



AL400ULPD Series Power Supply/Charger

Installation Guide

Models Include:













- ***AL400ULPD4***
 - *Four (4) Fused Outputs*
- ***AL400ULPD8***
 - *Eight (8) Fused Outputs*
- ***AL400ULXPD16***
 - *Sixteen (16) Fused Outputs*
- ***AL400ULPD4CB***
 - *Four (4) PTC Outputs*
- ***AL400ULPD8CB***
 - *Eight (8) PTC Outputs*
- ***AL400ULXPD16CB***
 - *Sixteen (16) PTC Outputs*

For a red enclosure, add an "R" suffix to the part # e.g. AL400ULPD8R

Overview:

These UL Listed multi-output power supply/chargers convert a 115VAC / 60Hz input, to a 12VDC or 24VDC regulating output (see specifications below).

AL400ULPD Series Power Supply Configuration Reference Chart:

Altronix Model Number	Accessory Power Distribution Module(s)	Number of Outputs			12VDC per Output Current (amp)	24VDC per Output Current (amp)	Agency Listings	UL Listings and File Numbers
		Fused Outputs	PTC Outputs					
AL400ULPD4	PD4UL	4	x	-	3.5	3	 c 	UL File # S4707
AL400ULPD4CB	PD4ULCB	4	-	x	2.5	2.5	 c 	UL 294 UL Listed for Access Control System Units.
AL400ULPD8	PD8UL	8	x	-	3.5	3	 c 	UL 603 UL Listed for Power Supplies for Use with Burglar-Alarms Systems.
AL400ULPD8CB	PD8ULCB	8	-	x	2.5	2.5	 c 	UL 1069 UL Listed Hospital Signaling and Nurse Call Equipment.
AL400ULXPD16	Two (2) PD8UL	16	x	-	3.5	3	 c 	UL 1481 UL Listed for Power Supplies for Fire Protective Signaling Systems
AL400ULXPD16CB	Two (2) PD8ULCB	16	-	x	2.5	2.5	 c 	“Signal Equipment” Evaluated to CSA Standard C22.2 No.205-M1983

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.
- 4 amp total supply current at 12VDC or 3 amp total supply current at 24VDC.
- Filtered and electronically regulated outputs.
- Short circuit and thermal overload protection.

Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.

Battery Backup (cont'd.):

- Automatic switch over to stand-by battery when AC fails.
- 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. AL400ULPD8R).

Power Supply Output Specifications:

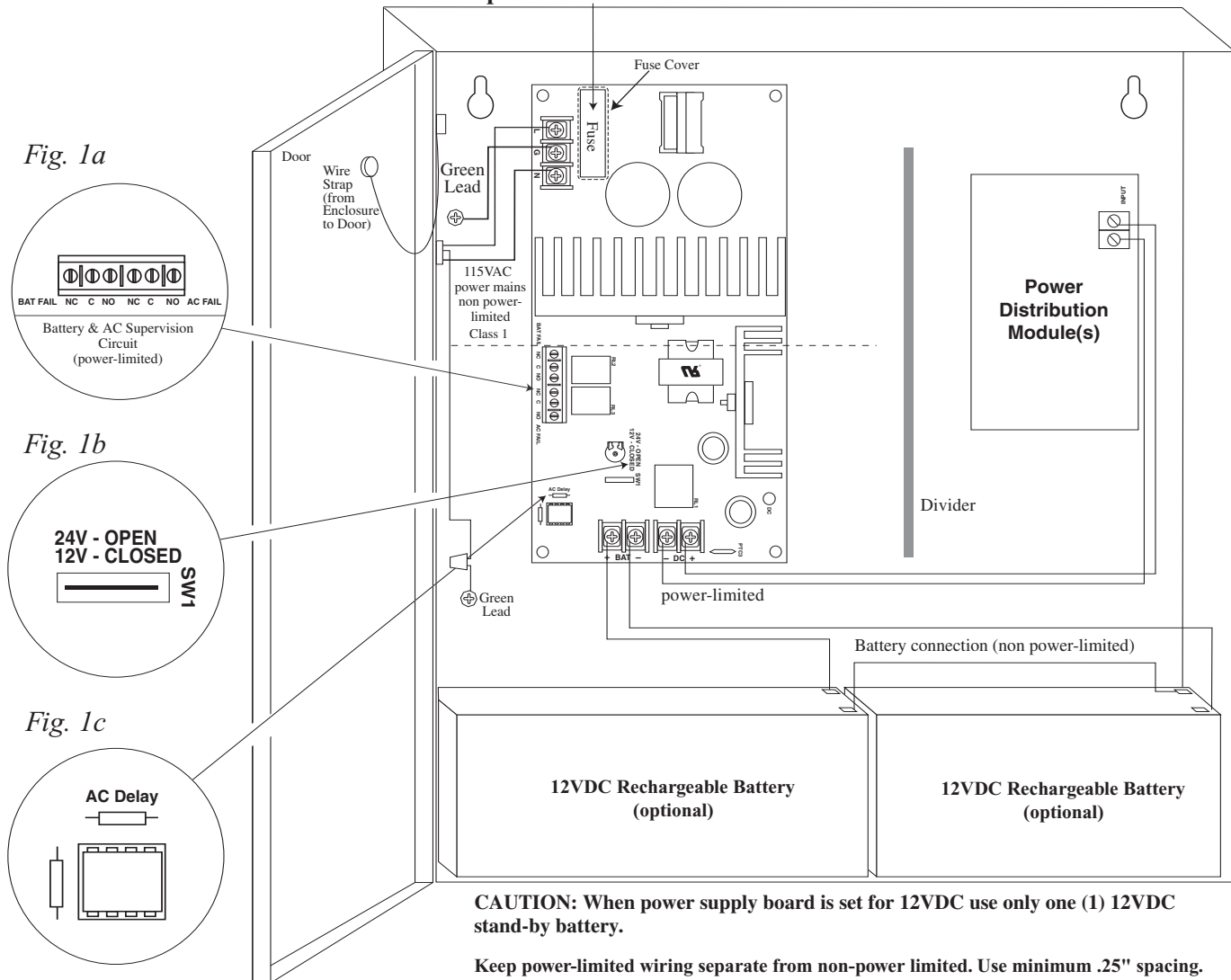
Output	Switch Position
12VDC	SW1 - CLOSED (Fig. 1b)
24VDC	SW1 - OPEN (Fig. 1b)

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 / 40AH Battery	Stand-by = 4.0 amp Alarm = 4.0 amp	Stand-by = 1.0 amp Alarm = 4.0 amp	Stand-by = 300mA Alarm = 4.0 amp
24VDC / 12AH Battery	—	Stand-by = 200mA Alarm = 3.0 amp	—
24VDC / 40AH Battery	Stand-by = 3.0 amp Alarm = 3.0 amp	Stand-by = 1.0 amp Alarm = 3.0 amp	Stand-by = 300mA Alarm = 3.0 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 fuse cover before energizing. Do not expose to rain or moisture.



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 two 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*).
2. The power supply is pre-wired to the ground (chassis). Connect main incoming ground to the provided green grounding conductor lead. Connect unswitched 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.

3. Set the unit to the desired DC output voltage by setting SW1 (*Fig. 1b, pg. 3*) to the appropriate position (*Power Supply Voltage Output Selections Chart, pg. 3*).
4. Measure output voltage before connecting any devices to ensure proper operation. Improper or high voltage will damage these devices. When servicing the unit, AC mains should be removed.
5. 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.
7. Connect appropriate signaling notification devices to 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 should be utilized to visually indicate that AC power is on (*Fig. 1c, pg. 3*).
8. Please insure that the cover is secured with the provided Key Lock.

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 Voltage Output Specifications 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.

LED Diagnostics:
AL400ULXB - 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:
AL400ULXB - Power Supply Board

Terminal Legend	Function/Description
L, G, N	Connect 115VAC 60 Hz. to these terminals: L to hot, N to Neutral, G to ground.
- DC +	12VDC @ 4 amp or 24VDC @ 3 amp continuous power-limited output.
AC Fail NC, NC, NO	Indicates loss of AC power, e.g. connect to audible device or alarm panel. Relay normally energized when AC power is present. Contact rating 1 amp @ 28VDC.
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 @ 28VDC.
+BAT -	Stand-by battery connections. Maximum charge current 1.2 amp.

LED Diagnostics:
PD4UL/PD4ULCB/PD8UL/PD8ULCB - Power Distribution Module

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

Terminal Identification:
PD4UL/PD4ULCB/PD8UL/PD8ULCB - Power Distribution Module

Terminal Legend PD4UL/PD4ULCB	Terminal Legend PD8UL/PD8ULCB	Function/Description
1P to 4P	1P to 8P	Normal operating condition.
1N to 4N	1N to 8N	No Power Output.

Power Distribution Module(s):

Fig. 2a

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

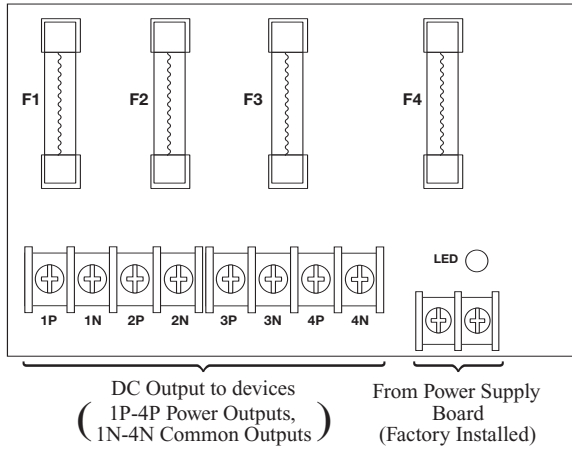


Fig. 2a

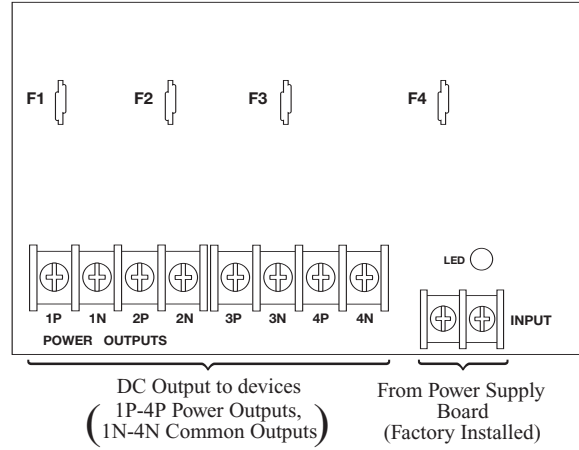


Fig. 3a

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

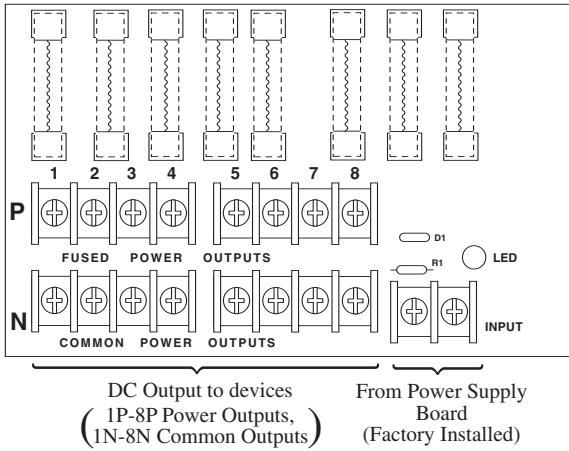
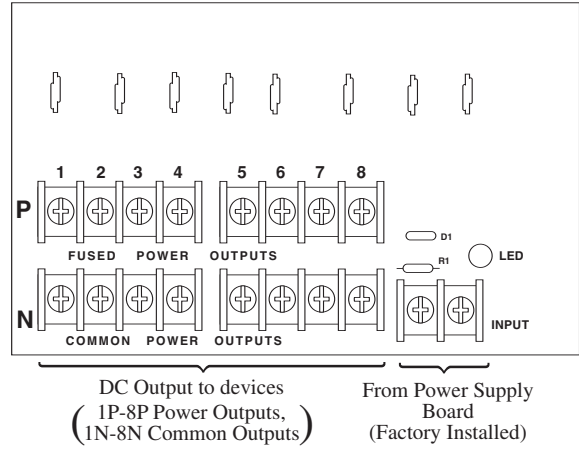
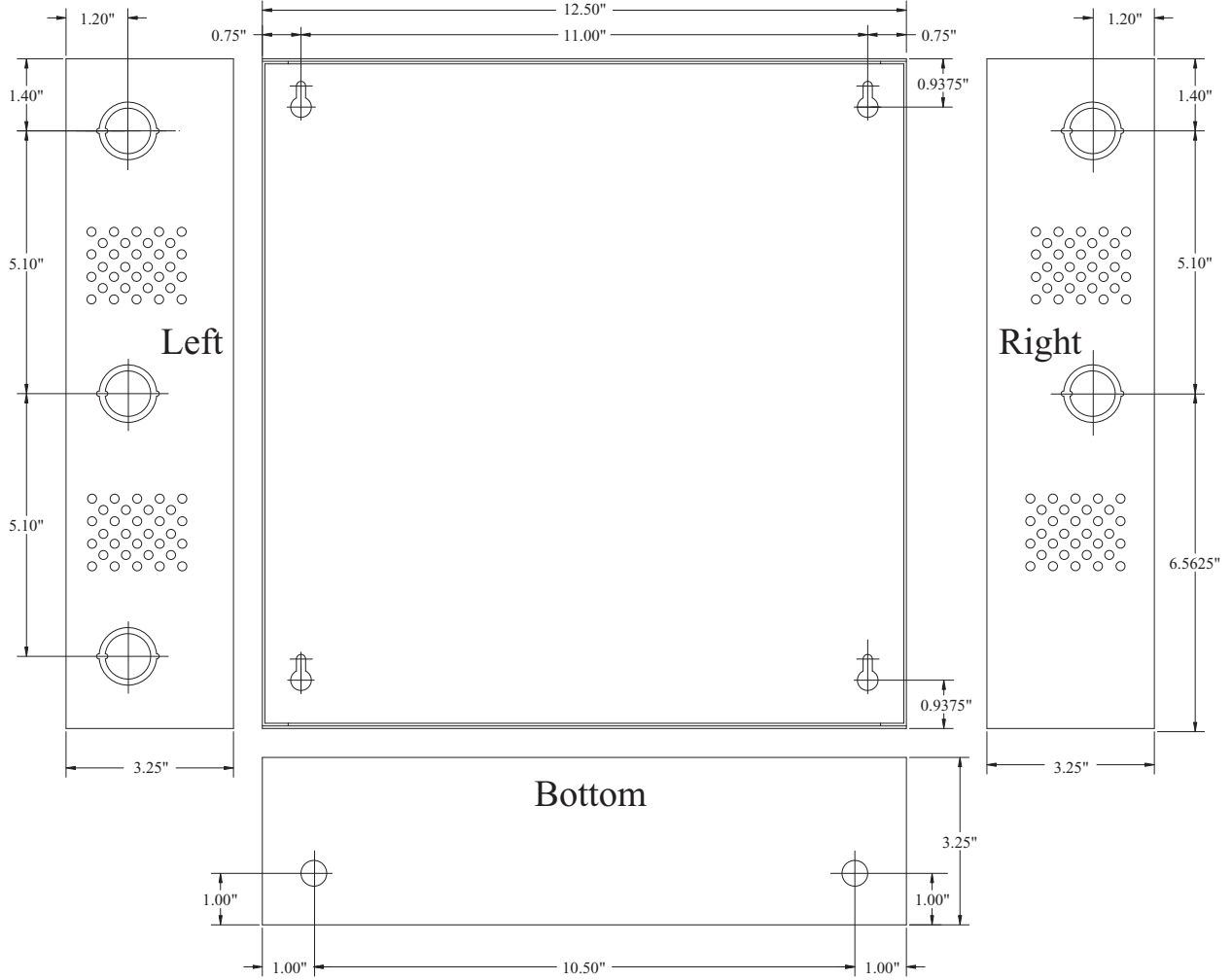
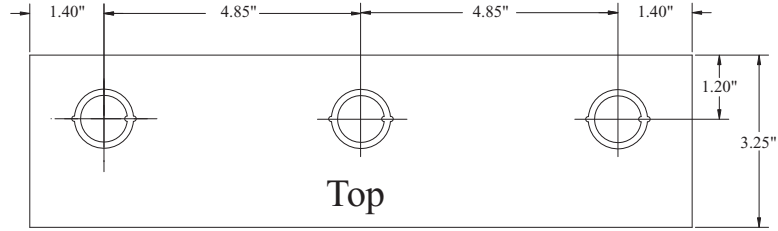


Fig. 3a



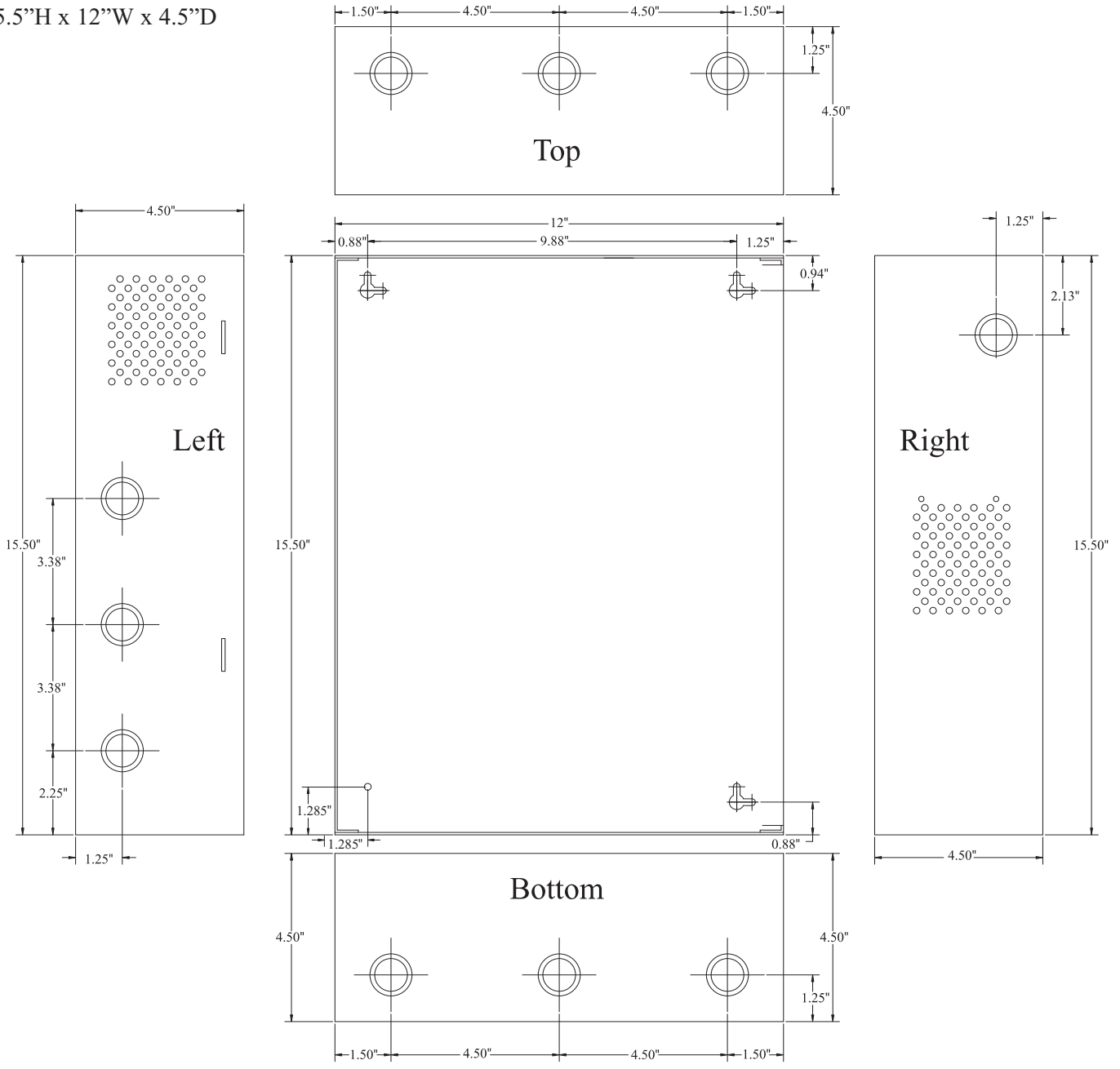
Enclosure Dimensions:

- AL400ULPD4
 - AL400ULPD4CB
 - AL400ULPD8
 - AL400ULPD8CB
- 13.5”H x 13”W x 3.25”D



Enclosure Dimensions:

- AL400ULXPD16
 - AL400ULXPD16CB
- 15.5”H x 12”W x 4.5”D



Altronix is not responsible for any typographical errors.

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