

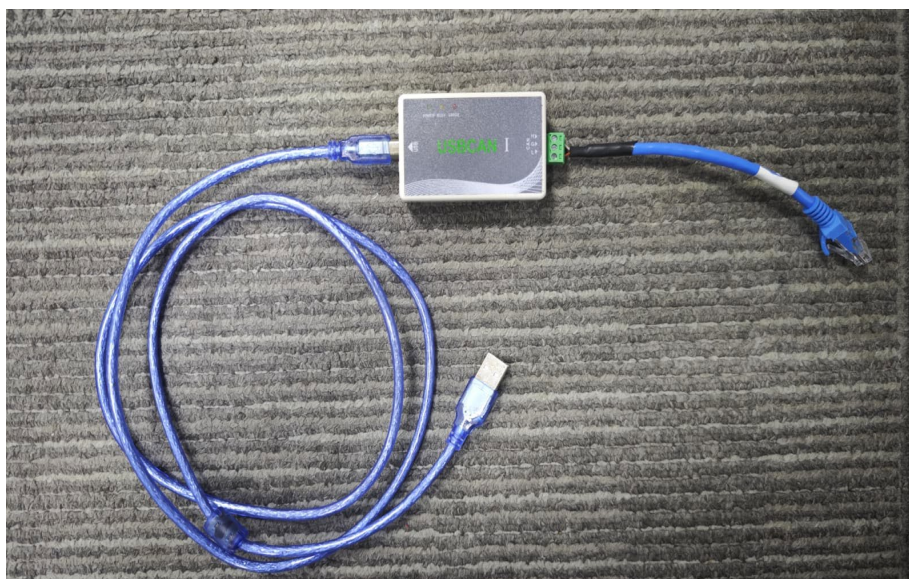


## EBOOST FIRMWARE UPDATE PROCEDURE

### PRE-REQUIREMENTS

To perform firmware update procedure on the eBoost battery, you will need the following:

1. Windows Laptop Computer
2. USB CANtool
  - a. You may request this tool by submitting a ticket on the support section at [www.fortresspower.com/support](http://www.fortresspower.com/support)



Download the firmware and instructions before arriving to the site. You may download these files at [www.fortresspower.com/firmware](http://www.fortresspower.com/firmware). Try to consolidate your files under one folder called “**eBoost CAN Upgrade Package**” for ease of access. **Extract all files.**

3. Install Microsoft.VisualStudio.C++.8.0 located in the folder
4. Install Microsoft.VisualStudio.C++.9.0 located in the folder

### INSTALLING THE DRIVERS FOR THE CANTOOL (USBCAN)

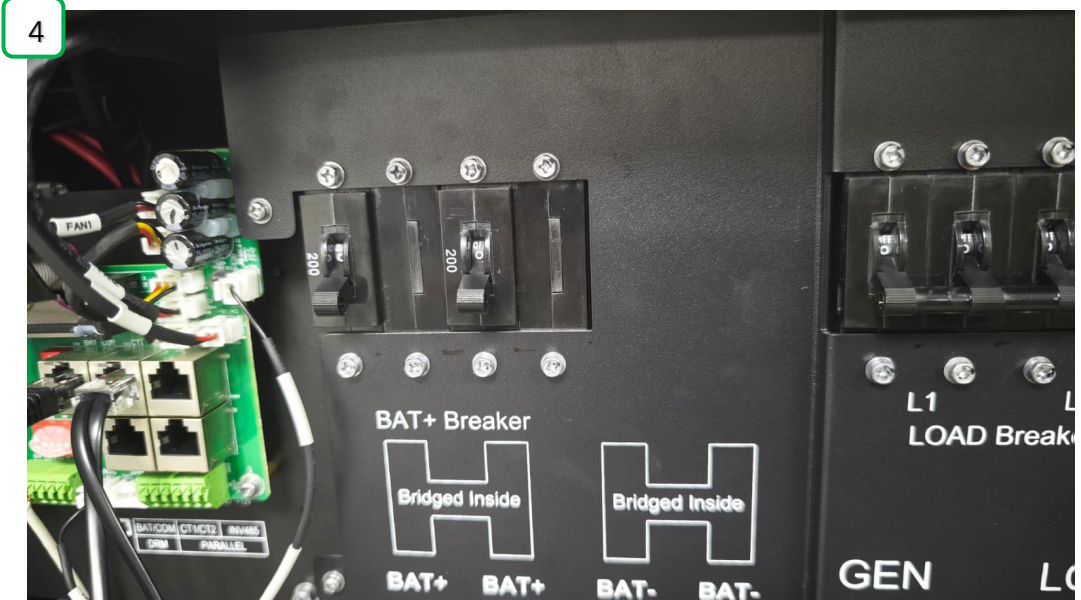
1. Connect the USB cable of the CANtool (USBCAN) to your computer and the CANtool by itself.
2. Install USBCAN\_AllInOne\_x86\_x64\_2.0.0.1

### FIRMWARE UPDATE PRE-CHECK

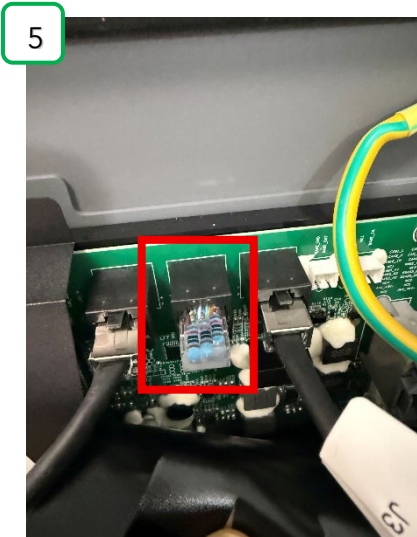
1. There must be no current flow to or from any battery in the system during the firmware update process. All battery breakers on the inverters in the system in the 'OFF' position.



2. Firmware must be updated on one battery at a time. Please disconnect the battery communication cables from each other.
3. Make sure that both cables that came with the CANtool (USBCAN) are connected to the CANtool. Then, make sure that the USB cable is connected to the computer and that the ethernet cable is connected to either of the two rj45 ports.
4. Turn off the inverter battery breakers. In off-grid applications, this will shut down the loads.



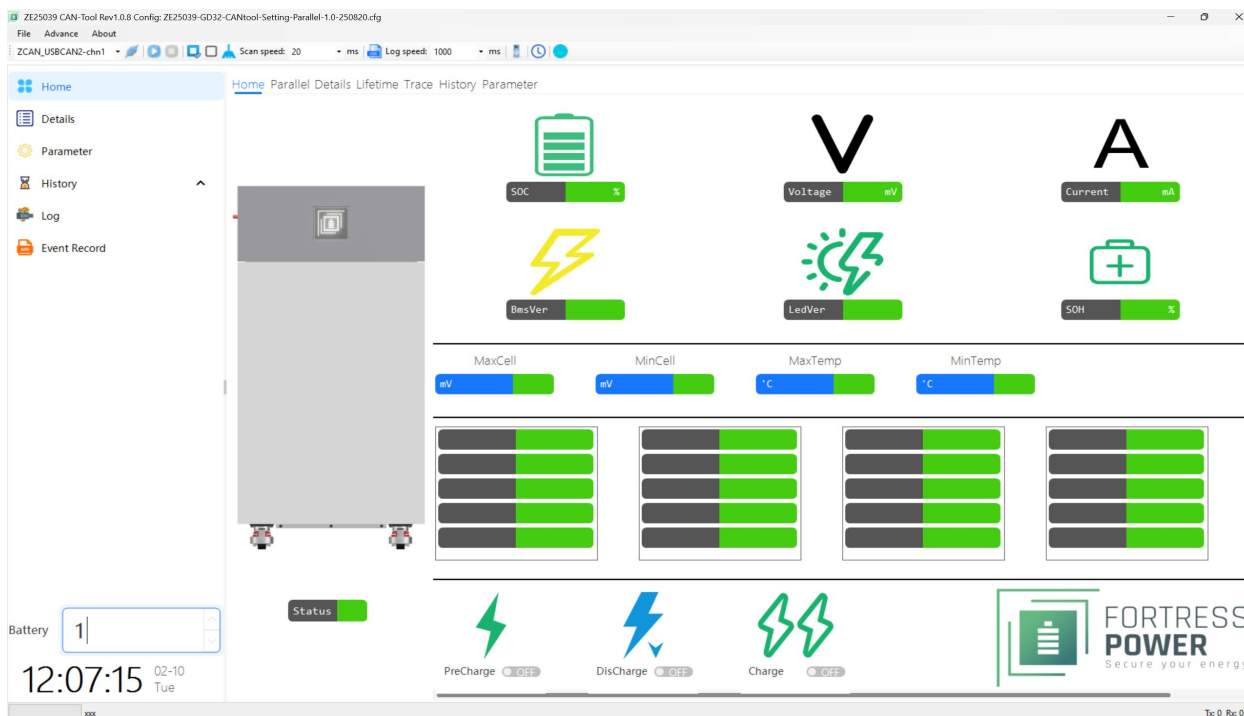
5. Remove the Terminator from the single battery or the last battery of the parallel system.
6. Insert the CAN TOOL at the port where the terminator was removed.



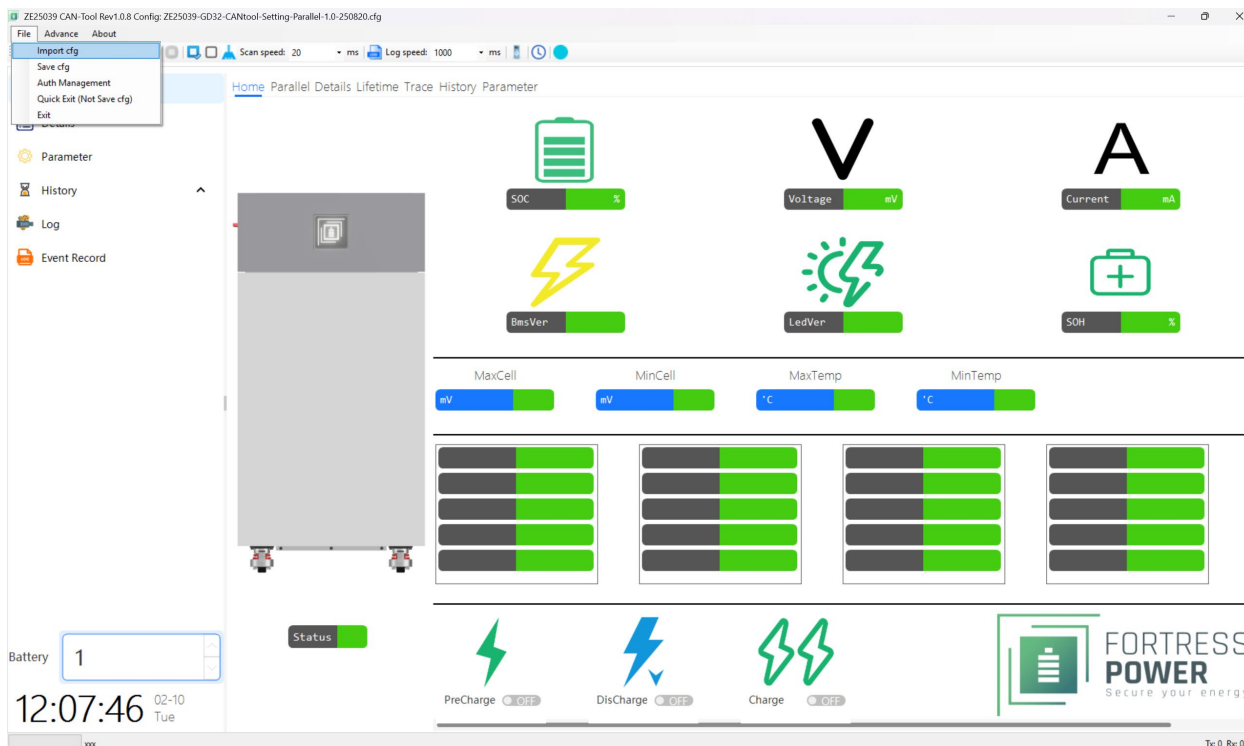


## FIRMWARE UPDATE

7. Open the computer software under the Upper Computer Software folder. Select the CANTOOL file. The home page will appear.

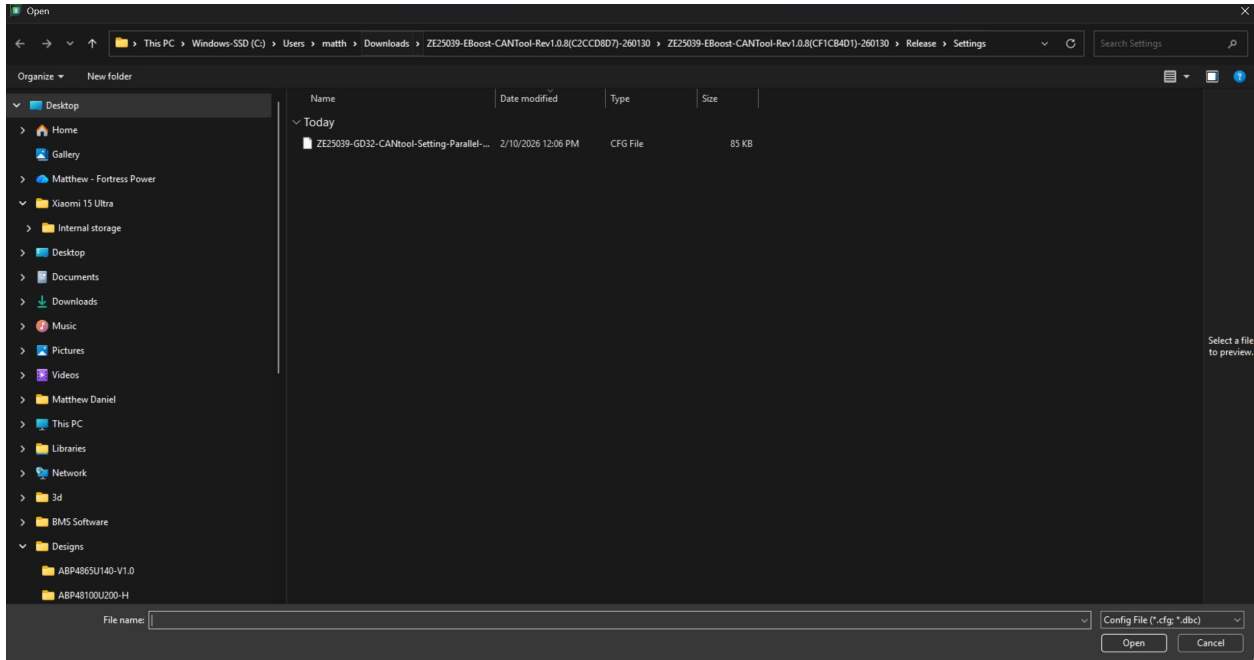


8. Go to the "File" section and click on "Import cfg"

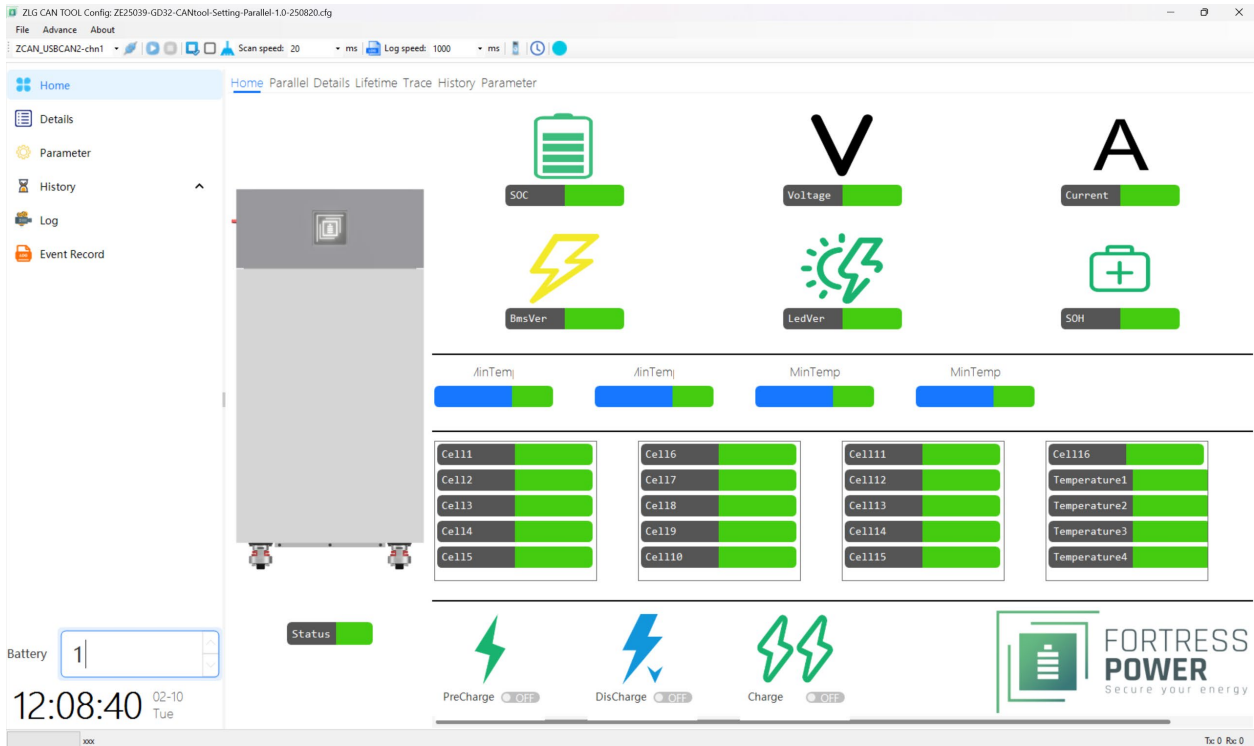




9. Select and open the file "ZE25039-GD32-CANtool-setting-parallel"



10. After you open the file, you will notice that the parameter displays changes.





11. Select the **"Connect"** indicated in **step 1**, then select the **"Read"** button indicated in **"Step 2"** button

The screenshot shows the ZLG CAN TOOL software interface. The top menu bar includes 'File', 'Advance', and 'About'. The left sidebar has 'Home', 'Details', 'Parameter', 'History', 'Log', and 'Event Record'. The main display area shows a battery icon with 'SOC 61.8%' and a 'Status' indicator. Below this are 'MaxCell' (3299mV), 'MinCell' (3296mV), 'MaxTemp' (23°C), and 'MinTemp' (22.8°C). A table of cell voltages and temperatures is displayed. At the bottom, there are 'PreCharge OFF', 'DisCharge ON', and 'Charge ON' buttons. The 'Connect' button is highlighted with a red box and labeled 'Step 1'. The 'Read' button is highlighted with a red box and labeled 'Step 2'. The time is 12:09:23 on Tuesday, and the status is 'Connected'.

12. Go to the **"Advanced"** section and select **"Firmware Upgrade"**

The screenshot shows the ZLG CAN TOOL software interface with the 'Advanced' section selected in the left sidebar. The 'Firmware Upgrade' option is highlighted. The main display area shows the same battery status and connection options as in the previous screenshot. The time is 12:15:42 on Tuesday, and the status is 'Connected'.



13. A message prompt will appear, please select "yes".

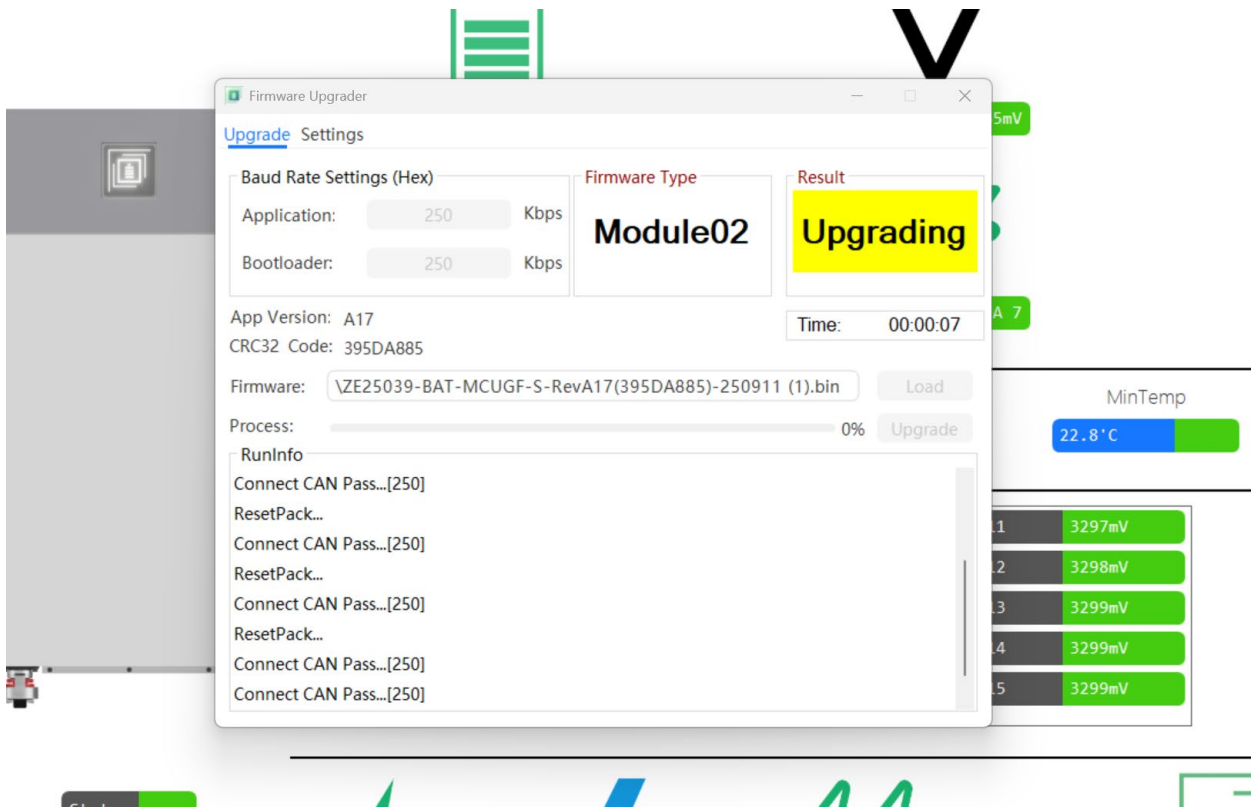
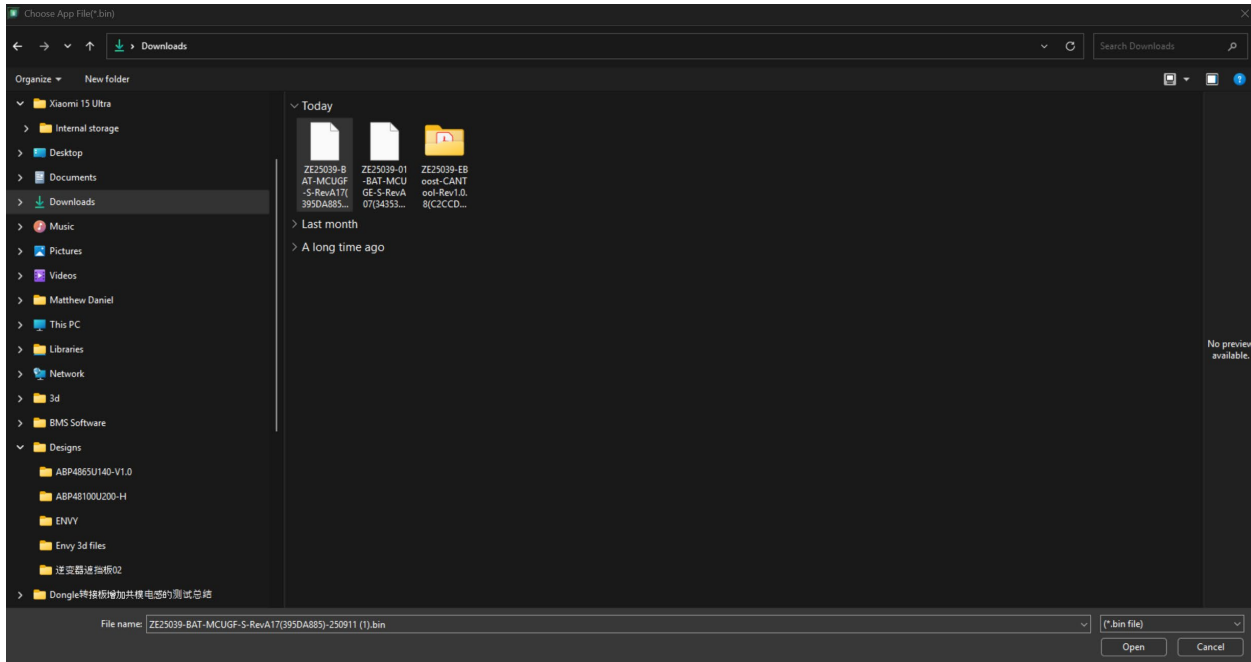
The screenshot shows the ZIG CAN TOOL software interface. A central dialog box with a yellow warning icon contains the text: "This operation will close data scanning and other communication functions. Please confirm." Below the text are "Yes" and "No" buttons. The background interface displays various battery parameters: SOC (61.8%), Voltage (52765mV), Current (-360mA), BesVer (A17), LedVer (A 7), and SOH (100%). It also shows a table of cell voltages (Cell11 to Cell15) and temperatures (Temperature1 to Temperature4). At the bottom, there are controls for PreCharge (OFF), DisCharge (ON), and Charge (ON), along with the Fortress Power logo and the text "Secure your energy".

14. Select Load, and open the firmware file

The screenshot shows the ZIG CAN TOOL software interface with the Firmware Upgrader dialog box open. The dialog box has an "Upgrade Settings" section with "Application" and "Bootloader" both set to 250 Kbps. It also shows "Firmware Type" as "Program" and "Result" as "Program". There is a "Load" button and a "Process" progress bar at 0%. The background interface is the same as in the previous screenshot, showing battery parameters and cell data.



15. Select the Upgrade button. An upgrade message will appear following the percentage bar progressing. The update takes about 2 minutes. DO NOT INTERRUPT THE UPDATE PROGRESS.





16. To confirm that the update progresses a finalized:
- a) Under the result tab, you will see a PASS message
  - b) Progress bar reached 100%
  - c) Battery rebooted

The screenshot shows the 'Firmware Upgrader' application window. At the top, there's a title bar with the application name and standard window controls. Below the title bar, the word 'Upgrade' is underlined, followed by 'Settings'. The main area is divided into several sections:

- Baud Rate Settings (Hex):** Two input fields, one for 'Application' and one for 'Bootloader', both containing the value '250' and followed by 'Kbps'.
- Firmware Type:** A large text box displaying 'Module02'.
- Result:** A large green text box displaying 'PASS'.
- App Version:** 'A17' and **CRC32 Code:** '395DA885'.
- Time:** A box showing '00:02:01'.
- Firmware:** A text box containing the file path '\\ZE25039-BAT-MCUGF-S-RevA17(395DA885)-250911 (1).bin' and a 'Load' button.
- Process:** A progress bar is shown at 100% completion, with an 'Upgrade' button.
- RunInfo:** A scrollable text area containing the following log entries:
  - Connect CAN Pass...[250]
  - Connect CAN Pass...[250]
  - Send FW Packet Information...
  - Send Upgrade Data...
  - Total number of packages: 113
  - Single package length: 2048
  - Wait Upgrade Done...
  - Upgrade Done!

17. Finally remove the Can Tool and recommission the system.