



## RatRig V-Minion Smart Filament Sensor Top Cap



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### Summary

This remix enhances the RatRig V-Minion Z Axis Top Cap and incorporates a mount for the BTT Smart Filament Sensor SFS

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This RatRig V-Minion top cap makes the following improvements:

- Raises the Z Axis lead screw protection ring 4mm. The default top cap must be raised this distance for clearance reasons. This allows the top cap to rest flush with the 3060 extrusion.
- Z Axis lead screw protection ring now has a relief for the anti-backlash locking nut.
- Incorporated a very stiff arm for mounting a BTT SFS above the spool. This is based on the design by edbdii. The thicker arm allows you to use 2 x M3 heat set inserts, top and bottom, for attaching the SFS (if desired).
- Provided a new SFS backplate for the stiffened mounting bracket. My version attaches to the SFS with 4 screws, properly lines up with the SFS mounting screws, and has two tabs for securing it to the mounting arm.

- Added two holes on the back side of the arm for securing the SFS cable to the arm with 4"/100mm zip ties. This gives a super clean look.
- Changed the mounting arm from filleted corners to chamfered corners to match the RatRig visual style.

Print in PETG, ABS, or PC. I used 5-10 perimeters with a 23% infill and a .3 layer height. Files are prepositioned on the print bed and supports are not required. The backplate uses a sacrificial layer for the M3 holes. Push through the sacrificial layers with a screw prior to mounting.

Happy Printing!

## This remix is based on



**Big Tree Tech Filament Sensor 30 Series Profile Mount**  
by edbdii

## Model files



**vminion-topcap-sfs.stl**



**vminion-topcap-sfs-back.stl**

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