.5" x 13" x 3.25" (342.9mm x 330.2mm x 82.55mm)

