AL400ULXB
UL Recognized Power Supply/Charger

Rev. 120600

Overview:

The AL400ULXB is a power supply/charger that converts a 115VAC 50/60Hz 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), Power Supplies for Fire Protective Signaling Systems (UL 1481).

Input Rating:
- Input 115VAC 50/60Hz, 1.45 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 .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 and DC output 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 (approximate):
4.6”W x 7.5”L x 2.7”H

Power Supply Voltage Output Selections:

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

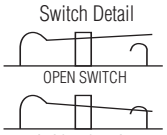
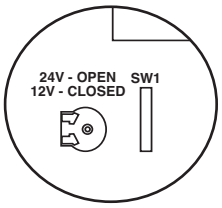


Fig. 1



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 = 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 AL400ULXB 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 AL400ULXB in desired location/enclosure.
2. Set the AL400ULXB 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*).
3. Connect AC power (115VAC 50/60Hz) to 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 .25” spacing must be provided.
4. Connect devices to be powered to terminals marked [– DC +] *(Fig. 2, pg. 2)*.
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. 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 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	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, NC, 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.
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 1.2 amp.

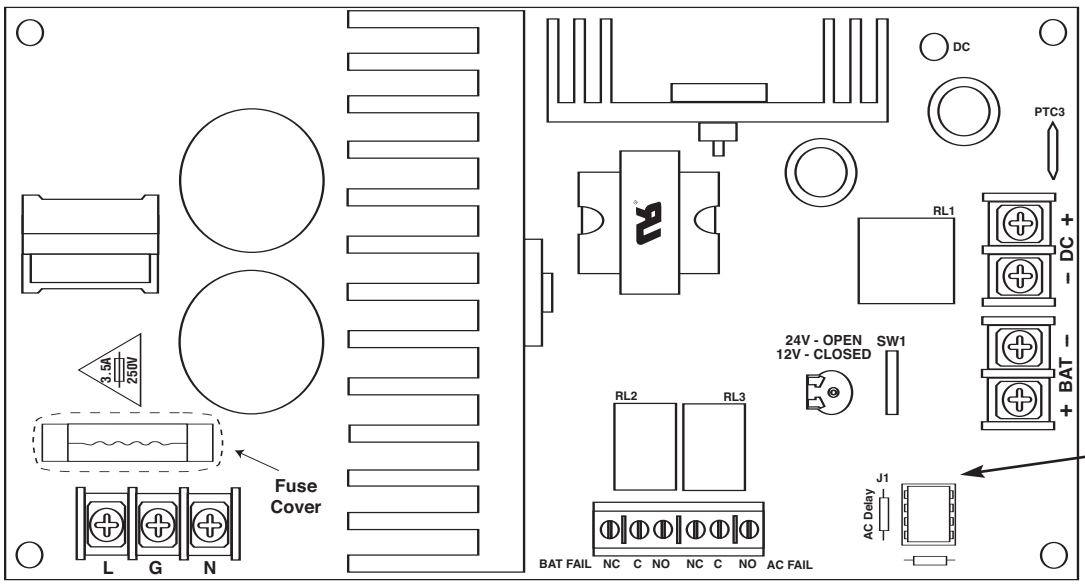


Fig. 2

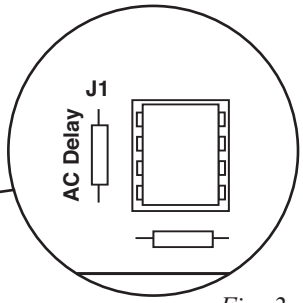


Fig. 2a

Altronix Corp.
140 58th Street, Brooklyn, New York 11220 USA, 718-567-8181, fax: 718-567-9056
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