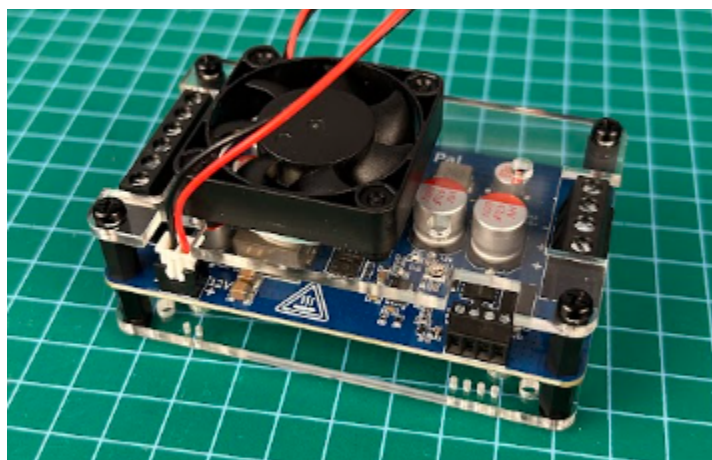


Power Pal Enclosure Kit - DIY

Laser cut acrylic or 3D printed enclosure for the [PN Labs Power Pal](#) buck converter. Top and bottom plates in a sandwich design with M3 standoffs and a 40 mm cooling fan over the power stage. STEP and DXF files are free to download, so you can cut or 3D print the plates and build your own.



Bill of Materials

#	Item	Qty	Spec / Notes
1	Top plate	1	0.118 in (3.0 mm) clear cast acrylic, laser cut from the provided DXF. Or 3D print the parts in PETG using the included step files.
2	Bottom plate	1	
3	Cooling fan	1	40 x 40 x 10 mm (4010), 12 V DC, 2 wire. Details below. LINK
4	M3 x 12 mm standoffs (top)	4	Male to female hex standoffs between the PCB and top plate. Nylon or Metal.
5	M3 standoffs (bottom / feet)	4	Same style. 12 mm works; shorter is also fine since less clearance is needed under the board. Nylon or Metal.
6	M3 x 6 mm screws	8	Button or pan head. 4 per plate, threading into the standoffs. Nylon or Metal.
7	M3 x 15mm cap head screws + nuts + washers	4	Fan mounting hardware. Pass through the fan body and top plate; nyloc nuts are recommended + washers to prevent cracking the acrylic.

Fan Details and Pinout

Spec: 40 x 40 x 10 mm, 12 V DC, 2 wire (no tach). Red = +12 V, Black = GND. Any generic 12V 4010 fan with a JST XH 2.54mm connector works; ball bearing or hydraulic bearing models run quieter.

Connection: Plug the 2 pin connector into the black JST fan header on the board, labeled 12V with the + mark next to the positive pin. Match the red wire to +.

Assembly

1. Capture the PCB between the top and bottom standoffs at the four mounting holes.
2. Bolt the fan to the top plate with the M3 x 25 mm screws and nuts, airflow aimed down at the board (fan label side typically faces the airflow direction).
3. Fasten the top plate to the top standoffs with 4 screws.
4. Fasten the bottom plate with the remaining 4 screws.
5. Plug the fan into the 12 V header ensuring the connector pinout matches polarity silkscreen on the board.

Not included with Power Pal.