

Updating the Firmware

| | | | |
|-------------------------|-----|---------------------|-------------|
| Document Version | 1.0 | Release Date | 14 Feb 2023 |
|-------------------------|-----|---------------------|-------------|

| | |
|--------------------------------|---|
| Application information | for Bootloader versions 00000000000000 or BT.PT40.008.07 or BT.PT40.008.08 |
| Vehicle | Not Applicable |
| Model | Not Applicable |
| Year of manufacture | Not Applicable |

Note:

- Read through all instructions before installation and use.
- Ensure that the bike is switched off and the key is out of the ignition before proceeding with the installation.
- When the installation is complete, ensure to secure the wiring loom away from the movable parts or components that tend to heat up during the normal operation of the vehicle at any chance.
- FuelX is intended for motorsport use on a closed course, please check with your local laws before using this product. Race Dynamics is not liable for consequences arising out of using the product.
- The steps demonstrated in the manual are for one cylinder. For multi-cylinder vehicles, the steps have to be replicated for the other cylinders. Customers can choose Lambda 1 or Lambda 2 connectors for any cylinder unless the connectors are different for different cylinders. (for certain vehicles)

Support:

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Website : www.powertronicECU.com

REQUIREMENTS:

- 1) Windows PC with Genuine Windows Operating System (10/11) and have R-Tune V4 software installed. (Refer R-Tune V4 installation document)
- 2) Uninterrupted power supply.
- 3) USB Cable (A to B) provided within the kit.

WARNING:

- 1) Disconnect the ECU from the vehicle and 24-pin main connector before updating the firmware.
- 2) The update process after selecting the firmware file is automated. If the ECU is updatable/compatible with the new firmware version file, it will automatically start the process. If the ECU is not compatible with the new firmware version file, it will ask you to check for the correct updated version. At this point, you can cancel the process.
- 3) DO NOT touch/move the ECU once the update process is started.
- 4) DO NOT click/turn off the computer once the update process is started.
- 5) DO NOT remove the USB cable once the update process is started.
- 6) **In case the process is not successfully completed or got stuck at any stage of the update process, please contact the support team, before trying multiple times.**
- 7) **Make sure you follow step by step as mentioned in this document. The firmware update procedures are different for different Bootloader versions.**
- 8) **If your bootloader version is BT.PT40.008.10 and Above then then refer to the respective firmware update document.**

1) Connect the R-Tune V4 software to the ECU. Refer to the R-Tune V4 installation and connecting to the ECU document.

2) Once connected, go to the **Device information** Tab in the software.

The screenshot shows the PowerTRONIC software interface. At the top right, a yellow banner reads "Device configured successfully" with subtext "Wait.. configuring device" and "Device connected.". Below this is a settings menu on the left and a data table on the right. The "Device Information" option in the menu is highlighted with a red box and a red arrow pointing to it.

| Map-1 : Fuel | Map-1 : Fuel % adjust (Rpm v Load%) | | | | | | | | | | |
|-----------------------|-------------------------------------|------|------|------|------|------|------|------|------|---|--|
| Map-1 : Spark | 500 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 8 | |
| Map-2 : Fuel | 100 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | | |
| Map-2 : Spark | 93 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | | |
| Quickshifter Settings | 86 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | | |
| Control Settings | | | | | | | | | | | |
| Factory Settings | 80 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | | |
| Index Maps | 73 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | | |
| Dials | 66 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | | |
| Realtime Graphs | | | | | | | | | | | |
| Device Information | 60 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 6 | | |
| | 53 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 6 | | |
| | 46 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 6 | | |

3) Observe the Bootloader Version and the Firmware version. (Make sure the Firmware version on the website is newer than the one in the ECU.)

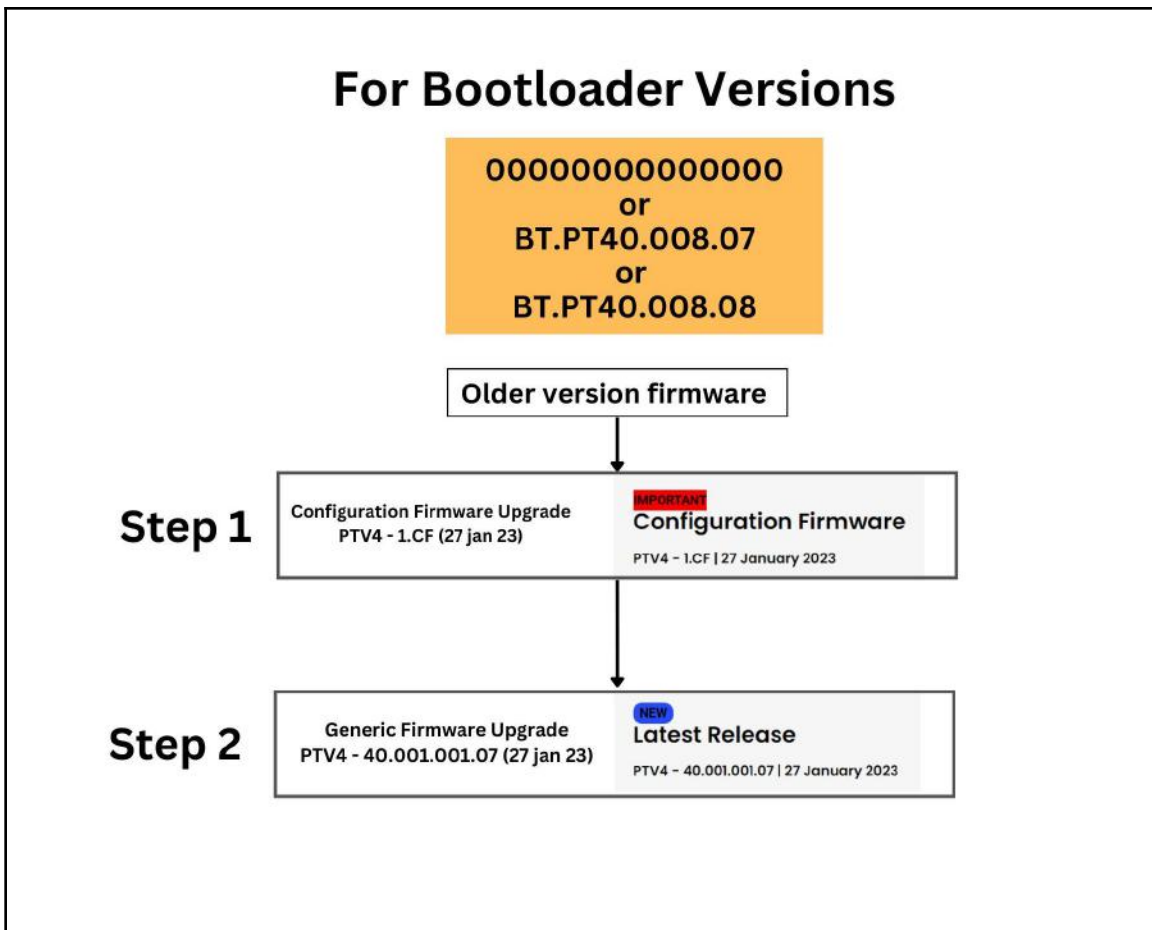
The screenshot shows the "Device Information" screen with the following details:

- Device Name:** PowerTRONIC
- Description:** Fuel & Ignition controller
- Firmware:** FW.PT40.001.001.01 <16_Jan_2023>
- Hardware:** HW.PT40.B.034.T.015
- Serial:** *****
- Configuration Version:** CF.PT40.000.03
- Total Calibration memory used:** 65
- Bootloader Version:** 00000000000000
- General Info:** Total Calibration memory used

**Firmware Update procedure for Bootloader versions
00000000000000 or BT.PT40.008.07 or BT.PT40.008.08**

4) For Bootloader versions **00000000000000** or **BT.PT40.008.07** or **BT.PT40.008.08** user has to do the configuration firmware update first before updating the regular/generic firmware update.

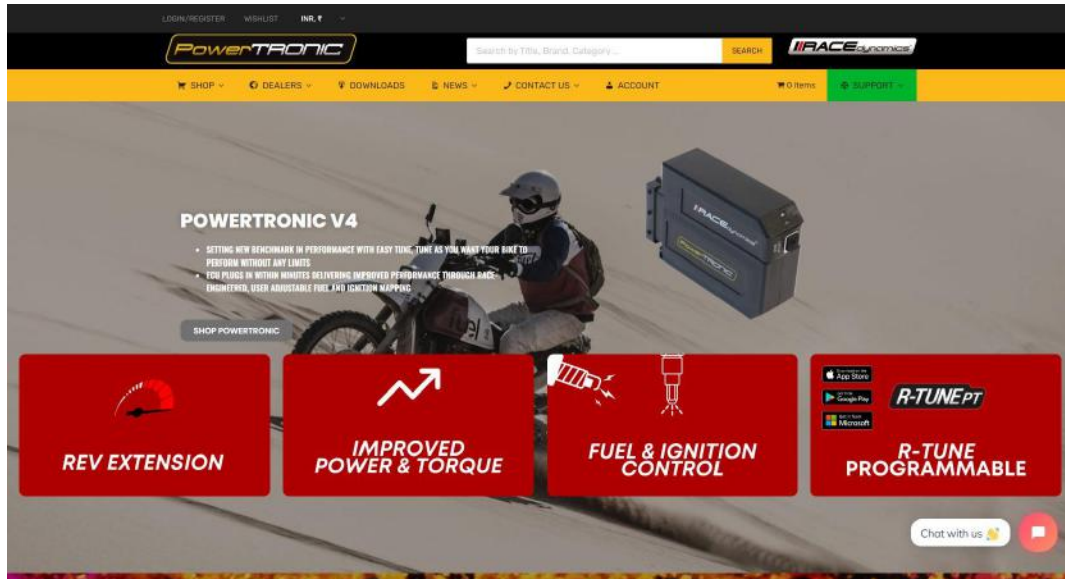
| | |
|---------------------------|----------------|
| Bootloader Version | 00000000000000 |
| Bootloader Version | BL.PT40.008.07 |
| Bootloader Version | BL.PT40.008.08 |



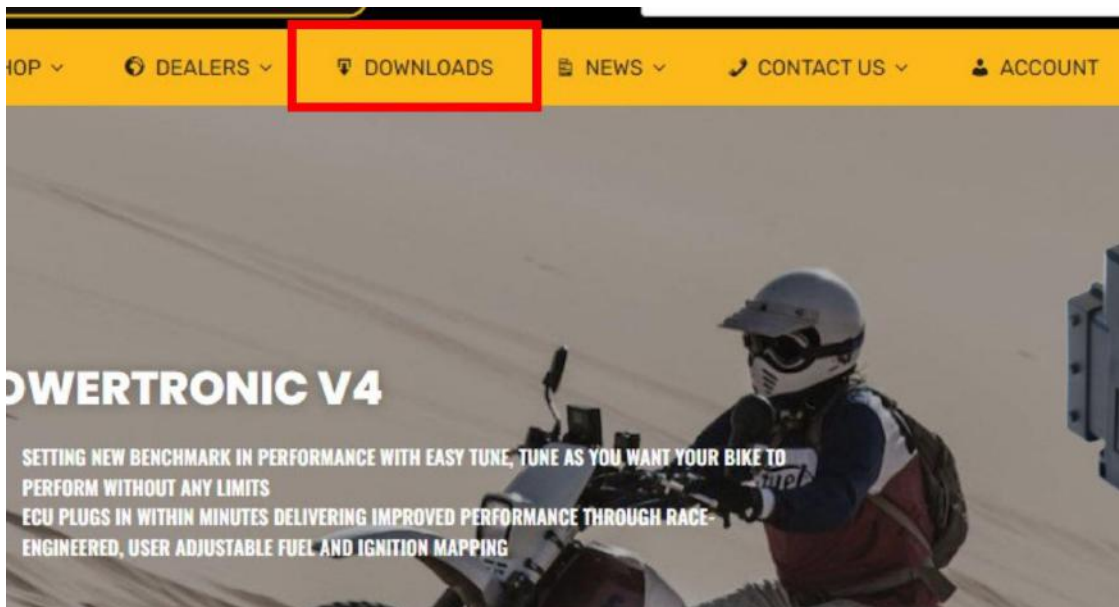
5) To Download the Configuration firmware file, Click on the Download button below:

[Download](#)

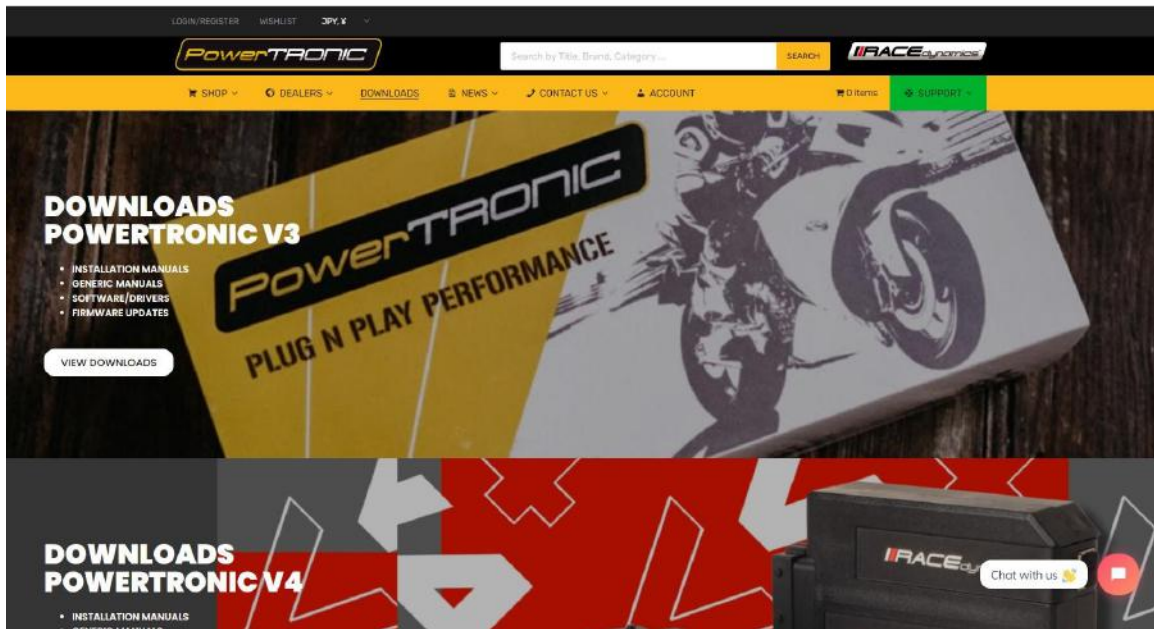
6) To Download the Regular firmware file, go to <https://powertronicecu.com/>



7) Click on [Downloads](#)



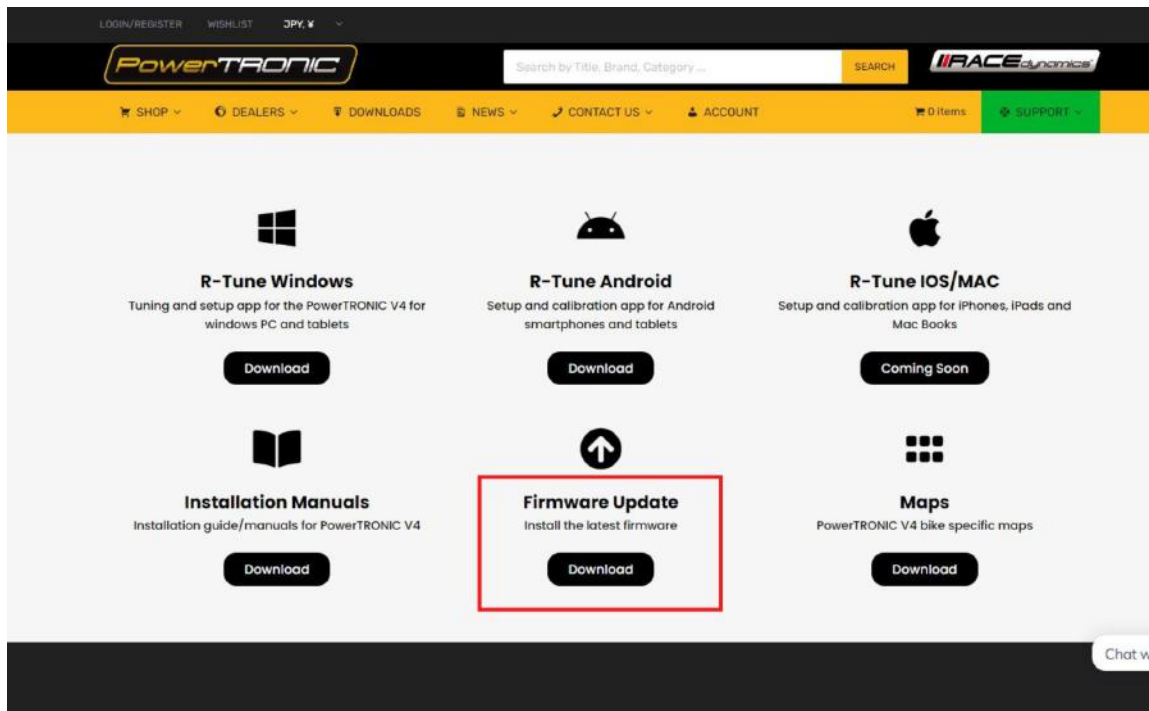
8) You will be directed to the [Downloads](#) section. Scroll Down and go to the PowerTRONIC V4 Downloads section



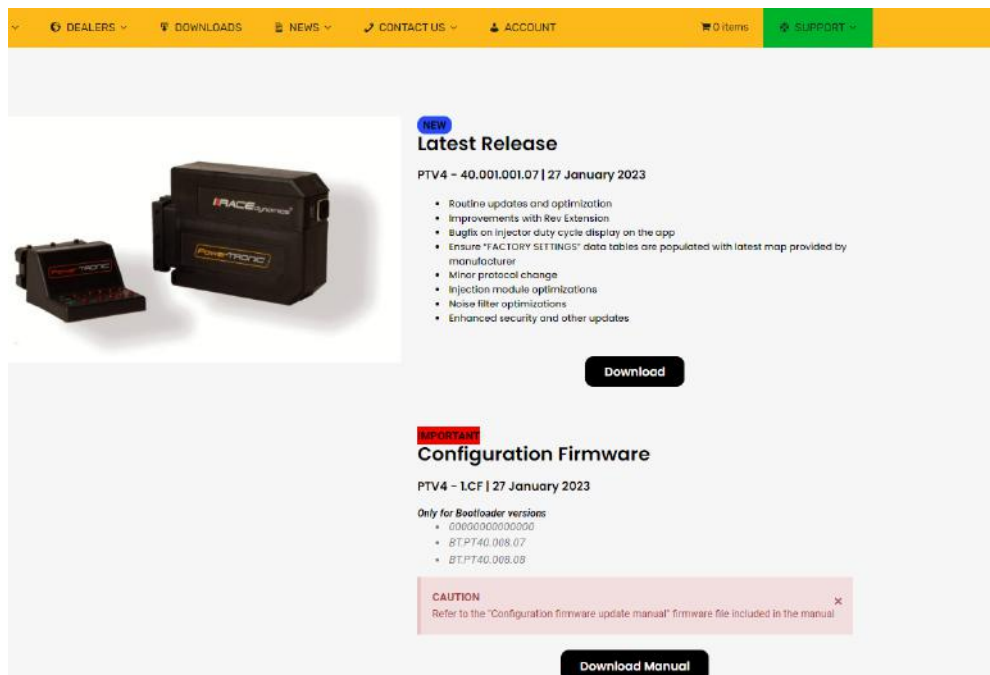
9) Click on the [View Downloads](#) section.



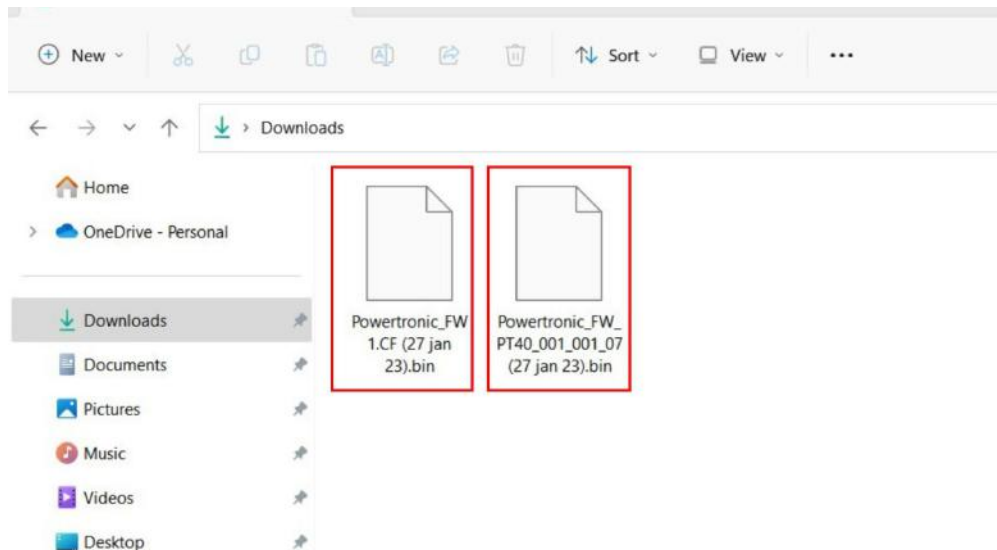
10) From the Menu, Click on the Download button below the Firmware update menu.



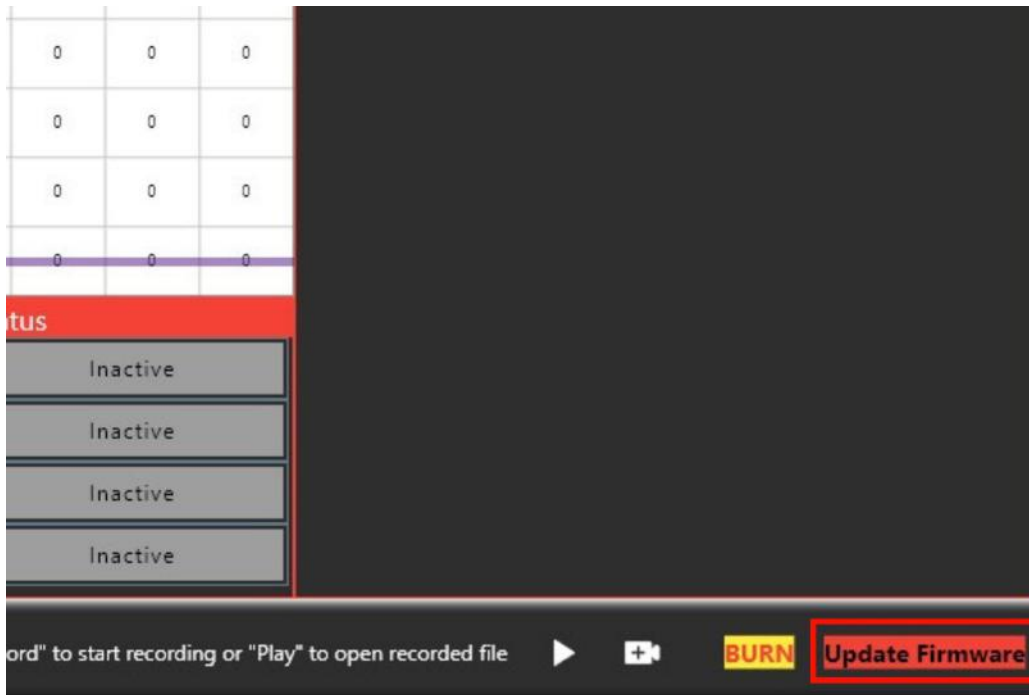
11) It will redirect to the Firmware file section. **Download Generic/Regular Firmware file named as: Powertronic_FW_PT40_001_001_07 (27 jan 23).bin**



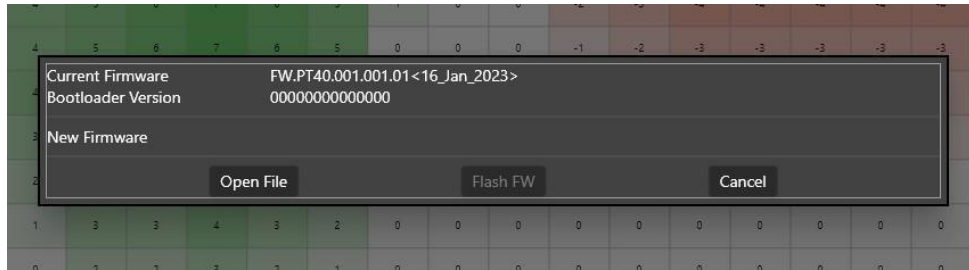
12) The files will be Downloaded to the Downloads section of your computer or to the directory you have chosen previously. **Proceed to the firmware update, with configuration firmware first and with regular firmare next. Refer to the following steps below.**



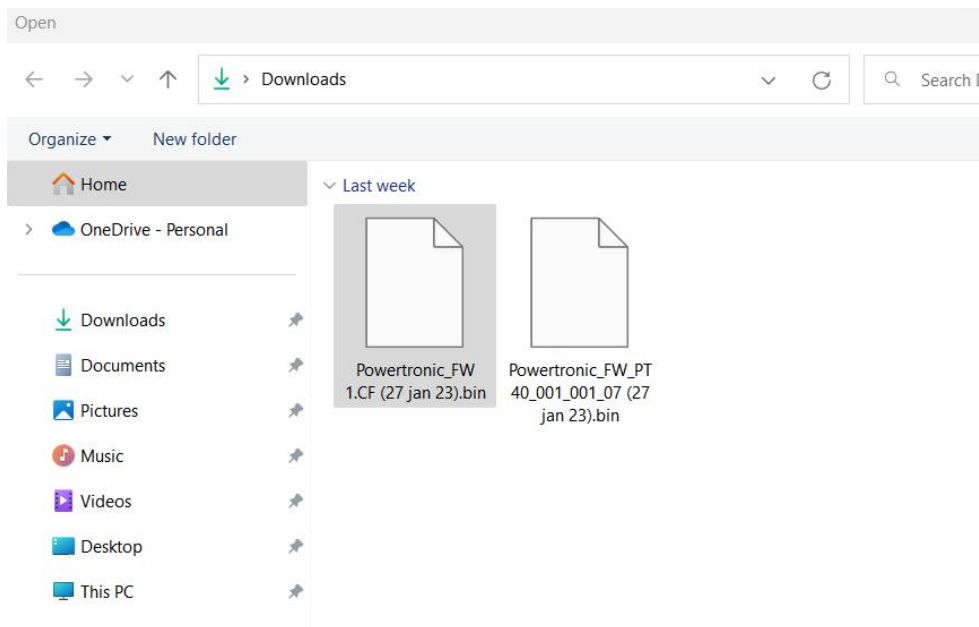
13) Now, open the R-Tune software and click on the **Update Firmware** button



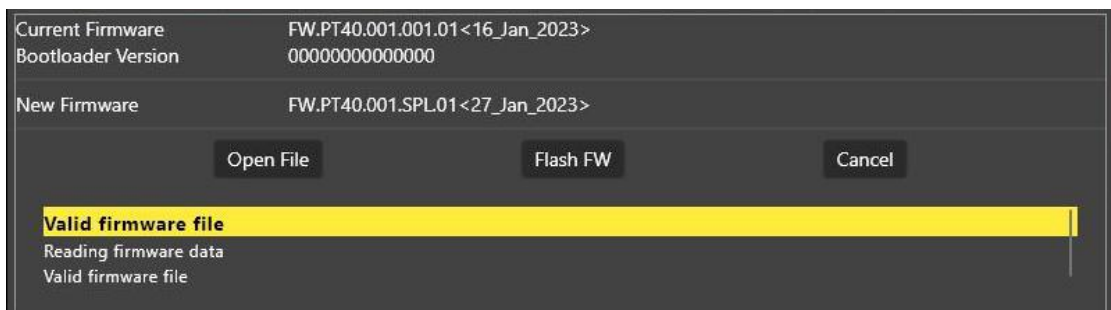
14) It will open a dialogue box for the firmware update. Click on the **Open file** button.



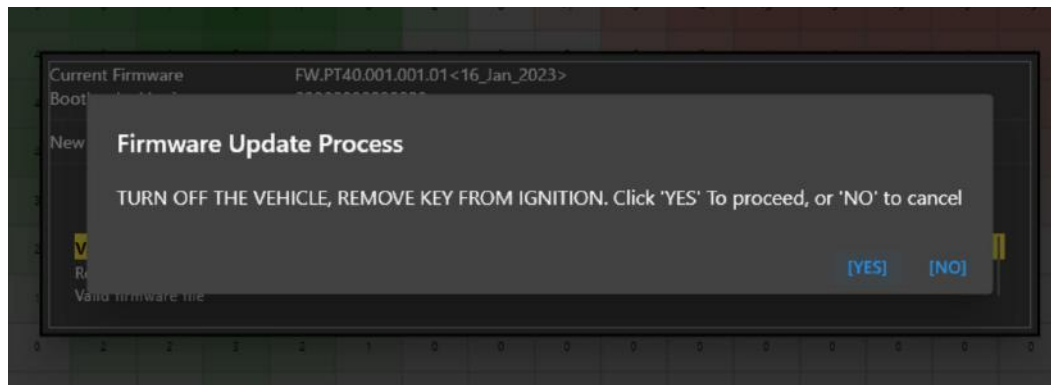
15) It will redirect to you the file folder. Go to the Downloads section and select the **Configuration Firmware - Powertronic_FW 1.CF (27 jan 23).bin** file. Click on Open



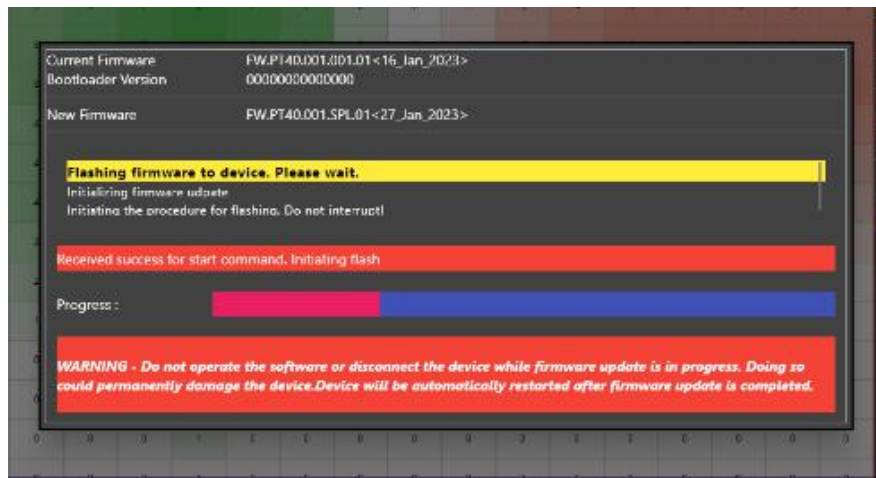
16) Once the Configuration firmware is selected, Click on **Flash FW** Button.



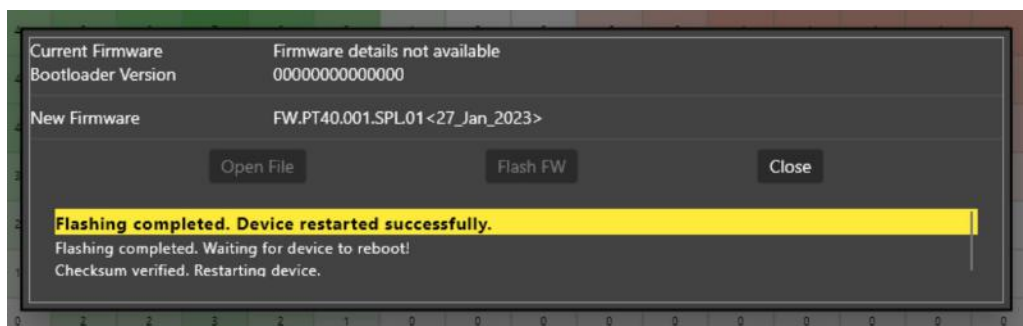
17) Once the Flash FW button is clicked, a pop-up will ask you to Turn off the vehicle and remove the key from the ignition. Make sure to turn off the vehicle, and disconnect the ECU from the vehicle once it is disconnected, Click on **YES** to proceed.



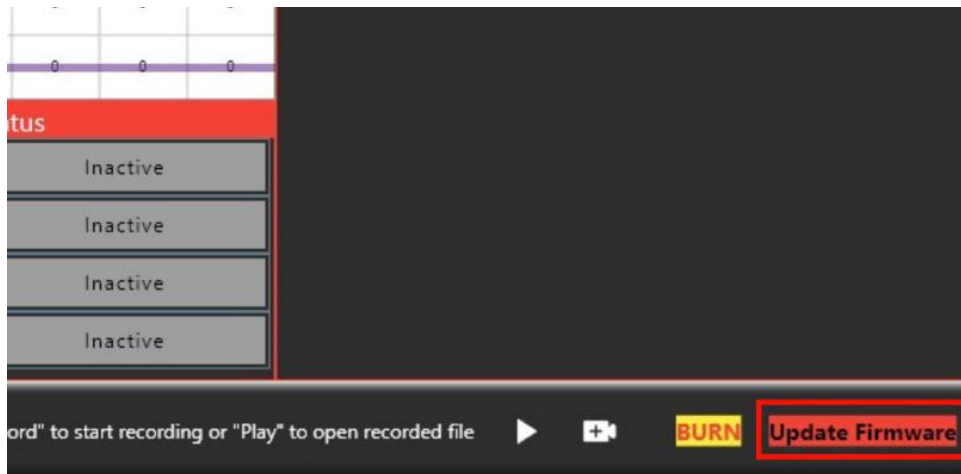
18) The Firmware update process will start now. You can see a progress bar for the percentage of processes completed.



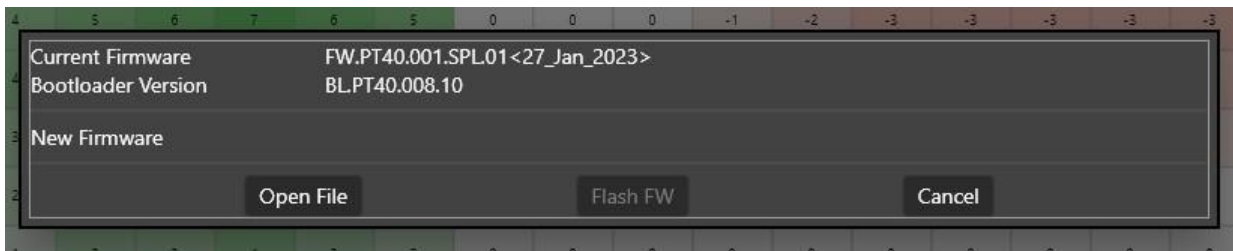
19) Once the process is completed, it will notify you that the flashing is completed. Click on . The R-Tune will be restarted now.



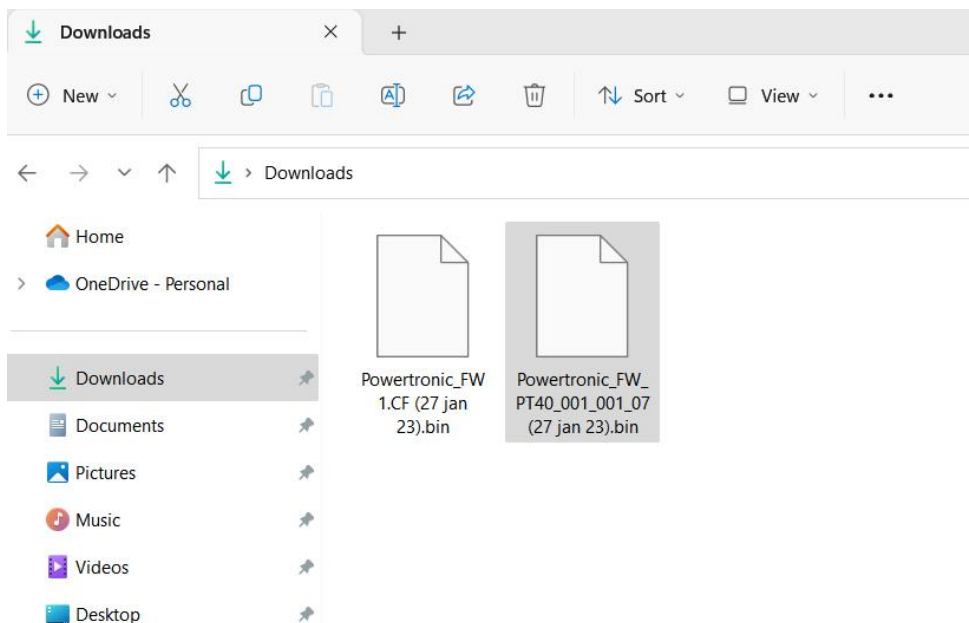
20) Now once the R-Tune is restarted, click on the **Update Firmware** button **again**.



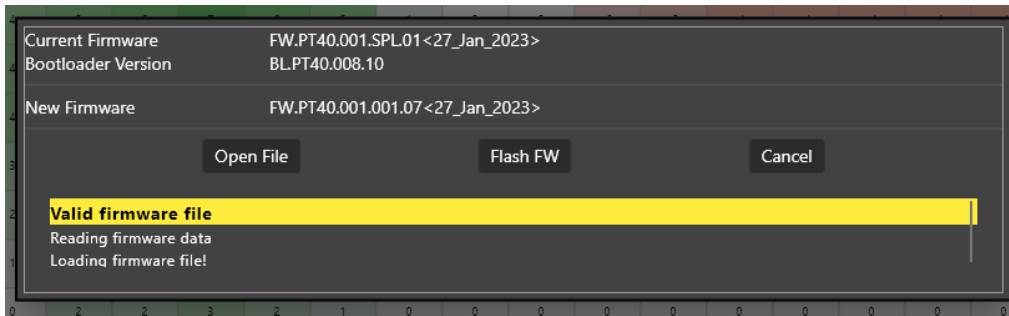
21) It will open a dialogue box for the firmware update. Click on the **Open File** button.



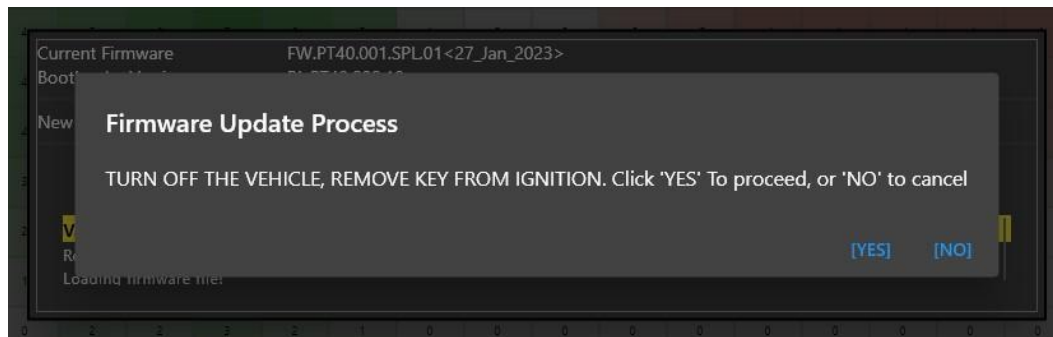
22) It will redirect to you the file folder. Go to the Downloads section and select the **Regular/Generic firmware**.
- Powertronic_FW_PT40_001_001_07 (27 jan 23).bin Click on **Open**



23) Once the Configuration firmware is selected, Click on **Flash FW** Button.



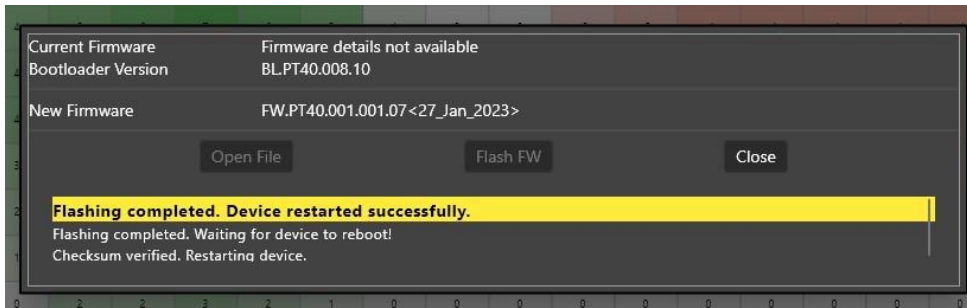
24) Once the Flash FW button is clicked, a pop-up will ask you Turn off the vehicle and remove the key from the ignition. Make sure to turn off the vehicle, and disconnect the ECU from the vehicle once it is disconnected, Click on **YES** to proceed.



25) The Firmware update process will start now. You can see a progress bar for the percentage of processes completed.



26) Once the process is completed, it will notify that the flashing is completed. Click on Close. The R-Tune will be restarted now.



27) The user can refer to the below image for the completed step.

| | |
|--------------------------------------|---------------------------------|
| Device Name | PowerTRONIC |
| Description | Fuel & Ignition controller |
| Firmware | FW.PT40.001.001.07<27_Jan_2023> |
| Hardware | HW.PT40.B.034.T.015 |
| Serial | ***** |
| Configuration Version | CF.PT40.000.03 |
| Total Calibration memory used | 65 |
| Bootloader Version | BL.PT40.008.10 |
| General Info | Total Calibration memory used |