



AL176ULB

Access Control Power Supply/Charger

Overview:

AL176ULB is a power-limited power supply/charger that converts a 24VAC input into 12VDC or 24VDC output (see specifications). It is intended for use in applications requiring UL Recognition for Access Control (UL294).

Specifications:

Agency Listings:

- UL Recognized component for US and Canada.

Input:

- 28VAC, 56VA from UL Listed, Class 2 transformer.

Output:

- 12VDC or 24VDC selectable output.
- 1.75A supply current.
- Class 2 Rated power-limited auto-resettable output.
- PTC protected outputs, rated @ 2.5A.
- Filtered and electronically regulated output.
- Short circuit and thermal overload protection.



Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- Maximum charge current 0.4A.

Supervision:

- AC fail supervision (form "C" 1A @ 28VDC).
- Low battery supervision (form "C" 1A @ 28VDC).

Visual Indicators:

- AC input and DC output LED indicators.

Board Dimensions (W x L x D approx.):

3.1" x 5.3" x 1.4" (78.7mm x 134.6mm x 35.6mm).

Power Supply Output Specifications:

Output VDC	Jumper	Max. Stand-by Load DC	Max. Alarm Load DC	Battery (optional)
12VDC	Jumper Removed	1.75A	1.75A	12VDC
24VDC	Jumper On	1.75A	1.75A	24VDC

Stand-by Specifications:

Output	4 hr. of Stand-by and 5 Minutes of Alarm
12VDC / 7 AH Battery	Stand-by = 1.25A
24VDC / 7 AH Battery	Alarm = 1.25A

Installation Instructions:

AL176ULB should be installed in accordance with article 760 of The National Electrical Code or NFPA 72, as well as all applicable Local Codes.

See Terminal Identification Chart on page 2 for a description of each terminal function.

1. Mount the AL176ULB in the desired location/enclosure (mounting hardware included).
2. Connect 24VAC/40VA transformer to the terminals marked [XFMR INPUT].
Use 18 AWG or larger for all power connections (Battery, AC input). Use 22 AWG to 18 AWG for power-limited circuits (DC output, AC FAIL and LOW BAT supervisory relays).

Keep power-limited wiring separate from non power-limited wiring (115VAC / 60Hz Input, Battery Wires). Minimum 0.25" spacing must be provided.

3. Set the AL176ULB to the desired DC output voltage by either removing/leaving jumper. (see Power Supply Output Specifications).
4. Connect battery to the terminals [+ BAT -] as marked on the unit (battery leads included).
Use two (2) 12VDC batteries connected in series for 24VDC operation.

Note: 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.

5. Measure output voltage before connecting devices. This helps avoiding potential damage.
6. Connect devices to be powered to the terminals marked [+ DC OUT -] (Fig. 1).
7. Connect appropriate signaling notification devices to AC Fail and Low Bat supervisory relay outputs.

Note: To meet UL requirements, AC Supervisory outputs must be connected to the zone of Alarm Control Panel or to a visual AC trouble indicator.

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 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 400mA.

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

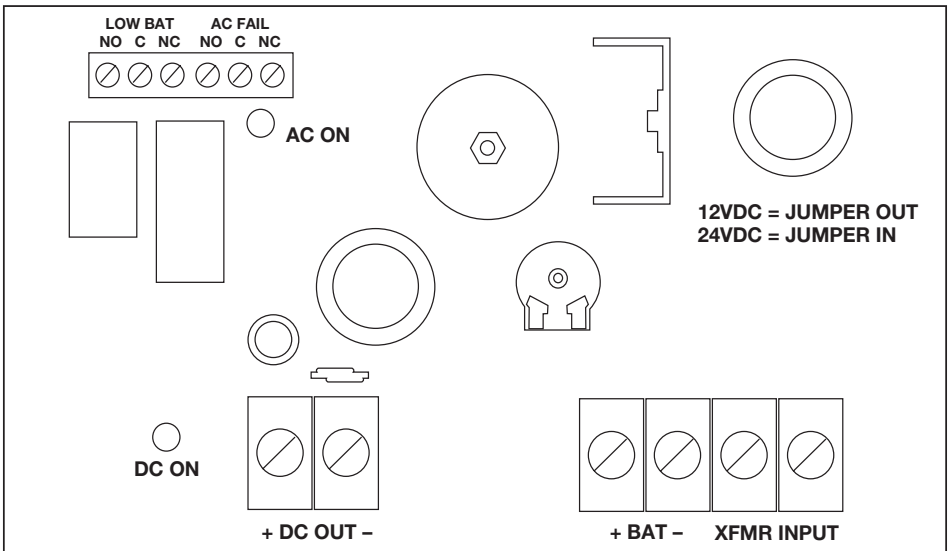
LED Diagnostics:

Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal function.
ON	OFF	Loss of AC. Battery backup is powering output.
OFF	ON	No DC output
OFF	OFF	Loss of AC. Discharged or missing stand-by battery. No DC output.

Terminal Identification:

Terminal Legend	Function/Description
XFMR INPUT	Low voltage AC input (24VAC/40VA).
+ DC OUT -	Continuous positive (+) DC power output voltage. Common negative (-) output (ground).
+ BAT -	Stand-by battery connections.
AC FAIL N.O., C, N.C	Used to notify loss of AC, e.g. connect audible device or alarm panel. Relay is normally energized when AC power is present. Contact rating 1A @ 28VDC.
LOW BAT N.O., C, N.C.	Used to notify low battery condition, e.g. connect audible device or alarm panel. Relay is normally energized. Contact rating 1A @ 28VDC.

Fig. 1



Altronix is not responsible for any typographical errors.

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