



Flexo Meshtastic powered node case for Rak WisBlock, HeltecV3, Heltec T114 and RaspberryPi Pico



zerofox3D

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Summary

The most flexible Meshtastic powered home node. Supports multiple boards, multiple batteries, GPS and a Wall/GoPro mount

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[rak4631](#) [rak19007](#) [rak19003](#)

Bender's bigger, badder brother is here! Meet Flexo, the most flexible Meshtastic powered node "case kit" available... and its FREE to print!

Check out the intro video [HERE](#) and the teardown video [HERE](#).

Flexo is the evolution of my original case called Bender. Bender was designed to be a home/desk/windowsill node and was universally loved. There are over 3000 Bender's in all corners of the world, something I'm extremely proud of and grateful for!

Flexo uses a custom designed PCB power switch. I sell this as part of a hardware kit on my website here for a small cost: <https://zerofox3d.com/flexohardware>

Print Flexo and if you like it grab a hardware kit!

Flexo Features

Flexo removes some of Benders limitations making it super flexible:

- Supports several device boards from Rak, Heltec and Raspberry Pi with more coming soon
- Allows a GPS module to be installed
- Supports a protected LIPO battery cell or 18650 with more battery support coming
- Uses a high quality C&K power switch on a custom PCB available at zerfox3d.com
- Includes a mounting system with wall mount and GoPro compatible mount
- Produces 80% less printing waste versus Bender (yay environment!)
- Exposes all GPIO pins for tinkering!

Supported Device Boards

The device boards supported at launch are:

- Rak Wisblock 19007 and 19003 (inc GPS module RAK12500 ZOE-M8Q)
- HeltecV3 (space available for GPS module!)
- Heltec T114 with screen (inc Heltec GPS module)
- Raspberry Pi Pico with WaveShare LORA hat

More boards will be added soon including the Heltec T114 without screen, Heltec T190, Heltec Wireless Stick and Heltec Wireless Tracker. The rough "rule of thumb" that determines if Flexo can support a board is if its height and width are 30mm x 70mm or less. If there's interest I will release a STEP file for the front plate where the board mounts.

Supported Batteries

Batteries supported at launch are:

- EEMB 103395 3700mAh Flat LIPO (available on Amazon worldwide)
- 18650 cells (using a battery holder available in the hardware kit)
- Makerfocus 3700mAh (unconfirmed but size appears to match EEMB above)
- MakerHawk 603450 3.7V 3800mAh (unconfirmed but size appears to match EEMB above)

The increased size of Flexo allows it to support larger antenna's without wobbling on a desk. The antenna's pictured are a mix of Taoglas LORA antenna's (see there [website here](#) with links to distributors worldwide)

Mounting

The Wall mount / Go Pro mount is "dual function", it is one mount that can be used both ways. You can use command strips or double sided adhesive to stick it to a wall or if you want a more secure connection there are two counter sunk screw holes (no screws provided, dig in a draw, you know you have some)

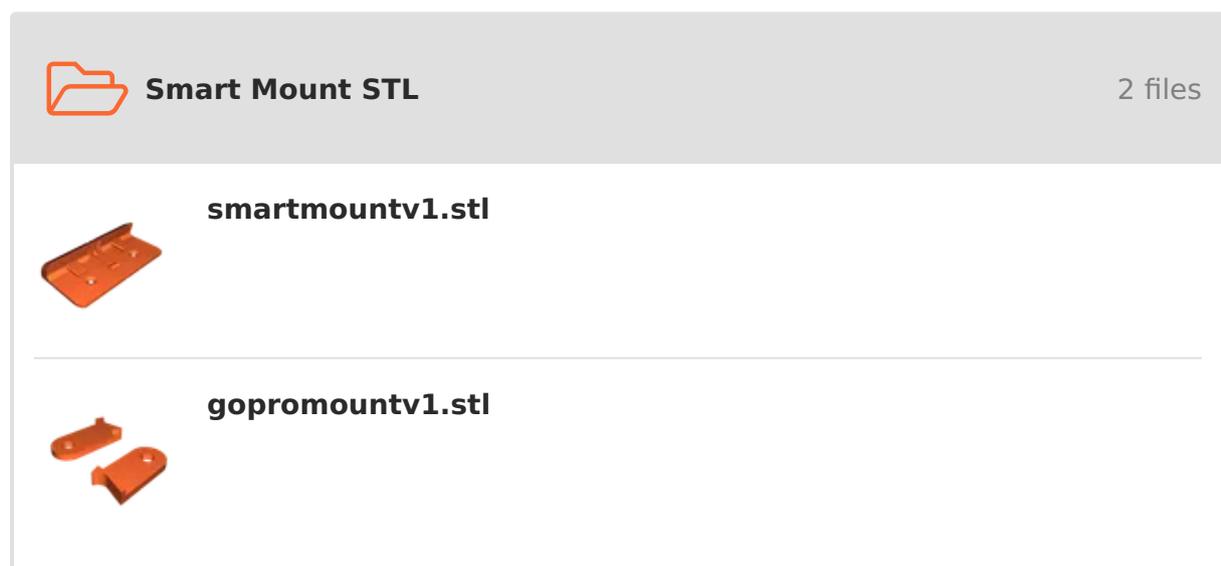
To use the mount as a GoPro mount you simply insert the two included GoPro tabs into the mount.

File Structure

There are folders organising the files for simplicity. There are both 3MF and STL versions, I recommend the 3MF as many files have custom support blockers/enforcers. The ReleaseNotes file includes printing instructions.

The "universal" folder contains files needed regardless of which board you are using, print them all except for the battery mounts, print which ever you are using. There are then folders for each board containing the appropriate "front" and depending on the board a bracket. Lastly there is a folder for the Smart Mount which doubles as a wall mount or GoPro mount.

Model files





Pico STL

1 file



picofrontv1.stl



Rak Wisblock STL

1 file



frontrakv1.stl



HeltecT114 STL

2 files



heltect114bracketv1.stl



heltect114frontv1.stl



HeltecV3 STL

2 files



heltecv3bracketv1.stl



heltecv3frontv1.stl



Universal Files STL

7 files



buttonv1.stl



supportbarv1.stl



18650mountv1.stl



smahextoolv2.stl



buttonsupportv1.stl



eemb3700mountv1.stl



bodyv2.stl



Smart Mount 3MF

2 files



gopromountv1.3mf



smartmountv1.3mf



Pico 3MF

1 file



picofrontv1.3mf



Rak Wisblock 3MF

1 file



rakfrontv1.3mf



HeltecT114 3MF

2 files



heltect114bracketv1.3mf



heltect114frontv1.3mf



HeltecV3 3MF

2 files



heltecv3frontv1.3mf



heletecv3bracketv1.3mf



Universal Files 3MF

7 files



eemb3700mountv1.3mf



smahextoolv2.3mf



buttonsupportv1.3mf



bodyv2.3mf



buttonv1.3mf



18650mountv1.3mf



supportbarv1.3mf

Other files

flexoreleasenotes.txt

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