



# AL176ULX Access Control Power Supply/Charger

### Overview:

The AL176ULX is a power limited power supply/charger converts a 115VAC / 60Hz input, into 12VDC or 24VDC output, (see specifications). They are intended for use in applications requiring UL Listing for Access Control (UL294). It must be installed in accordance with National and Local Electrical Codes and Regulations.

### Specifications:

- UL Listed - U.S. and Canada for Access Control Systems (UL294).
- MEA approved - NYC Dept. of Buildings.
- Class 2 rated power limited output.
- Input 115VAC/60Hz, .6 amp.
- Field selectable 12VDC or 24VDC power limited output.
- 1.75 amps continuous supply current @ 12VDC or 24VDC.
- Filtered and electronically regulated output.
- Maximum charge current: 400mA.
- Automatic switch over to stand-by battery when AC fails (zero voltage drop).
- AC fail supervision (form "C" 1 amp @ 28VDC).
- Low battery supervision (form "C" 1 amp @ 28VDC).
- AC input and DC output LED indicators.
- Short circuit and thermal overload protection.
- Unit includes: power supply, transformer and enclosure.



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

### Power Supply Output Specifications:

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

### Stand-by Specifications:

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

### Installation Instructions:

The AL176ULX 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 3 for a description of each terminal function.**

1. Mount the AL176ULX in desired location.
2. Connect AC power to the black and white flying leads of the transformer. Secure green wire lead to earth ground. 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 .25" spacing must be provided.**
3. Set the AL176ULX to the desired DC output voltage by either removing/leaving jumper.  
(Power Supply Output Specification Table).  
**Note:** It is important to measure output voltage before connecting devices. this helps avoid potential damage.
4. Connect battery to terminals marked [+ BAT -] on the power supply board (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 are desired, they must be lead acid or gel type.
5. 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 visual AC trouble indicator.
  6. For Access Control Device connections refer to Terminal Identification Chart.

**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 Specification Table*).

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 400mA.

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

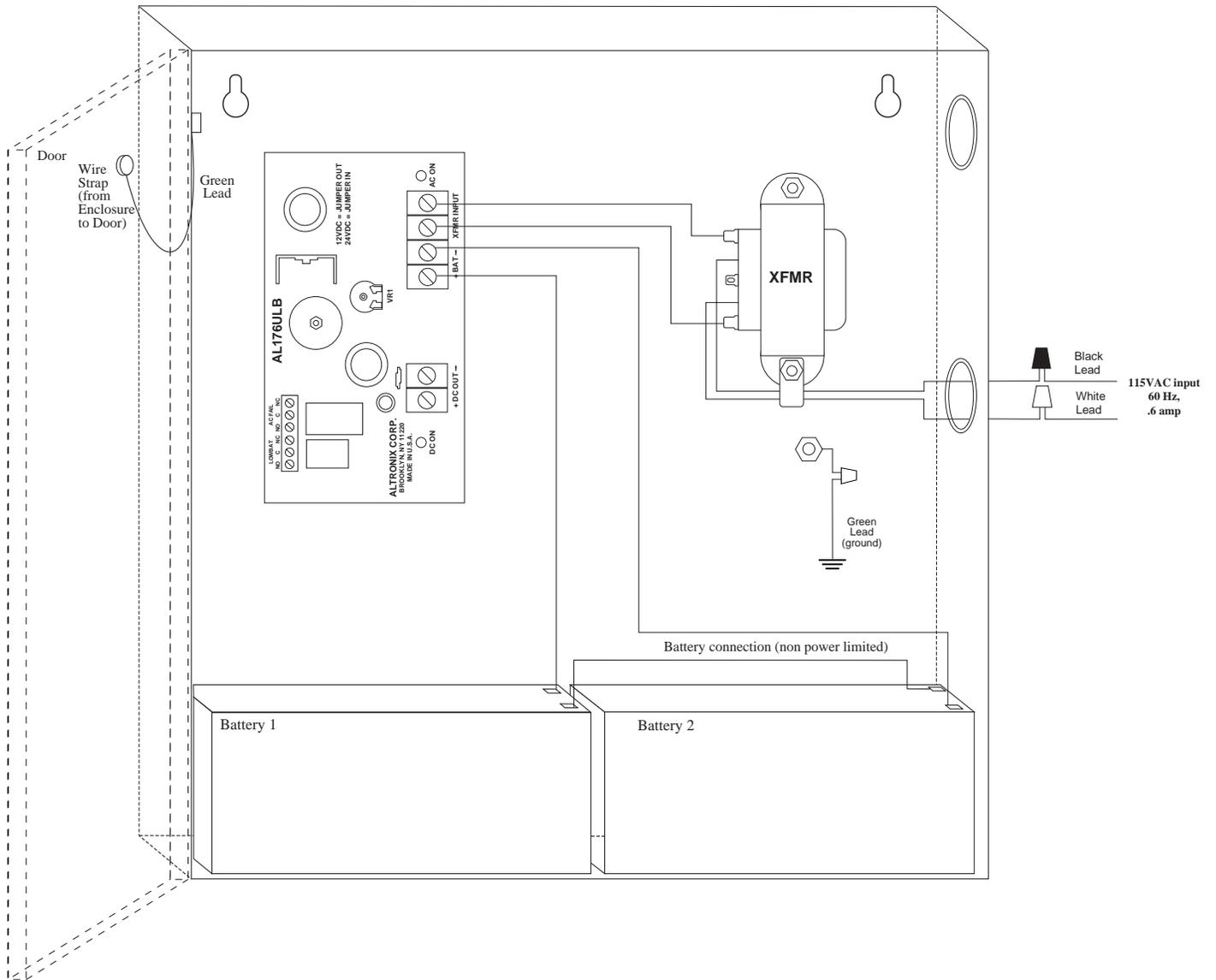
**LED Diagnostics:**

Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal function
ON	OFF	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:**

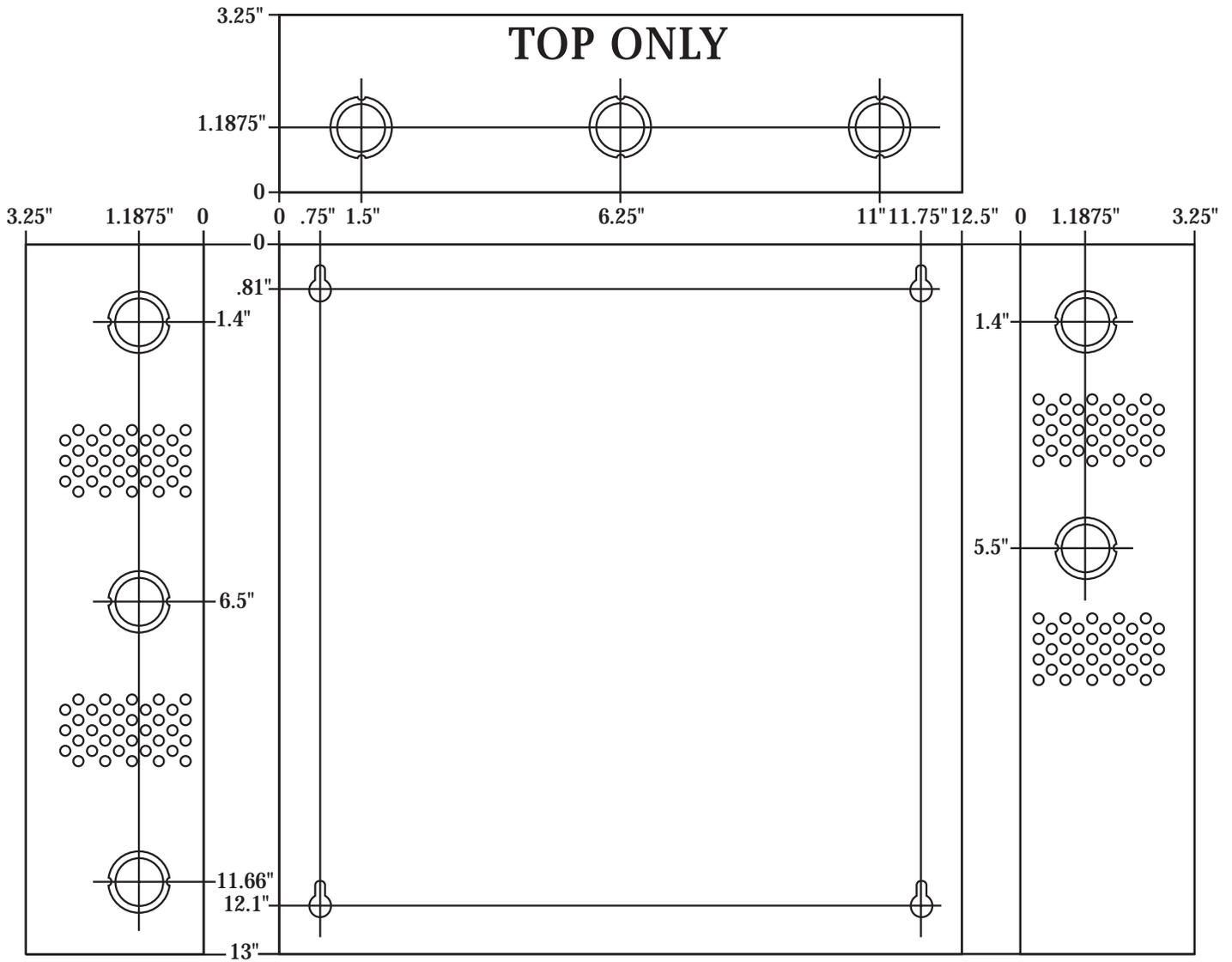
Terminal Legend	Function/Description
XFMR INPUT	Low voltage AC input (28VAC 56VA).
+ DC OUT –	Continuous positive (+) DC power output voltage. Common negative (-) output (ground).
+ BAT –	Stand-by battery connections.
AC FAIL N.O., C, N.C.	Used to notify loss of AC e.g connect audible device or alarm panel. Relay is normally energized when AC power is present. Contact rating 1 amp @ 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 1 amp @ 28VDC.

Fig. 1



**Enclosure Dimensions:**

13"H x 13.5"W x 3.25"D



MEMBER