



AL400ULB

UL Recognized Power Supply/Charger

Overview:

Altronix AL400ULB power-limited supply/charger converts a 28VAC / 100VA input into a Class 2 Rated power-limited 12VDC or 24VDC output (see specifications).

Specifications:

Agency Listings:

- UL Recognized component for:
 - UL 294* Access Control System Units.
 - UL 603 Power Supplies for Use with Burglar-Alarm Systems.
 - UL 1481 Fire Protective Signaling Systems.



Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Maximum charge current 600mA.
- Automatic switch over to stand-by battery when AC fails.

Visual Indicators:

- AC input and DC output LED indicators.

Supervision:

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

Additional Features:

- Short circuit and thermal overload protection.

Board Dimensions (L x W x H approximate):

7.0" x 4.0" x 1.6" (177.8 mm x 101.6 mm x 40 mm).

Input:

- Input 28VAC / 175VA.

Output:

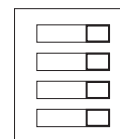
- Class 2 Rated power-limited output.
- 12VDC or 24VDC selectable output.
- 4A continuous supply current @ 12VDC.
- 3A continuous supply current @ 24VDC.
- Filtered and electronically regulated output.

*Access Control Performance Levels: Destructive Attack - N/A; Endurance - IV; Line Security - I; Stand-by Power - IV.

Power Supply Output Specifications:

Output VDC	Switch Position	Max. Stand-by Load DC	Max. Alarm Load DC	Stand-by Battery
12VDC	SW 1, 2 ON, SW 3, 4 OFF	4.0A 200mA	4.0A 4.0A	24V/40AH 12V/12AH
24VDC	SW 1, 2 OFF, SW 3, 4 ON	3.0A 200mA	3.0A 3.0A	24VDC 24V/12AH

(AL400ULB Board)
Output DIP Switches



Stand-by Specifications:

Output	4 hr. of Stand-by and 5 Minutes of Alarm	24 hr. of Stand-by and 5 Minutes of Alarm	60 hr. of Stand-by and 5 Minutes of Alarm
12VDC / 40AH Battery	Stand-by = 4.0A Alarm = 4.0A	Stand-by = 1.0A Alarm = 4.0A	Stand-by = 300mA Alarm = 4.0A
24VDC / 12AH Battery	—	Stand-by = 200mA Alarm = 3.0A	—
24VDC / 40AH Battery	Stand-by = 3.0A Alarm = 3.0A	Stand-by = 1.0A Alarm = 3.0A	Stand-by = 300mA Alarm = 3.0A

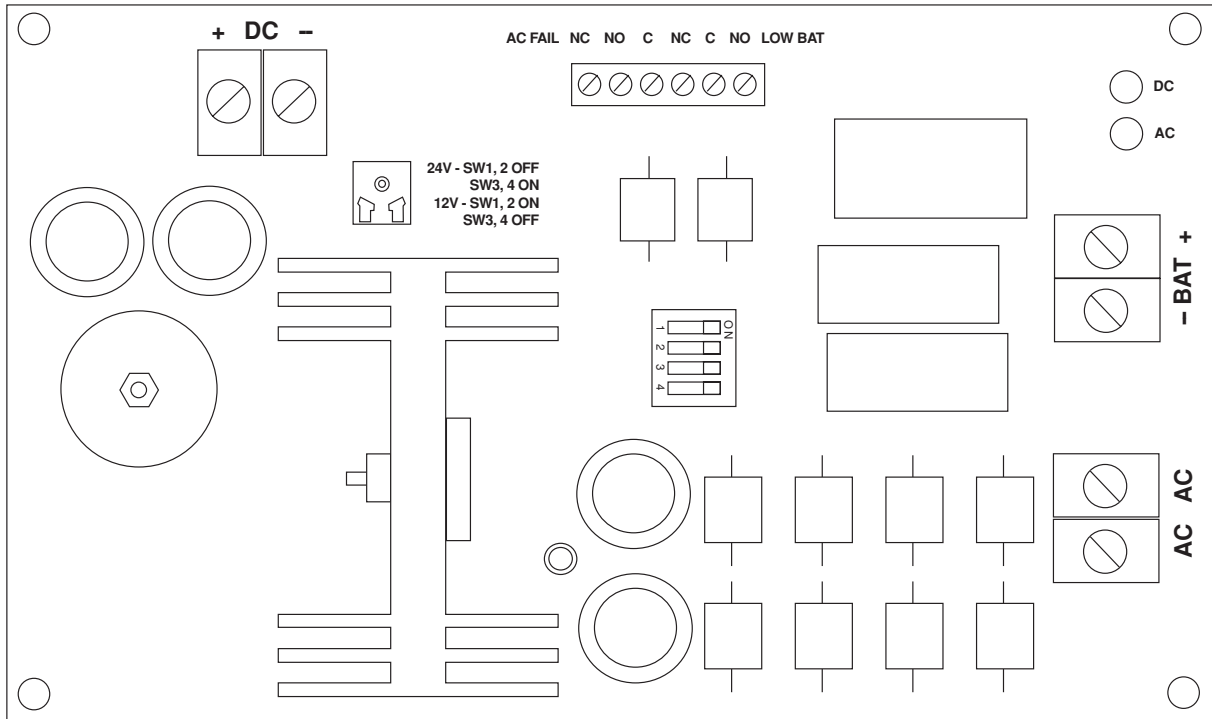
Installation Instructions:

The AL400ULB should be installed in accordance with article 760 of The National Electrical Code or NFPA 72 as well as all applicable Local Codes.

- Mount AL400ULB in the desired location/enclosure (mounting hardware included).
- Connect 28VAC / 175VA transformer to the terminals marked [AC AC]. (Fig. 1).
Use 18 AWG or larger for all power connections (Battery, DC output).
Use 22 AWG to 18 AWG for the 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.
- Set the AL400ULB to the desired DC output voltage by setting the switches to the appropriate positions (Power Supply Output Specifications Table).
- Connect devices to be powered to the terminals marked [+ DC -] (Fig. 1).
- Measure output voltage before connecting devices. This helps avoiding 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 the terminals [– BAT +] (Fig. 1) as marked on the unit (battery leads included).
Use two (2) 12VDC batteries connected in series for 24VDC operation.
7. Connect supervisory trouble reporting devices to the outputs marked [LOW BAT, AC FAIL] supervisory relays marked [NC, NO, C] (Fig. 1). Use 22 AWG to 18 AWG for AC Fail and Low Battery reporting.

Fig. 1



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 (Power Supply Output Specifications Table).

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 discharges is 1.25A.

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

LED Diagnostics:

LED	ON	OFF
AC (Green)	Normal operation	No AC input
DC (Red)	Normal operation	No DC output

Terminal Identification:

Terminal Legend	Function/Description
AC, AC	Low voltage (28VAC) transformer connections.
+DC –	12VDC @ 4A or 24VDC @ 3A continuous power-limited output.
AC Fail NC, NO, C	Indicates loss of AC power, e.g. connect to audible device or alarm panel. Relay normally energized when AC power is present. Contact rating 1A @ 30VDC.
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 1A @ 30VDC.
– BAT +	Stand-by battery connections. Maximum charge current 600mA.