Altronix®

AL600X220 Series
Power Supply/Chargers

Installation Guide

Models Include:

AL600X220
- *Single Output*

AL600PD4220
- *Four (4) Fused Outputs*

AL600PD8220
- *Eight (8) Fused Outputs*

AL600XPD16220
- *Sixteen (16) Fused Outputs*

AL600PD4CB220
- *Four (4) PTC Outputs*

AL600PD8CB220
- *Eight (8) PTC Outputs*

AL600XPD16CB220
- *Sixteen (16) PTC Outputs*

For a red enclosure, add an "R" suffix to the part # e.g. AL600XPD8R220

CE

Rev. 111612

Overview:

The AL600X220 is a power supply that converts a nominal 220VAC (working range 198VAC-256VAC), 50/60Hz input to a 12VDC or 24VDC regulating output *(see specifications below)*. The AL600X220 is the base power supply unit for the multi-output power supply/charger series: AL600PD4220, AL600PD4CB220, AL600PD8220, AL600PD8CB220, AL600XPD16220, AL600XPD16CB220 *(Refer to AL600X220 Series Power Supply Configuration Reference Chart below)*.

AL600X220 Series Power Supply Configuration Reference Chart:

Altronix Model Number	Accessory Power Distribution Module(s)	Number of Output(s)	Fused Outputs	PTC Outputs	Output Rating (amp) per Output
AL600X220	—	1	—	—	6
AL600PD4220	PD4	4	x	—	3.5
AL600PD4CB220	PD4CB	4	—	x	2.5
AL600PD8220	PD8	8	x	—	3.5
AL600PD8CB220	PD8CB	8	—	x	2.5
AL600XPD16220	Two (2) PD8	16	x	—	3.5
AL600XPD16CB220	Two (2) PD8CB	16	—	x	2.5

Do not exceed total output rating of 6 amp per unit.
AL600X220, AL600PD4220, AL600PD4CB220, AL600PD8220 and AL600PD8CB220 are available in larger enclosure. Add X to model, e.g. AL600XX220 or AL600XPD4220.

Specifications:

Input:

- Input 220VAC (working range 198VAC - 256VAC), 50/60Hz, 1.2 amp.

Output:

- 12VDC or 24VDC selectable output(s).
- 6 amp continuous supply current at 12VDC or 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.
- Automatic switch over to stand-by battery when AC fails.
- Maximum charge current 0.7 amp.

Battery Backup *(cont'd)*:

- Zero voltage drop when switched over to battery backup.

Supervision:

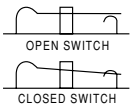
- AC fail supervision (form "C" contacts).
- Low battery supervision (form "C" contacts).
- Battery presence supervision (form "C" contacts).

Additional Features:

- AC input, DC output and BAT trouble LED indicators.
- Power supply, enclosure, cam lock and battery leads.
- All models are available in a red enclosure (add an "R" suffix to the part # e.g. AL600PD8220R).

Power Supply Output Specifications:

Output	**Switch Position**
12VDC	SW1 - CLOSED *(Fig. 1b, pg. 3)*
24VDC	SW1 - OPEN *(Fig. 1b, pg. 3)*



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 = 6.0 amp Alarm = 6.0 amp	Stand-by = 1.0 amp Alarm = 6.0 amp	Stand-by = 300mA Alarm = 6.0 amp
24VDC / 12AH Battery	—	Stand-by = 200mA Alarm = 6.0 amp	—
24VDC / 40AH Battery	Stand-by = 6.0 amp Alarm = 6.0 amp	Stand-by = 1.0 amp Alarm = 6.0 amp	Stand-by = 300mA Alarm = 6.0 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 5A, 250V. Do not expose to rain or moisture.

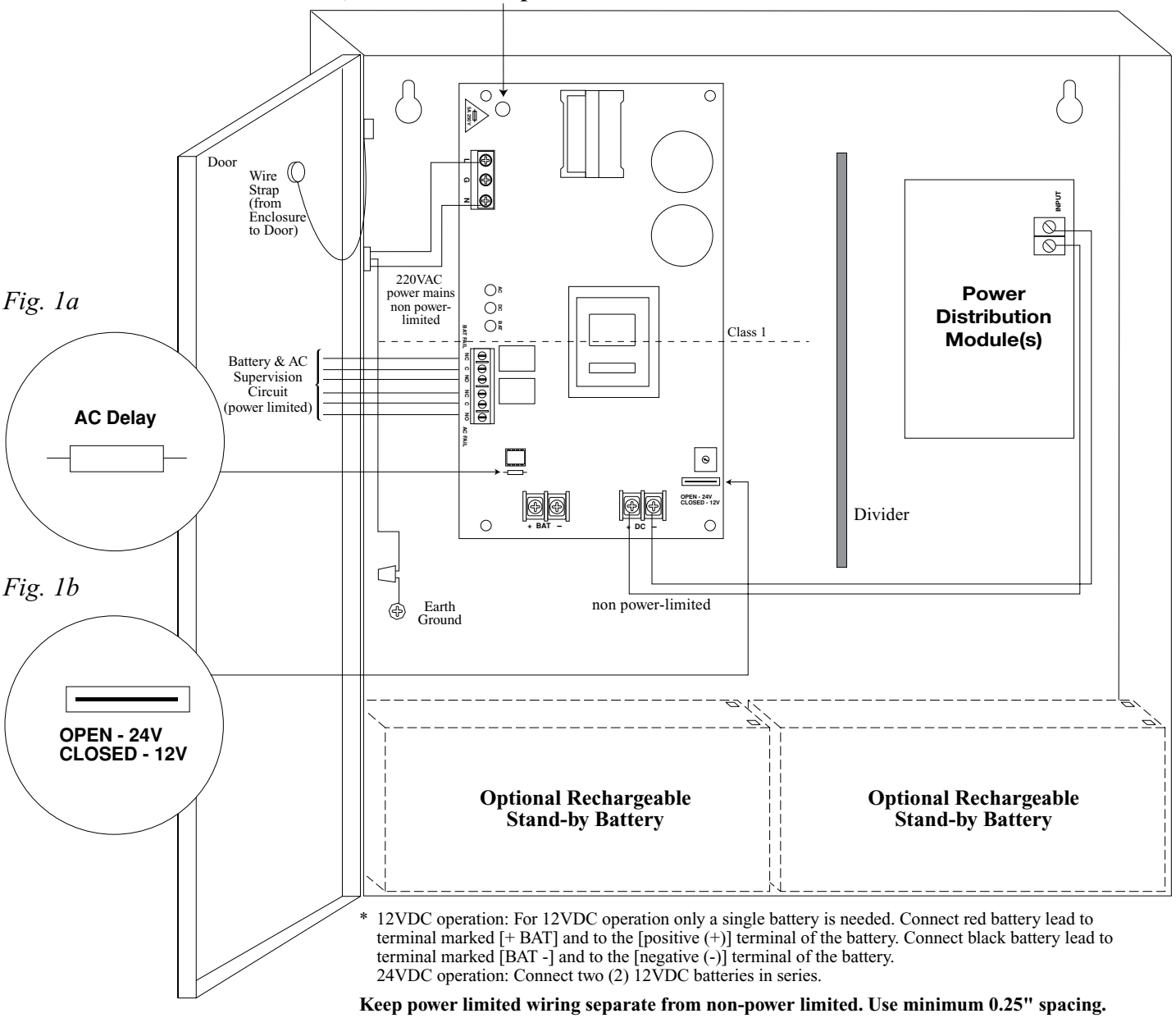


Fig. 1a

Fig. 1b

* 12VDC operation: For 12VDC operation only a single battery is needed. Connect red battery lead to terminal marked [+ BAT] and to the [positive (+)] terminal of the battery. Connect black battery lead to terminal marked [BAT -] and to the [negative (-)] terminal of the battery.
24VDC operation: Connect two (2) 12VDC batteries in series.

Keep power limited wiring separate from non-power limited. Use minimum 0.25" 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 the unit in a 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. 6-7)*.
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 (220VAC, 50/60 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 (220VAC, 50/60Hz Input, DC Output, Battery Wires). Minimum 0.25" spacing must be provided.
   CAUTION: Do not touch exposed metal parts. Shut branch circuit power before installing or servicing equipment. There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.
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. 2).*
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 device(s) to be powered:
   a. For AL600X(R)220 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 through 4P & 4N] (*Fig. 2a & 2b, pg. 5*) or 1 to 8 marked [1P & 1N through 8P & 8N] *(Fig. 3a & 3b, pg. 5*), carefully observing 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 terminals marked [AC FAIL & BAT FAIL] *(Fig. 1, 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. To delay report for 6 hours, cut "AC Delay" jumper *(Fig. 1a, pg. 3)*.
8. Please ensure 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 (220VAC, 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 (*refer to Power Supply Voltage 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 ensure that there is no break in the battery connection wires.
Note: Maximum charging current under discharge is 0.7 amp.
Note: Expected battery life is 5 years, however, it is recommended changing batteries in 4 years or less if needed.

LED Diagnostics:

Power Supply Board

Red (DC)	Green (AC)	Red (BAT)	Status
ON	ON	ON	Normal operating condition.
ON	OFF	ON	Loss of AC, Stand-by battery supplying power.
OFF	ON	OFF	No DC output, Battery Trouble
OFF	OFF	OFF	Loss of AC. Discharged or no stand-by battery. No DC output.
ON	ON	OFF	Battery missing / Low

PD4/PD4CB/PD8/PD8CB - Power Distribution Module

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

Terminal Identification:

Power Supply Board

Terminal Legend	Function/Description
L, G, N	Connect 220VAC 50/60Hz to these terminals: L to hot, N to neutral, G to ground.
+ DC –	12VDC / 24VDC @ 6 amp continuous non power-limited output.
AC Fail NC, C, 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. AC or brownout fail is reported within 1 minute of event. To delay reporting of up to 6 hrs., cut “AC delay” jumper and reset power to unit.
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. A removed battery is reported within 5 minutes. Battery reconnection is reported within 1 minute. Low battery threshold: 12VDC output threshold set @ approximately 10.5VDC, 24VDC output threshold set @ approximately 21VDC.
+ BAT –	Stand-by battery connections. Maximum charge current 0.7 amp.

PD4/PD4CB/PD8/PD8CB - Power Distribution Module

Terminal Legend		Function/Description
PD4/PD4CB	PD8/PD8CB	
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 - PD4

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

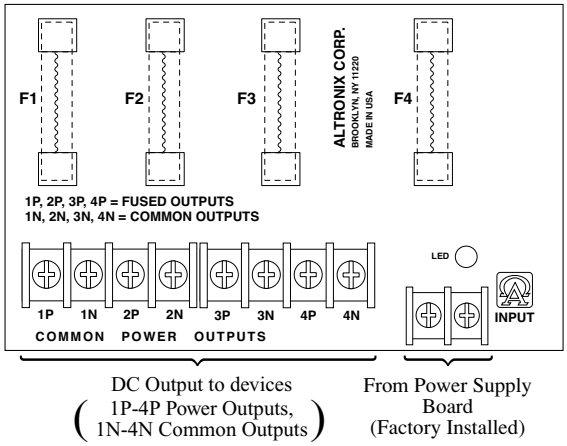


Fig. 2b - PD4CB

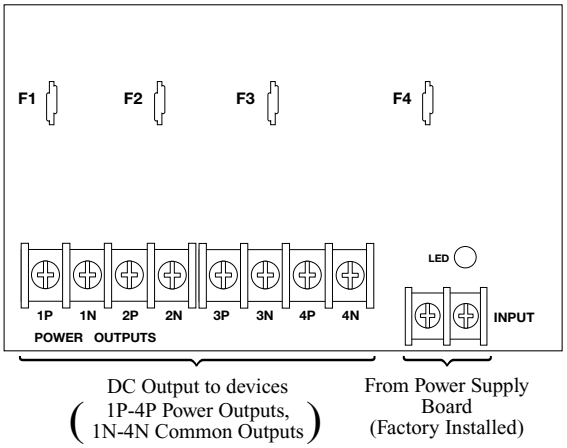


Fig. 3a - PD8

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

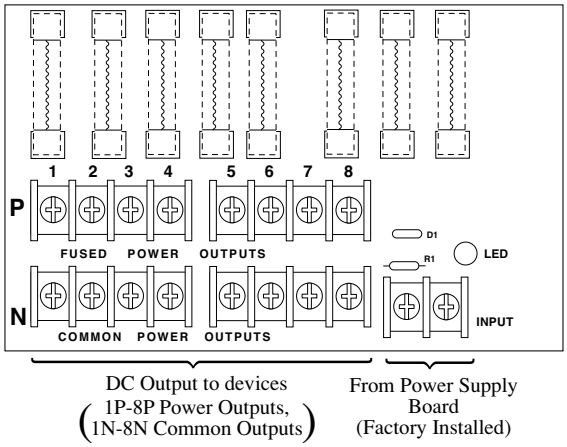
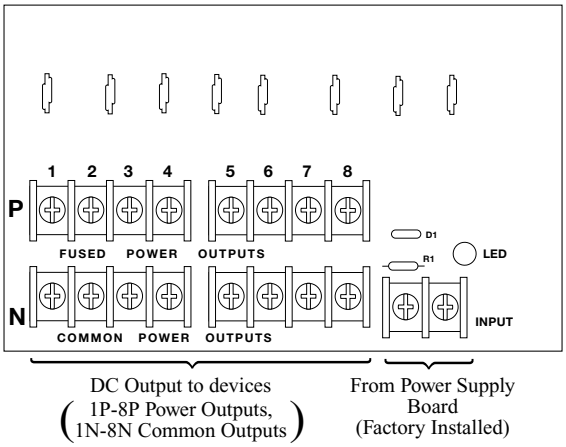


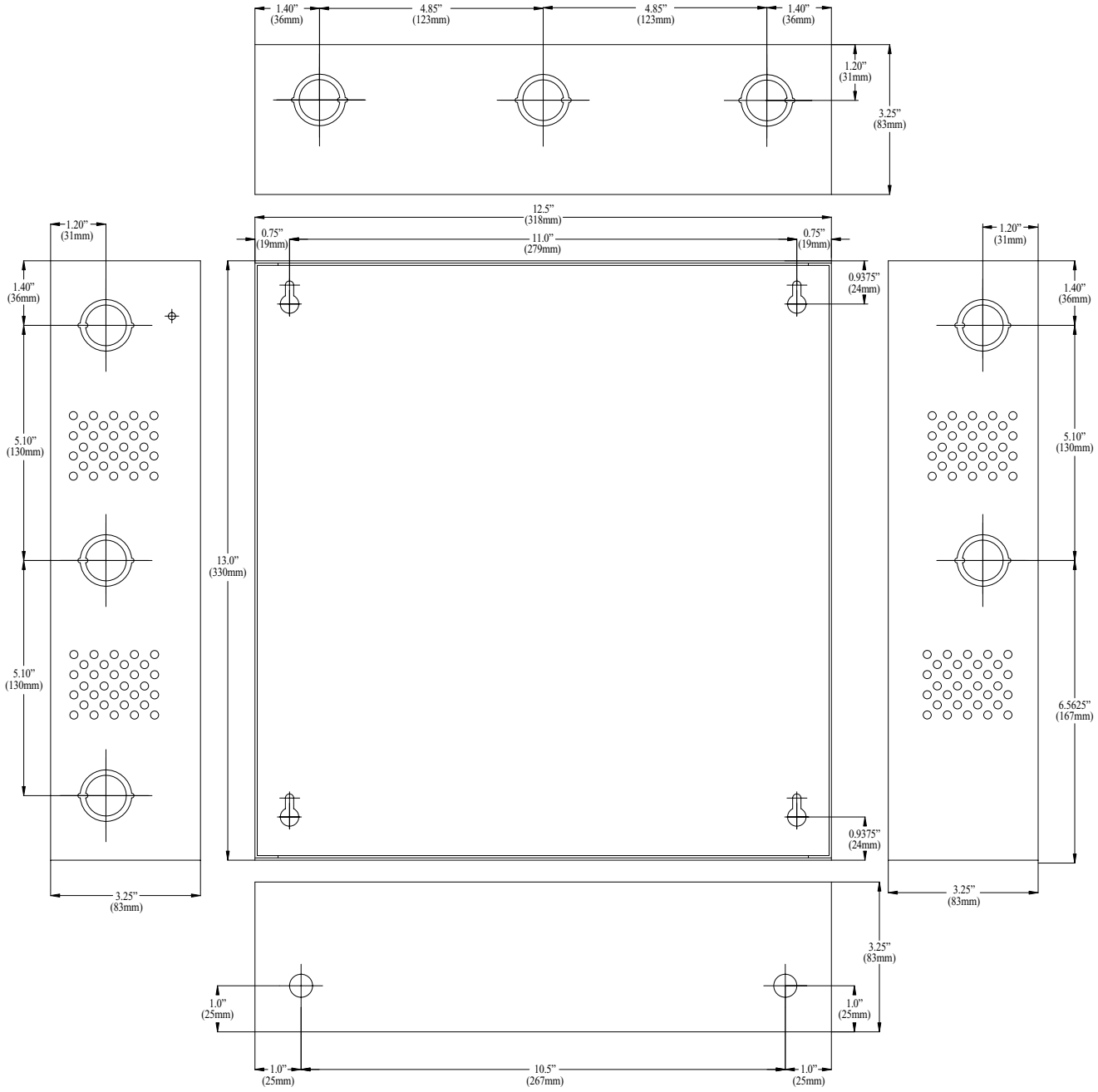
Fig. 3b - PD8CB



Enclosure Dimensions:

AL600X220, AL600PD4220, AL600PD4CB220, AL600PD8220 and AL600PD8CB220

13.5” x 13” x 3.25” (342.9mm x 330.2mm x 82.55mm)



Enclosure Dimensions:

AL600XX220, AL600XPD4220, AL600XPD4CB220, AL600XPD8220, AL600XPD8CB220, AL600XPD16220 and AL600XPD16CB220

15.5” x 12” x 4.5” (393.7mm x 304.8mm x 114.3mm)