



# AL400ULX - UL Listed, Multi-Agency Approved Power Supply/Charger

Rev. 072700

### Overview:

The AL400ULX power supply converts a 115 VAC / 60Hz input, to a 12VDC or 24VDC power limited output, (see specifications). The AL400ULX is UL Listed for fire alarm, burglar alarm, and access control applications.

### Specifications:

- UL Listed for Access Control Systems, Burglar Alarm Systems, Nurse Call, and Fire Protective Signaling Systems (UL294, UL603, UL1069, UL1481).
- NYC Department of Buildings Approved (MEA).
- California State Fire Marshal Approved (CSFM).
- CSA approved (Canada).
- NFPA 72 compliant.
- Class 2 rated.
- Switch selectable 12VDC or 24VDC power limited output.
- Input 115VAC / 60Hz, 1.45 amp.
- Maximum charge current .7 amp.
- 4 amps continuous supply current at 12VDC.
- 3 amps continuous supply current at 24VDC.
- Filtered and electronically regulated outputs.
- 51 mV p/p output ripple.
- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- Zero voltage drop when switched over to battery backup.
- AC input and DC output LED indicators.
- AC fail supervision (form "C" contacts).
- Low battery supervision (form "C" contacts).
- Battery presence and low battery supervision (form "C" contacts).
- Short circuit and thermal overload protection.
- Unit is complete with power supply, enclosure, cam lock.
- Includes battery leads.

Enclosure Dimensions: 13"H x 13.5"W x 3.25"D



### Power Supply Voltage Output Selections: \*

Output	Switch Position
12VDC	SW1 CLOSED
24VDC	SW1 OPEN

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

### Installation Procedure:

The AL400ULX should be installed in accordance with article 760 of The National Electrical Code or NFPA 72 as well as all applicable Local Codes.

1. Mount the AL400ULX in desired location.

2. Set the AL400ULX to the desired DC output voltage by setting SW1 (Fig. 1) to the appropriate position (see power supply voltage output selections chart).
3. Connect AC power (115VAC 50/60Hz) to terminals marked [L, G, N] (Fig. 1). 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 .25" spacing must be provided.**
4. Connect devices to be powered to terminals marked [-DC +] (Fig. 1).  
**Note:** It is important to measure output voltage before connecting devices. This helps avoid potential damage.
5. 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.

**CAUTION: De-energize unit prior to servicing. For continued protection against fire hazard replace fuse with the same type and rating 3.5A, 250V. Replace fuse cover before energizing.**

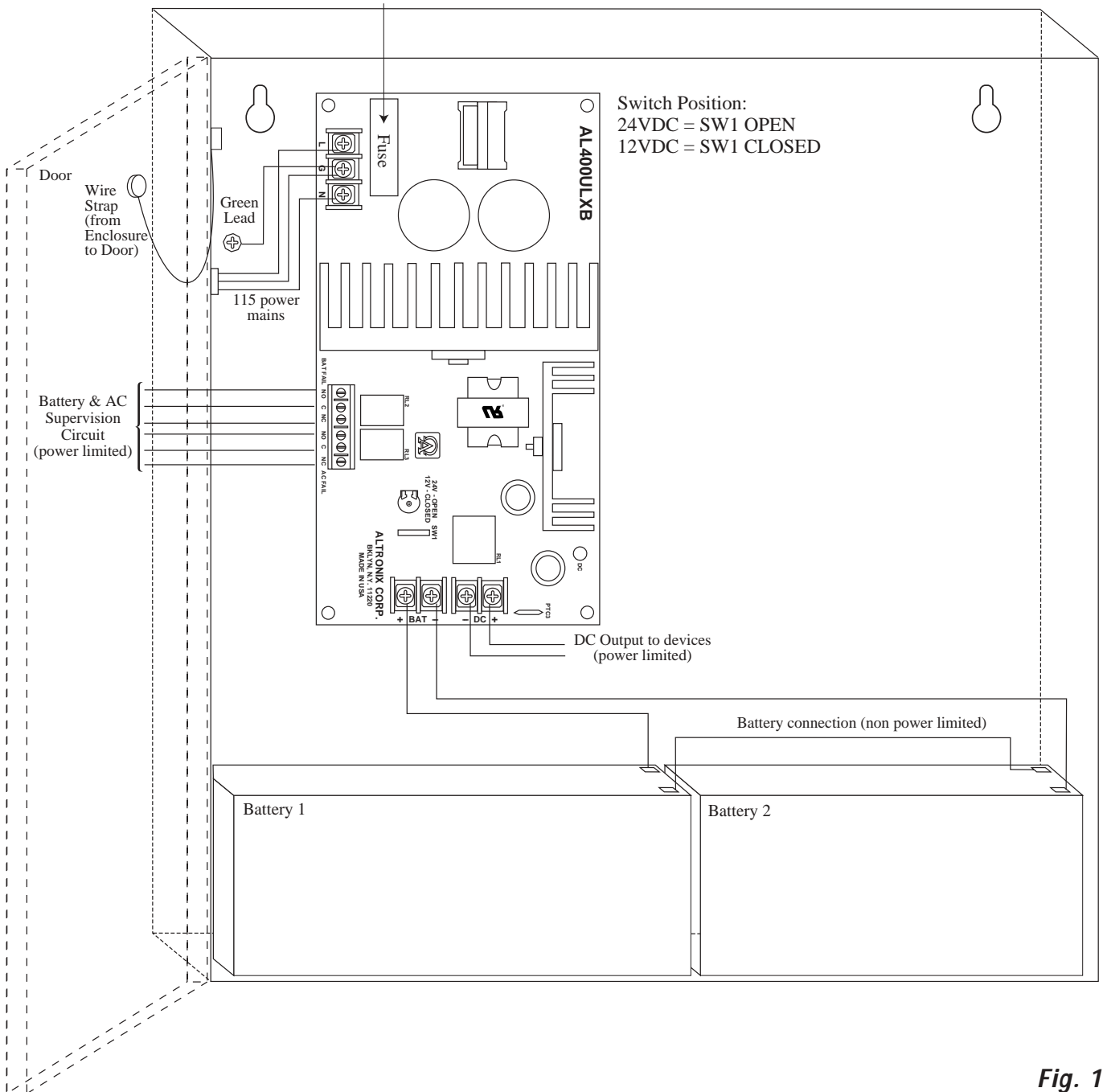


Fig. 1

Connect battery to terminals marked [+ BAT -] (Fig. 1). Use two (2) 12VDC batteries connected in series for 24VDC operation (battery leads included).

6. Connect appropriate signaling notification devices to AC FAIL & BAT FAIL (Fig. 1) supervisory relay outputs.  
**Note:** When used in fire alarm, burglar alarm or access control applications, “AC Fail” relay must be used to provide a visual indication of AC power on.

**Wiring:**

USE 18 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 (see 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 insure there is no break in the battery connection wires.

**Note:** Maximum charging current under discharge is .7 amp.

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

**LED Diagnostics:**

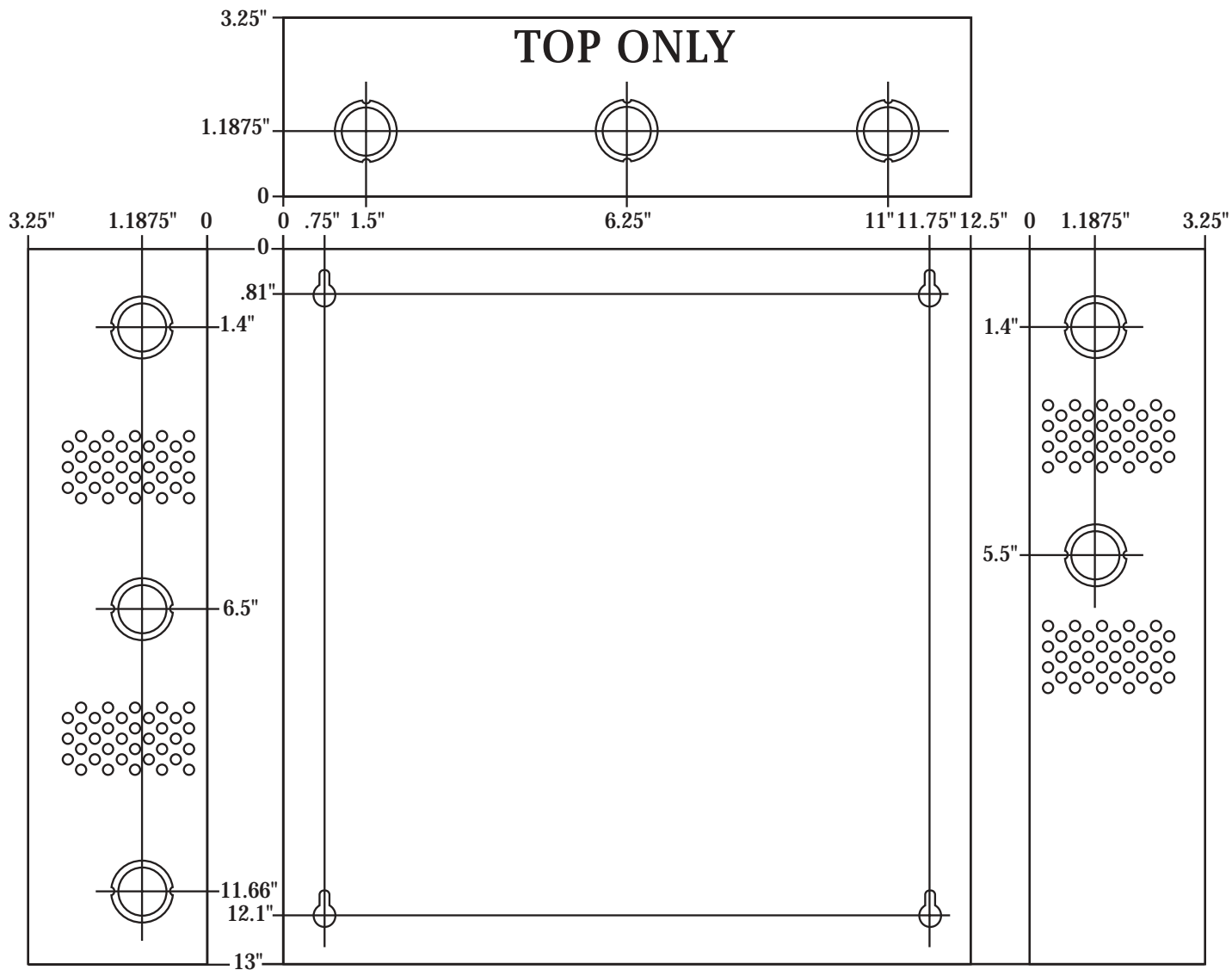
Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal operating condition.
ON	OFF	Loss of AC, Stand-by battery supplying power.
OFF	ON	No DC output.
OFF	OFF	Loss of AC. Discharged or no stand-by battery. No DC output.

**Terminal Identification:**

Terminal Legend	Function/Description
L, G, N	115VAC 50/60Hz input.
- DC +	12VDC @ 4 amps continuous power limited output. 24VDC @ 3 amps continuous power limited output.
AC FAIL N.C., C, N.O.	Used to notify loss of AC power, e.g. connect to local annunciator/alarm panel. Relay normally energized when AC power is present. Contact rating 1 amp @ 28VDC
BAT FAIL N.O., C, N.C.	Used to indicate 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 rate .7 amp.

**Enclosure Dimensions:**

13"H x 13.5"W x 3.25"D



Altronix is not responsible for any typographical errors.

