AL1024ULXB - UL Recognized, Power Supply/Charger

Rev. 041602

Overview:

The AL1024ULXB is a power supply that converts a 115VAC / 60Hz input, to a 24VDC non-power limited output, (see specifications).

Specifications:

Agency Listings:

- UL Recognized component for Access Control System Units (UL 294), Standard for Safety for Fire Protective Signaling Systems (UL 1481).

Input:

- Input 115VAC / 60Hz, 4.4 amp.

Output:

- 24VDC output (UL 1481).
- 8 amp continuous supply current with 10 amp supply current during alarm.
- 24VAC @ 10 amp (UL 294).
- Filtered and electronically regulated output.

Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Maximum charge current 3.6 amp.

Battery Backup (continued):

- 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):

5.2”W x 7.7”L x 2.5”H

Stand-by Specifications:

Output	15 Min. of Stand-by & 5 Mins. of Alarm	4 hr. of Stand-by & 5 Mins. of Alarm	24 hr. of Stand-by & 5 Mins. of Alarm	60 hr. of Stand-by & 5 Mins. of Alarm
24VDC / 12AH Battery	Stand-by = 8 amp Alarm = 10 amp	Stand-by = 1.5 amp Alarm = 10 amp	Stand-by = 200mA Alarm = 10 amp	Stand-by = 100mA Alarm = 10 amp
24VDC / 65AH Battery		Stand-by = 8.0 amp Alarm = 10 amp	Stand-by = 1.5 amp Alarm = 10 amp	Stand-by = 500mA Alarm = 10 amp

Installation Instructions:

The AL1024ULXB should be installed in accordance with article 760 of The National Electrical Code as well as NFPA 72 and all applicable Local Codes.

1. Mount the AL1024ULXB in desired location/enclosure.
2. Connect unswitched AC power (115VAC 60Hz to terminals marked [L, G, N] *(Fig. 1)*. Use 14 AWG or larger for all power connections (Battery, AC input, DC output). 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). DC output Minimum .25” spacing must be provided.**
3. Connect devices to be powered to terminals marked [- DC +] *(Fig. 1)*.
4. 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. Connect battery to terminals marked [+BAT -] *(Fig. 1)*.
6. It is required to connect appropriate signaling notification devices to AC FAIL & BAT FAIL *(Fig. 1)* supervisory relay outputs. Use 22AWG to 18AWG wires. AC FAIL will report in 5 minutes.
   To delay report 6 hours cut “AC delay” jumper.

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.

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 3.6 amp.

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

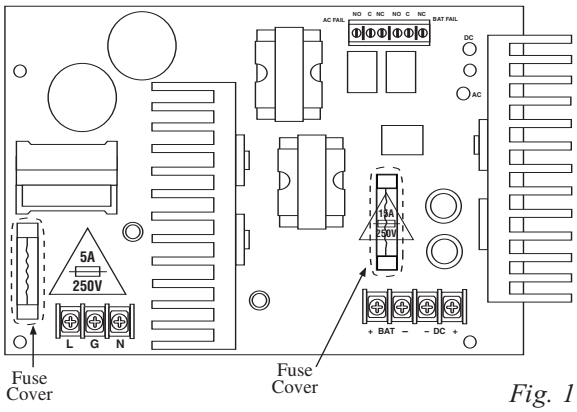

Fig. 1

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 115 VAC to these terminals: L to hot, N to neutral, G to ground.
- DC +	24VDC @ 8 amp continuous, 10 amp in alarm non-power limited output.
AC FAIL N.O., C, N.C.	Used to notify 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 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. A removed battery is reported within 1 minute. Battery reconnection is reported within 1 minute. Low battery threshold: @ approximately 21VDC.
+ BAT -	Stand-by battery connections. Maximum charge current 3.6 amp.

Altronix Corp.
140 58th Street, Brooklyn, New York 11220 USA, 718-567-8181, fax: 718-567-9056
web site: www.altronix.com, e-mail: info@altronix.com, Lifetime Warranty, Made in U.S.A.
IIAL1024ULXB Rev. 041602 K29D

MEMBER