



# AL400ULXB2 UL Recognized Power Supply/Charger

## Overview:

The AL400ULXB2 is a power supply/charger that converts a 115VAC 60Hz input into a Class 2 Rated power-limited 12VDC or 24VDC output (see specifications).

## Specifications:

### Agency Listings:

- UL Recognized component for: Access Control System Units (UL 294), Power Supplies for use with Burglar-Alarm Systems (UL 603), Hospital Signaling and Nurse Call Equipment (UL 1069), Power Supplies for Fire Protective Signaling Systems (UL 1481).

### Input Rating:

- Input 115VAC 60Hz, 3.5 amp.

### Output Rating:

- Class 2 Rated power-limited output.
- 12VDC or 24VDC selectable output.
- 12VDC @ 4 amp or 24VDC @ 3 amp continuous supply current.
- Filtered and electronically regulated output.



### Battery Backup:

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

### Visual Indicators:

- AC input, DC output and Battery LED indicators.

### Supervision:

- AC fail supervision (form "C" contacts).
- Low battery and battery presence supervision (form "C" contacts).

### Additional Features:

- Short circuit and thermal overload protection.

### Board Dimensions (W x L x H approximate):

4.5" x 7.1" x 1.44" (114mm x 180mm x 37mm)

## Power Supply Voltage Output Selections:

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

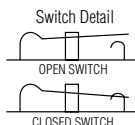
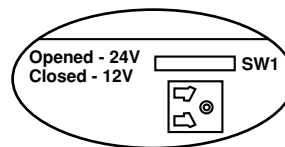


Fig. 1



## 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 = 4.0 amp Alarm = 4.0 amp	Stand-by = 1.0 amp Alarm = 4.0 amp	Stand-by = 300mA Alarm = 4.0 amp
24VDC / 12AH Battery	—	Stand-by = 200mA Alarm = 3.0 amp	—
24VDC / 40AH Battery	Stand-by = 3.0 amp Alarm = 3.0 amp	Stand-by = 1.0 amp Alarm = 3.0 amp	Stand-by = 300mA Alarm = 3.0 amp

## Installation Instructions:

The AL400ULXB2 should be installed in accordance with article 760 of The National Electrical Code or NFPA 72 as well as all applicable Local Codes.

- Mount the AL400ULXB2 in the desired location/enclosure.
- Set the AL400ULXB2 to the desired DC output voltage by setting SW1 (Fig. 2, pg. 2) to the appropriate position (refer to Power Supply Voltage Output Selections chart).
- Connect AC power (115VAC 60Hz) to the terminals marked [L, G, N] (Fig. 2, pg. 2). Use 18 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 the terminals marked [+ DC -] (Fig. 2, pg. 2).
- Measure output voltage before connecting devices. This helps avoiding potential damage.
- 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 the terminals marked [+ BAT -] (Fig. 2, pg. 2). 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. 2, pg. 2) 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. 2a, pg. 2).

**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 the 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.

**LED Diagnostics:**

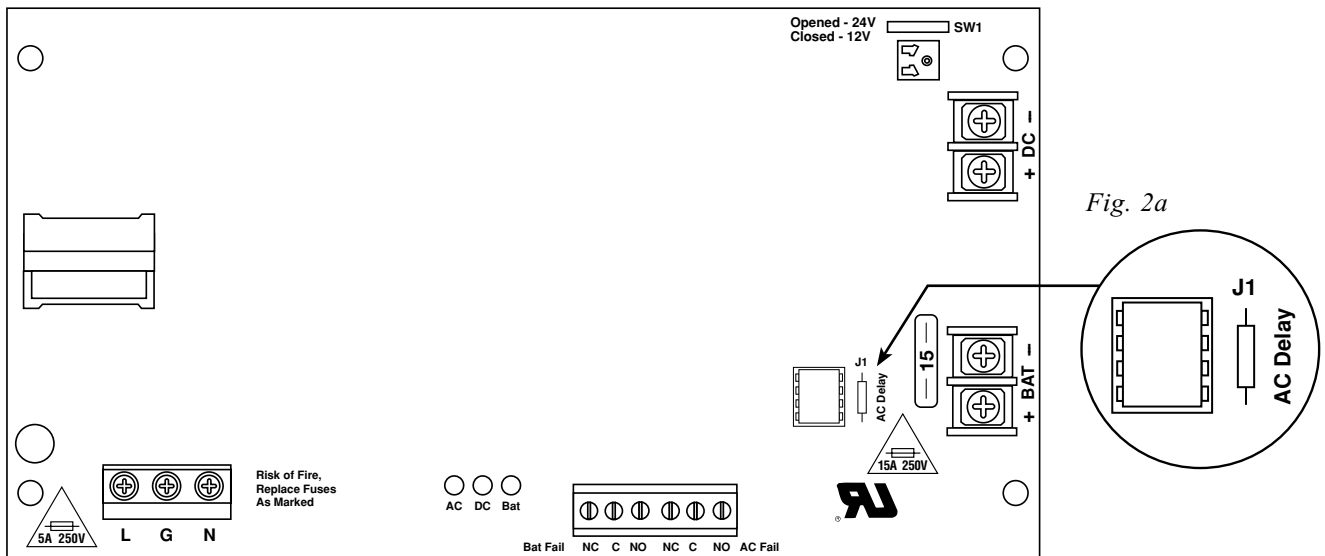
Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal operating condition.
ON	OFF	Loss of AC. Stand-by battery supplying power.
OFF	ON	No DC output.
OFF	OFF	Loss of AC. Discharged or no stand-by battery. No DC output.

Red (Bat)	Battery Status
ON	Normal operating condition.
OFF	Battery fail/low battery.

**Terminal Identification:**

Terminal Legend	Function/Description
L, G, N	Connect 115VAC 60 Hz to these terminals: L to hot, N to Neutral, G to ground.
+ DC -	12VDC @ 4 amp or 24VDC @ 3 amp continuous power-limited output.
AC Fail 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 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.

Fig. 2



Altronix is not responsible for any typographical errors.

