



# AL175ULX2 Access Control Power Supply/Charger

Rev. 081701

## Overview:

The AL175ULX2 is a power limited power supply/charger that will convert 115VAC / 60Hz input, into two individual PTC protected 12VDC or 24VDC output, (see specifications). 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).
- CSFM approved - California State Fire Marshal.
- MEA approved - NYC Dept. of Buildings.
- Input 115VAC/60 Hz, .6 amp.
- Field selectable 12VDC (Range 10VDC - 13VDC) or 24VDC (Range 24VDC - 27VDC) power limited outputs.
- Class 2 rated power limited outputs.
- 1.75 amp continuous supply current @ 12VDC or 24VDC.
- Latching fire alarm tie-in with manual reset.
- Filtered and electronically regulated output.
- Charge current: 0.4 amp Max.
- Aux relay output: (form "C", 1 amp, 28VDC).
- AC Fail output relay (form "C" 1 amp, 28VDC).

Enclosure Dimensions: 15.5"H x 12"W x 4.5"D

## Power Supply Output Specifications:

Output VDC	Switch Position	Max. Stand-by Load DC	Max. Alarm Load DC	Battery (optional)
12VDC (Range 10VDC - 13VDC)	SW1 Open	1.75 amp	1.75 amp	12VDC
24VDC (Range 24VDC - 27VDC)	SW1 Closed	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 AL175ULX2 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 AL175ULX2 in desired location.
2. Connect AC power (115VAC 60Hz) 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, DC output). Use 22 AWG to 18 AWG for power limited circuits (trigger inputs, dry outputs).  
**Keep power limited wiring separate from non-power limited wiring (115VAC / 60Hz Input, Battery Wires). Minimum .25" spacing must be provided.**
3. Set the AL175UL to the desired DC output voltage by setting switch SW1 to the appropriate position (*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 -] (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 supervisory relay outputs marked

[N.C., N.O., C].

**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 & Fire Alarm Interface connections refer to desired Application Diagrams (pg. 4) and Terminal Identification Chart (pg. 3).
7. Secure enclosure door with the screws supplied, to assure proper ground.

### 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 (see *Power Supply Output Specifications Chart*).

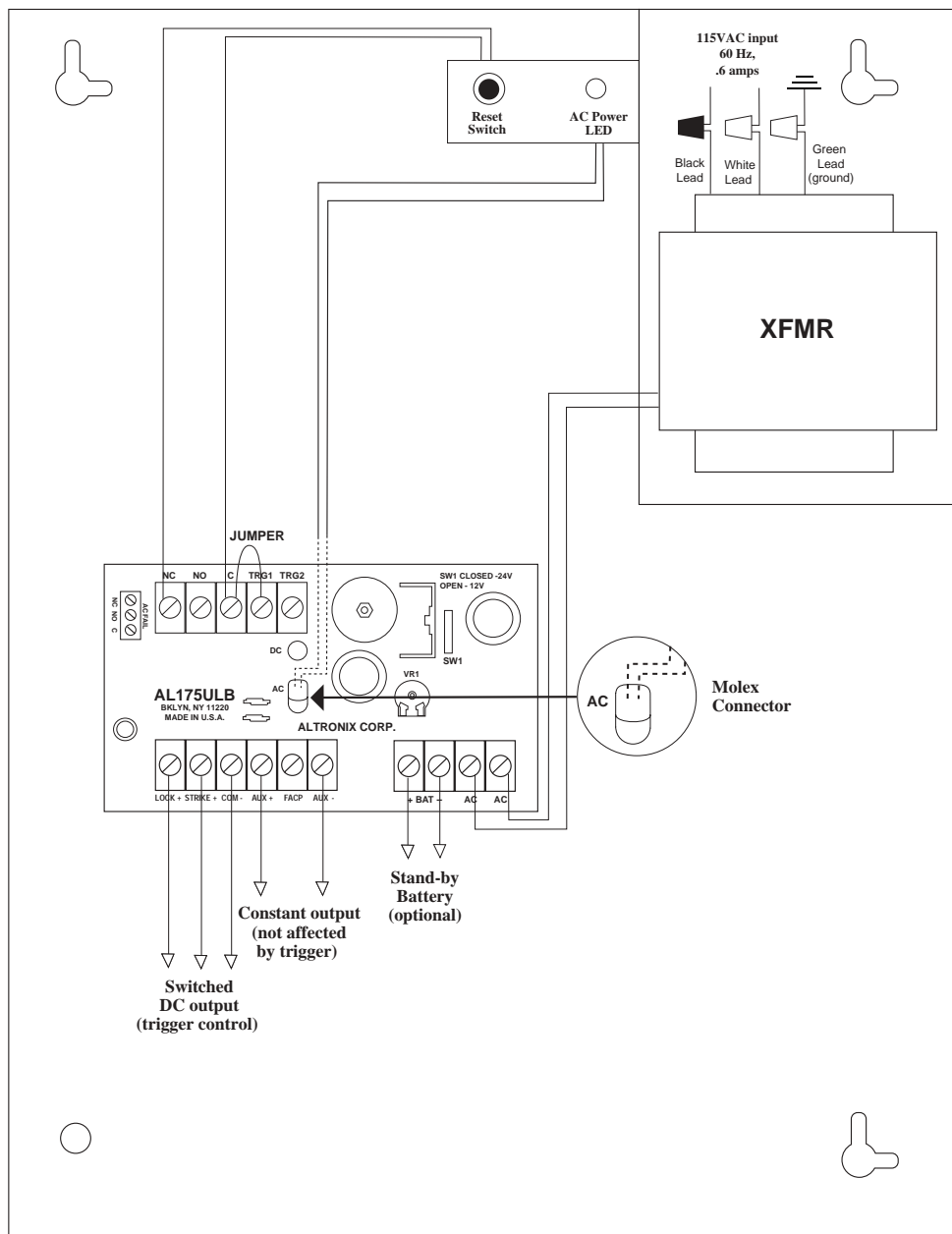
**Battery Test:** Under normal load conditions check that the battery is fully charged, check specified voltage both at battery terminal and at the board terminals marked [- BAT +] to insure there is no break in the battery connection wires.

**Note:** Maximum charging current under discharge is 0.40 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) (on front door)	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.

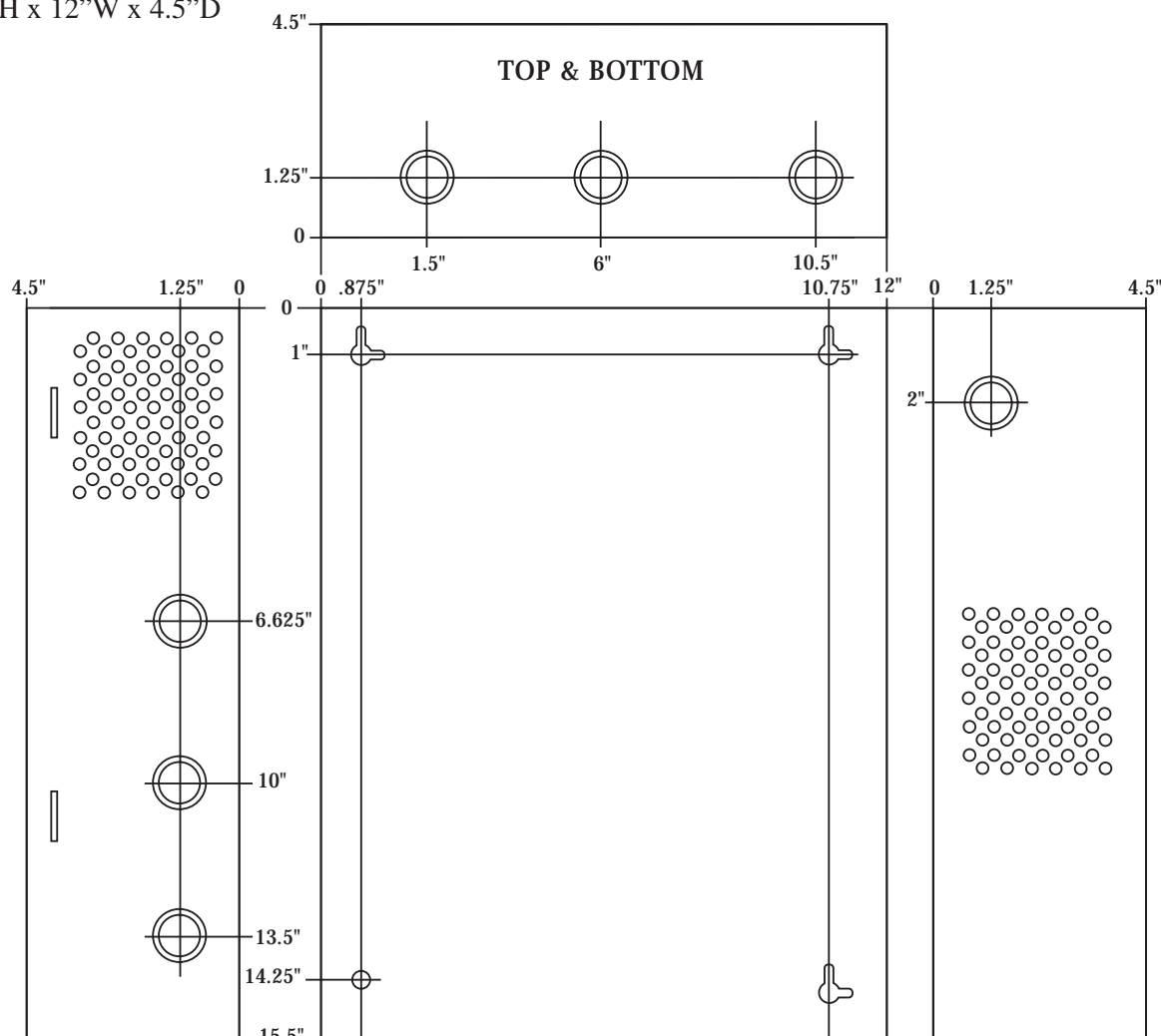


### Terminal/Switch Identification:

Terminal Legend	Function/Description
TRG1 & TRG2	These input terminals are designed to connect to the normally closed outputs of an access control or fire alarm relay. These terminals control [LOCK+], and [STRIKE+], as well as AL175ULX2 output relay contacts [N.C., N.O., C]
LOCK+	This terminal provides DC output voltage when [TRG1] and [TRG2] are shorted together and are typically used to power Mag Locks.
STRIKE+	This terminal provides DC output voltage when [TRG1] and [TRG2] are unshorted and are typically used to power Electric Strikes.
N.C., N.O., C	Isolated dry Form "C" contacts. Shorting [TRG1] and [TRG2] together causes these contacts to switch. They are typically used for controlling multiple AL175ULX2s with fire alarm tie-in ( <i>Fig. 4, pg. 4</i> ).
AUX +	Continuous positive (+) DC power output voltage. It is not affected by TRG1, TRG2 operation.
COM -	Common negative (-) output (ground).
FACP	Spare wiring terminal used for fire alarm tie-in application ( <i>Fig. 3, pg. 4</i> ).
BAT+, BAT-	Stand-by battery connections.
SW2	Momentary reset button (on front door) is used as a manual power supply reset after fire alarm system is restored.
AUX +	AUX neg (-) output (ground).

### Enclosure Dimensions:

15.5"H x 12"W x 4.5"D



## Typical Application Diagrams:

Fig. 1 - Typical single mag lock or door strike installation with latching fire alarm tie-in using trigger controlled output:

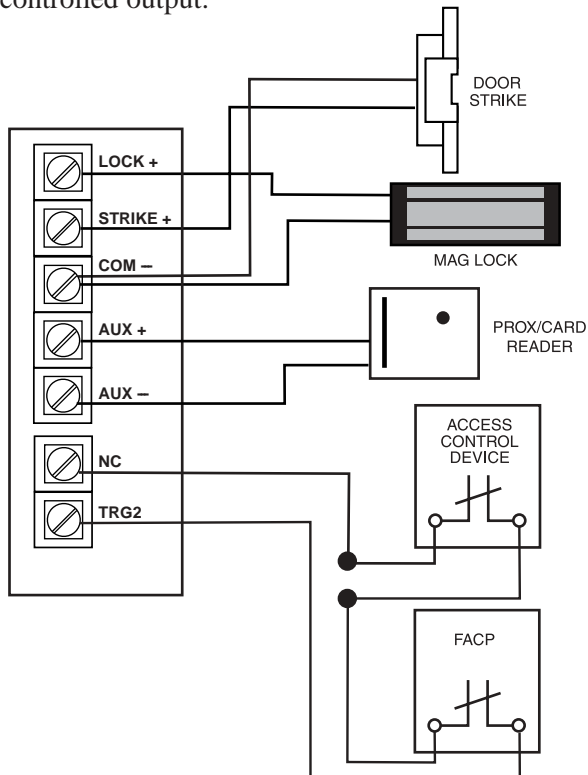


Fig. 2 - Typical dual mag lock installation with latching fire alarm tie-in using trigger controlled outputs:

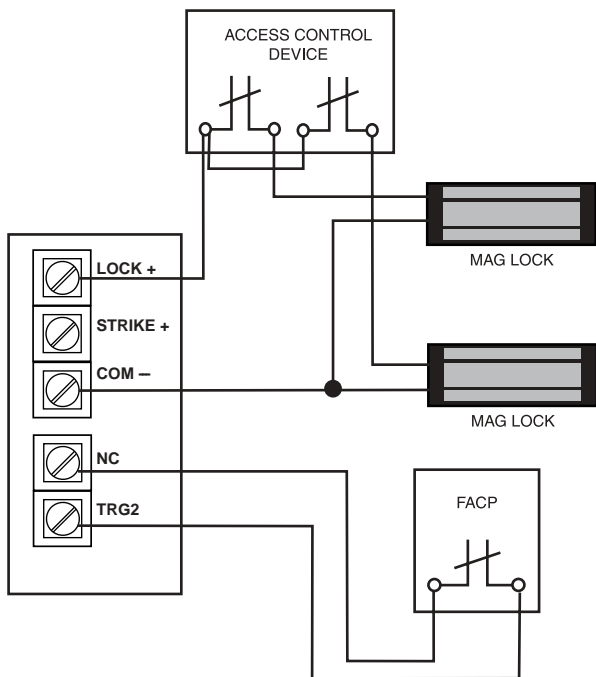


Fig. 3 - Typical mag lock with latching fire alarm tie-in using aux output installation:

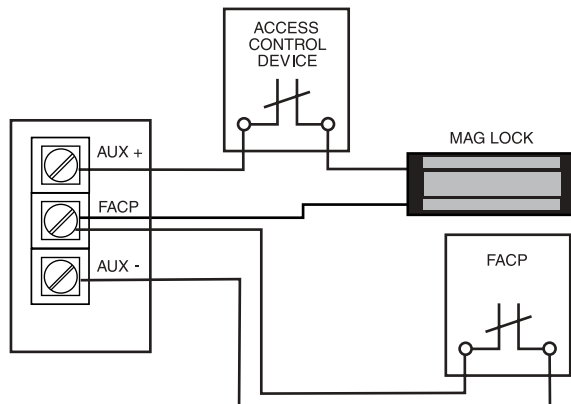


Fig. 4 - Latching fire alarm tie-in with manual reset:

