



Ender 3 Pro low-profile rear mount for Meanwell PSU



jk_printer

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Summary

Rear power supply mount for the Meanwell PSU on an Ender 3 Pro.

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Updates

- 03/2022: Changed two screw holes on the switch side part to slotted holes (v2.1). This allows you to tune the fit and tension during assembly.
- 04/2021: Added a "MIRRORED" version, which allows you to flip the PSU around and have the switch point to the left side of the printer (when viewed from the front). I have not tested this variant myself, but there are makes which show it working just as well as the regular version.
- 03/2021: Overall redesign (v2). Increased wall thickness from 1.2 (3 layers) to 2.15 mm (5 layers), added vents to switch-side part (optional), tweaked some measurements and improved printability and rigidity.

- 09/2020: Added a grounding wire to the PSU. This is recommended, since the printer frame loses any contact to ground when using this mod.
- 06/2020: The original profile caps didn't stick anymore, so I designed tightly fitting **replacement caps**. They work perfectly with this PSU mount mod.

Description

Rear power supply mount for the Meanwell PSU on an Ender 3 Pro. The mount does not require any additional parts, when using the one-sided "back side 1 screw" bracket. It slots in to the profiles and is fixed using the stock Creality profile end caps. Optionally, the two-sided "back side 2 screws" bracket can be used for a more rigid installation.

The main "switch side" part is available with or without top vent holes. On the vented part, there is an integrated touch guard below the vent, which prevents you from - you know - accidentally touching the PSU terminals or PCB with something like a screwdriver.

When installing the mod, it can be helpful to rotate the Y-stepper by 90° so the stepper connector points to the front of the printer and the cable isn't squished between the stepper and the PSU.

Advantages:

- No additional parts required
(but grounding wire recommended)
- Makes space for dual Z-axis setup
- Low-profile, no restrictions to any axis movement
- Does not require additional space
(sticks out no further than the stock heated bed cable strain relief)
- More rigid than the stock PSU cover

Common sense hint: A printer with this mod should not be put on high pile carpet or very dusty surfaces - your PSU won't like that. Also, airflow to the PSU may be improved if you use taller feet on your Ender.

Print Settings

- Layer height 0.24 mm
- Line width 0.42 mm (up to 0.43 should work, but not tested)
- 4 wall lines
- 5 top/bottom layers
- Infill 20%-25%
- Set "Fills gaps between walls" to "Nowhere"

- Reduce outer wall flow to around 95% and overall flow to 95-98% for good dimensional accuracy
- Enable supports and support interfaces
- Set support angle to 61° or higher (to avoid supports in the vent holes)
- Add support-blockers to all screw holes and the oval hole for the XT60 connector
- Set support density to 15-20%
- I recommend the "Zig Zag" support pattern
- Place your Z-seam manually on a hidden corner of the parts for better surface finish

Notes:

Print the "switch side" standing upright and the "back side" laying flat.
Wall thickness is 2.15 mm on all sides.

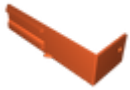
Model files

	Regular	4 files
	psu_rear_mount_back_side_1-screw_v2.stl	
	psu_rear_mount_back_side_2-screws_v2.stl	
	psu_rear_mount_switch_side_v21_vents.stl	
	psu_rear_mount_switch_side_v21.stl	



Mirrored

4 files



psu_rear_mount_back_side_1-screw_v2_mirrored.stl



psu_rear_mount_back_side_2-screws_v2_mirrored.stl



psu_rear_mount_switch_side_v21_vents_mirrored.stl



psu_rear_mount_switch_side_v21_mirrored.stl

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