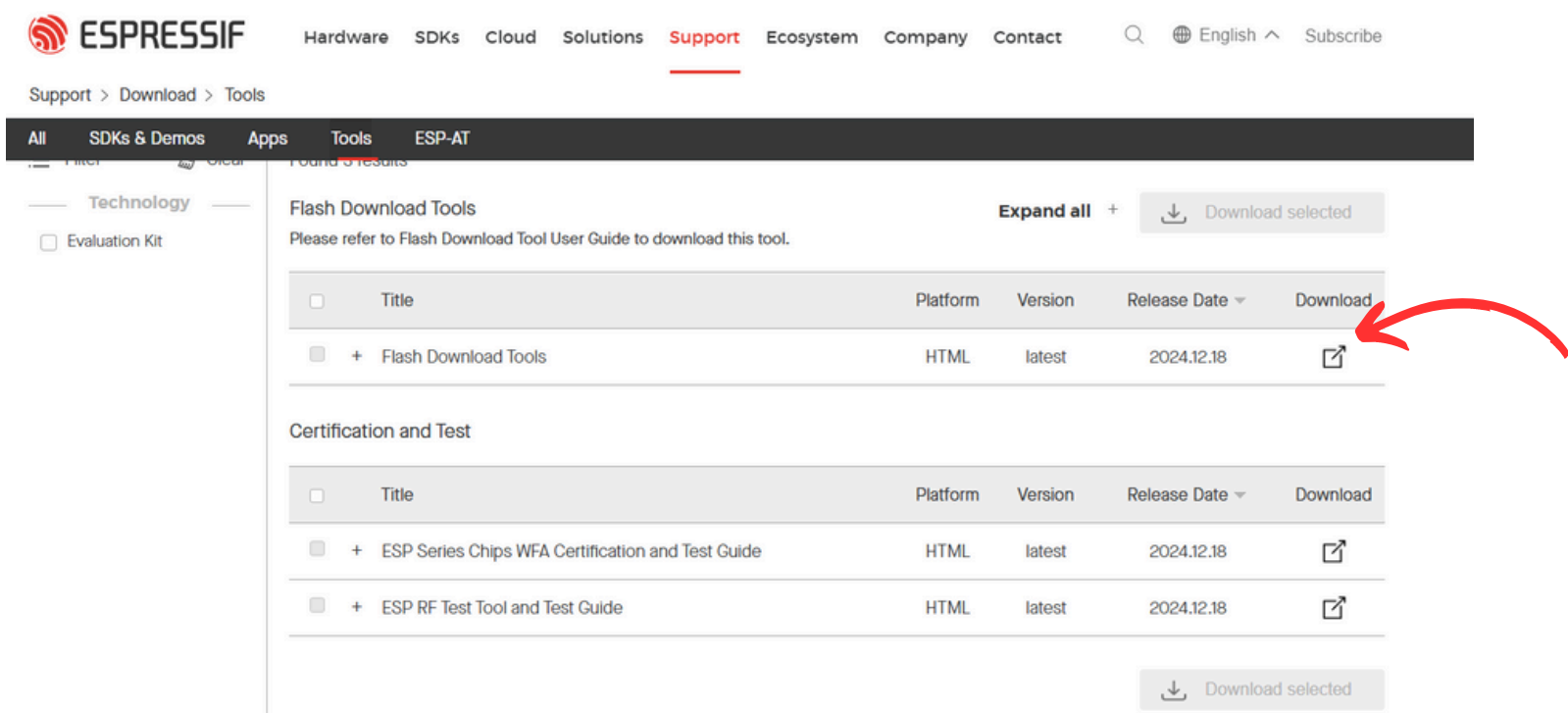


DOWNLOAD TOOL

Go to Expressif website to download the Flash Download Tool.



KEY WRITER & HUB WRITER

Make sure you already downloaded both the Key Writer and the intended firmware. Depending on your project, choose the correct firmware and key writer. This is important. If the wrong firmware is chosen, the upload either failed or doesn't work properly.

What exactly is the Key Writer ? The way Ectogear board works is it uses a security key to identify itself. One user has one unique key. The boards will automatically connected to other board with the same key only. There's no need to look for MAC address or setup communication setting for each board. All you need to do is to make sure all of the board uses the exact same security key.

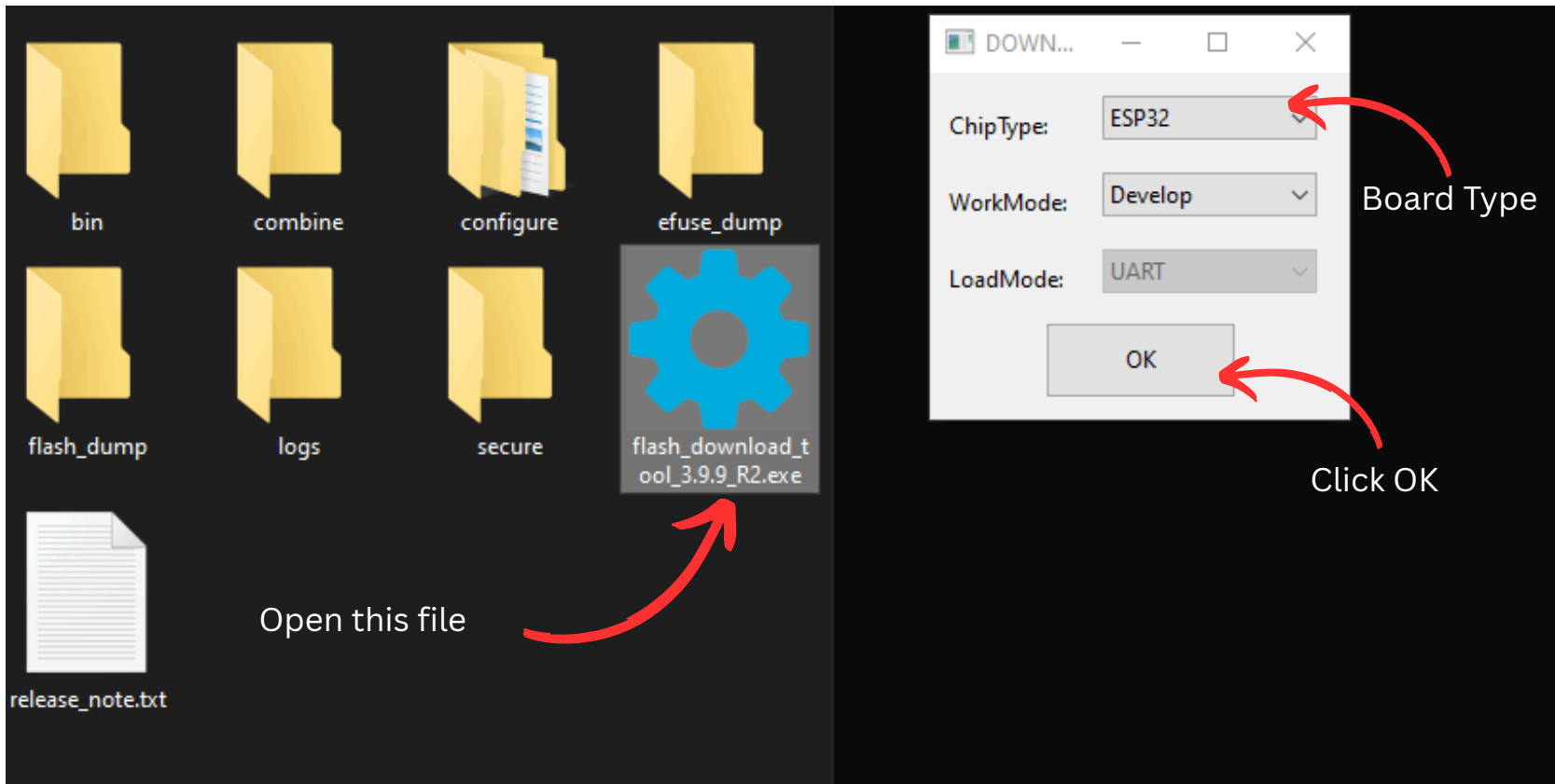
Refer to the schematic to know which firmware / board type to use. For example, Active Heat Isolator uses ESP32-C3. So, use the KeyWriter_C3.bin . The firmware is AHI_C3_firmware.bin . If the schematic uses ESP32 DEV or ESP32 D1 Mini, use KeyWriter_ESP32.

Hub writer is specifically for switchboard or wand board. These board has an additional setting where you can set the SSID network name and password of the board. This board is the one that you able to connect to and change the timing configurations.

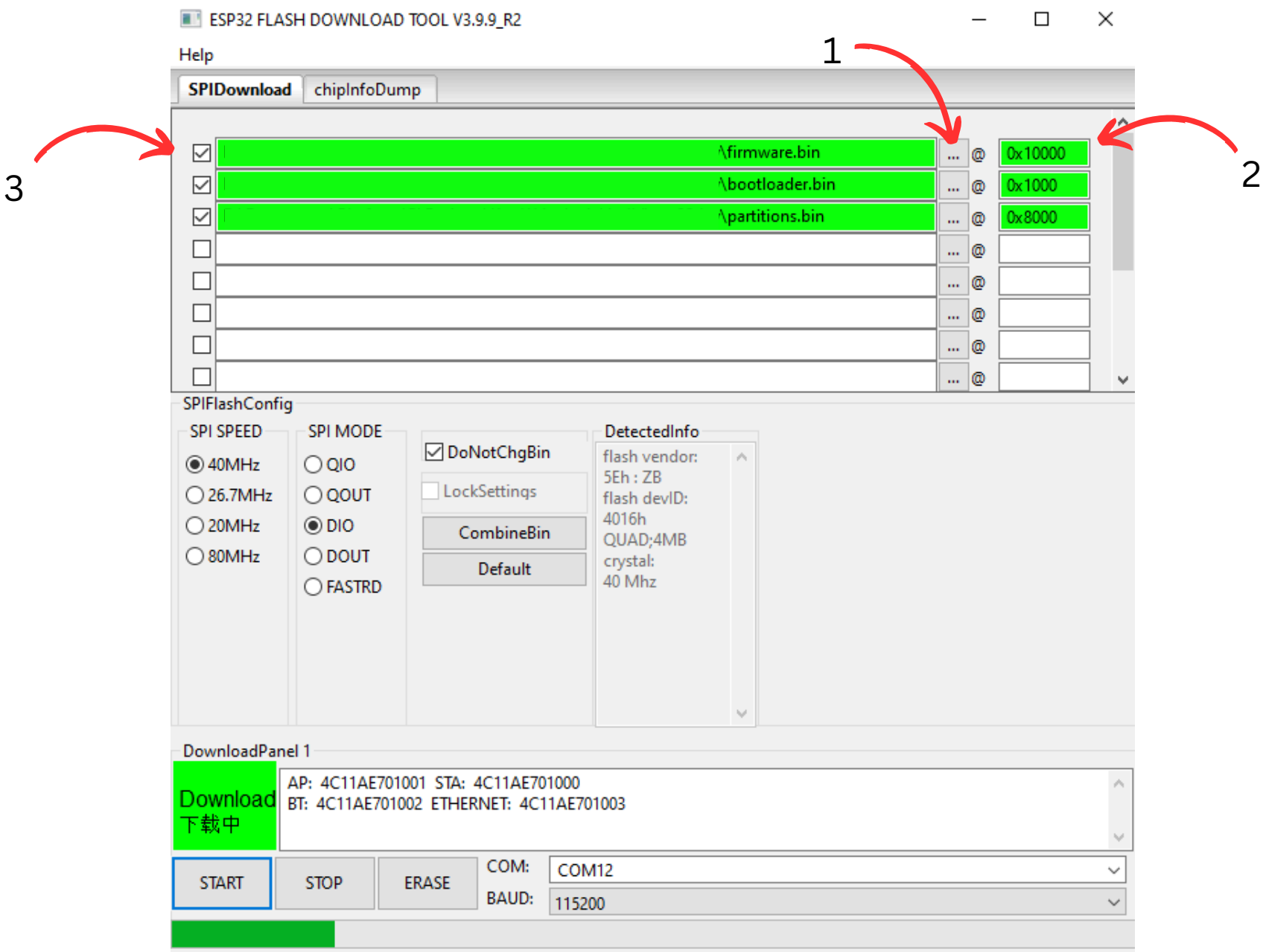
The way to flash the key and flash firmware is exactly the same. Once inside the serial monitor, just follow the instruction.



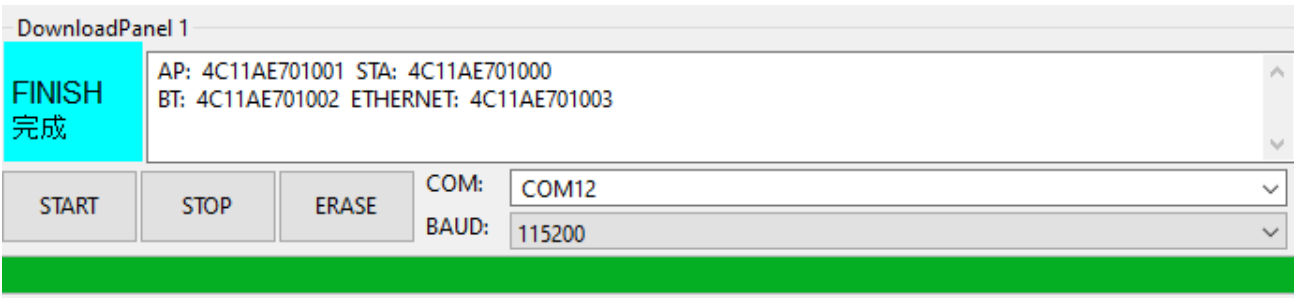
OPEN DOWNLOAD TOOL



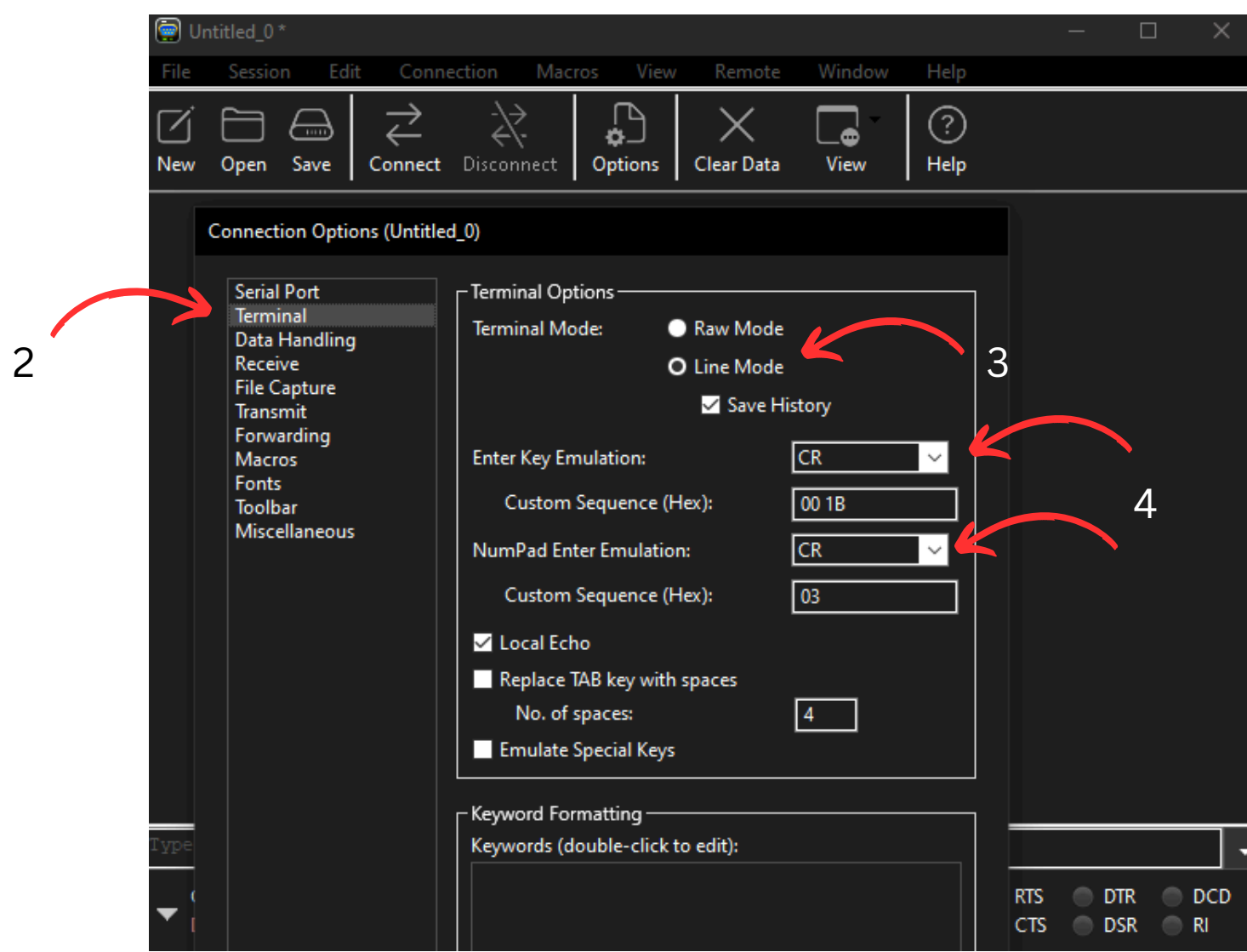
There’s no need to install the file. Just extract and click open the program Flash Download Tool. Once open, a terminal will open and a popup will open. Pick the board type and click ok.



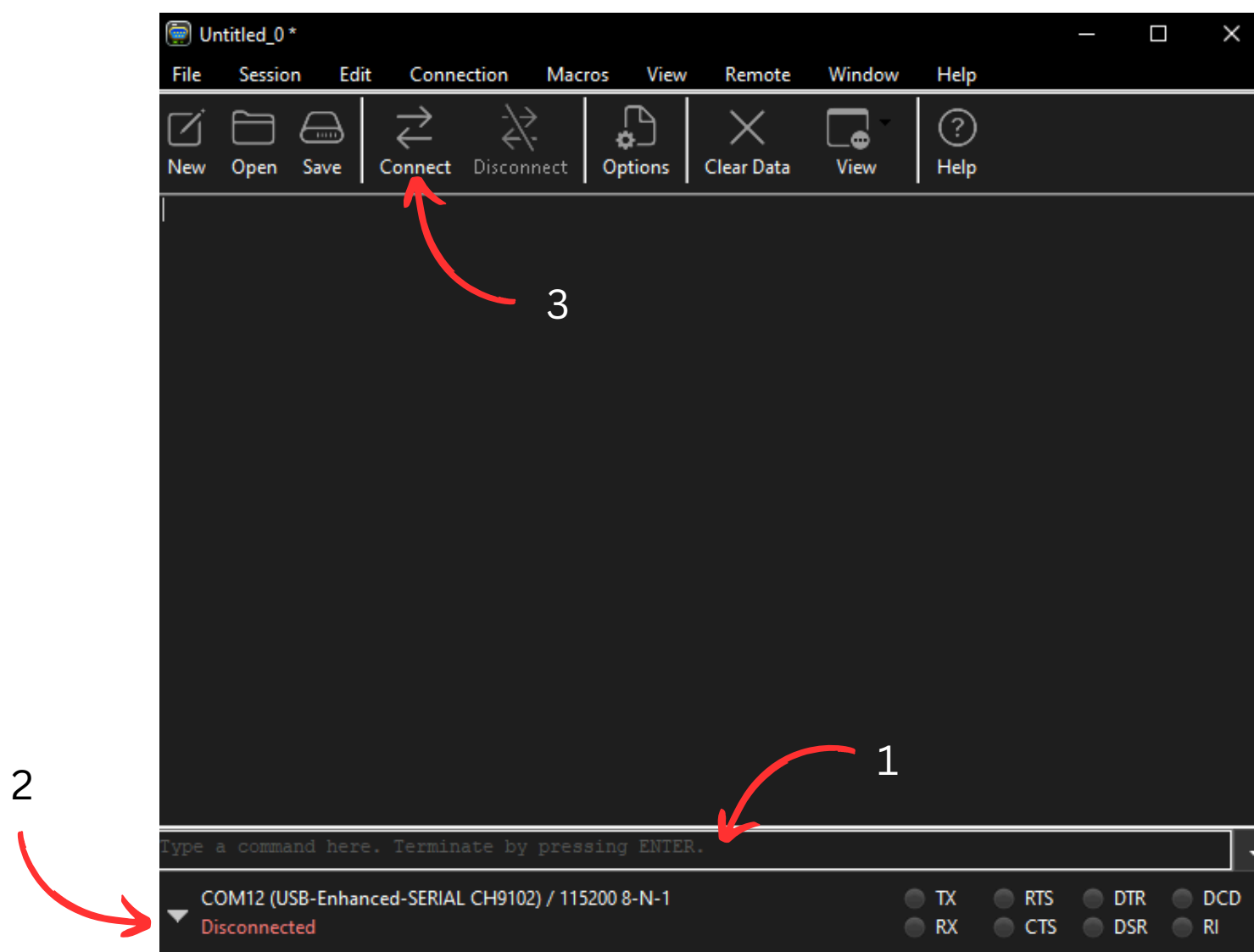
- 1. Lets upload the key writer. For the first time, add the firmware, bootloader and partitions.
- 2. Follow the numbers at the right side.
- 3. Remember to tick the boxes on the left.
- 4. SPI speed = 40mhz, SPI DIO , choose the COM where the board is connected to
- 5. Press “START” . Wait till panel says it’s finished



SERIAL MONITOR



1. I like to use CoolTerm for serial monitor application. It allows me to open multiple serial monitors at one time. You can get them [here](#).
2. Open Options then Terminal.
3. Change “Terminal Mode” to “Line Mode”
4. Change “Enter Key Emulation” and “NumPad Enter Emulation” to “CR”
5. Click “OK”

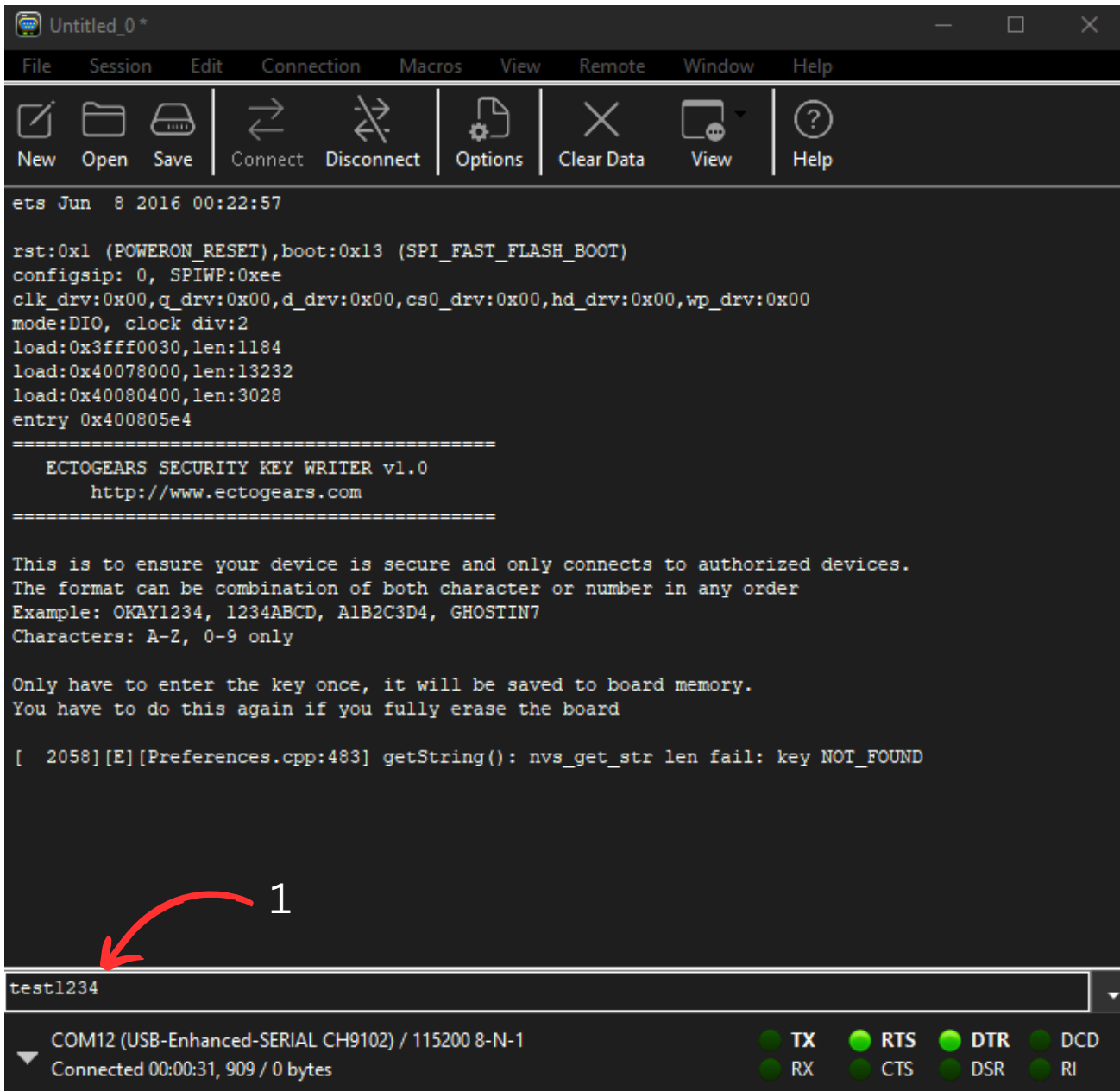


1. If you see this command column, you are doing it right.
2. Click the down arrow. Pick the COM port your board is connected to and choose baud 115200
3. Click “Connect”

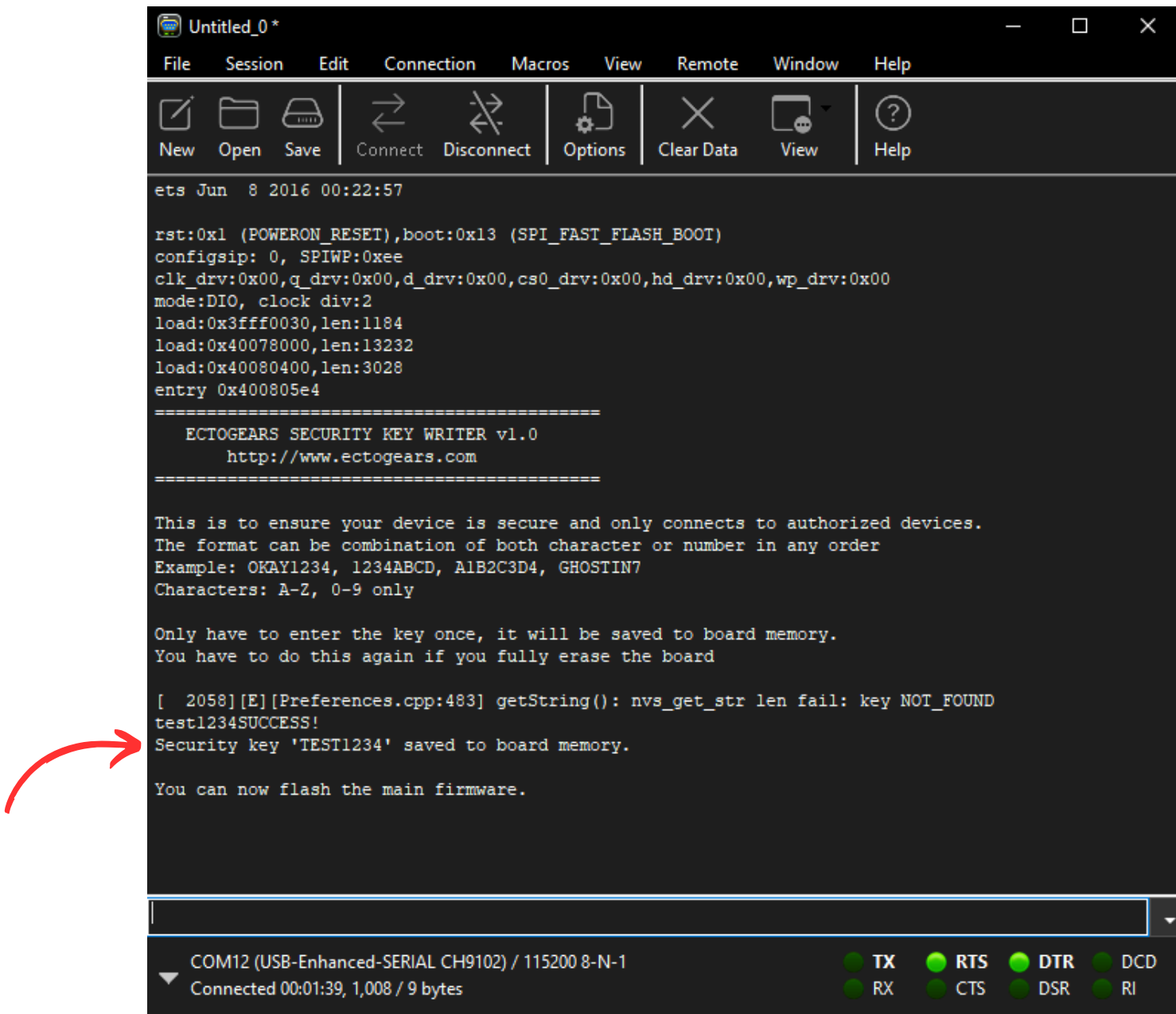


SAVE KEY INTO BOARD

For the first time, you will get an error. This is expected.



1. Enter your security key here and press enter.
2. Make sure your security code is 8 characters. It can be mixed both letters and numbers. Make it unique.

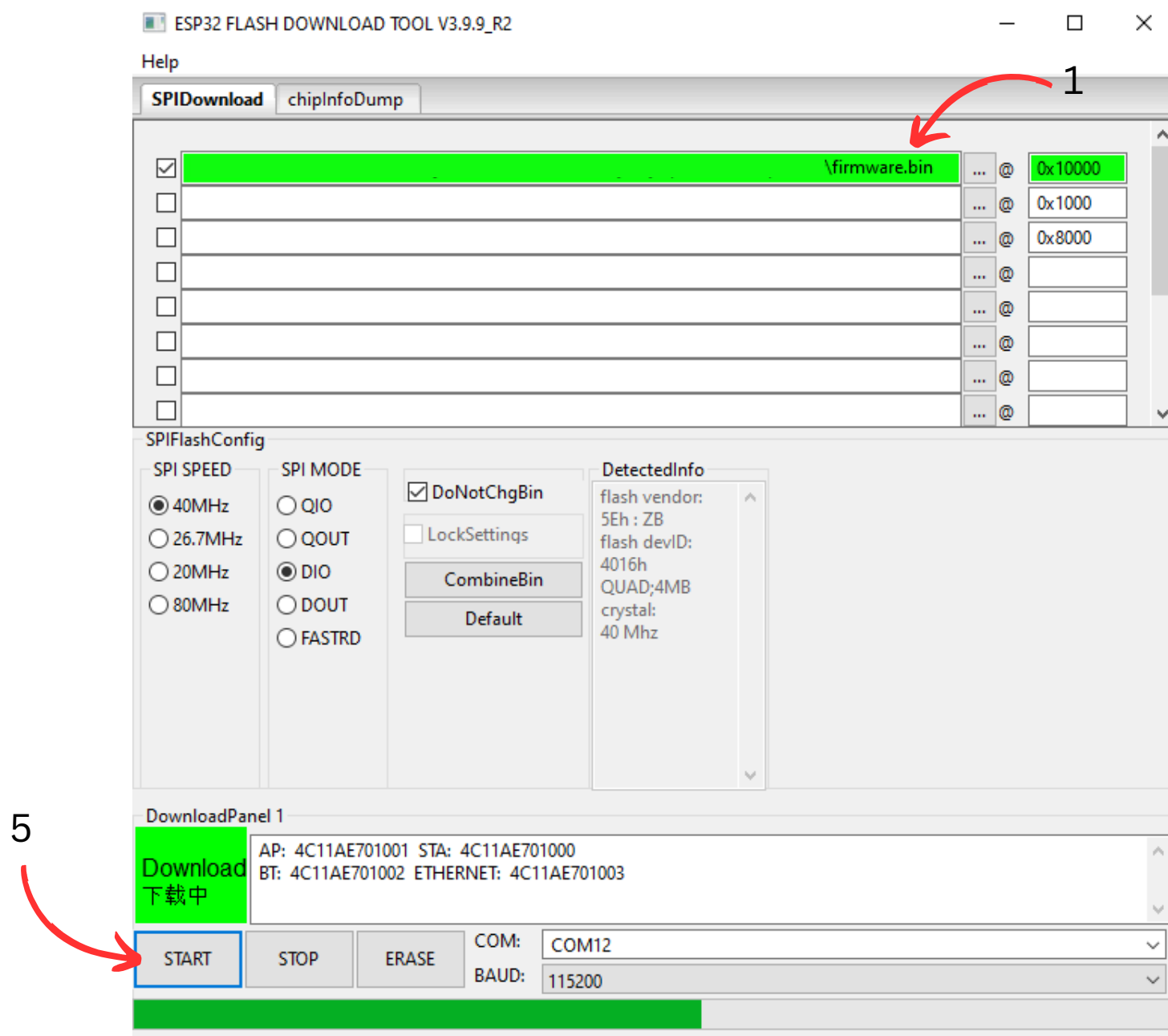


Now, the security key has been programmed into board memory. You only have to do this once. Unless you did a complete board wipe.



BOARD FIRMWARE

Once the security key is done, now you can upload the actual project firmware.



1. Using the same steps, change the firmware file to the actual project firmware.
2. Only tick and upload the project firmware.
3. If you add the rest, it will wipe the security key with it. So, please be careful.
Only upload the project firmware.
4. Same settings
5. Press “Start” to upload project firmware.
6. You are done !

