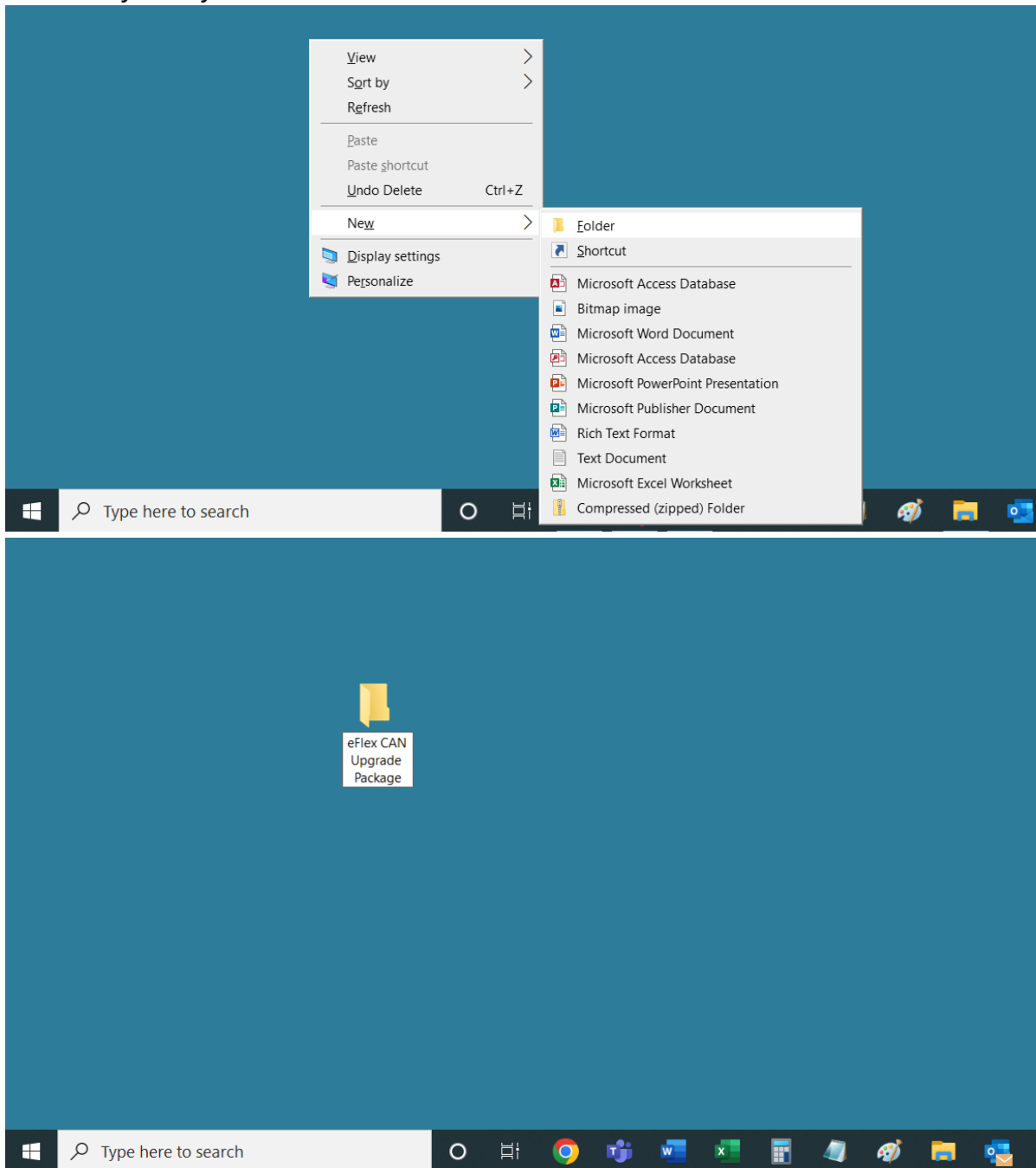
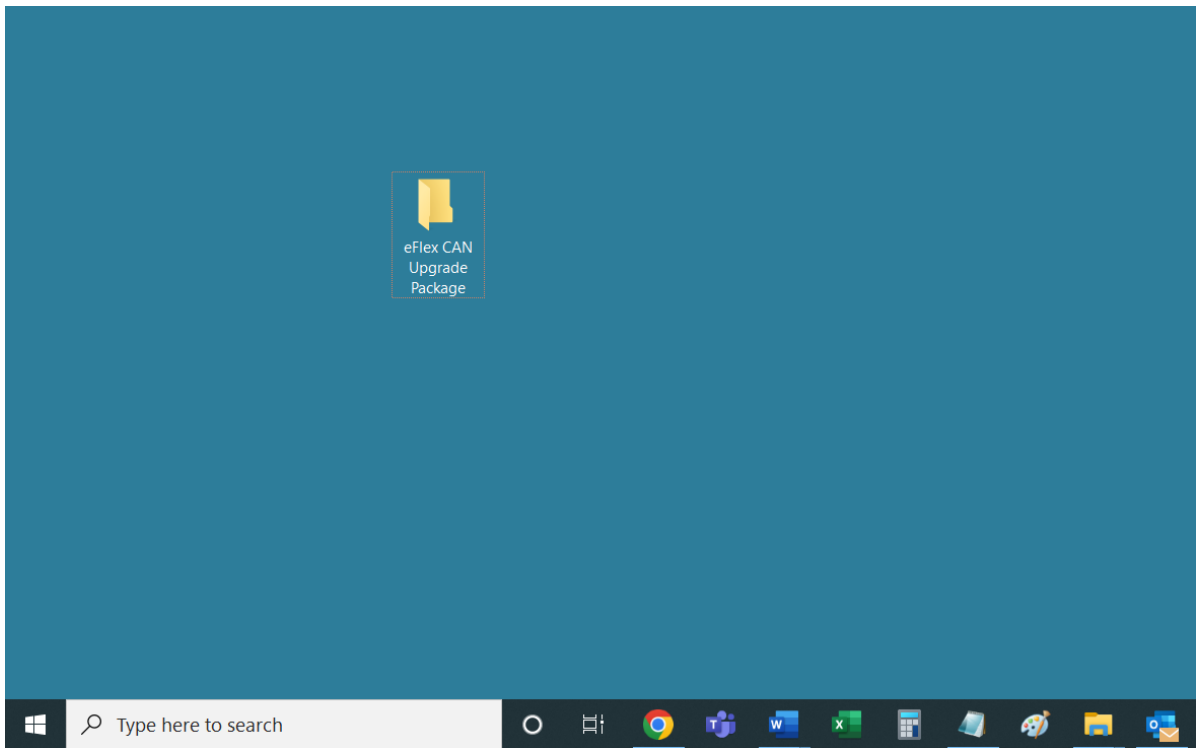


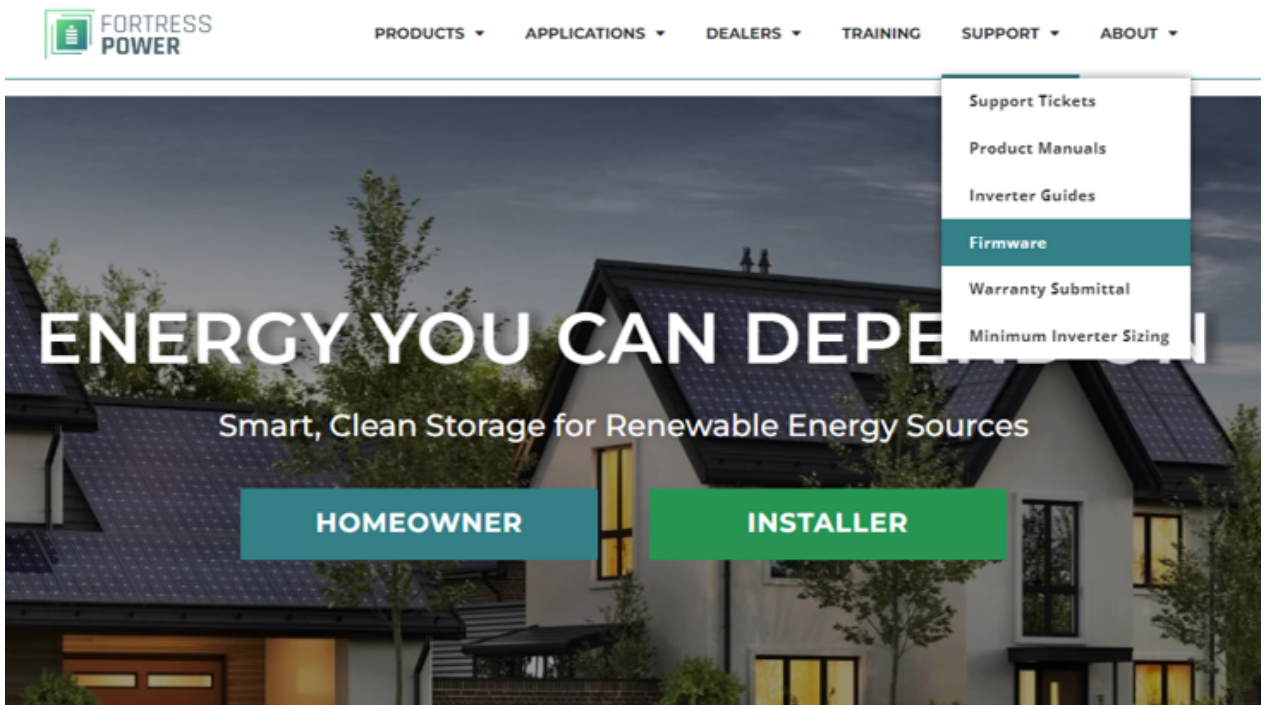
# Obtaining and Organizing the Required Files

1. Right-click on the desktop and in the drop down, hover your mouse pointer to "New" and then click on "Folder" and create a title for it. In this guide the folder will be named "eFlex CAN Upgrade Package" and it is suggested for you to use the same title. Once the title is typed in either double click somewhere on the desktop or click "Enter" on your keyboard.





2. Go to website "fortresspower.com", hover your mouse pointer to the "SUPPORT" tab on the website and click on "Firmware".



3. On the next page, click on "--select product--", select "eFlex" and click "Go!".

The screenshot shows the top navigation bar of the Fortress Power website with the logo on the left and menu items: PRODUCTS, APPLICATIONS, DEALERS, TRAINING, SUPPORT, and ABOUT. The main content area has a dark background with a house image. On the left, there is a disclaimer: "Please **DO NOT** update any Fortress battery firmware unless directed by Fortress technical support. Updating Fortress firmware requires a Windows laptop, a Fortress CANbus tool, and hardware drivers. Fortress installers wishing to perform firmware updates should request a firmware update tool and setup assistance by submitting a support ticket at [support.fortresspower.com](https://support.fortresspower.com)". On the right, there is a "Select Product" section with a dropdown menu currently showing "--Select Product--" and a teal "Go!" button below it.

4. Below, a table will appear. You need to download software, firmware, and driver. Click on download icons for the corresponding rows (last four download icons).

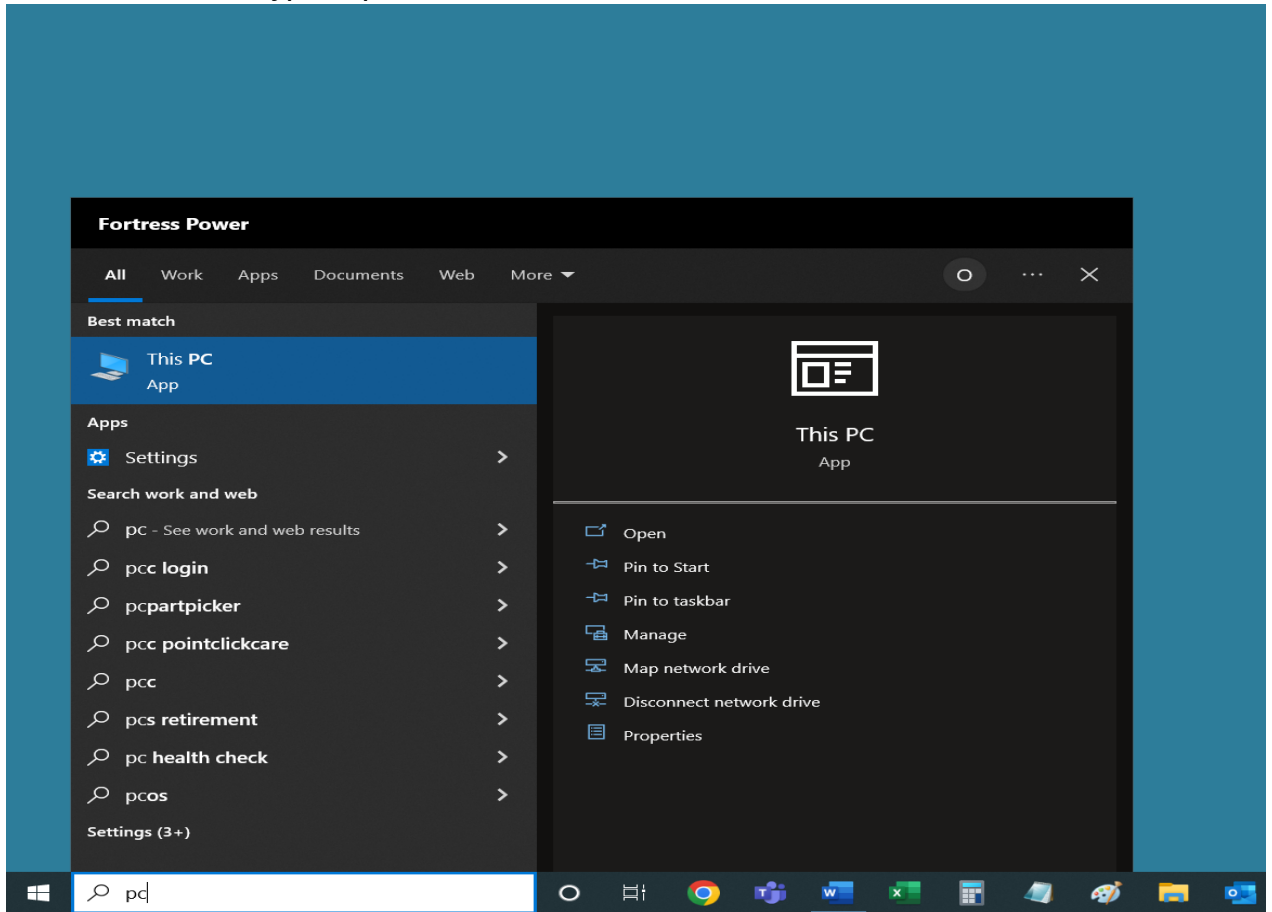
**Note: the version numbers will change in the future. If the versions that you see on your screen don't coincide with the ones in this manual, that's normal, please continue.**

This screenshot is similar to the previous one but with the dropdown menu set to "eFlex" and the "Go!" button highlighted. Below the disclaimer, a table is displayed with the following data:

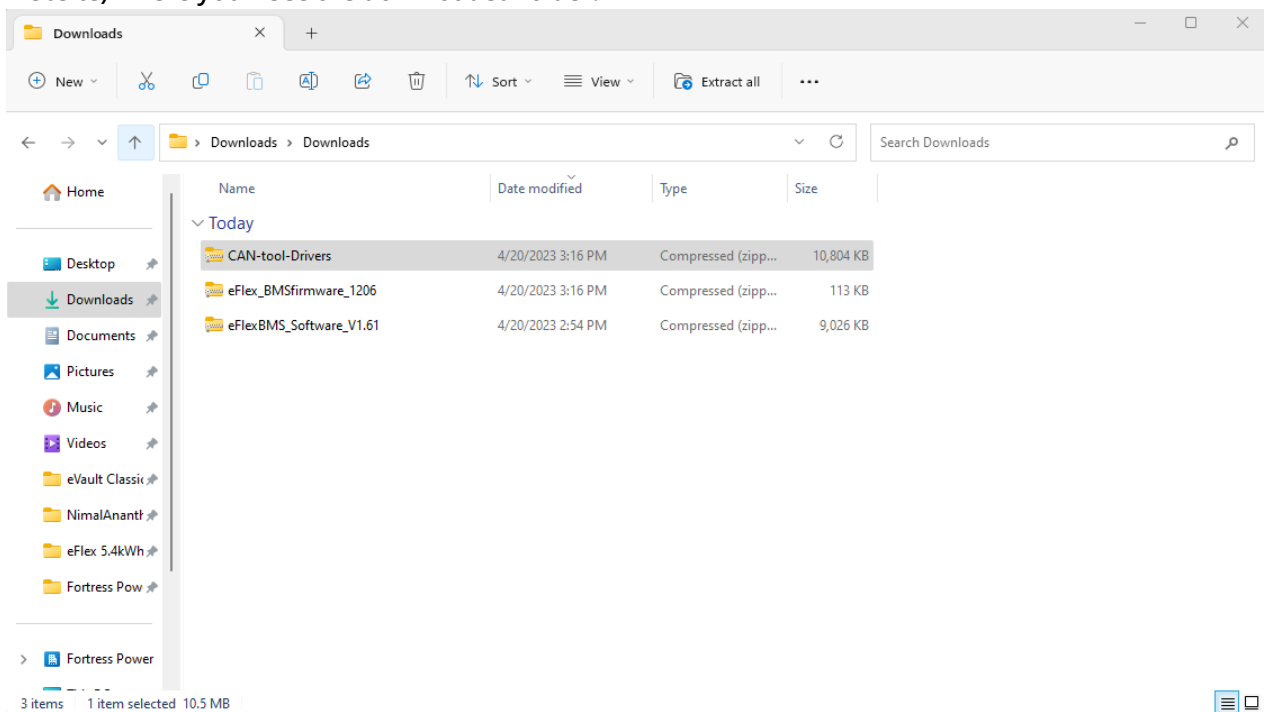
| Type     | Version                            | Product | Last modified | Download |
|----------|------------------------------------|---------|---------------|----------|
| PDF      | README Disclaimer                  | eFlex   | 21-11-2022    |          |
| PDF      | eFlex-Firmware-Update-Instructions | eFlex   | 21-12-2022    |          |
| Driver   | CANtool Drivers                    | eFlex   | 08-07-2021    |          |
| Software | eFlex BMS Software (V1.61)         | eFlex   | 18-04-2023    |          |
| Firmware | BMS Firmware V3012 & V4006         | eFlex   | 20-04-2023    |          |

5. Once the downloads are completed, navigate to the "Downloads" folder (or wherever you saved the files from the website). Close the browser, click on the start (looks like

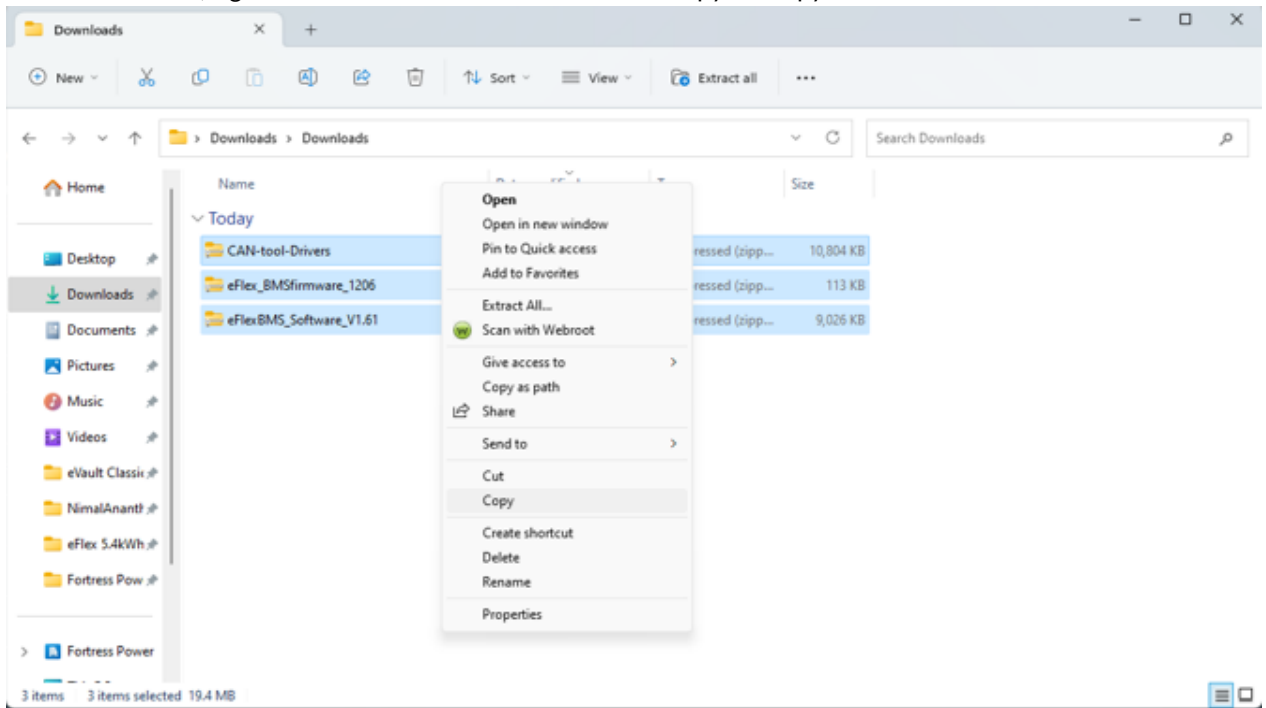
a Windows icon) and type in "pc". Then, click on "This PC".



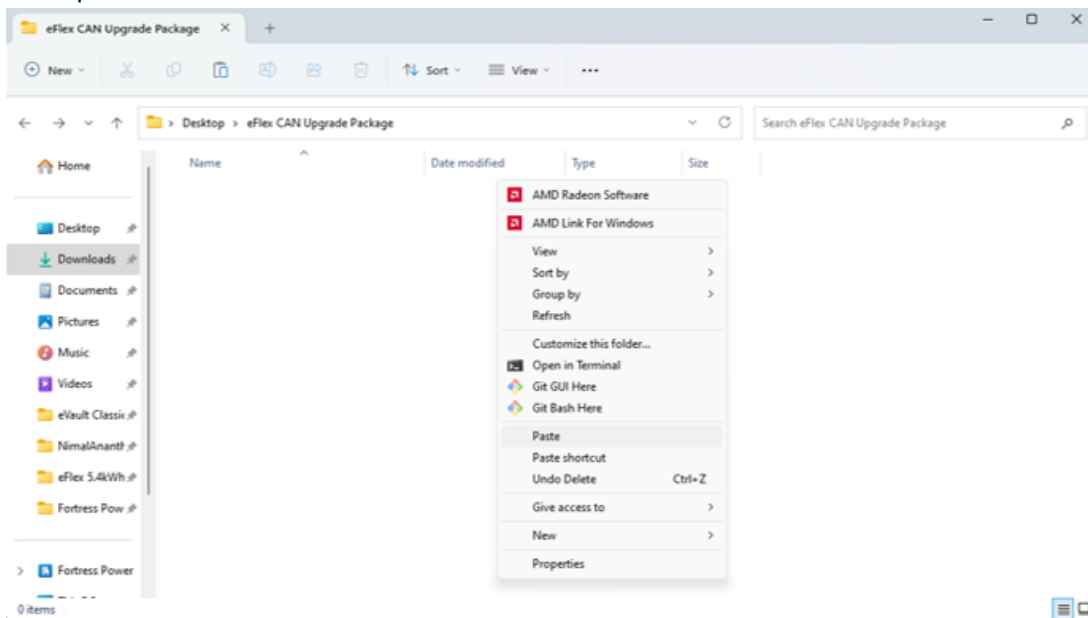
6. Then, go to the "Downloads" folder (or wherever you saved the files from the website) where you'll see the downloaded folder.

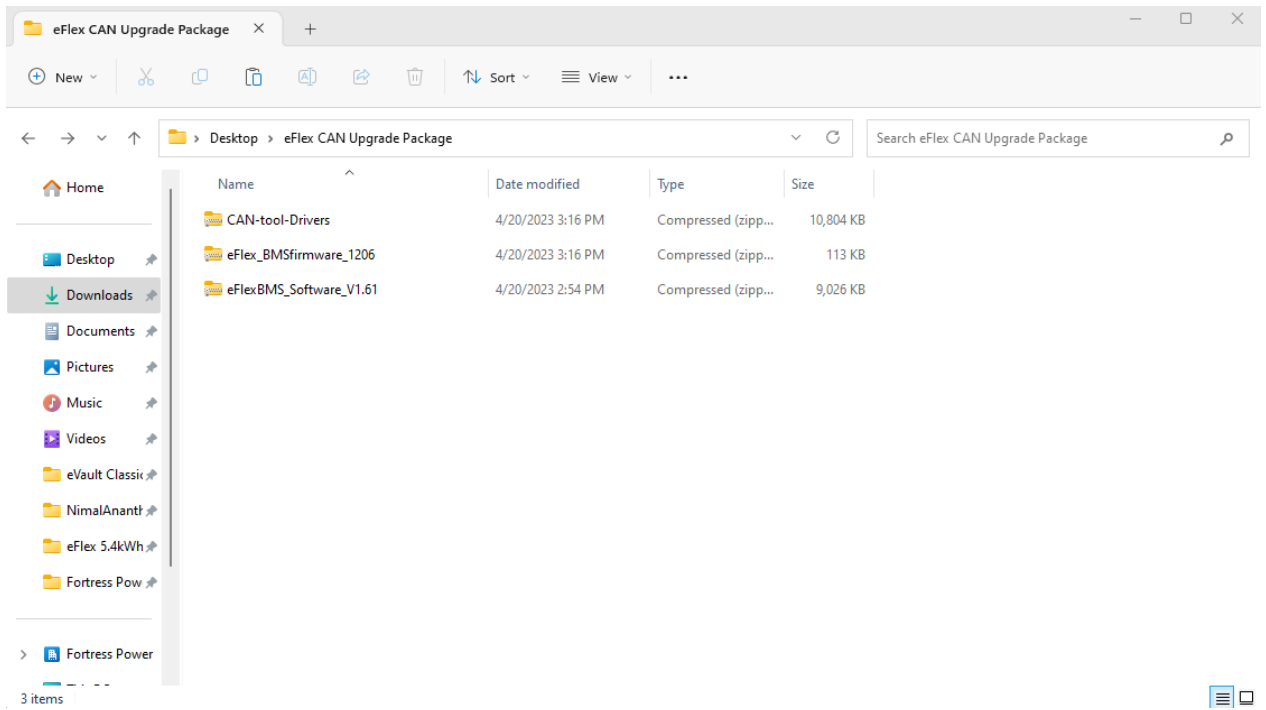


7. Select all the files, right-click on the selection and click on "Copy" to copy these files.

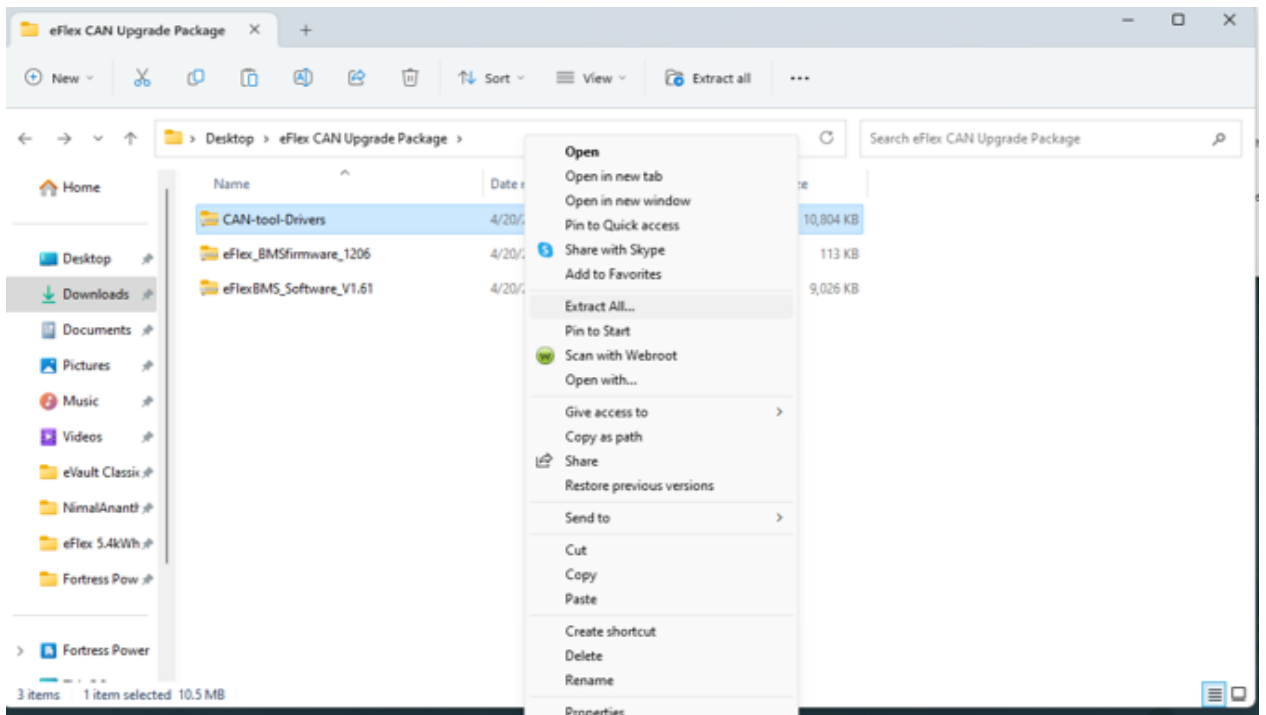


8. Navigate to the "eFlex CAN Upgrade Package" right-click somewhere in the folder and paste the copied files.

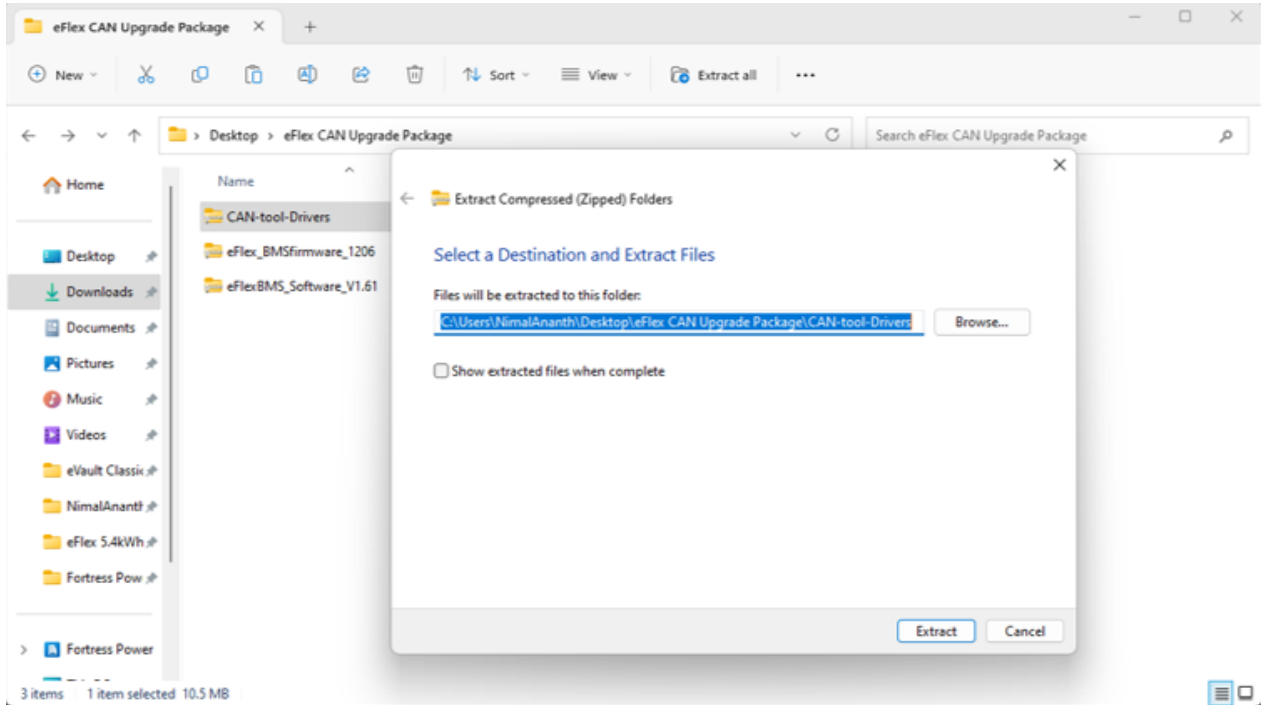




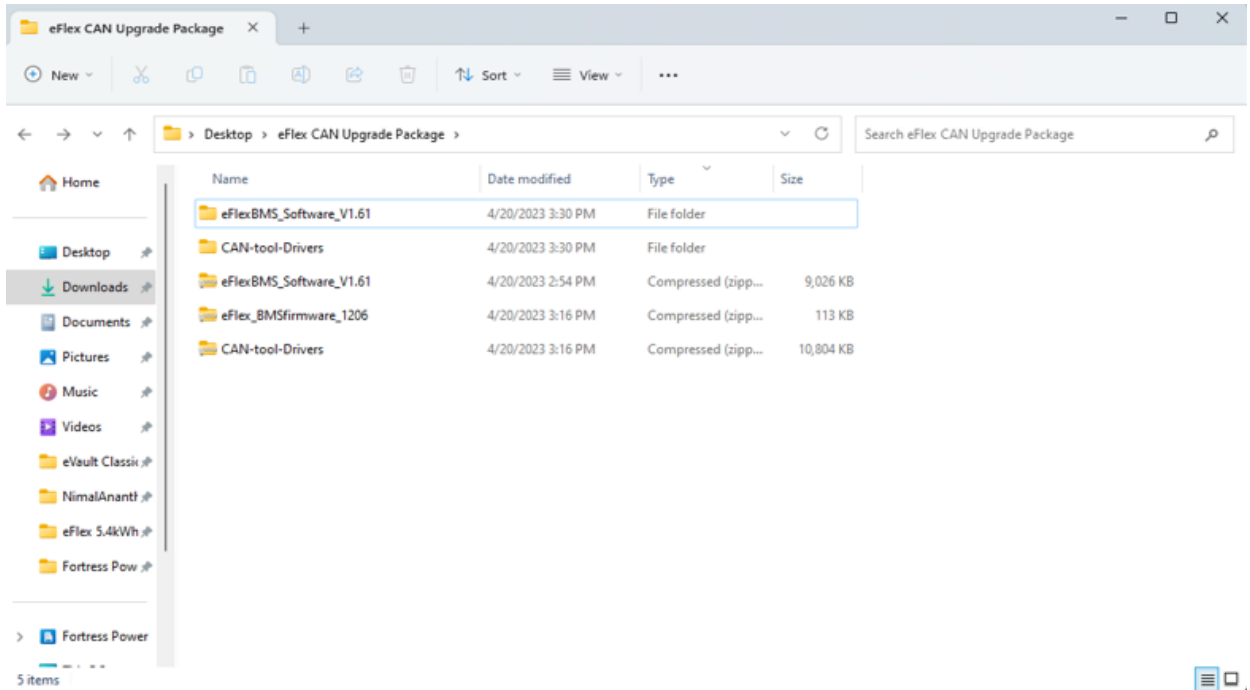
9. Click somewhere in the folder to remove the blue highlight from the files. Then, right-click on one of the files and from the dropdown click on "Extract All..".



10. Afterwards, click on "Extract".



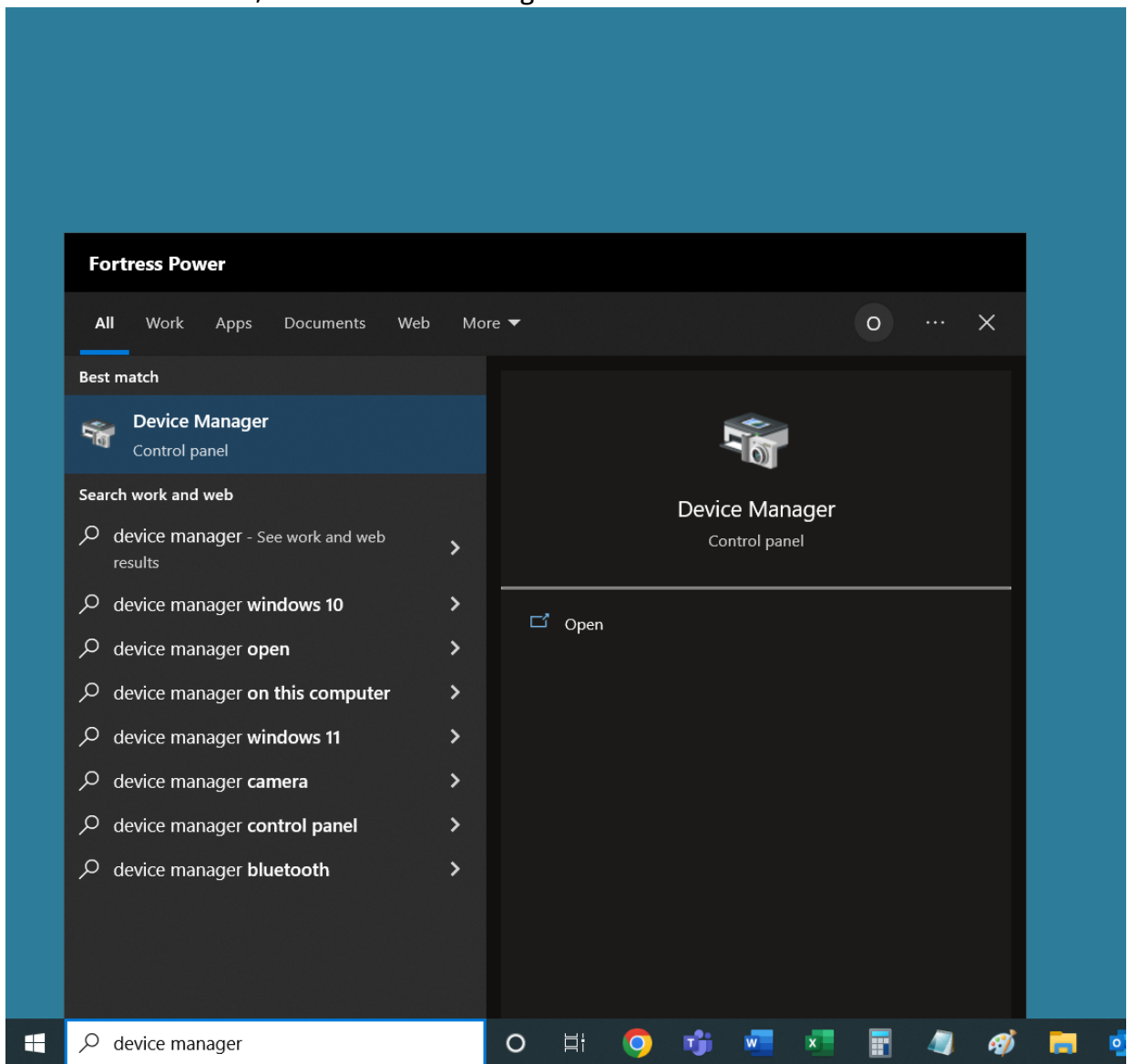
11. Proceed the same process to extract the file "eFlexBMS\_Software\_V1.61".



**Now the drivers for the CAN tool (USBCAN) need to be installed**

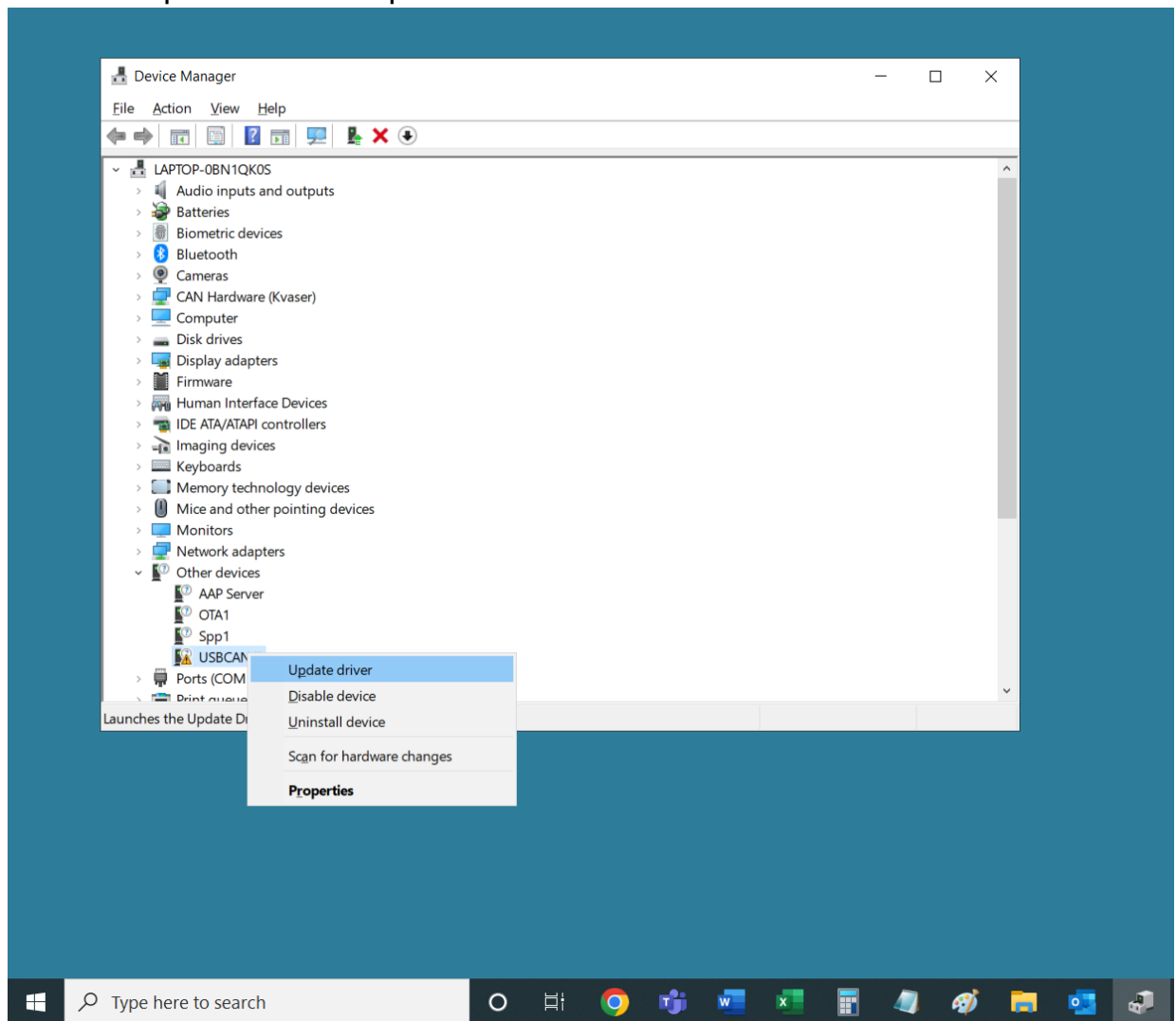
# Installing the Drivers for the CANtool (USBCAN)

1. Connect the USB cable of the CANtool (USBCAN) to your computer and the CANtool itself.
2. Click on the "Start" icon (looks like a Windows logo) and type in "device manager". Above the search-bar, click on "Device Manager".

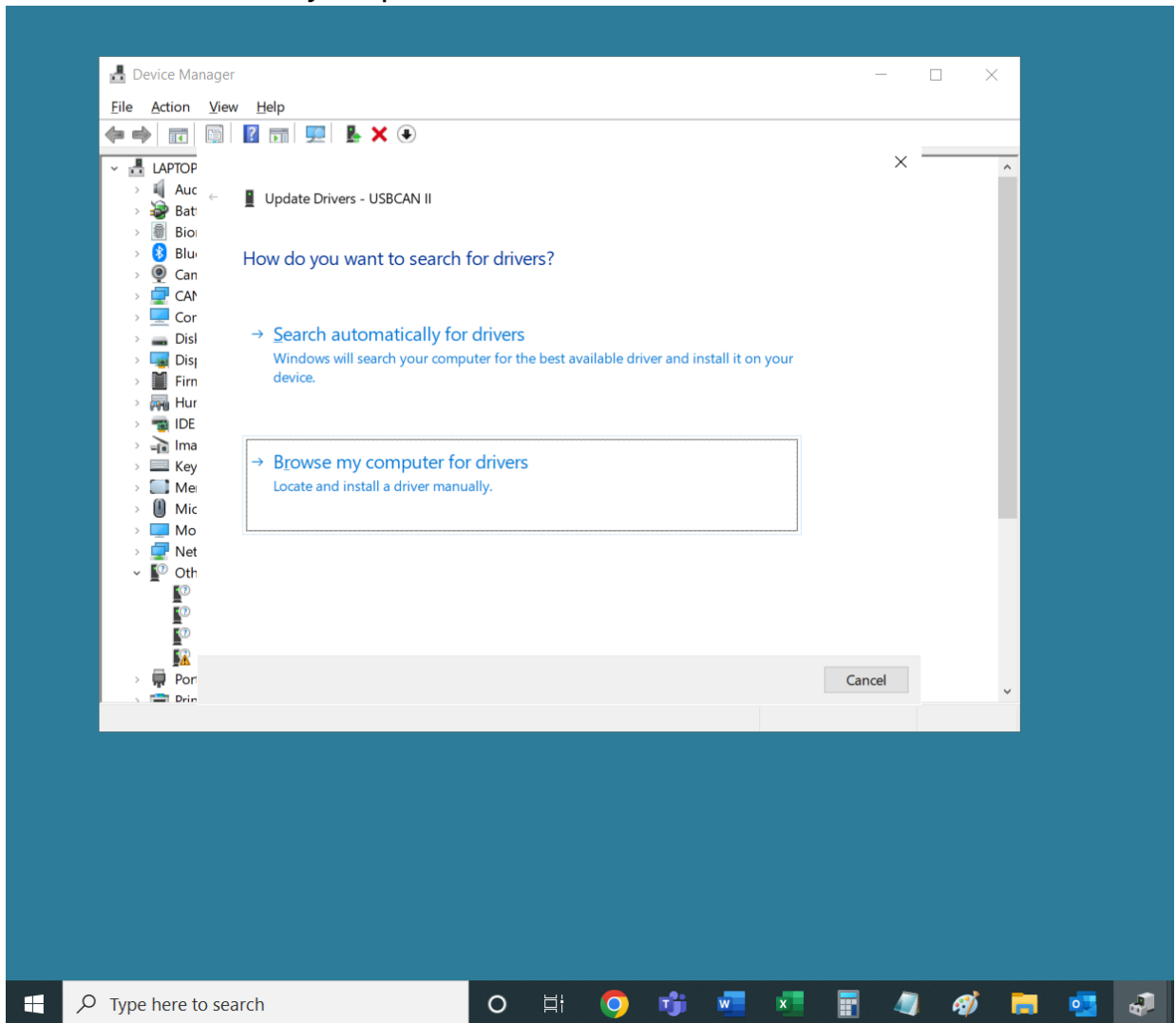


3. A window similar to the one shown below will open and one of the items of the list will be "USBCAN II" with an indent on the left. Right-click on this "USBCAN II" and

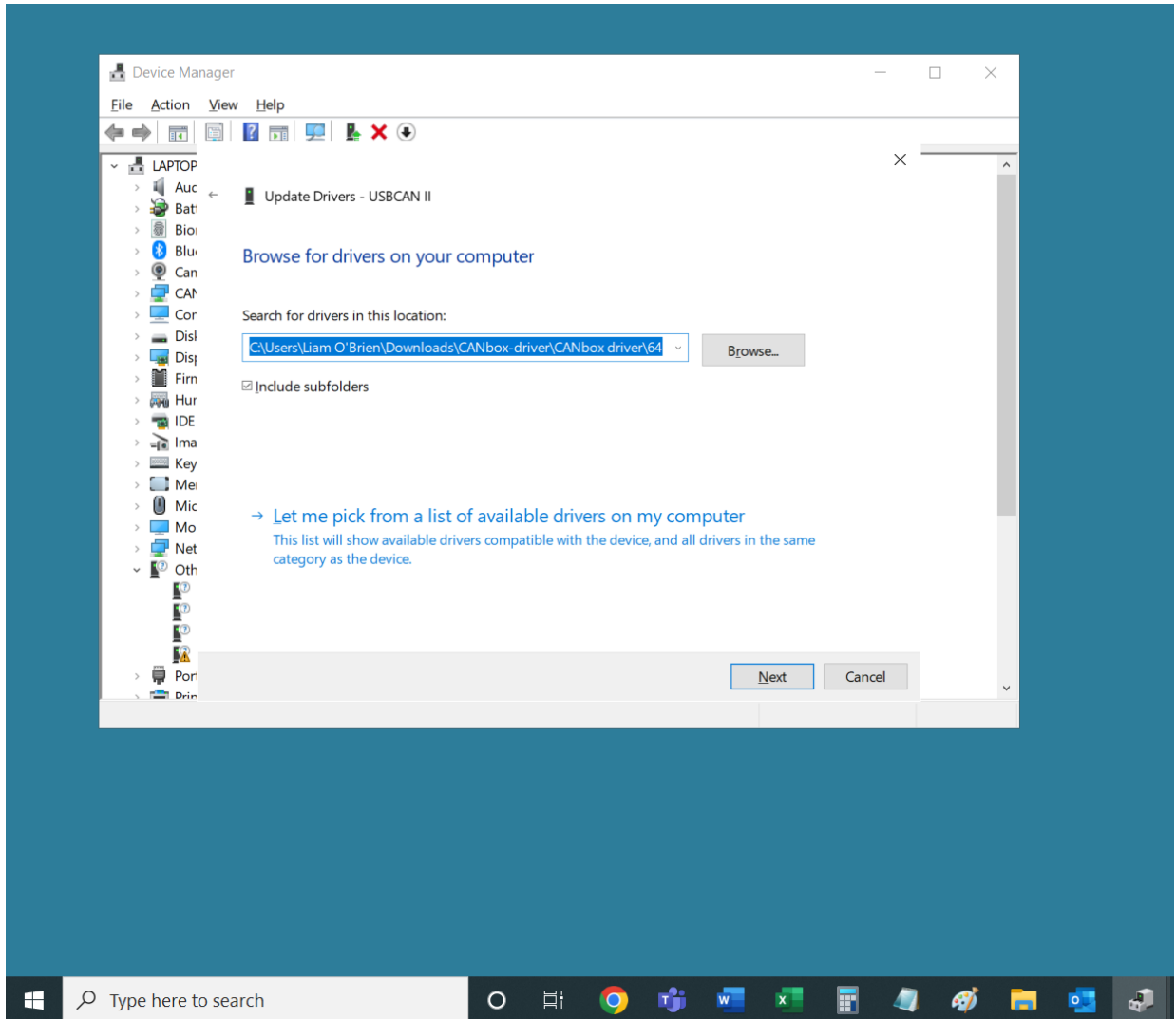
from the drop-down click on "Update driver".



4. Next, click on "Browse my computer for drivers".

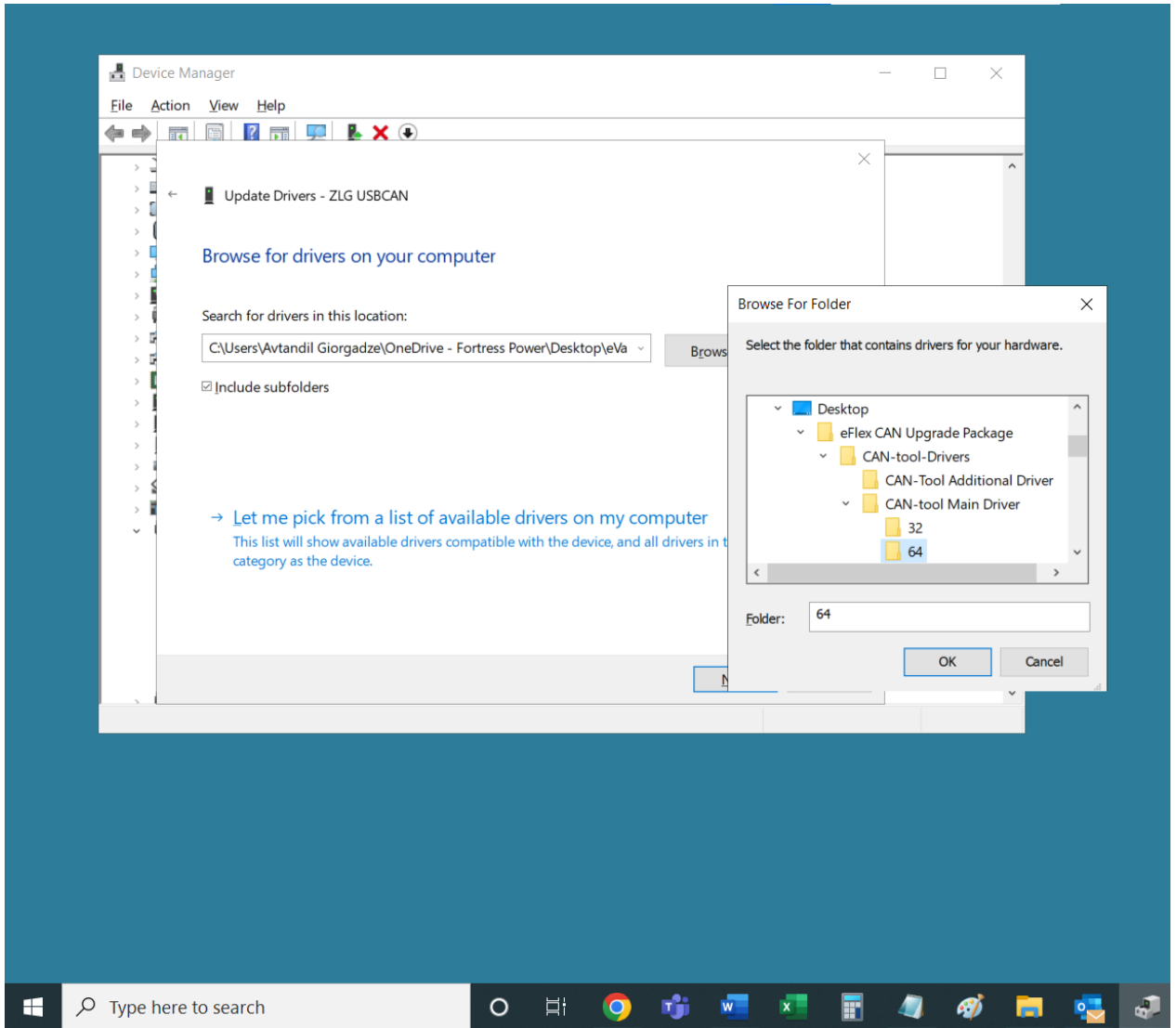


5. Now, click on "Browse..."

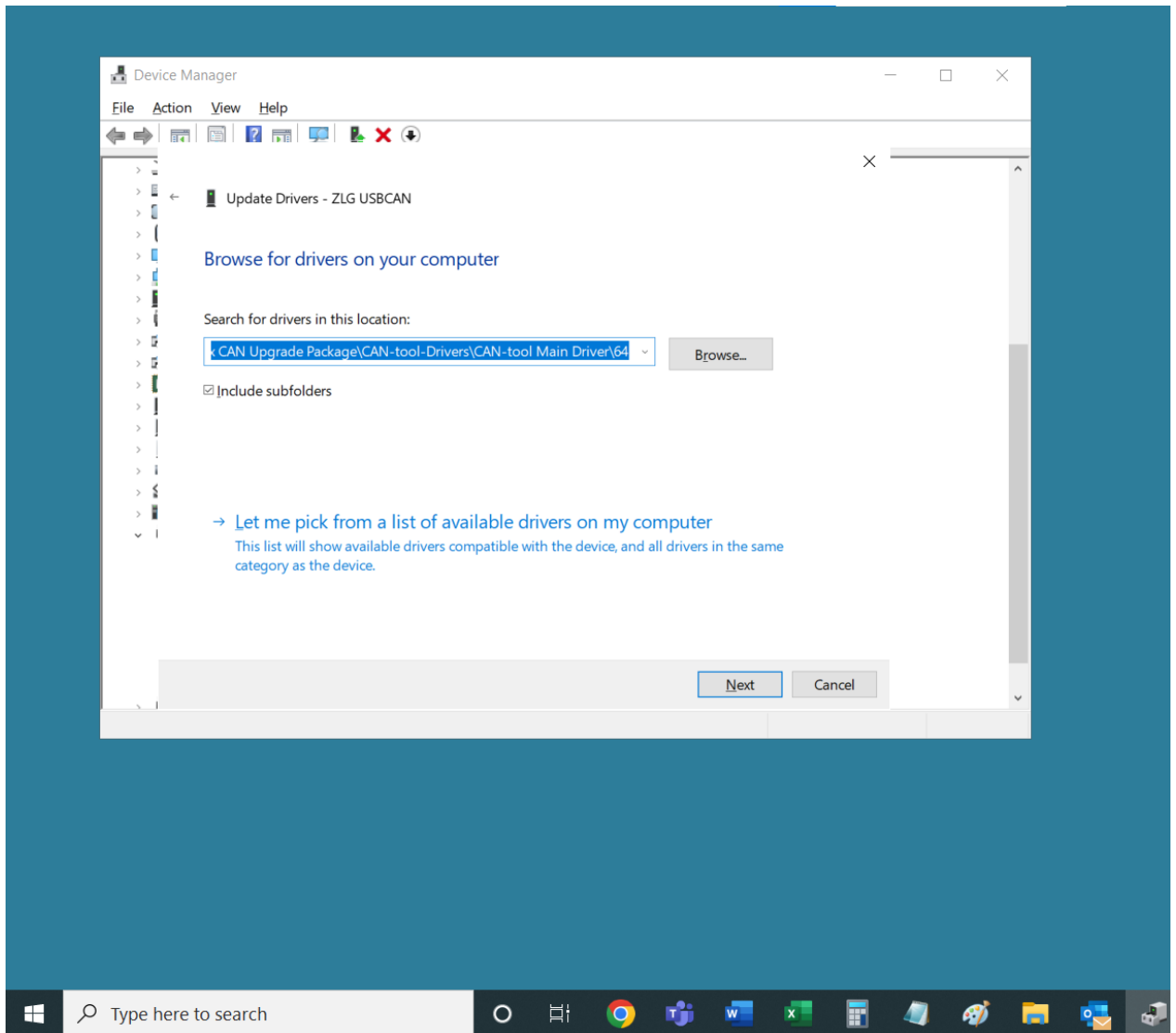


6. Then, navigate to the "eFlex CAN Upgrade Package" and from there navigate as follows: "eFlex CAN Upgrade Package" >>> "CAN-tool Drivers" >>> "CAN-tool Main"

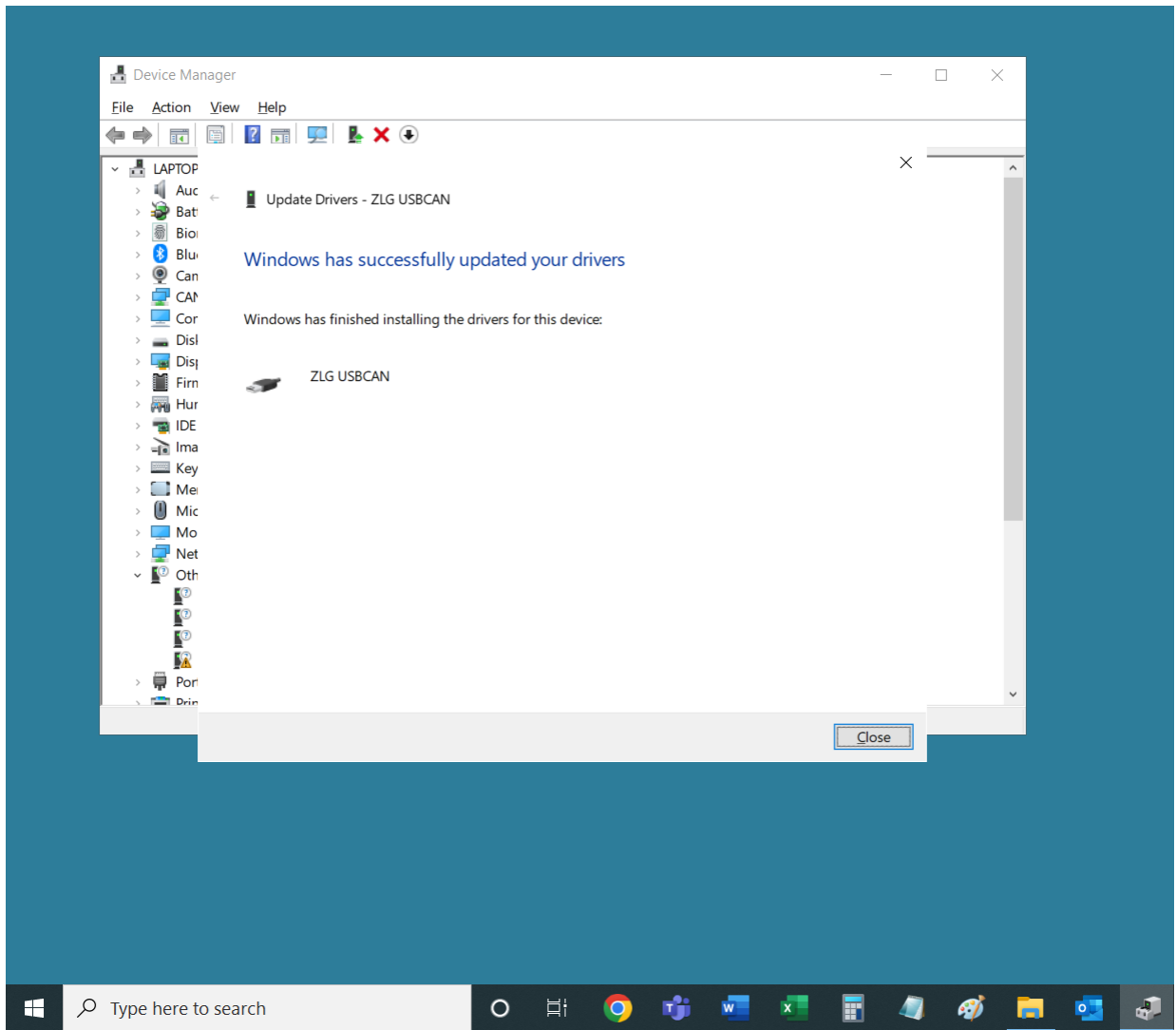
Driver" >>> "64". Once "64" is selected, click "OK".



7. Then, click "Next".



8. You will see the success message as shown below. Click "Close" and close the "Device Manager" window.



9. It's time to install an additional document. To do so, first open "eFlex CAN Upgrade Package" folder. Then, open the "CAN-tool Drivers" folder and afterwards open the "CAN-tool Additional Driver" folder. Now you can see a file titled "cantestV2.41".

> eFlex CAN Upgrade Package > CAN-tool-Drivers > CAN-Tool Additional Driver

| Name         | Date modified      | Type        | Size      |
|--------------|--------------------|-------------|-----------|
| cantestV2.41 | 12/19/2022 4:15 PM | Application | 10,715 KB |

- Quick access
  - Working Files
  - Documents
  - Pictures
  - Docs
  - Downloads
  - New folder
  - Screenshots
- OneDrive
- OneDrive - Personal
- This PC
  - 3D Objects
  - Desktop
  - Documents
  - Downloads
  - Music
  - Pictures
  - Videos
  - Windows-SSD (C:)
- Network

1 item | 1 item selected | 10.4 MB

## 10. Double-click "cantestV2.41".

The screenshot shows a Windows File Explorer window with the following details:

- Address Bar:** eFlex CAN Upgrade Package > CAN-tool-Drivers > CAN-Tool Additional Driver
- File List:**

| Name         | Date modified      | Type        | Size      |
|--------------|--------------------|-------------|-----------|
| cantestV2.41 | 12/19/2022 4:15 PM | Application | 10,715 KB |
- Left Panel (Quick access):** Working Files, Documents, Pictures, Docs, Downloads, New folder, Screenshots, OneDrive, OneDrive - Personal, This PC, 3D Objects, Desktop, Documents, Downloads, Music, Pictures, Videos, Windows-SSD (C:), Network.
- Overlaid Dialog Box:**
  - Title:** CANTest 2.41 Setup
  - Header:** Welcome to CANTest 2.41 Setup
  - Text:** Setup will guide you through the installation of CANTest 2.41. It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer. Click Next to continue.
  - Buttons:** Next > (highlighted), Cancel

At the bottom of the File Explorer window, it shows "1 item" and "1 item selected 10.4 MB". The Windows taskbar at the bottom includes the Start button, search bar, and several application icons (Task View, Chrome, Teams, Word, Excel, Calculator, File Explorer, Mail, Photos).

11. Then click "Install" and the installation process will start.

The screenshot shows a Windows File Explorer window titled 'CAN-Tool Additional Driver' with the address bar showing the path: 'eFlex CAN Upgrade Package > CAN-tool-Drivers > CAN-Tool Additional Driver'. The file 'cantestV2.41' is selected in the main pane. The left sidebar shows the 'Quick access' menu with various folders like 'Working Files', 'Documents', 'Pictures', etc. An installation dialog box titled 'CANTest 2.41 Setup' is overlaid on the right. The dialog has a title bar with standard window controls. The main content area is titled 'Choose Install Location' and contains the text: 'Choose the folder in which to install CANTest 2.41.' Below this, it says: 'Setup will install CANTest 2.41 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.' There is a text box labeled 'Destination Folder' containing the path 'C:\Program Files (x86)\CANTest\'. To the right of the text box is a 'Browse...' button. Below the text box, it shows 'Space required: 26.4MB' and 'Space available: 345.2GB'. At the bottom of the dialog, there are three buttons: '< Back', 'Install', and 'Cancel'. The 'Install' button is highlighted in blue. The taskbar at the bottom shows the Windows Start button, a search bar with the text 'Type here to search', and several application icons including Chrome, Teams, Word, Excel, and Outlook.

12. Almost at the end of the installation, there will be a prompt. Click on "? (Y)".

The screenshot shows a Windows File Explorer window with the following details:

- Address bar: eFlex CAN Upgrade Package > CAN-tool-Drivers > CAN-Tool Additional Driver
- Table of files:

| Name         | Date modified      | Type        | Size      |
|--------------|--------------------|-------------|-----------|
| cantestV2.41 | 12/19/2022 4:15 PM | Application | 10,715 KB |
- Left sidebar: Quick access, Working Files, Documents, Pictures, Docs, Downloads, New folder, Screenshots, OneDrive, OneDrive - Personal, This PC, 3D Objects, Desktop, Documents, Downloads, Music, Pictures, Videos, Windows-SSD (C:), Network.
- Bottom status bar: 1 item, 1 item selected, 10.4 MB.

The overlaid 'CANTest 2.41 Setup' window contains the following text:

**Installing**

Please Microsoft Visual C++ 2005 SP1 2E0U-6EDx...

????????????? PAGE DOWN ??????????????

EXECUTING

Skipp  
Skipp  
Skipp  
Outp  
Creat  
Creat  
Outp  
Extra  
ÖyÖl  
Exec

**MICROSOFT 软件许可条款**

MICROSOFT VISUAL C++ 2005 RUNTIME LIBRARIES

本许可条款是 Microsoft Corporation (或您所在地的 Microsoft Corporation 关联公司) 与您之间达成的协议。请阅读本条款的内容。本条款适用于上述, 其中包括您用来接收该软件的媒体 (若有)。本条款也适用于 Microsoft:

- \* 更新、
- \* 补充、
- \* 基于 Internet 的服务和
- \* 支持服务

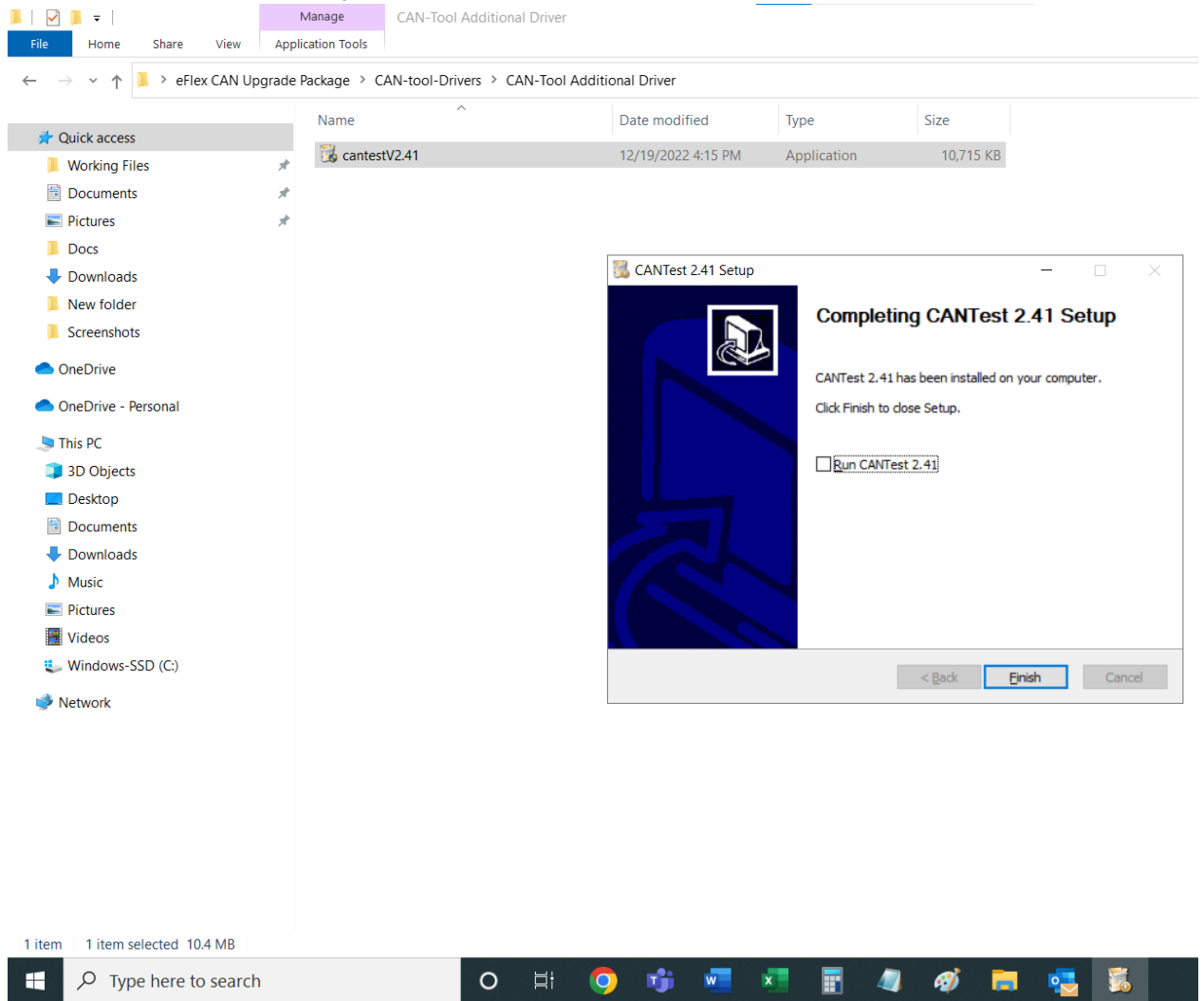
为此软件提供的 (除非下述内容附带有其他条款)。如果确实附

???????????????????? ???? "??", ??????????????????, ?????????

ZHIYUAN

? (Y) ? (N) Cancel

13. Once the installation is completed, uncheck "Run CANTest 2.41" and click "Finish".



14. Go back to folder "eFlex CAN Upgrade Package".

**The drivers only have to be installed once. Keep the CANTool connected to the computer and now it's time to perform an actual firmware update.**

# Updating Firmware

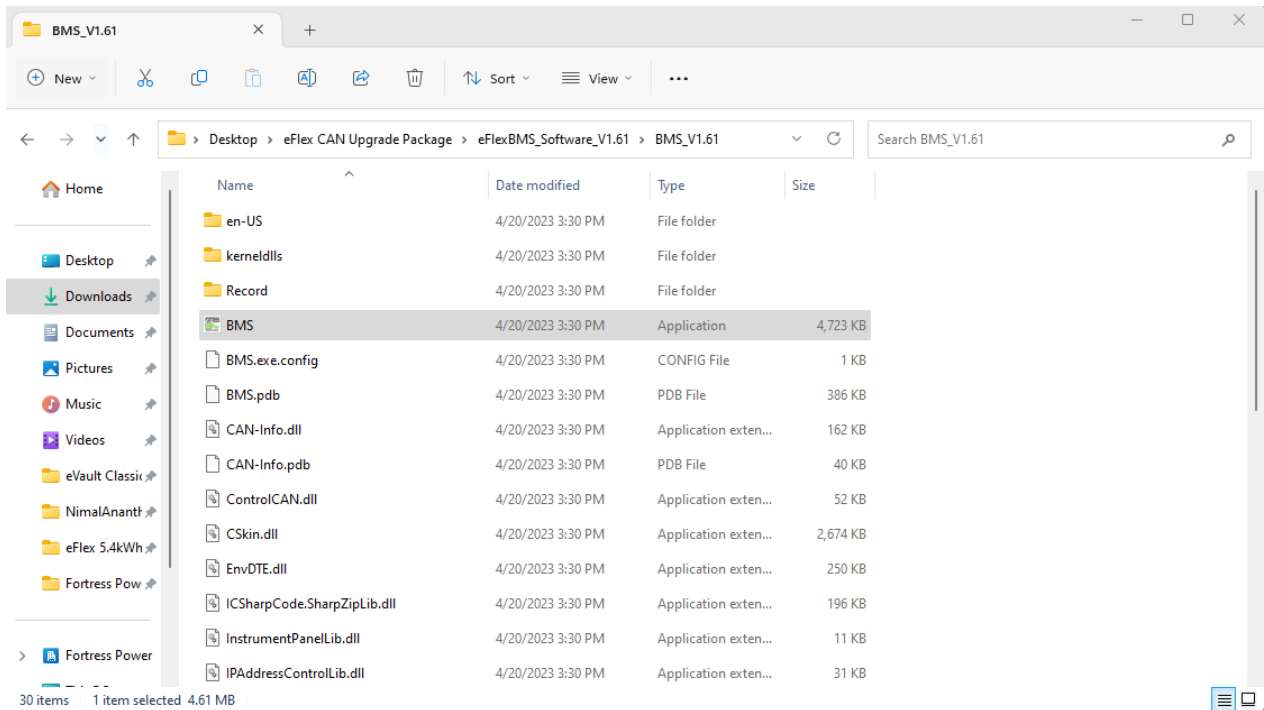
## **Important!**

There must be no current flow to or from any battery in the system during the firmware update process. It is a good idea to have the battery breakers on all Sol-Arks in the system in the 'OFF' position.

Firmware must be updated on one battery at a time. During the firmware update, the battery must be communicating neither with an inverter nor with any other battery. Unplug the battery to inverter communication cable, next, turn off the other batteries in the loop and keep turned on only the battery that is receiving the new firmware (later turning off this battery and turning on the next battery to receive the firmware, repeating this for all the batteries in the system). There must be now current flow to or from the batteries in the process.

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 ethernet ports.

1. Open "eFlex CAN Upgrade Package" folder, then open "eFlex-BMS-Software-V...." folder and double click on the subfolder with the same folder name, "eFlex-BMS-Software-V....". Afterwards, Find a file named "BMS". Open this file by double-clicking on it.



2. You might see something similar to the one shown below. If so, click on "More info" in the blue window.

File Explorer window showing the path: eFlex CAN Upgrade Package > eFlex-BMS-Software-V.0628 > eFlex BMS Software (V.0628). The window title is "eFlex BMS Software (V.0628)".

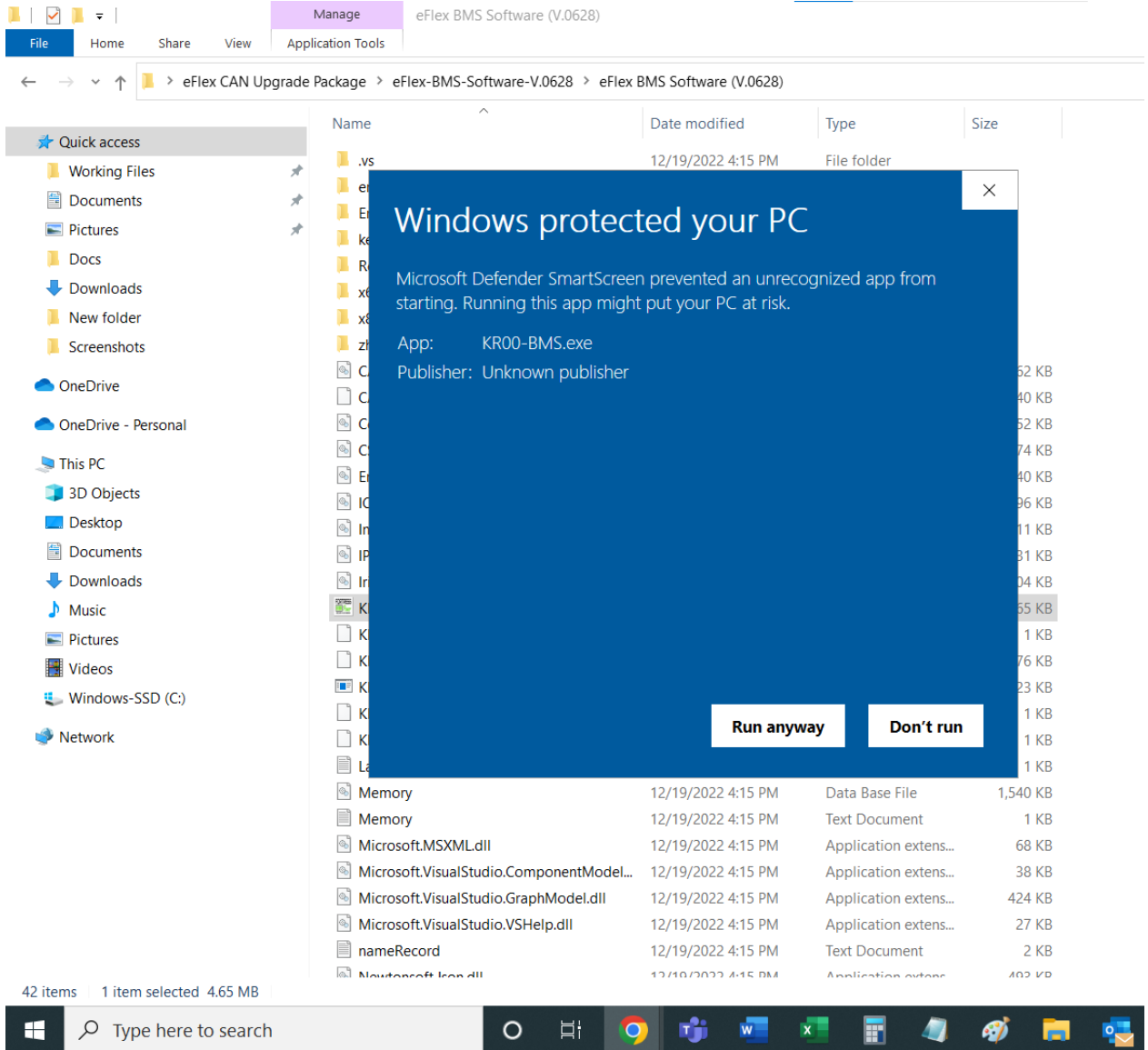
The left sidebar shows "Quick access" and "This PC" sections. The main pane displays a list of files and folders. A "Windows protected your PC" security warning dialog is overlaid on the file list, stating: "Microsoft Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk. [More info](#)". The dialog has a "Don't run" button.

| Name                                     | Date modified      | Type                  | Size     |
|--|--------------------|-----------------------|----------|
| .vs                                      | 12/19/2022 4:15 PM | File folder           |          |
| en                                       |                    |                       | 52 KB    |
| Er                                       |                    |                       | 40 KB    |
| ke                                       |                    |                       | 52 KB    |
| R  |                    |                       | 74 KB    |
| x  |                    |                       | 40 KB    |
| x  |                    |                       | 96 KB    |
| zh                                       |                    |                       | 11 KB    |
| C  |                    |                       | 81 KB    |
| C  |                    |                       | 104 KB   |
| C  |                    |                       | 55 KB    |
| C  |                    |                       | 1 KB     |
| E  |                    |                       | 76 KB    |
| IC                                       |                    |                       | 23 KB    |
| In                                       |                    |                       | 1 KB     |
| IP                                       |                    |                       | 1 KB     |
| Ir                                       |                    |                       | 1 KB     |
| K  |                    |                       | 1,540 KB |
| K  |                    |                       | 1 KB     |
| K  |                    |                       | 68 KB    |
| K  |                    |                       | 38 KB    |
| K  |                    |                       | 424 KB   |
| K  |                    |                       | 27 KB    |
| nameRecord                               |                    |                       | 2 KB     |
| Newtonsoft.Json.dll                      |                    |                       | 403 KB   |
| Memory                                   | 12/19/2022 4:15 PM | Data Base File        | 1,540 KB |
| Memory                                   | 12/19/2022 4:15 PM | Text Document         | 1 KB     |
| Microsoft.MSXML.dll                      | 12/19/2022 4:15 PM | Application extens... | 68 KB    |
| Microsoft.VisualStudio.ComponentModel... | 12/19/2022 4:15 PM | Application extens... | 38 KB    |
| Microsoft.VisualStudio.GraphModel.dll    | 12/19/2022 4:15 PM | Application extens... | 424 KB   |
| Microsoft.VisualStudio.VSHelp.dll        | 12/19/2022 4:15 PM | Application extens... | 27 KB    |
| nameRecord                               | 12/19/2022 4:15 PM | Text Document         | 2 KB     |
| Newtonsoft.Json.dll                      | 12/19/2022 4:15 PM | Application extens... | 403 KB   |

42 items 1 item selected 4.65 MB

Windows taskbar: Type here to search, Task View, Chrome, Teams, Word, Excel, Calculator, File Explorer, Paint, Mail.

3. Next, click on "Run anyway".



4. Now the BMS software is open. In the top left corner of the software click on "Communication Configuration" and in the dropdown of it click on "CAN".

Communication Configuration Parameters Setting Record Export Data Language Select

**CAN**

**WIFI**

|  |   |   |   |
|--|---|---|---|
| Battery ID -<br>Qty_Batt -<br>Unit Voltage -<br>Unit Current -<br>Unit SOC -<br>Charge Relay Status -<br>Discharge Relay Status -<br>Pre-charge Relay Status -<br>System Average Voltage -<br>System Unit Quantity -<br>Battery Parallel Status -<br>Insulation resistance(kΩ) -<br>Pre_Volt(V) -<br>Max Cell Volt(mV) -<br>Max Cell Volt Num -<br>Min Cell Volt(mV) -<br>Min Cell Volt Num -<br>Max Temp(°C) -<br>Max Temp Num -<br>Min Temp(°C) -<br>Min Temp Num -<br>Software Version -<br>Hardware Version -<br>Alarm Level -<br>Cycle Counts -<br>Balance Volt(V) -<br>Discharge Energy(kWH) -<br>UPS Manufacturer -<br>01 <span>Detail</span><br>Update<br>UPS WiFi | Basic information<br>Battery ID -<br>Qty_Batt -<br>Unit Voltage -<br>Unit Current -<br>Unit SOC -<br>Charge Relay Status -<br>Discharge Relay Status -<br>Pre-charge Relay Status -<br>System Average Voltage -<br>System Unit Quantity -<br>Battery Parallel Status -<br>Insulation resistance(kΩ) -<br>Pre_Volt(V) -<br>Max Cell Volt(mV) -<br>Max Cell Volt Num -<br>Min Cell Volt(mV) -<br>Min Cell Volt Num -<br>Max Temp(°C) -<br>Max Temp Num -<br>Min Temp(°C) -<br>Min Temp Num -<br>Software Version -<br>Hardware Version -<br>Alarm Level -<br>Cycle Counts -<br>Balance Volt(V) -<br>Discharge Energy(kWH) -<br>UPS Manufacturer -<br>02 <span>Detail</span><br>Update<br>UPS WiFi | Basic information<br>Battery ID -<br>Qty_Batt -<br>Unit Voltage -<br>Unit Current -<br>Unit SOC -<br>Charge Relay Status -<br>Discharge Relay Status -<br>Pre-charge Relay Status -<br>System Average Voltage -<br>System Unit Quantity -<br>Battery Parallel Status -<br>Insulation resistance(kΩ) -<br>Pre_Volt(V) -<br>Max Cell Volt(mV) -<br>Max Cell Volt Num -<br>Min Cell Volt(mV) -<br>Min Cell Volt Num -<br>Max Temp(°C) -<br>Max Temp Num -<br>Min Temp(°C) -<br>Min Temp Num -<br>Software Version -<br>Hardware Version -<br>Alarm Level -<br>Cycle Counts -<br>Balance Volt(V) -<br>Discharge Energy(kWH) -<br>UPS Manufacturer -<br>03 <span>Detail</span><br>Update<br>UPS WiFi | Basic information<br>Battery ID -<br>Qty_Batt -<br>Unit Voltage -<br>Unit Current -<br>Unit SOC -<br>Charge Relay Status -<br>Discharge Relay Status -<br>Pre-charge Relay Status -<br>System Average Voltage -<br>System Unit Quantity -<br>Battery Parallel Status -<br>Insulation resistance(kΩ) -<br>Pre_Volt(V) -<br>Max Cell Volt(mV) -<br>Max Cell Volt Num -<br>Min Cell Volt(mV) -<br>Min Cell Volt Num -<br>Max Temp(°C) -<br>Max Temp Num -<br>Min Temp(°C) -<br>Min Temp Num -<br>Software Version -<br>Hardware Version -<br>Alarm Level -<br>Cycle Counts -<br>Balance Volt(V) -<br>Discharge Energy(kWH) -<br>UPS Manufacturer -<br>04<br>Update<br>UPS WiFi |
|--|---|---|---|

State

Type here to search

- In the window that opens next, click on "Connection CAN" without changing any parameters.

Communication Configuration Parameters Setting Record Export Data Language Select

The screenshot displays a software interface for BMS configuration. At the top, there are navigation tabs: "Communication Configuration", "Parameters Setting", "Record", "Export Data", and "Language Select". The main area is divided into four columns, each representing a device unit (01, 02, 03, 04). Each column contains a list of parameters such as "Battery ID", "Qty\_Batt", "Unit Voltage", "Unit Current", "Unit SOC", "Charge Relay Status", "Discharge Relay Status", "Pre-charge Relay Status", "System Average Voltage", "System Unit Quantity", "Battery Parallel Status", "Insulation resistance(kΩ)", "Pre\_Volt(V)", "Max Cell Volt(mV)", "Min Cell Volt(mV)", "Max Temp(°C)", "Min Temp(°C)", "Software Version", "Hardware Version", "Alarm Level", "Cycle Counts", "Balance Volt(V)", "Discharge Energy(kWH)", and "UPS Manufacturer". Below each list are buttons for "Detail", "Update", and "UPS WiFi".

A "Communication Configuration" dialog box is open in the center. It contains the following fields and buttons:

- Choose CAN Device:** A dropdown menu showing "USBCAN2\USBCAN2A".
- CAN Channel:** A dropdown menu showing "0".
- CAN Baud Rate:** A dropdown menu showing "250K".
- Buttons:** "Disconnect CAN" and "Connection CAN".

The Windows taskbar is visible at the bottom, showing the search bar and various application icons.

6. If everything so far was done correctly, you'll see "CAN Connected", click "OK" in the success window.

Communication Configuration Parameters Setting Record Export Data Language Select

Basic information Battery ID - Qty\_Batt - Unit Voltage - Unit Current - Unit SOC - Charge Relay Status Discharge Relay Status Pre-charge Relay Status System Average Voltage System Unit Quantity Battery Parallel Status Insulation resistance(kΩ) Pre\_Volt(V) Max Cell Volt(mV) Max Cell Volt Num Min Cell Volt(mV) Min Cell Volt Num Max Temp(°C) Max Temp Num Min Temp(°C) Min Temp Num Software Version Hardware Version Alarm Level Cycle Counts Balance Volt(V) Discharge Energy(kWH) UPS Manufacturer

01 Detail Update UPS WiFi

02 Detail Update UPS WiFi

03 Detail Update UPS WiFi

04 Detail Update UPS WiFi

State

Type here to search

7. Once the communication between a computer and a battery is established, the lines are populated as seen below.

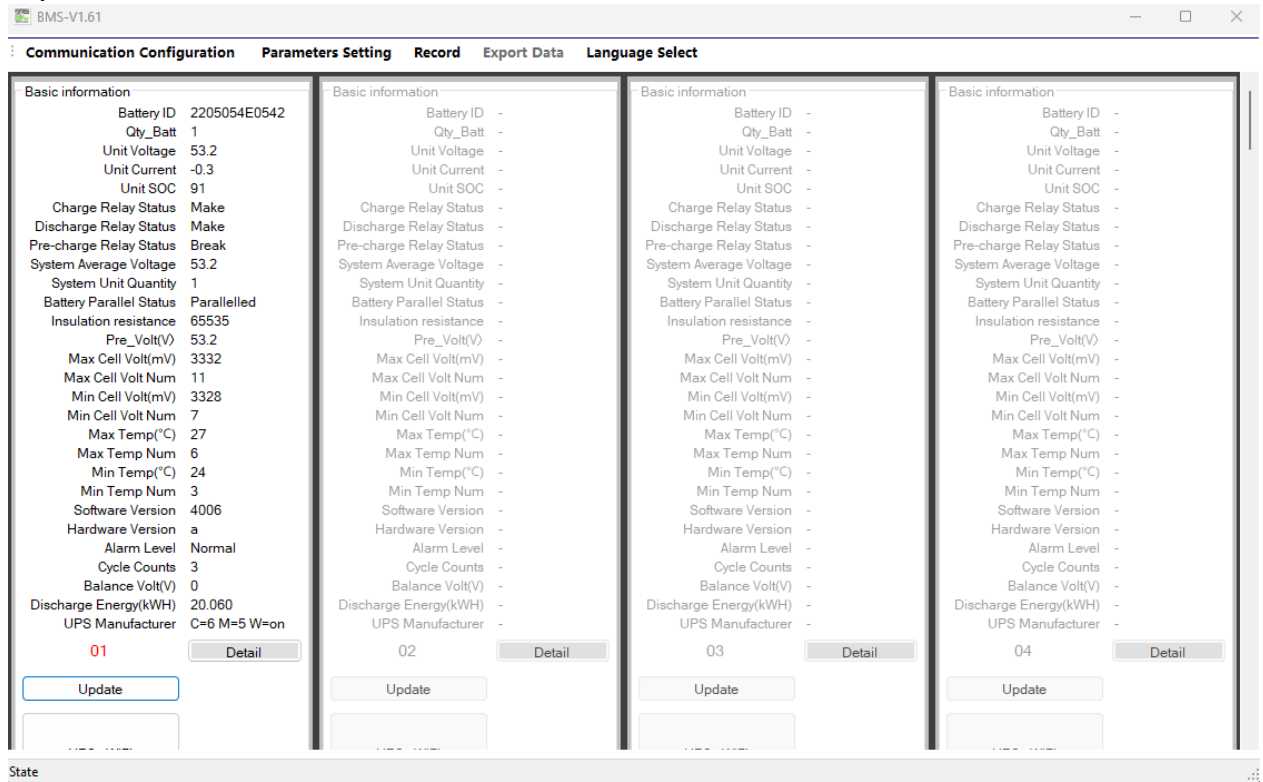
Communication Configuration Parameters Setting Record Export Data Language Select

| 01   | 02   | 03   | 04   |
|--|--|--|--|
| <p>Basic information</p> <p>Battery ID 2009054E0133</p> <p>Qty_Batt 1</p> <p>Unit Voltage 54.6</p> <p>Unit Current -0.5</p> <p>Unit SOC 100</p> <p>Charge Relay Status Make</p> <p>Discharge Relay Status Make</p> <p>Pre-charge Relay Status Break</p> <p>System Average Voltage 546</p> <p>System Unit Quantity 1</p> <p>Battery Parallel Status Parallellled</p> <p>Insulation resistance(kΩ) 65535</p> <p>Pre_Volt(V) 553</p> <p>Max Cell Volt(mV) 3547</p> <p>Max Cell Volt Num 7</p> <p>Min Cell Volt(mV) 3339</p> <p>Min Cell Volt Num 16</p> <p>Max Temp(°C) 26</p> <p>Max Temp Num 6</p> <p>Min Temp(°C) 24</p> <p>Min Temp Num 3</p> <p>Software Version 3010</p> <p>Hardware Version d</p> <p>Alarm Level 2</p> <p>Cycle Counts 12</p> <p>Balance Volt(V) 0</p> <p>Discharge Energy(kWH) 68.966</p> <p>UPS Manufacturer C=2 M=5 W=on</p> <p><b>01</b></p> <p>Update</p> <p>UPS WiFi</p> | <p>Basic information</p> <p>Battery ID -</p> <p>Qty_Batt -</p> <p>Unit Voltage -</p> <p>Unit Current -</p> <p>Unit SOC -</p> <p>Charge Relay Status -</p> <p>Discharge Relay Status -</p> <p>Pre-charge Relay Status -</p> <p>System Average Voltage -</p> <p>System Unit Quantity -</p> <p>Battery Parallel Status -</p> <p>Insulation resistance(kΩ) -</p> <p>Pre_Volt(V) -</p> <p>Max Cell Volt(mV) -</p> <p>Max Cell Volt Num -</p> <p>Min Cell Volt(mV) -</p> <p>Min Cell Volt Num -</p> <p>Max Temp(°C) -</p> <p>Max Temp Num -</p> <p>Min Temp(°C) -</p> <p>Min Temp Num -</p> <p>Software Version -</p> <p>Hardware Version -</p> <p>Alarm Level -</p> <p>Cycle Counts -</p> <p>Balance Volt(V) -</p> <p>Discharge Energy(kWH) -</p> <p>UPS Manufacturer -</p> <p>02</p> <p>Update</p> <p>UPS WiFi</p> | <p>Basic information</p> <p>Battery ID -</p> <p>Qty_Batt -</p> <p>Unit Voltage -</p> <p>Unit Current -</p> <p>Unit SOC -</p> <p>Charge Relay Status -</p> <p>Discharge Relay Status -</p> <p>Pre-charge Relay Status -</p> <p>System Average Voltage -</p> <p>System Unit Quantity -</p> <p>Battery Parallel Status -</p> <p>Insulation resistance(kΩ) -</p> <p>Pre_Volt(V) -</p> <p>Max Cell Volt(mV) -</p> <p>Max Cell Volt Num -</p> <p>Min Cell Volt(mV) -</p> <p>Min Cell Volt Num -</p> <p>Max Temp(°C) -</p> <p>Max Temp Num -</p> <p>Min Temp(°C) -</p> <p>Min Temp Num -</p> <p>Software Version -</p> <p>Hardware Version -</p> <p>Alarm Level -</p> <p>Cycle Counts -</p> <p>Balance Volt(V) -</p> <p>Discharge Energy(kWH) -</p> <p>UPS Manufacturer -</p> <p>03</p> <p>Update</p> <p>UPS WiFi</p> | <p>Basic information</p> <p>Battery -</p> <p>Qty_B -</p> <p>Unit Volta -</p> <p>Unit Curre -</p> <p>Unit SC -</p> <p>Charge Relay Stat -</p> <p>Discharge Relay Stat -</p> <p>Pre-charge Relay Stat -</p> <p>System Average Volta -</p> <p>System Unit Quan -</p> <p>Battery Parallel Stat -</p> <p>Insulation resistance(k -</p> <p>Pre_Volt( -</p> <p>Max Cell Volt(m -</p> <p>Max Cell Volt Nu -</p> <p>Min Cell Volt(m -</p> <p>Min Cell Volt Nu -</p> <p>Max Temp(° -</p> <p>Max Temp Nu -</p> <p>Min Temp(° -</p> <p>Min Temp Nu -</p> <p>Software Versi -</p> <p>Hardware Versi -</p> <p>Alarm Le -</p> <p>Cycle Cour -</p> <p>Balance Volt -</p> <p>Discharge Energy(kW -</p> <p>UPS Manufactu -</p> <p>04</p> <p>Update</p> <p>UPS WiFi</p> |

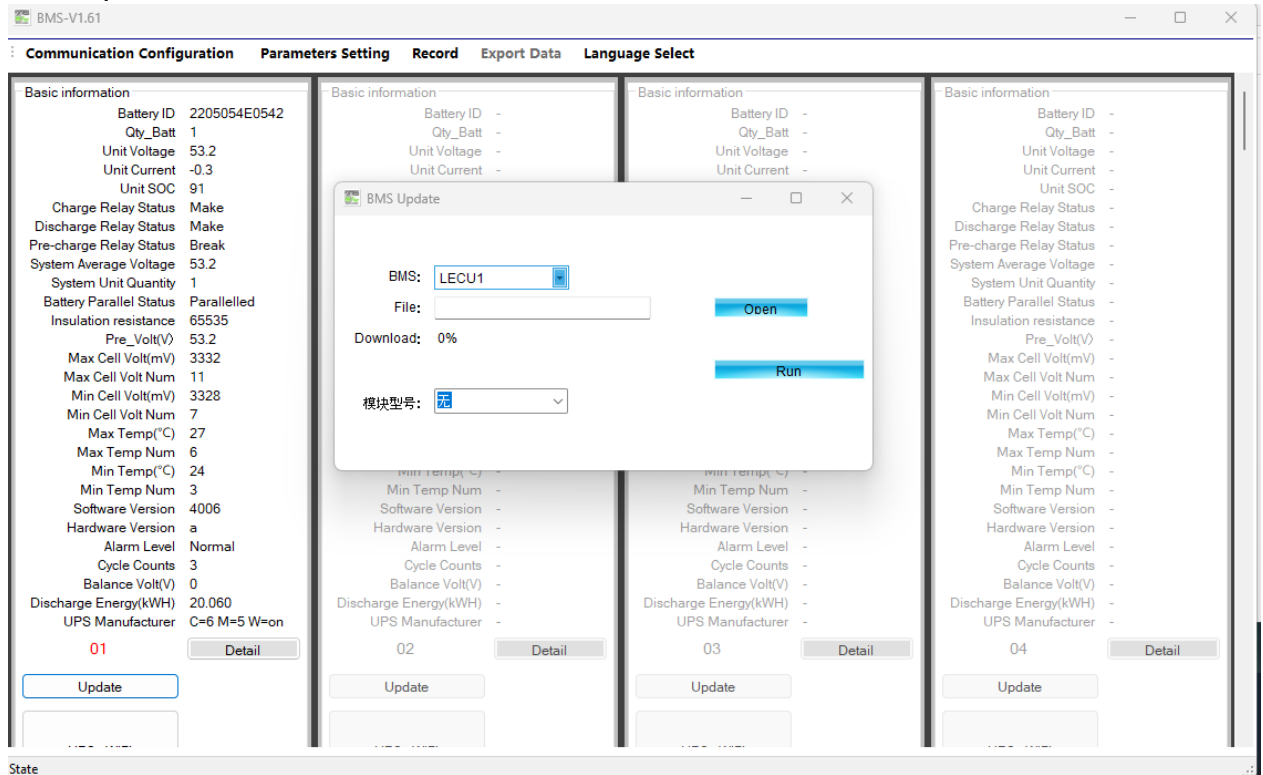
State

- It's time to update the firmware file.  
To continue the process by selecting the appropriate firmware version, click on

## "Update".

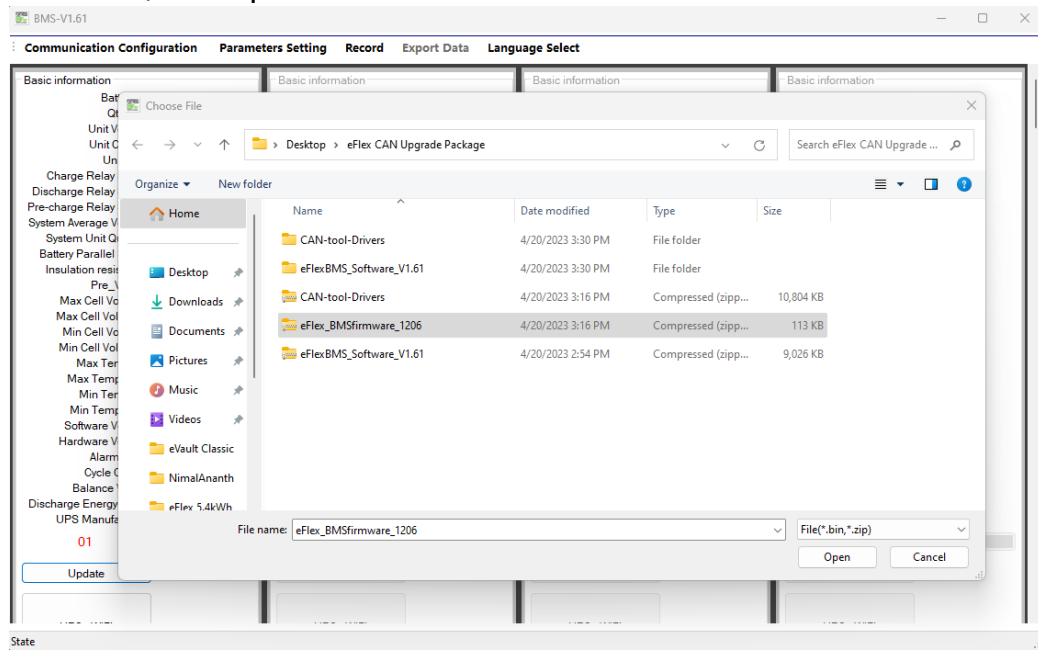


## 9. Click "Open".

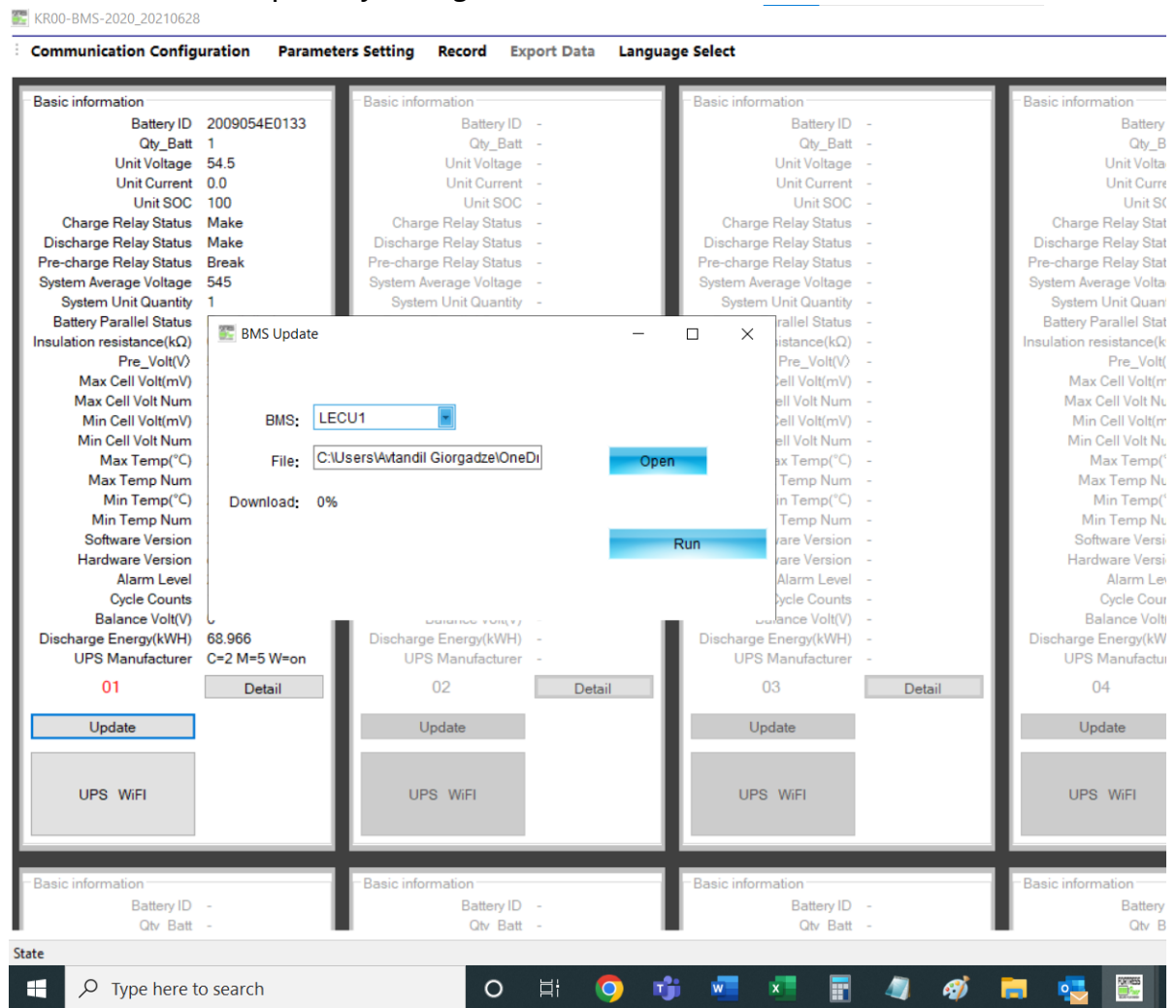


10. Navigate to the "eFlex CAN Upgrade Package" in this pop-up window, double-click on "eFlex CAN Upgrade Package" and then click on "eFlex\_BMSfirmware\_12.06".

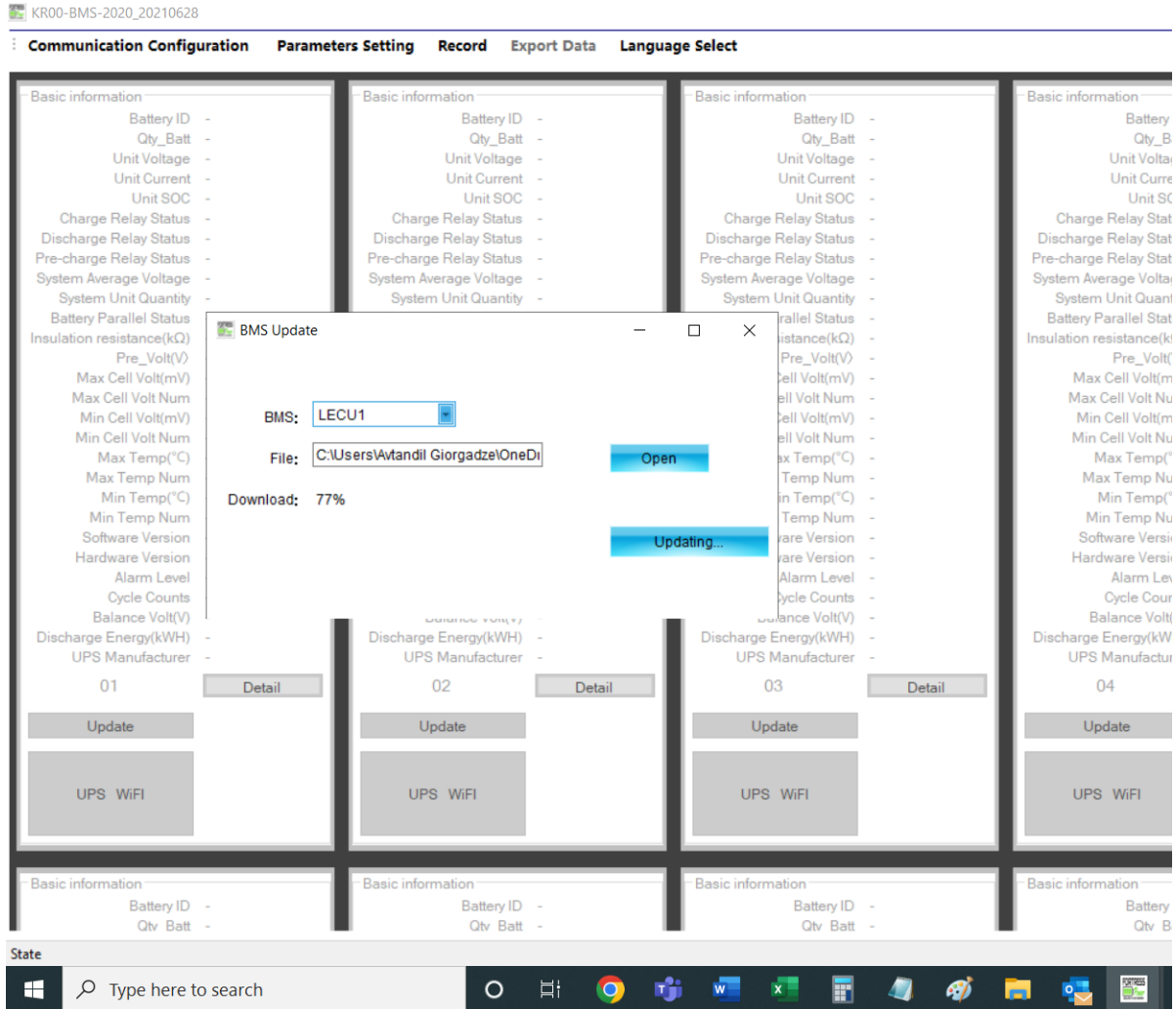
Afterwards, click "Open".



11. Initiate the firmware update by clicking "Run".



12. Percentage will start increasing.



13. At the end of the firmware update, you'll see a success message as shown below.  
Now the firmware is updated. You may close this window and disconnect the CAN

tool from the battery.

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Communication Configuration Parameters Setting Record Export Data Language Select

| 01                          | 02                          | 03                          | 04                      |
|-----------------------------|-----------------------------|-----------------------------|-------------------------|
| Basic information           | Basic information           | Basic information           | Basic information       |
| Battery ID -                | Battery ID -                | Battery ID -                | Battery                 |
| Qty_Batt -                  | Qty_Batt -                  | Qty_Batt -                  | Qty_E                   |
| Unit Voltage -              | Unit Voltage -              | Unit Voltage -              | Unit Volta              |
| Unit Current -              | Unit Current -              | Unit Current -              | Unit Curn               |
| Unit SOC -                  | Unit SOC -                  | Unit SOC -                  | Unit Si                 |
| Charge Relay Status -       | Charge Relay Status -       | Charge Relay Status -       | Charge Relay Sta        |
| Discharge Relay Status -    | Discharge Relay Status -    | Discharge Relay Status -    | Discharge Relay Sta     |
| Pre-charge Relay Status -   | Pre-charge Relay Status -   | Pre-charge Relay Status -   | Pre-charge Relay Sta    |
| System Average Voltage -    | System Average Voltage -    | System Average Voltage -    | System Average Volta    |
| System Unit Quantity -      | System Unit Quantity -      | System Unit Quantity -      | System Unit Quan        |
| Battery Parallel Status -   | Battery Parallel Status -   | Battery Parallel Status -   | Battery Parallel Sta    |
| Insulation resistance(kΩ) - | Insulation resistance(kΩ) - | Insulation resistance(kΩ) - | Insulation resistance(k |
| Pre_Volt(V) -               | Pre_Volt(V) -               | Pre_Volt(V) -               | Pre_Volt                |
| Max Cell Volt(mV) -         | Max Cell Volt(mV) -         | Max Cell Volt(mV) -         | Max Cell Volt(n         |
| Max Cell Volt Num -         | Max Cell Volt Num -         | Max Cell Volt Num -         | Max Cell Volt Ni        |
| Min Cell Volt(mV) -         | Min Cell Volt(mV) -         | Min Cell Volt(mV) -         | Min Cell Volt(n         |
| Min Cell Volt Num -         | Min Cell Volt Num -         | Min Cell Volt Num -         | Min Cell Volt Ni        |
| Max Temp(°C) -              | Max Temp(°C) -              | Max Temp(°C) -              | Max Temp(               |
| Max Temp Num -              | Max Temp Num -              | Max Temp Num -              | Max Temp Ni             |
| Min Temp(°C) -              | Min Temp(°C) -              | Min Temp(°C) -              | Min Temp(               |
| Min Temp Num -              | Min Temp Num -              | Min Temp Num -              | Min Temp Ni             |
| Software Version -          | Software Version -          | Software Version -          | Software Versi          |
| Hardware Version -          | Hardware Version -          | Hardware Version -          | Hardware Versi          |
| Alarm Level -               | Alarm Level -               | Alarm Level -               | Alarm Le                |
| Cycle Counts -              | Cycle Counts -              | Cycle Counts -              | Cycle Cou               |
| Balance Volt(V) -           | Balance Volt(V) -           | Balance Volt(V) -           | Balance Volt            |
| Discharge Energy(kWh) -     | Discharge Energy(kWh) -     | Discharge Energy(kWh) -     | Discharge Energy(kW     |
| UPS Manufacturer -          | UPS Manufacturer -          | UPS Manufacturer -          | UPS Manufactu           |
| Detail                      | Detail                      | Detail                      | Detail                  |
| Update                      | Update                      | Update                      | Update                  |
| UPS WiFi                    | UPS WiFi                    | UPS WiFi                    | UPS WiFi                |

BMS Update

Completed

Update Completed

OK

Open

Updated

BMS: LECU1

File: C:\Users\Avt

Download: 100%

State

Type here to search

The firmware is now updated!

# Selecting Protocol ID

1. Different communication protocols are required for different inverters. This article shows how to change CAN ("C") protocol ID. Refer to the table below to see which protocol ID is appropriate for your inverter.

| CAN ("C") Protocol IDs |   |
|------------------------|---|
| Sol-ark                | 2 |
| SMA                    | 2 |
| Victron                | 3 |

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Communication Configuration Parameters Setting Record Export Data Language Select

The screenshot displays a web-based configuration interface for a BMS system. It features a navigation bar at the top with options: Communication Configuration, Parameters Setting, Record, Export Data, and Language Select. Below this, there are four vertical panels, each representing a different CAN protocol ID (01, 02, 03, and 04). The first panel (ID 01) is active and contains a list of parameters such as Battery ID (2009054E0133), Unit Voltage (54.3), and System Average Voltage (543). A red rectangular box highlights the 'UPS Manufacturer' field, which is set to 'C=2 M=5 N=on'. Below the parameters, there is an 'Update' button and a 'UPS WiFi' button, the latter of which is enclosed in a blue dashed box. The other three panels (IDs 02, 03, and 04) show the same parameter list but with most values set to dashes, indicating they are inactive. At the bottom of the interface, there is a Windows taskbar with a search bar and several application icons.

2. Click on "UPS WiFi" and Click on the downward arrow next to the number next to "UPS-CAN:", afterwards click on the appropriate number from the dropdown list of the numbers.

Communication Configuration Parameters Setting Record Export Data Language Select

The screenshot displays a software interface for BMS configuration. At the top, there are navigation tabs: "Communication Configuration", "Parameters Setting", "Record", "Export Data", and "Language Select". The main area is divided into four columns, each representing a different BMS unit (01, 02, 03, 04). Each column contains a "Basic information" section with various parameters such as Battery ID, Unit Voltage, Unit Current, Unit SOC, Charge Relay Status, Discharge Relay Status, Pre-charge Relay Status, System Average Voltage, System Unit Quantity, Battery Parallel Status, Insulation resistance(kΩ), Pre\_Volt(V), Max Cell Volt(mV), Min Cell Volt(mV), Max Temp(°C), Min Temp(°C), Min Temp Num, Software Version, Hardware Version, Alarm Level, Cycle Counts, Balance Volt(V), Discharge Energy(kWH), and UPS Manufacturer. Below each parameter list are "Update" and "Detail" buttons. A dialog box is open over the first panel (unit 01), titled "Set". It contains a "WiFi" checkbox, a "UPS-CAN:" dropdown menu (set to "1"), and a "UPS-Modbus:" dropdown menu (showing options 1-7). There are "Set" and "Quit" buttons in the dialog. The "UPS WiFi" button in the first panel is highlighted with a blue border. At the bottom, there is a "State" bar and a Windows taskbar with search and application icons.

- You'll see that after clicking the number, the dropdown list will disappear and the number that you've selected will be displayed in the box. Next, click "Set".

| 01   | 02  | 03  | 04  |
|--|---|---|---|
| <p><b>Basic information</b></p> <p>Battery ID 2009054E0133<br/>Qty_Batt 1<br/>Unit Voltage 54.2<br/>Unit Current -0.3<br/>Unit SOC 100<br/>Charge Relay Status Make<br/>Discharge Relay Status Make<br/>Pre-charge Relay Status Break<br/>System Average Voltage 542<br/>System Unit Quantity 1<br/>Battery Parallel Status Paralleled<br/>Insulation resistance(kΩ) 6553<br/>Pre_Volt(V) 551<br/>Max Cell Volt(mV) 3493<br/>Max Cell Volt Num 7<br/>Min Cell Volt(mV) 3336<br/>Min Cell Volt Num 9<br/>Max Temp(°C) 25<br/>Max Temp Num 1<br/>Min Temp(°C) 24<br/>Min Temp Num 3<br/>Software Version 3010<br/>Hardware Version d<br/>Alarm Level 3<br/>Cycle Counts 12<br/>Balance Volt(V) 0<br/>Discharge Energy(kWH) 68.971<br/>UPS Manufacturer C=1 M=5 W=on</p> <p><b>01</b></p> <p>Update</p> <p>UPS WiFi</p> | <p><b>Basic information</b></p> <p>Battery ID -<br/>Qty_Batt -<br/>Unit Voltage -<br/>Unit Current -<br/>Unit SOC -<br/>Charge Relay Status -<br/>Discharge Relay Status -<br/>Pre-charge Relay Status -<br/>System Average Voltage -<br/>System Unit Quantity -<br/>Battery Parallel Status -<br/>Insulation resistance(kΩ) -<br/>Pre_Volt(V) -<br/>Max Cell Volt(mV) -<br/>Max Cell Volt Num -<br/>Min Cell Volt(mV) -<br/>Min Cell Volt Num -<br/>Max Temp(°C) -<br/>Max Temp Num -<br/>Min Temp(°C) -<br/>Min Temp Num -<br/>Software Version -<br/>Hardware Version -<br/>Alarm Level -<br/>Cycle Counts -<br/>Balance Volt(V) -<br/>Discharge Energy(kWH) -<br/>UPS Manufacturer -</p> <p><b>02</b></p> <p>Update</p> <p>UPS WiFi</p> | <p><b>Basic information</b></p> <p>Battery ID -<br/>Qty_Batt -<br/>Unit Voltage -<br/>Unit Current -<br/>Unit SOC -<br/>Charge Relay Status -<br/>Discharge Relay Status -<br/>Pre-charge Relay Status -<br/>System Average Voltage -<br/>System Unit Quantity -<br/>Battery Parallel Status -<br/>Insulation resistance(kΩ) -<br/>Pre_Volt(V) -<br/>Max Cell Volt(mV) -<br/>Max Cell Volt Num -<br/>Min Cell Volt(mV) -<br/>Min Cell Volt Num -<br/>Max Temp(°C) -<br/>Max Temp Num -<br/>Min Temp(°C) -<br/>Min Temp Num -<br/>Software Version -<br/>Hardware Version -<br/>Alarm Level -<br/>Cycle Counts -<br/>Balance Volt(V) -<br/>Discharge Energy(kWH) -<br/>UPS Manufacturer -</p> <p><b>03</b></p> <p>Update</p> <p>UPS WiFi</p> | <p><b>Basic information</b></p> <p>Battery ID -<br/>Qty_Batt -<br/>Unit Voltage -<br/>Unit Current -<br/>Unit SOC -<br/>Charge Relay Status -<br/>Discharge Relay Status -<br/>Pre-charge Relay Status -<br/>System Average Voltage -<br/>System Unit Quantity -<br/>Battery Parallel Status -<br/>Insulation resistance(kΩ) -<br/>Pre_Volt(V) -<br/>Max Cell Volt(mV) -<br/>Max Cell Volt Num -<br/>Min Cell Volt(mV) -<br/>Min Cell Volt Num -<br/>Max Temp(°C) -<br/>Max Temp Num -<br/>Min Temp(°C) -<br/>Min Temp Num -<br/>Software Version -<br/>Hardware Version -<br/>Alarm Level -<br/>Cycle Counts -<br/>Balance Volt(V) -<br/>Discharge Energy(kWH) -<br/>UPS Manufacturer -</p> <p><b>04</b></p> <p>Update</p> <p>UPS WiFi</p> |

**Set**

WiFi Set

UPS-CAN:  Set

UPS-Modbus:  Set

Quit

4. Once clicked on "Set", you'll see a Success message on your screen. Click "OK".

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Communication Configuration Parameters Setting Record Export Data Language Select

| 01   | 02   | 03   | 04   |
|--|--|--|--|
| <b>Basic information</b><br>Battery ID 2009054E0133<br>Qty_Batt 1<br>Unit Voltage 54.2<br>Unit Current -0.3<br>Unit SOC 100<br>Charge Relay Status Make<br>Discharge Relay Status Make<br>Pre-charge Relay Status Break<br>System Average Voltage 542<br>System Unit Quantity 1<br>Battery Parallel Status Paralleled<br>Insulation resistance(kΩ) 6553<br>Pre_Volt(V) 551<br>Max Cell Volt(mV) 3488<br>Max Cell Volt Num 7<br>Min Cell Volt(mV) 3336<br>Min Cell Volt Num 9<br>Max Temp(°C) 25<br>Max Temp Num 1<br>Min Temp(°C) 24<br>Min Temp Num 3<br>Software Version 3010<br>Hardware Version d<br>Alarm Level 3<br>Cycle Counts 12<br>Balance Volt(V) 0<br>Discharge Energy(kWH) 68.971<br>UPS Manufacturer C=3 M=5 W=on<br><b>01</b><br>Update<br>UPS WiFi | <b>Basic information</b><br>Battery ID -<br>Qty_Batt -<br>Unit Voltage -<br>Unit Current -<br>Unit SOC -<br>Charge Relay Status -<br>Discharge Relay Status -<br>Pre-charge Relay Status -<br>System Average Voltage -<br>System Unit Quantity -<br>Battery Parallel Status -<br>Insulation resistance(kΩ) -<br>Pre_Volt(V) -<br>Max Cell Volt(mV) -<br>Max Cell Volt Num -<br>Min Cell Volt(mV) -<br>Min Cell Volt Num -<br>Max Temp(°C) -<br>Max Temp Num -<br>Min Temp(°C) -<br>Min Temp Num -<br>Software Version -<br>Hardware Version -<br>Alarm Level -<br>Cycle Counts -<br>Balance Volt(V) -<br>Discharge Energy(kWH) -<br>UPS Manufacturer -<br>02<br>Update<br>UPS WiFi | <b>Basic information</b><br>Battery ID -<br>Qty_Batt -<br>Unit Voltage -<br>Unit Current -<br>Unit SOC -<br>Charge Relay Status -<br>Discharge Relay Status -<br>Pre-charge Relay Status -<br>System Average Voltage -<br>System Unit Quantity -<br>Battery Parallel Status -<br>Insulation resistance(kΩ) -<br>Pre_Volt(V) -<br>Max Cell Volt(mV) -<br>Max Cell Volt Num -<br>Min Cell Volt(mV) -<br>Min Cell Volt Num -<br>Max Temp(°C) -<br>Max Temp Num -<br>Min Temp(°C) -<br>Min Temp Num -<br>Software Version -<br>Hardware Version -<br>Alarm Level -<br>Cycle Counts -<br>Balance Volt(V) -<br>Discharge Energy(kWH) -<br>UPS Manufacturer -<br>03<br>Update<br>UPS WiFi | <b>Basic information</b><br>Battery<br>Qty_B<br>Unit Volta<br>Unit Curre<br>Unit SOC<br>Charge Relay Stat<br>Discharge Relay Stat<br>Pre-charge Relay Stat<br>System Average Volta<br>System Unit Quanti<br>Battery Parallel Stat<br>Insulation resistance(k<br>Pre_Volt(<br>Max Cell Volt(m<br>Max Cell Volt Nu<br>Min Cell Volt(m<br>Min Cell Volt Nu<br>Max Temp(<br>Max Temp Nu<br>Min Temp(<br>Min Temp Nu<br>Software Versi<br>Hardware Versi<br>Alarm Lev<br>Cycle Cour<br>Balance Volt(<br>Discharge Energy(kW<br>UPS Manufactur<br>04<br>Update<br>UPS WiFi |

State

Type here to search

5. And close the "Set window. Now you have successfully changed the protocol ID.

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Communication Configuration Parameters Setting Record Export Data Language Select

| 01   | 02   | 03   | 04   |
|--|--|--|--|
| <p>Basic information</p> <p>Battery ID 2009054E0133</p> <p>Qty_Batt 1</p> <p>Unit Voltage 54.2</p> <p>Unit Current -0.3</p> <p>Unit SOC 100</p> <p>Charge Relay Status Make</p> <p>Discharge Relay Status Make</p> <p>Pre-charge Relay Status Break</p> <p>System Average Voltage 542</p> <p>System Unit Quantity 1</p> <p>Battery Parallel Status Paralleled</p> <p>Insulation resistance(kΩ) 65535</p> <p>Pre_Volt(V) 551</p> <p>Max Cell Volt(mV) 3486</p> <p>Min Cell Volt(mV) 3486</p> <p>Max Temp(°C) 7</p> <p>Min Temp(°C) 7</p> <p>Max Temp Num 7</p> <p>Min Temp Num 7</p> <p>Software Version 1</p> <p>Hardware Version 1</p> <p>Alarm Level 1</p> <p>Cycle Counts 1</p> <p>Balance Volt(V) 1</p> <p>Discharge Energy(kWH) 68.971</p> <p>UPS Manufacturer C=1 M=5 W=on</p> <p>01</p> <p>Update</p> <p>UPS WiFi</p> | <p>Basic information</p> <p>Battery ID -</p> <p>Qty_Batt -</p> <p>Unit Voltage -</p> <p>Unit Current -</p> <p>Unit SOC -</p> <p>Charge Relay Status -</p> <p>Discharge Relay Status -</p> <p>Pre-charge Relay Status -</p> <p>System Average Voltage -</p> <p>System Unit Quantity -</p> <p>Battery Parallel Status -</p> <p>Insulation resistance(kΩ) -</p> <p>Pre_Volt(V) -</p> <p>Max Cell Volt(mV) -</p> <p>Min Cell Volt(mV) -</p> <p>Max Temp(°C) -</p> <p>Min Temp(°C) -</p> <p>Max Temp Num -</p> <p>Min Temp Num -</p> <p>Software Version -</p> <p>Hardware Version -</p> <p>Alarm Level -</p> <p>Cycle Counts -</p> <p>Balance Volt(V) -</p> <p>Discharge Energy(kWH) -</p> <p>UPS Manufacturer -</p> <p>02</p> <p>Update</p> <p>UPS WiFi</p> | <p>Basic information</p> <p>Battery ID -</p> <p>Qty_Batt -</p> <p>Unit Voltage -</p> <p>Unit Current -</p> <p>Unit SOC -</p> <p>Charge Relay Status -</p> <p>Discharge Relay Status -</p> <p>Pre-charge Relay Status -</p> <p>System Average Voltage -</p> <p>System Unit Quantity -</p> <p>Battery Parallel Status -</p> <p>Insulation resistance(kΩ) -</p> <p>Pre_Volt(V) -</p> <p>Max Cell Volt(mV) -</p> <p>Min Cell Volt(mV) -</p> <p>Max Temp(°C) -</p> <p>Min Temp(°C) -</p> <p>Max Temp Num -</p> <p>Min Temp Num -</p> <p>Software Version -</p> <p>Hardware Version -</p> <p>Alarm Level -</p> <p>Cycle Counts -</p> <p>Balance Volt(V) -</p> <p>Discharge Energy(kWH) -</p> <p>UPS Manufacturer -</p> <p>03</p> <p>Update</p> <p>UPS WiFi</p> | <p>Basic information</p> <p>Battery ID -</p> <p>Qty_Batt -</p> <p>Unit Voltage -</p> <p>Unit Current -</p> <p>Unit SOC -</p> <p>Charge Relay Status -</p> <p>Discharge Relay Status -</p> <p>Pre-charge Relay Status -</p> <p>System Average Voltage -</p> <p>System Unit Quantity -</p> <p>Battery Parallel Status -</p> <p>Insulation resistance(kΩ) -</p> <p>Pre_Volt(V) -</p> <p>Max Cell Volt(mV) -</p> <p>Min Cell Volt(mV) -</p> <p>Max Temp(°C) -</p> <p>Min Temp(°C) -</p> <p>Max Temp Num -</p> <p>Min Temp Num -</p> <p>Software Version -</p> <p>Hardware Version -</p> <p>Alarm Level -</p> <p>Cycle Counts -</p> <p>Balance Volt(V) -</p> <p>Discharge Energy(kWH) -</p> <p>UPS Manufacturer -</p> <p>04</p> <p>Update</p> <p>UPS WiFi</p> |

State

Type here to search

6.