



# ***AL300ULX Series Power Supply/Charger***

## ***Installation Guide***

### ***Models Include:***

- ***AL300ULX***
  - *Single Output*
  
- ***AL300ULPD4***
  - *Four (4) Fused Outputs*
  
- ***AL300ULPD8***
  - *Eight (8) Fused Outputs*
  
- ***AL300ULXPD16***
  - *Sixteen (16) Fused Outputs*
  
- ***AL300ULPD4CB***
  - *Four (4) PTC Outputs*
  
- ***AL300ULPD8CB***
  - *Eight (8) PTC Outputs*
  
- ***AL300ULXPD16CB***
  - *Sixteen (16) PTC Outputs*
















***For a red enclosure, add an "R" suffix to the part # e.g. AL300ULPD8R***

**Overview:**

The AL300ULX is a power supply that converts a 115VAC / 60Hz input, to a 12VDC or 24VDC regulating output (see specifications below).

The AL300ULX is a base power supply unit for the UL Listed multi-output power supply/charger series: AL300ULPD4, AL300ULPD4CB, AL300ULPD8, AL300ULPD8CB, AL300ULXP16, AL300ULXP16CB (Refer to AL300ULX Series Power Supply Configuration Reference Chart below).

**AL300ULX Series Power Supply Configuration Reference Chart:**

Altromix Model Number	Accessory Power Distribution Module(s)	Number of Outputs	Fused Outputs	PTC Outputs	Output Rating (amp) per Output	Agency Listings	UL Listings and File Numbers
AL300ULX(R)	-	1	-	-	2.5	  MEA NYC Dept. of Buildings Approved 	UL File # S4707 UL 294 UL Listed for Access Control System Units. UL 603 UL Listed for Power Supplies for Use with Burglar-Alarms Systems. UL 1069 UL Listed Hospital Signaling and Nurse Call Equipment. UL 1481 UL Listed for Power Supplies for Fire Protective Signaling Systems <hr/> "Signal Equipment" Evaluated to CSA Standard C22.2 No.205-M1983
AL300ULPD4	PD4UL	4	x	-	2.5	 	
AL300ULPD4CB	PD4ULCB	4	-	x	2.5	 	
AL300ULPD8	PD8UL	8	x	-	2.5	 	
AL300ULPD8CB	PD8ULCB	8	-	x	2.5	 	
AL300ULXP16	Two (2) PD8UL	16	x	-	2.5	 	
AL300ULXP16CB	Two (2) PD8ULCB	16	-	x	2.5	 	

Do not exceed total output rating of 2.5 amp per unit.

**Specifications:**

**Input:**

- Input 115VAC / 60Hz, 1.45 amp.
- AC input and DC output LED indicators.

**Output:**

- Class 2 Rated power limited output(s).
- 12VDC or 24VDC selectable output(s).
- 2.5 amp total supply current.
- Filtered and electronically regulated output(s).
- 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.

**Battery Backup (cont'd):**

- Maximum charge current .7 amp.
- Zero voltage drop when switched over to battery backup.

**Supervision:**

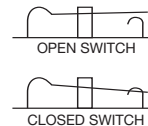
- AC fail supervision (form "C" contacts).
- Low battery supervision (form "C" contacts).
- Battery presence supervision (form "C" contacts).

**Additional Features:**

- Power supply, enclosure, cam lock and battery leads.
- All models are available in red enclosure (add an "R" suffix to the part # e.g. AL300ULPD8R).

**Power Supply Output Specifications:**

Output VDC	Switch Position	Output VDC	Switch Position
12VDC	SW1 CLOSED	24VDC	SW1 OPEN

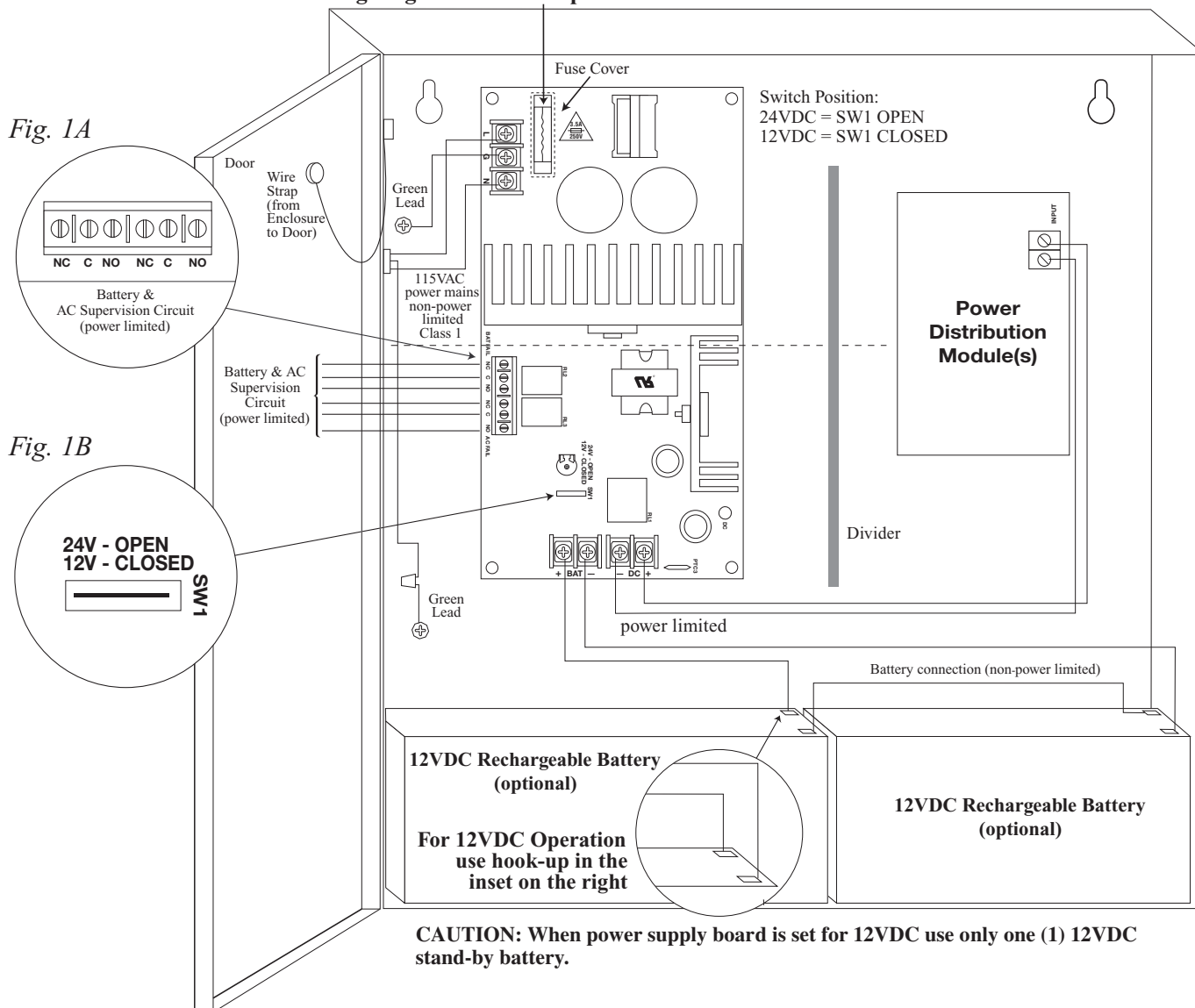


**Stand-by Specifications (total current shown):**

Output	4 hr. of Stand-by & 5 Minutes of Alarm	24 hr. of Stand-by & 5 Minutes of Alarm	60 hr. of Stand-by & 5 Minutes of Alarm
12VDC / 40 AH Battery	Stand-by = 2.5 amp Alarm = 2.5 amp	Stand-by = 1.0 amp Alarm = 4 amp	Stand-by = 300mA Alarm = 4 amp
24VDC / 12 AH Battery		Stand-by = 200mA Alarm = 3.0 amp	
24VDC / 40 AH Battery	Stand-by = 2.5 amp Alarm = 2.5 amp	Stand-by = 1.0 amp Alarm = 2.5 amp	Stand-by = 300mA Alarm = 3 amp

Fig. 1

**CAUTION: De-energize unit prior to servicing. For continued protection against risk of electric shock and fire hazard replace fuse with the same type and rating 3.5A, 250V. Replace protective cover on the fuse of the AL300ULXB board, before energizing unit. Do not expose to rain or moisture.**



**CAUTION: When power supply board is set for 12VDC use only one (1) 12VDC stand-by battery.**

Keep power limited wiring separate from non-power limited. Use minimum .25" spacing.

### **Installation Instructions:**

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/NFPA 72/ANSI, and with all local codes and authorities having jurisdiction. Product is intended for indoor use only.

1. Mount unit in desired location. Mark and predrill holes in the wall to line up with the top two keyholes in the enclosure. Install two upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two upper screws, level and secure. Mark the position of the lower two holes. Remove the enclosure. Drill the lower holes and install the three fasteners. Place the enclosure's upper keyholes over the two upper screws. Install the two lower screws and make sure to tighten all screws (*Enclosure Dimensions, pg. 7,8*).  
Secure enclosure to earth ground.
2. Set the unit to the desired DC output voltage by setting SW1 (*Fig. 1B, pg. 3*) to the appropriate position (*Power Supply Output Specification Chart, pg. 3*).
3. Secure cabinet to earth ground. Connect AC power (115VAC / 60 Hz to terminals marked [L, G, N] (*Fig. 1, pg. 3*)). Use 14 AWG or larger for all power connections (Battery, DC output, AC input).  
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). Minimum .25" spacing must be provided.**
4. Measure output voltage before connecting device. This helps avoid potential damage.  
When servicing the unit, AC mains should be removed.
5. Connect devices to be powered:
  - a. For AL300ULX Power Supply connect devices to terminals marked [- DC +] (*Fig. 1, pg. 3*).
  - b. For other Power Distribution Models connect devices to be powered to terminal pairs 1 to 4 marked [1P & 1N thru 4P & 4N] (*Fig. 2A & 2B, pg. 6*) or 1 to 8 marked [1P & 1N thru 8P & 8N] (*Fig. 3A & 3B, pg. 6*) carefully observing correct polarity.
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 one (1) 12VDC battery to the terminals marked [+ BAT -] for 12VDC operation. Use two (2) 12VDC batteries wired in series for 24VDC operation.
7. Connect appropriate signaling notification devices to terminals marked [AC FAIL & BAT FAIL] (*Fig. 1A, pg. 3*) supervisory relay outputs.  
**Note:** When used in fire alarm, burglar alarm or access control applications, "AC Fail" relay must be used to provide a visual indication of AC power on.
8. Please insure that the cover is secured with the provided key lock.

### **LED Diagnostics:**

#### **AL300ULXB - Power Supply Board**

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:**

#### **AL300ULXB - Power Supply Board**

Terminal Legend	Function/Description
L, G, N	Connect 115VAC to these terminals: L to Hot, N to Neutral, G to ground.
- DC +	12VDC or 24VDC @ 2.5 amp continuous power limited output.
AC FAIL NC, C, NO	Indicates loss of AC power, e.g. connect to annunciator/alarm panel. Relay normally energized when AC power is present. Contact rating 1 amp @ 30VDC. AC Fail condition will report approximately within one (1) minute after loss of AC. To delay report for 6 hours cut jumper J1 on the Power Supply Board (AC trouble output delay option). If this mode is selected the Power Supply Board must be reset by removing all power to it for 30 seconds.
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 1 amp @ 30VDC. Low battery conditions will report approximately 21VDC (24VDC output setting) or approximately 10.5VDC (12VDC output setting). Battery presence detection will report approximately 1 minute after battery remains undetected (missing or removed).
+ BAT -	Stand-by battery connections. Maximum charge rate .7 amp.

### **LED Diagnostics:**

#### **PD4UL/PD4ULCB/PD8UL/PD8ULCB - Power Distribution Module**

Green	Power Distribution Module Status.
ON	Normal operating condition.
OFF	No Power Output.

### **Terminal Identification:**

#### **PD4UL/PD4ULCB/PD8UL/PD8ULCB - Power Distribution Module**

Terminal Legend	Legend	Function/Description
PD4UL/PD4ULCB	PD8UL/PD8ULCB	
1P to 4P	1P to 8P	Positive DC power outputs.
1N to 4N	1N to 8N	Negative DC power outputs.

## Power Distribution Module(s):

Fig. 2A

Replace fuses with the same type and rating 3.5A, 250V.

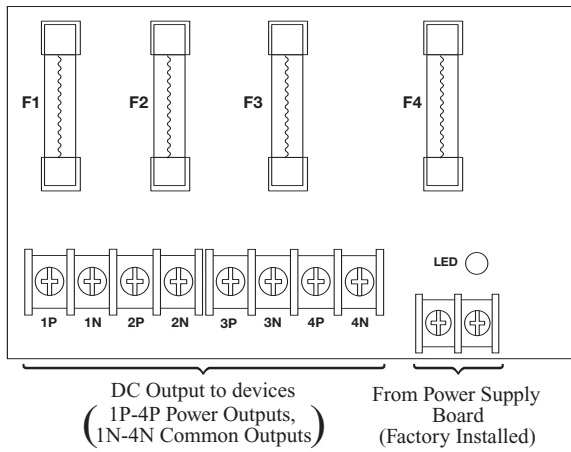


Fig. 2B

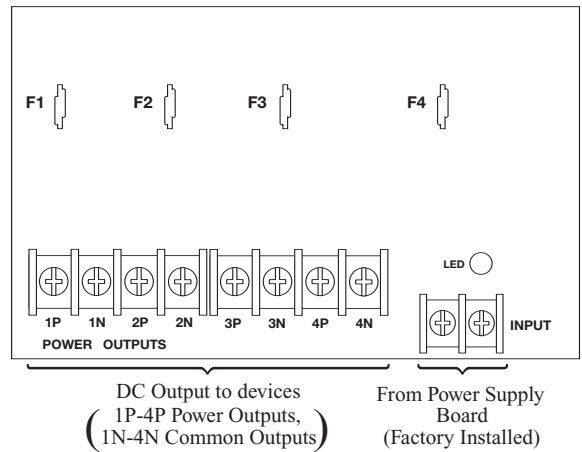


Fig. 3A

Replace fuses with the same type and rating 3.5A, 250V.

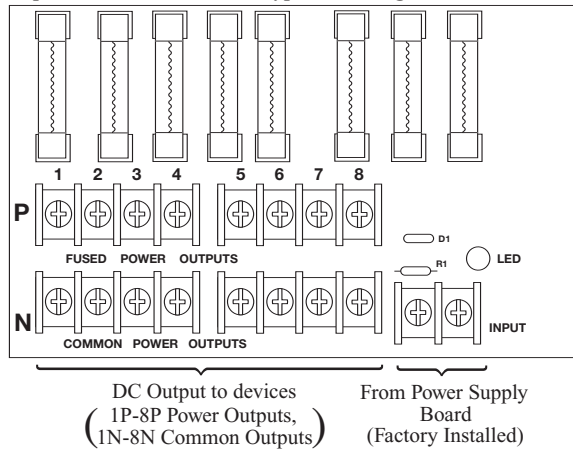
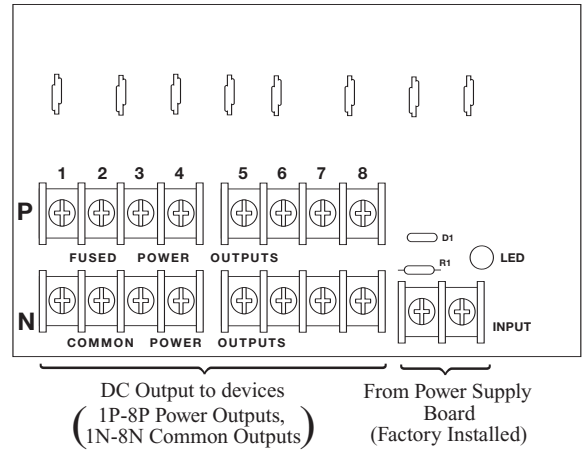


Fig. 3B



**Wiring:**

USE 14 AWG or larger for all power connections.

**Note:** Take care to keep power limited circuits separate from non-power limited wiring (115VAC, Battery).

**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 Chart, pg. 3*).

**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.

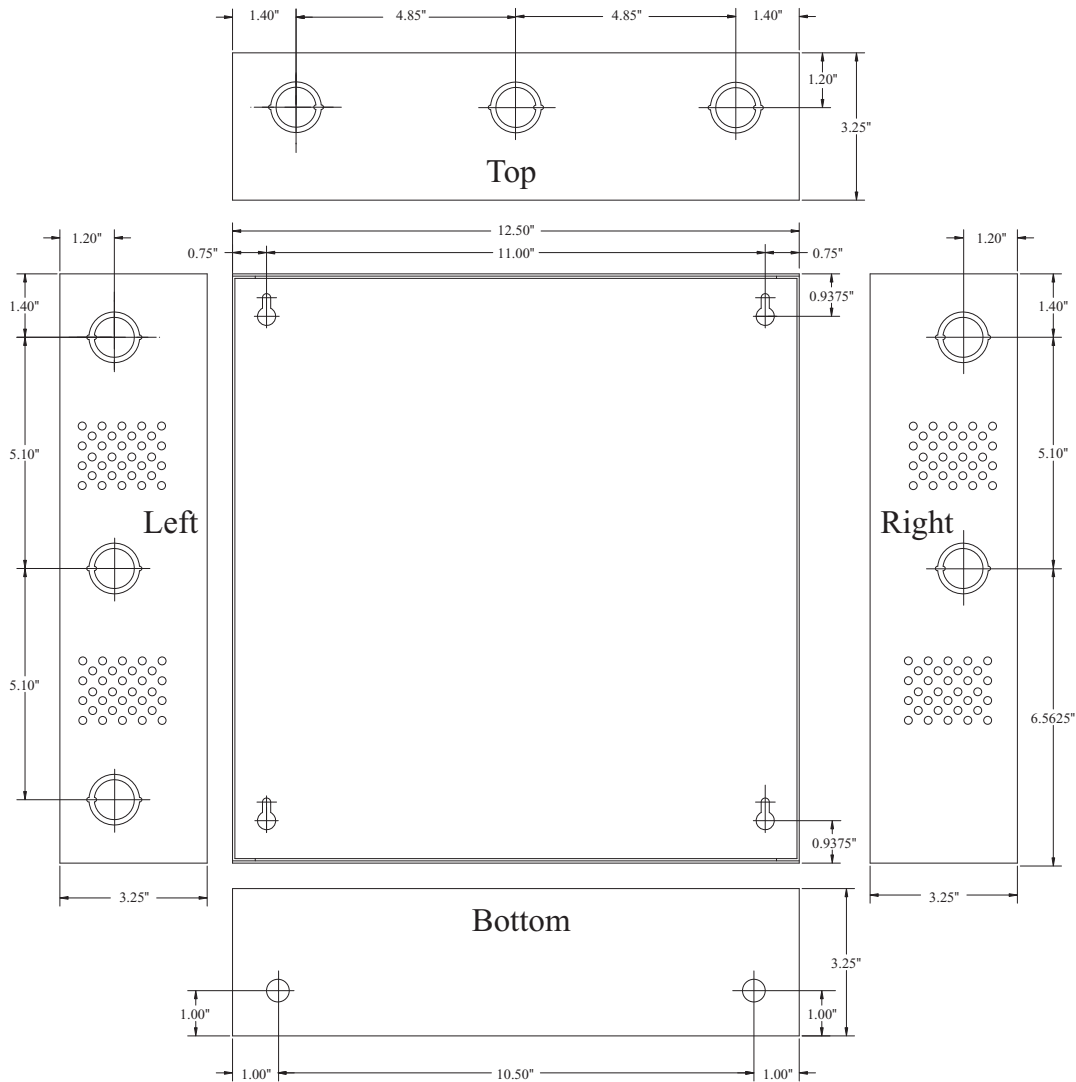
**Note:** Maximum charging current under discharges is .7 amp.

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

**Enclosure Dimensions:**

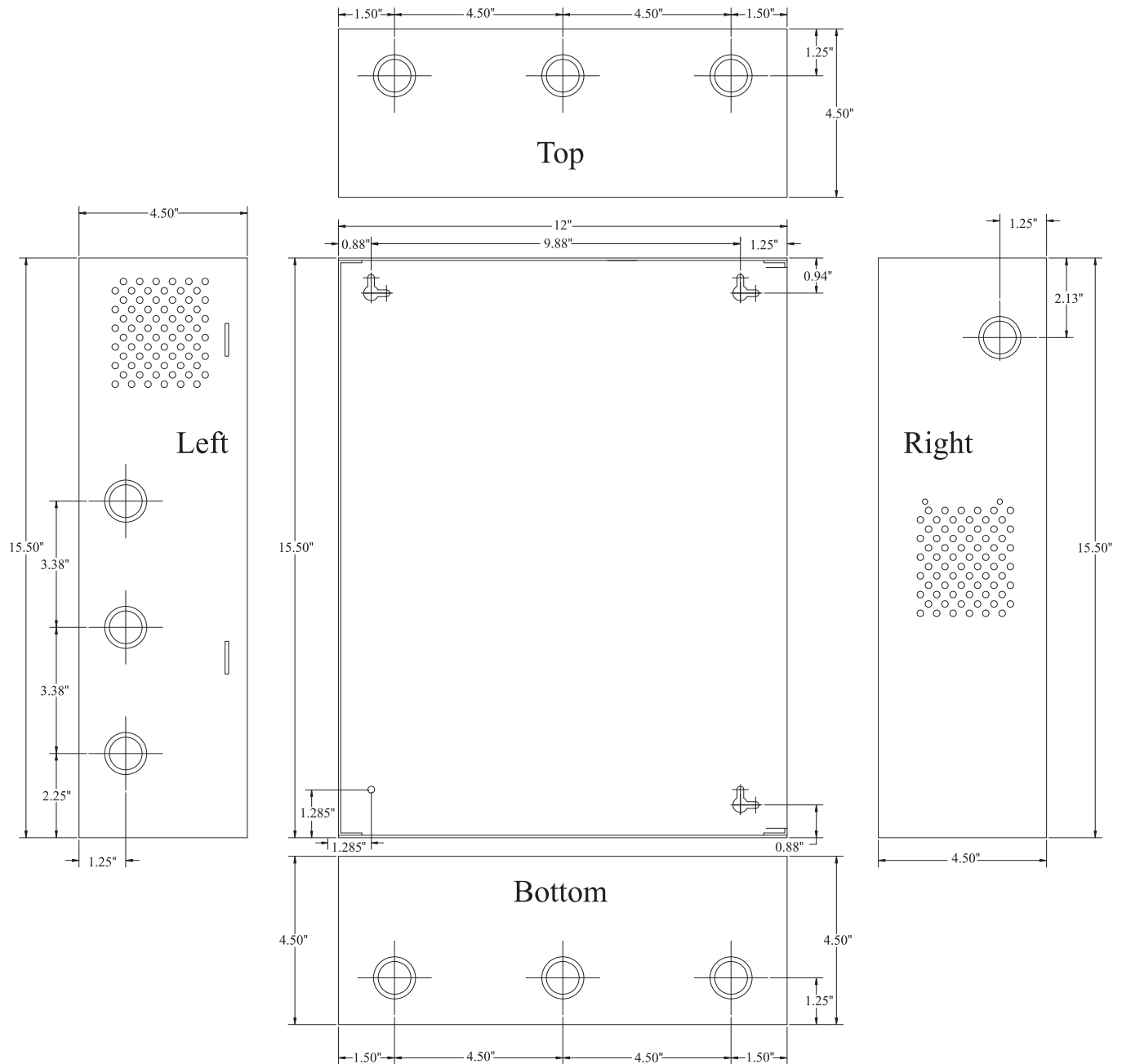
- AL300ULX
- AL300ULPD4
- AL300ULPD8
- AL300ULPD4CB
- AL300ULPD8CB

13.5”H x 13”W x 3.25”D



**Enclosure Dimensions:**

- AL300ULXPD16
  - AL300ULXPD16CB
- 15.5”H x 12”W x 4.5”D



Altronix is not responsible for any typographical errors.

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 IIAL300ULX series F20G

