

## Installing Firmware on the Advantage360 with the ZMK Engine (KB360-PRO)\*

Version: 9/5/2024

### Background

Your Advantage360 Pro features the latest version of the *Kinesis* branch of ZMK firmware as of its build date at our factory. If your keyboard is working well for you out of the box then you may never need to update firmware at all.

Firmware files are managed and built through the 3<sup>rd</sup> party hosting site GitHub. You will need to create GitHub account, fork our repository, and “enable actions” in order to build your own personalized .uf2 firmware files. You will need to “Sync your Fork” to ensure you are always building off the latest official version of firmware. Keyboard firmware is updated by “flashing” those firmware files onto each module’s virtual drive when connected to a PC via a USB cable. More information on GitHub and the firmware customization process can be found at the links below.

### Important Links

- User Manual: [kinesis-ergo.com/support/kb360pro/#manuals](https://kinesis-ergo.com/support/kb360pro/#manuals)
- Our Official Repository: [github.com/KinesisCorporation/Adv360-Pro-ZMK](https://github.com/KinesisCorporation/Adv360-Pro-ZMK)
- GitHub ReadMe: [github.com/KinesisCorporation/Adv360-Pro-ZMK/blob/V3.0/README.md](https://github.com/KinesisCorporation/Adv360-Pro-ZMK/blob/V3.0/README.md)
- Change Log: [github.com/KinesisCorporation/Adv360-Pro-ZMK/blob/V3.0/CHANGELOG.md](https://github.com/KinesisCorporation/Adv360-Pro-ZMK/blob/V3.0/CHANGELOG.md)

### Why would I want to update my keyboard’s firmware?

- Kinesis will periodically release new versions of firmware to introduce new features, revise default settings, or fix bugs. So you may need/want to update your firmware to improve performance or connectivity.
- Unlike prior iterations of the Advantage keyboard, the 360 Pro layout is customized exclusively through a firmware update. So every time you want to adjust your layout, you need to build and flash a new set of firmware files to your keyboard.
- If you are having difficulties with your keyboard, a common troubleshooting step is to re-install your custom firmware or install a copy of factory default firmware.

### Where do I get firmware files?

Create your own files by forking our GitHub Repository and then “Committing Changes”

- Edit the syntax of your keymap file OR
- Use our web-based GUI: [kinesiscorporation.github.io/Adv360-Pro-GUI/](https://kinesiscorporation.github.io/Adv360-Pro-GUI/)

Download “generic” files from Kinesis like factory default firmware, Mac & PC Mode, and Dvorak quick config files, and Settings Reset here:

[kinesis-ergo.com/support/kb360pro/#firmware-updates](https://kinesis-ergo.com/support/kb360pro/#firmware-updates)

**\*Advantage360 SmartSet keyboards have a totally different firmware installation process**

Advantage360 SmartSet Firmware Resources: [kinesis.com/support/kb360/#firmware-updates](https://kinesis.com/support/kb360/#firmware-updates)

## Step-by-Step Firmware Flashing Instructions

1. Obtain the desired Advantage360 Pro firmware files (".uf2" format) from GitHub or Kinesis.  
*Note: Files obtained directly from Kinesis.com will typically need to be unzipped/extracted first to access the ".uf2" files.*
2. Connect the left module to your PC using the included USB cable. Then disconnect and power down the right module.
3. Use a paperclip to quickly DOUBLE-CLICK the Bootloader Button shown on the left module to open the virtual drive. The Indicator LEDs will flash white and then change to solid green. The "ADV360PRO" removable drive will appear on your PC in the "file explorer" application (or equivalent).
4. Copy and paste the left firmware file to the "ADV360PRO" drive. The keyboard will flash blue while installing the file and then disconnect the drive automatically.
5. Turn the left module battery on and disconnect it from the PC. Work quickly and do not allow the left module to fall asleep while you are updating the right side (you can tap the Fn key on the left module to reset the 30 second sleep timer).
6. Now connect the right module to your PC with the USB cable and repeat steps 3 and 4 with right module and the right firmware file.
7. Once the right side stops flashing blue, hold the Mod key down and confirm both Layer LEDs light up green to confirm the keyboard is working properly.



## Troubleshooting

1. If the keyboard is not working after an update, power-cycle both modules several times.
2. If it still doesn't work, try again flashing the appropriate Settings Reset for the *destination* branch to both modules and then start back at Step 2.

## Tips and Tricks

1. ALWAYS connect/power-on the LEFT module FIRST, and disconnect/power-down the LEFT module LAST. You NEVER want the RIGHT side to lose track of the LEFT and flash red.
2. The timing of the double-click on the Bootloader button can be tricky, so it may take a couple tries.
3. Do not open both virtual drives at once as it will be difficult to distinguish between them and you might install the wrong file on the wrong drive.
4. Keystrokes and bootloader commands are disabled while the virtual drives are open or after a Settings Reset has been performed.
5. Drives can only be updated over USB so you'll need one of the included USB-C cables. Attempting to open the drive without a USB connection will result in an error. Click the bootloader button once or simply connect the keyboard to your computer with the USB cable.
6. Firmware files always come in a matched set of left and right files. Both should be installed on their respective module consecutively. Do not install them on the wrong key module.
7. Do not unplug your keyboard mid-update while the LEDs are flashing blue
8. Many operating systems will report some type of file transfer error which can be safely ignored.
9. You can safely ignore "drive eject" warnings on macOS.
10. As of 11-16-23, firmware files generated on GitHub will have unique file names containing the build date and commit number. The command Mod + V can be used to print-to-screen a "hash" with your firmware build date, branch number, and commit number.