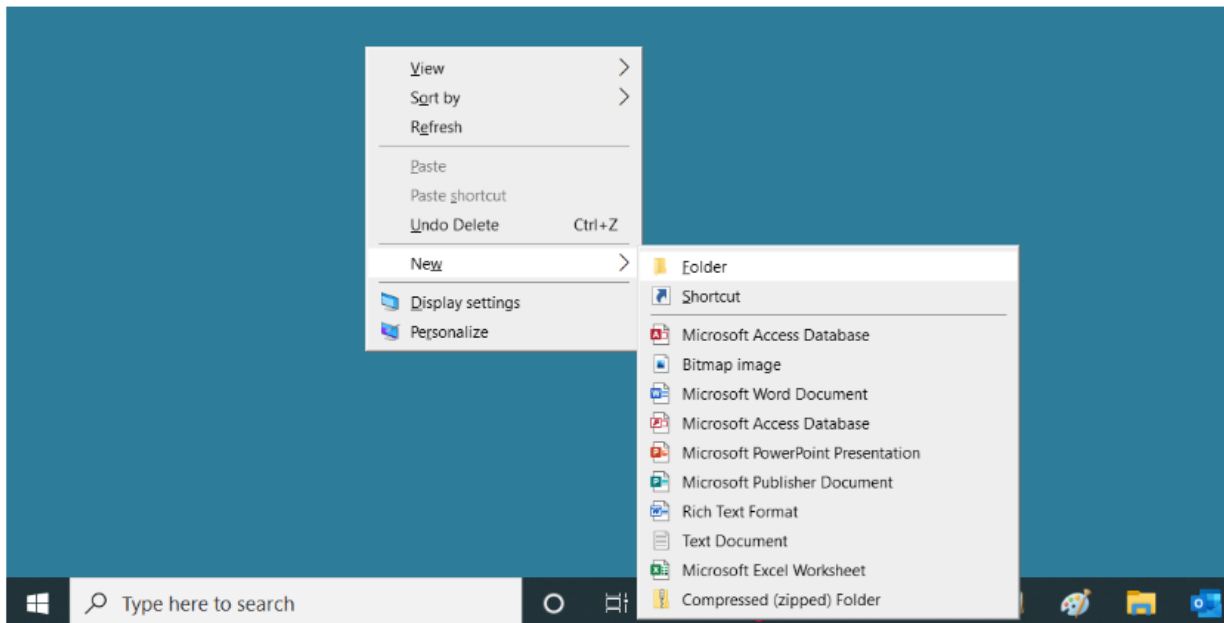


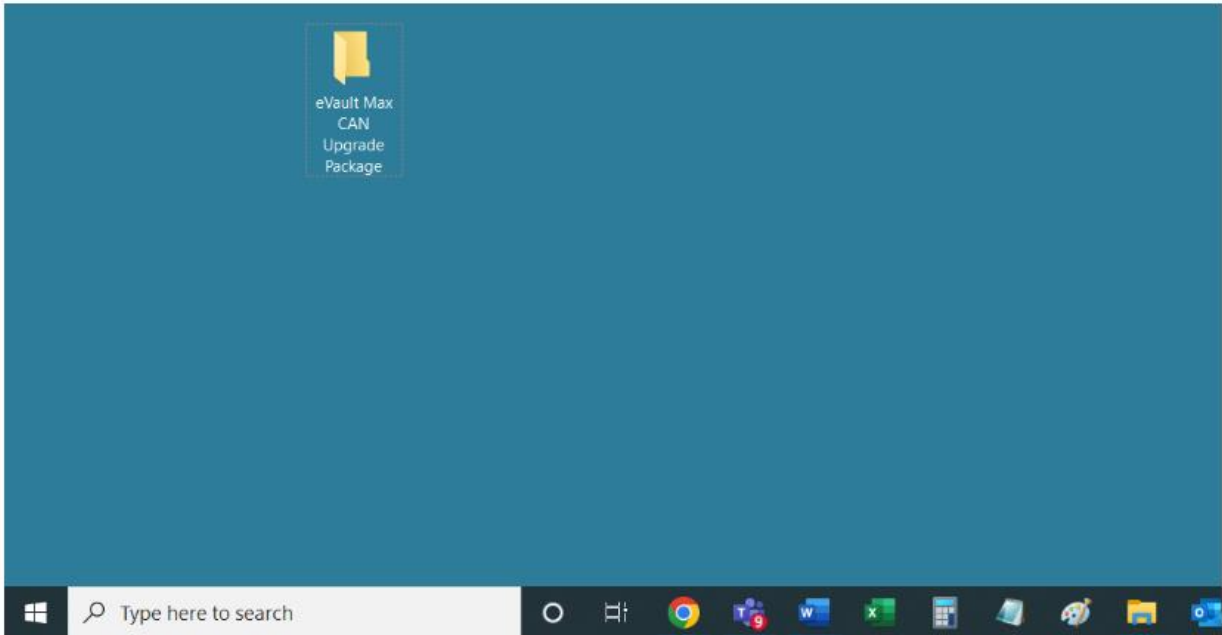
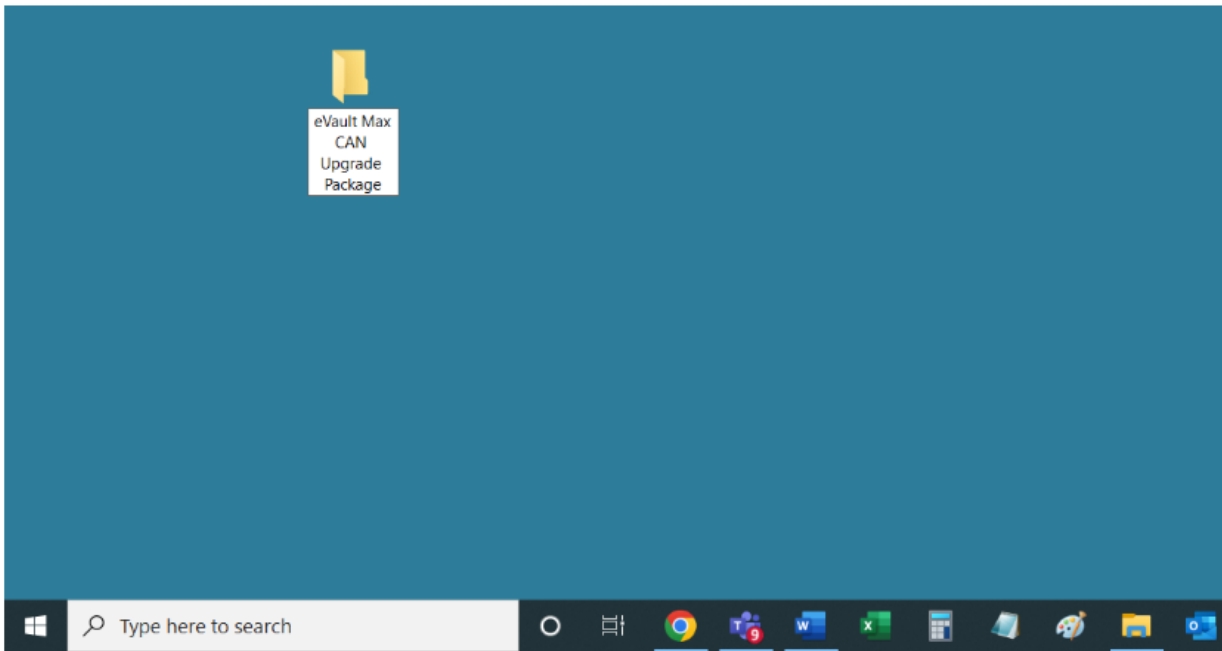
eVault Max Firmware Update Instructions

(Rev.2)

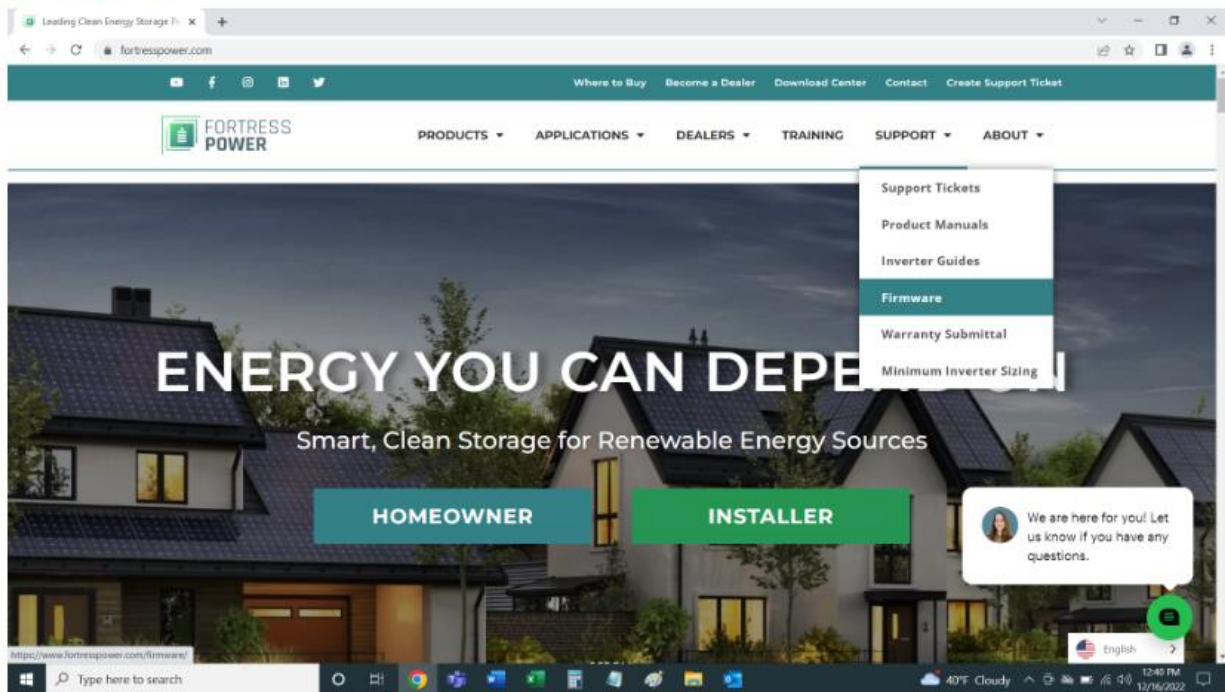
Obtaining and Organizing the Required Files

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 "eVault Max 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.

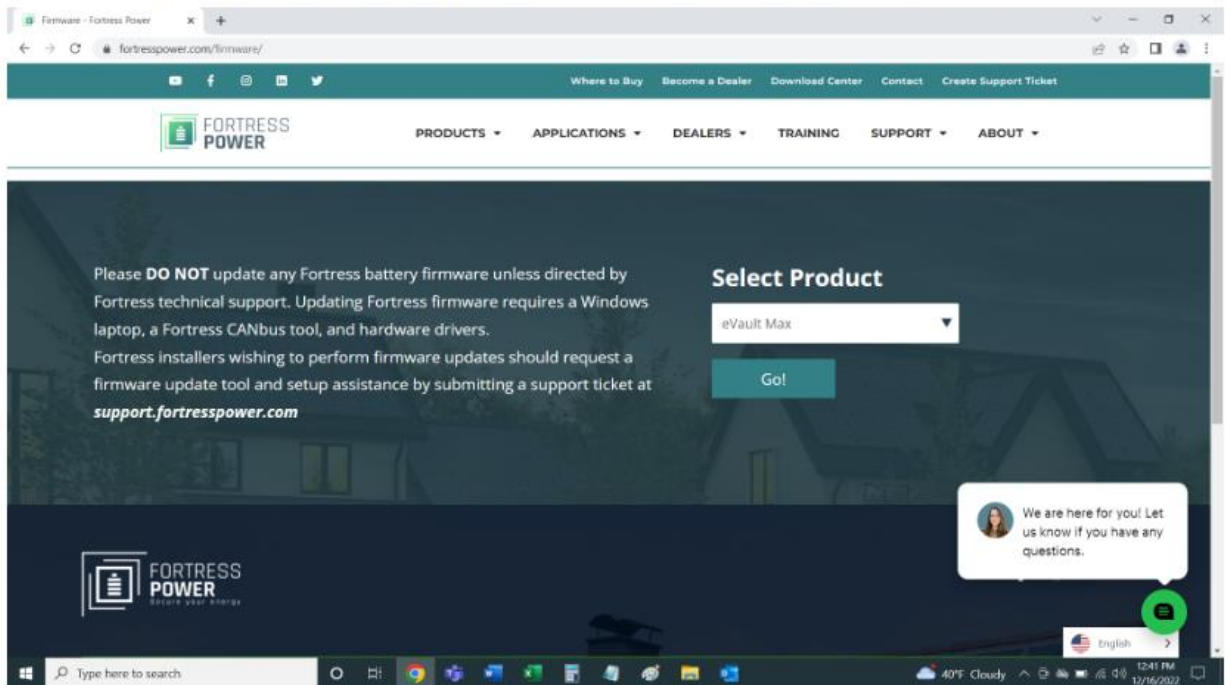




2. Go to website "fortresspower.com", hover your mouse pointer to the "SUPPORT" tab on the website and click on "Firmware".



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



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

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

Select Product

eVault Max

Go!

Type	Version	Product	Last modified	Download
PDF	README Disclaimer	eVault Max	21-11-2022	
PDF	eVaultMax-Firmware-Update-Instructions	eVault Max	28-01-2022	
Software	eVault Max BMS Software (V.1.03.12)	eVault Max	25-01-2022	
Firmware	eVault Max Firmware	eVault Max	02-12-2021	
Driver	CAN-tool Drivers	eVault Max	25-08-2021	

<https://www.fortresspower.com/wp-content/uploads/2022/09/CAN-tool-Drivers.zip>

CAN-tool-Drivers.zip | eVault-Max-Firmwa...zip | eVault-Max-Softwa...zip

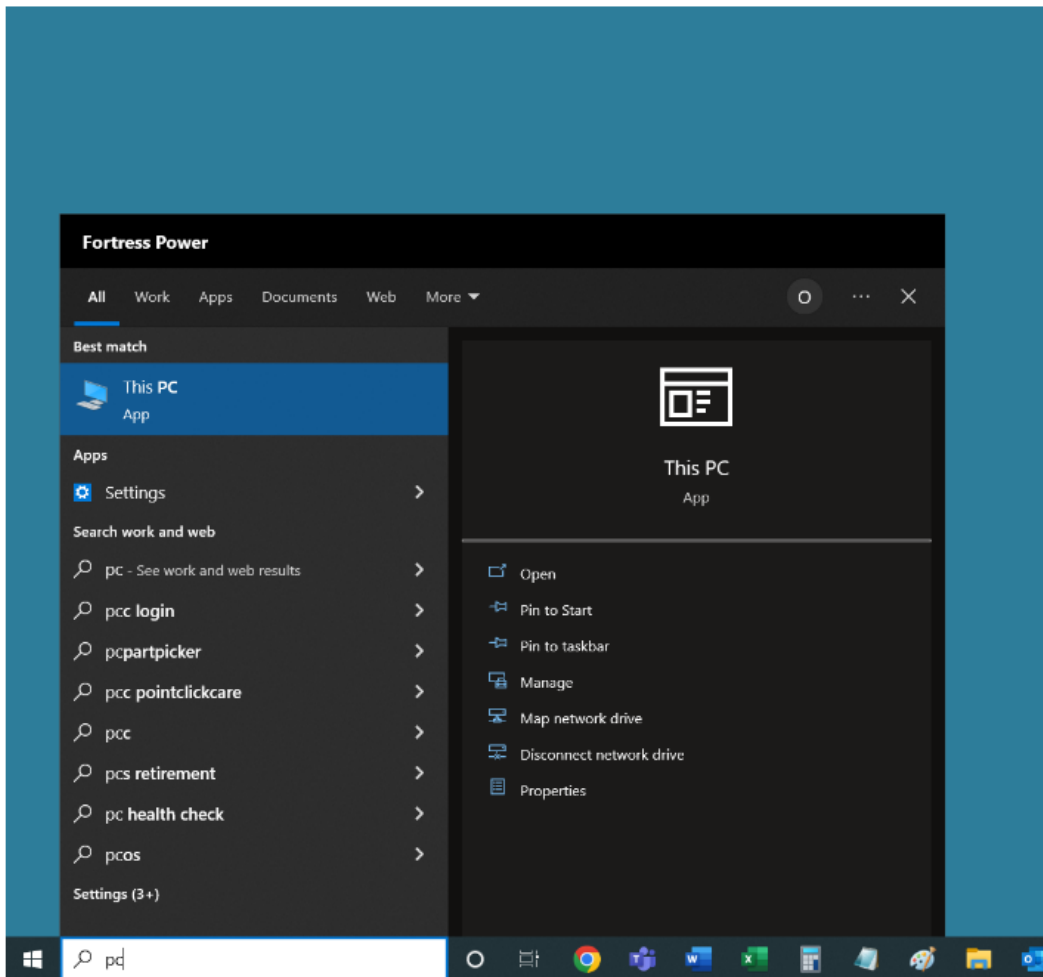
Show all

We are here for you! Let us know if you have any questions.

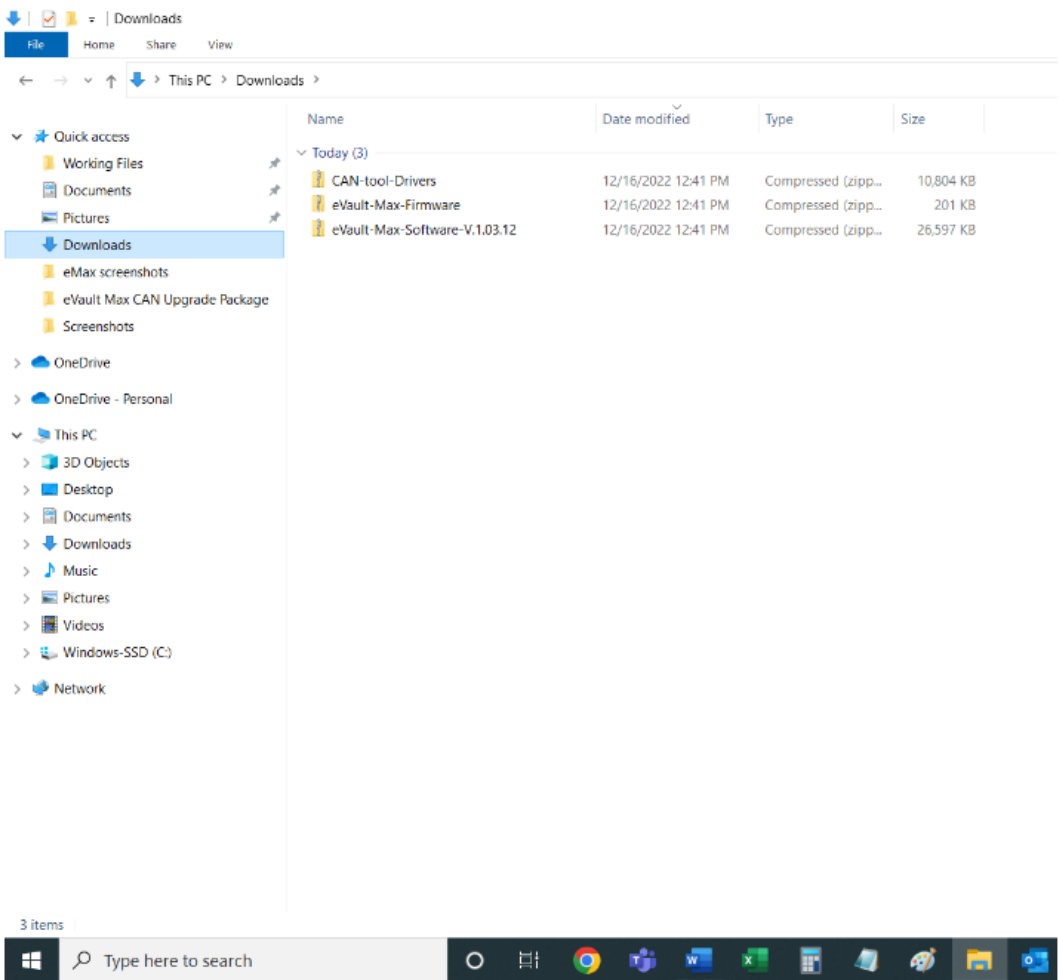
English

40°F Cloudy 12:41 PM 12/16/2022

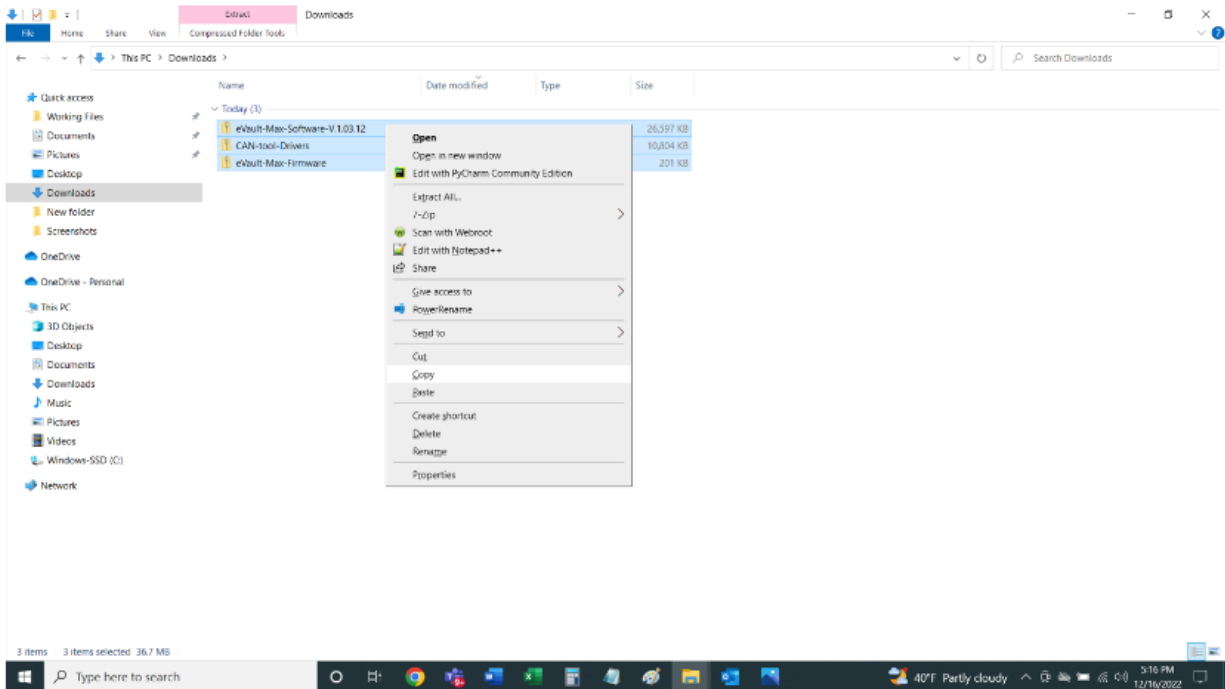
5. Once the downloads are completed, navigate to the "Downloads" folder (or wherever you saved the files from the website). Close the browser, click on the start (looks like a Windows icon) and type in "pc". Then, click on "This PC".



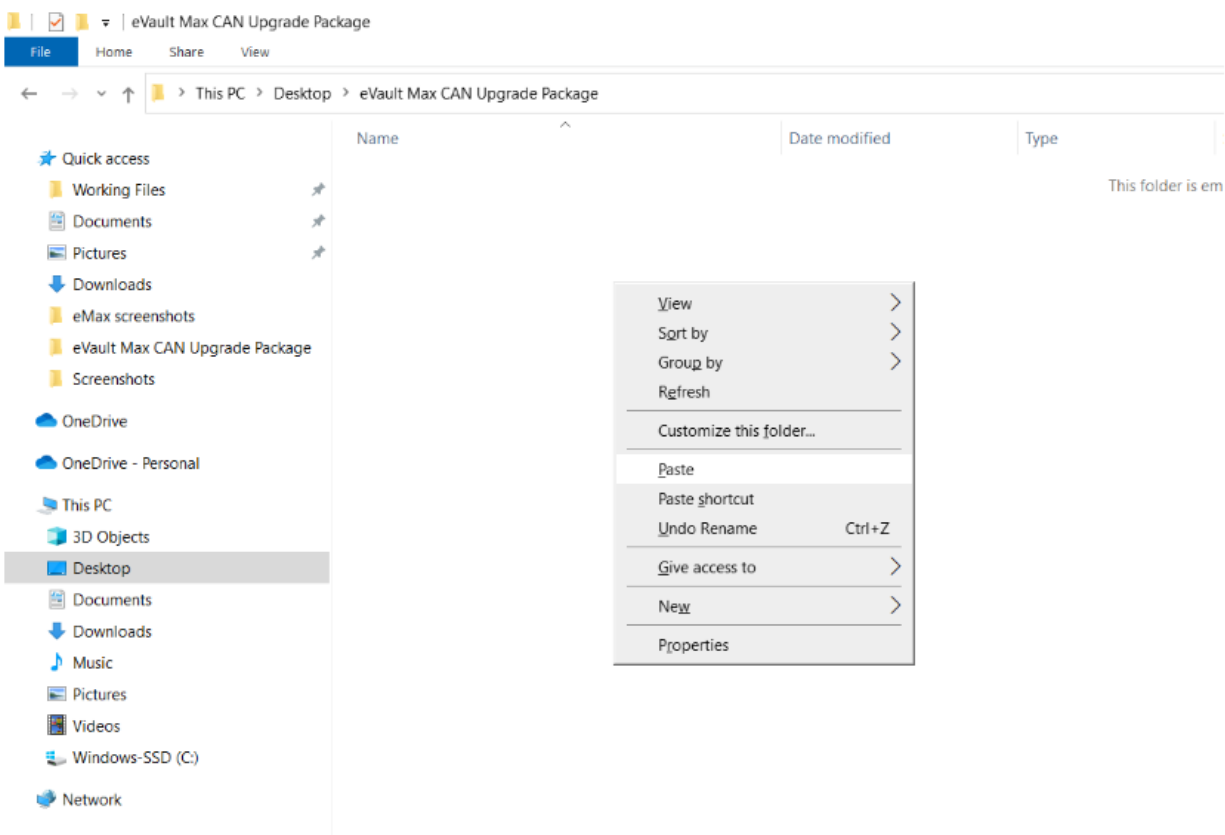
6. Then, go to the "Downloads" folder (or wherever you saved the files from the website) where you'll see the downloaded folder.



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



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



File

Home

Share

View

Extract

Compressed Folder Tools

Downloads

←

→

↕

↑

↓ > This PC > Downloads >

★ Quick access

📁 Working Files

📄 Documents

🖼️ Pictures

↓ Downloads

📁 eMax screenshots

📁 eVault Max CAN Upgrade Package

📁 Screenshots

☁️ OneDrive

☁️ OneDrive - Personal

💻 This PC

📁 3D Objects

🖥️ Desktop

📄 Documents

↓ Downloads

🎵 Music

🖼️ Pictures

📺 Videos

💻 Windows-SSD (C:)

🌐 Network

Name	Date modified	Type	Size
▼ Today (3)			
📁 CAN-tool-Drivers	12/16/2022 12:41 PM	Compressed (zipp...	10,804 KB
📁 eVault-Max-Firmware	12/16/2022 12:41 PM	Compressed (zipp...	201 KB
📁 eVault-Max-Software-V.1.03.12	12/16/2022 12:41 PM	Compressed (zipp...	26,597 KB

3 items | 3 items selected | 36.7 MB

Windows

Type here to search

○

🔍

🌐

👤

W

X

📅

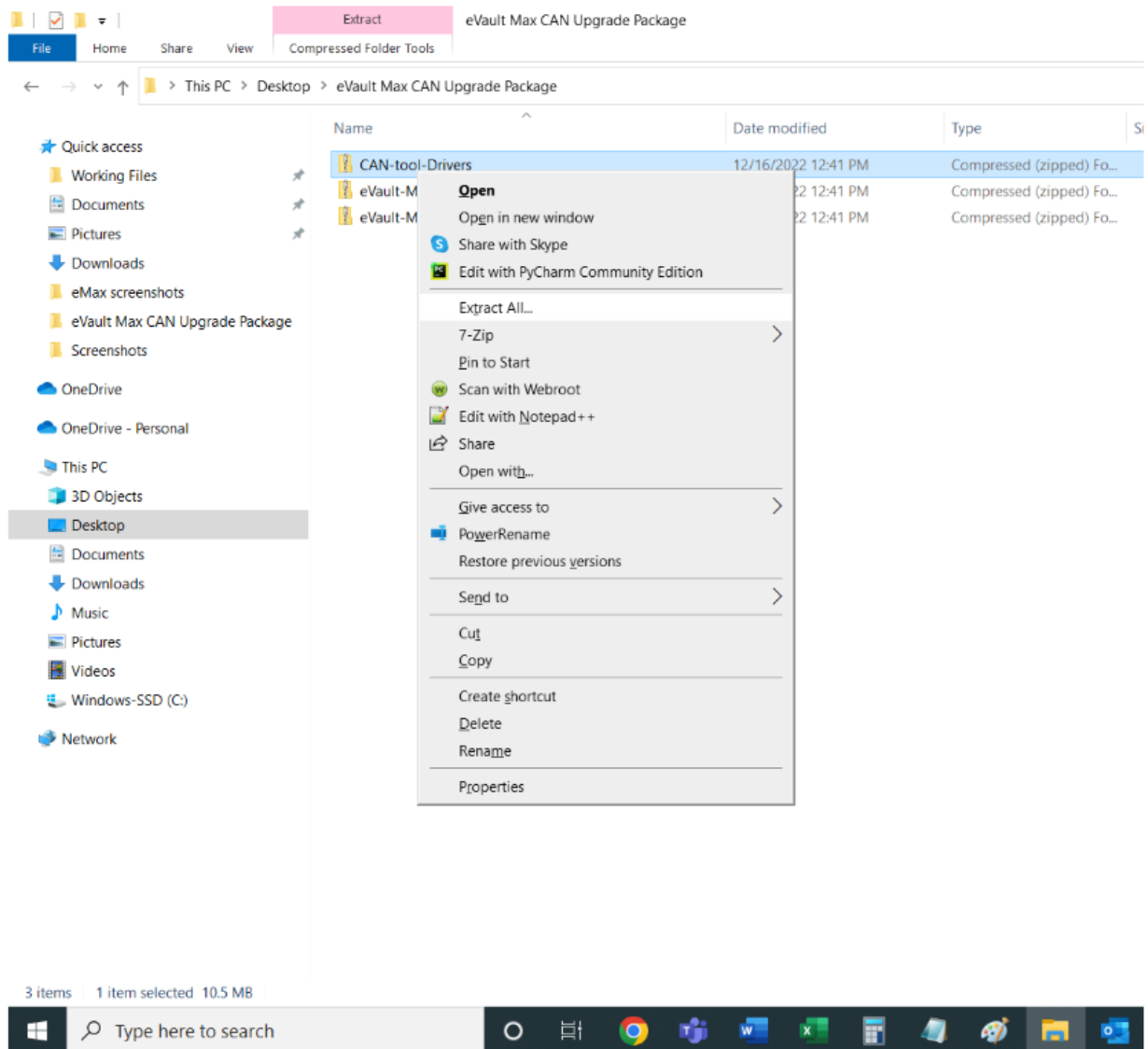
📄

🎨

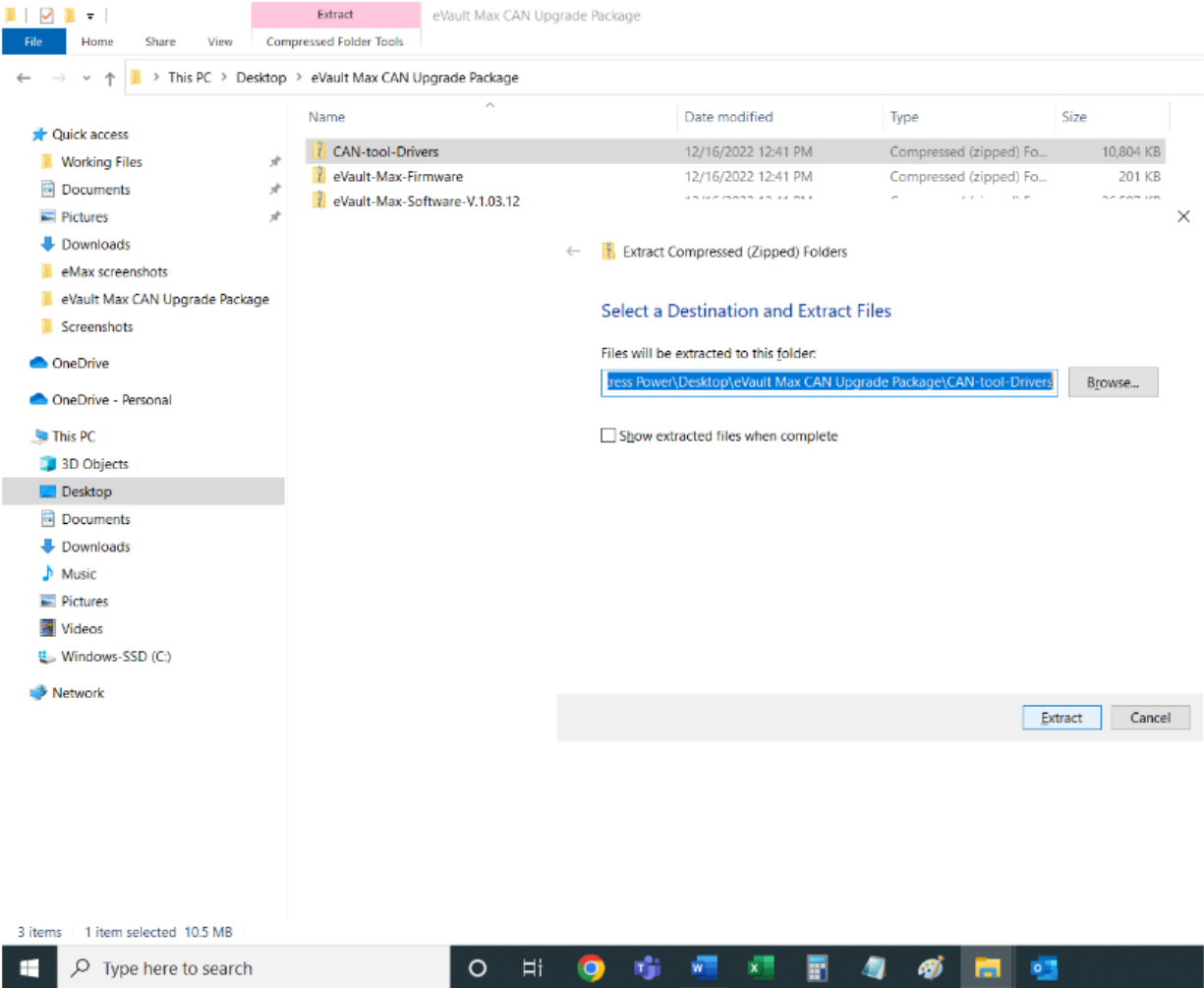
📁

📧

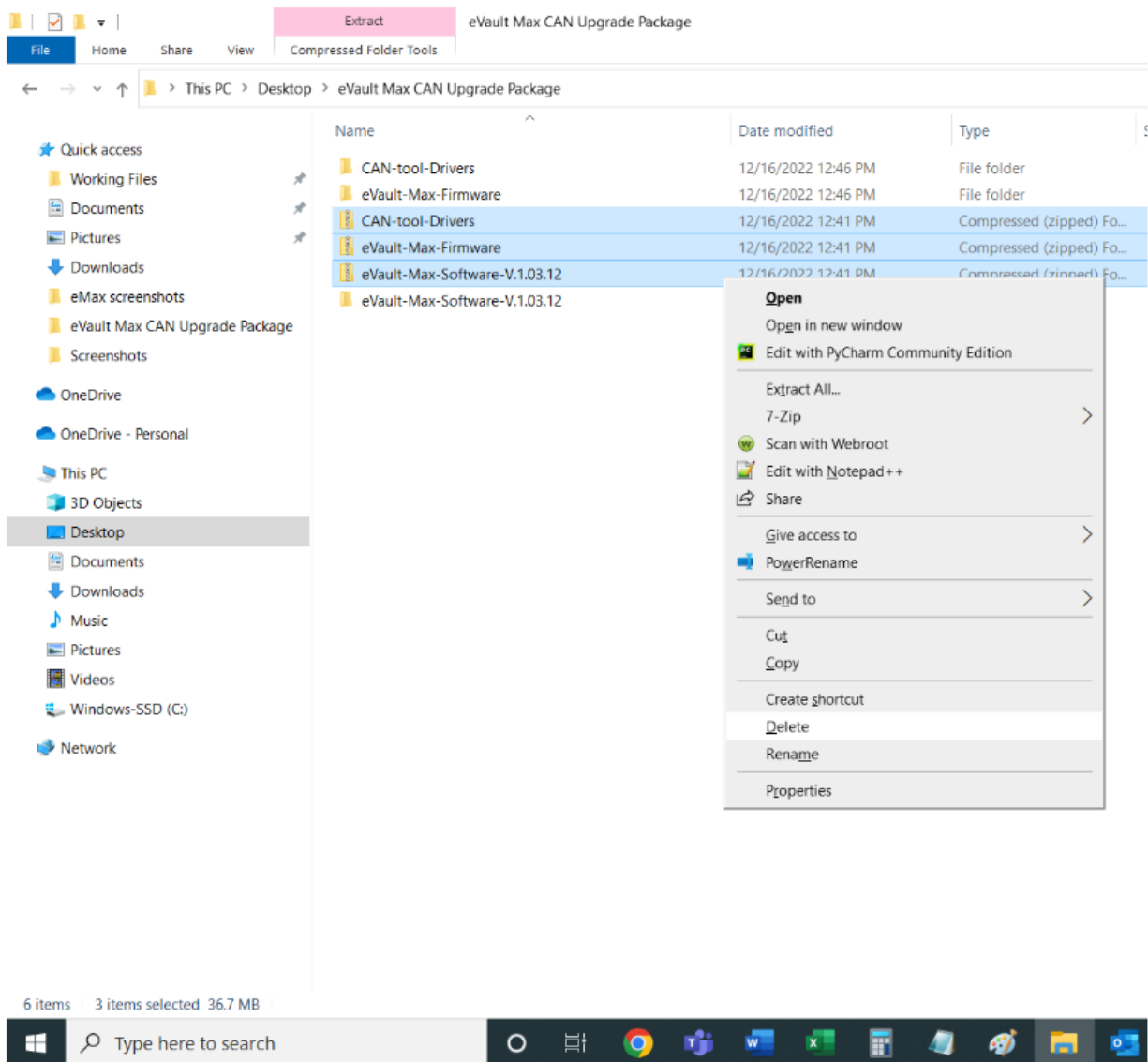
9. Click somewhere in the folder to remove the blue highlight from the files. Then, right-click on one of the files and from the dropdown click on "Extract All...".



10. Afterwards, click on "Extract".



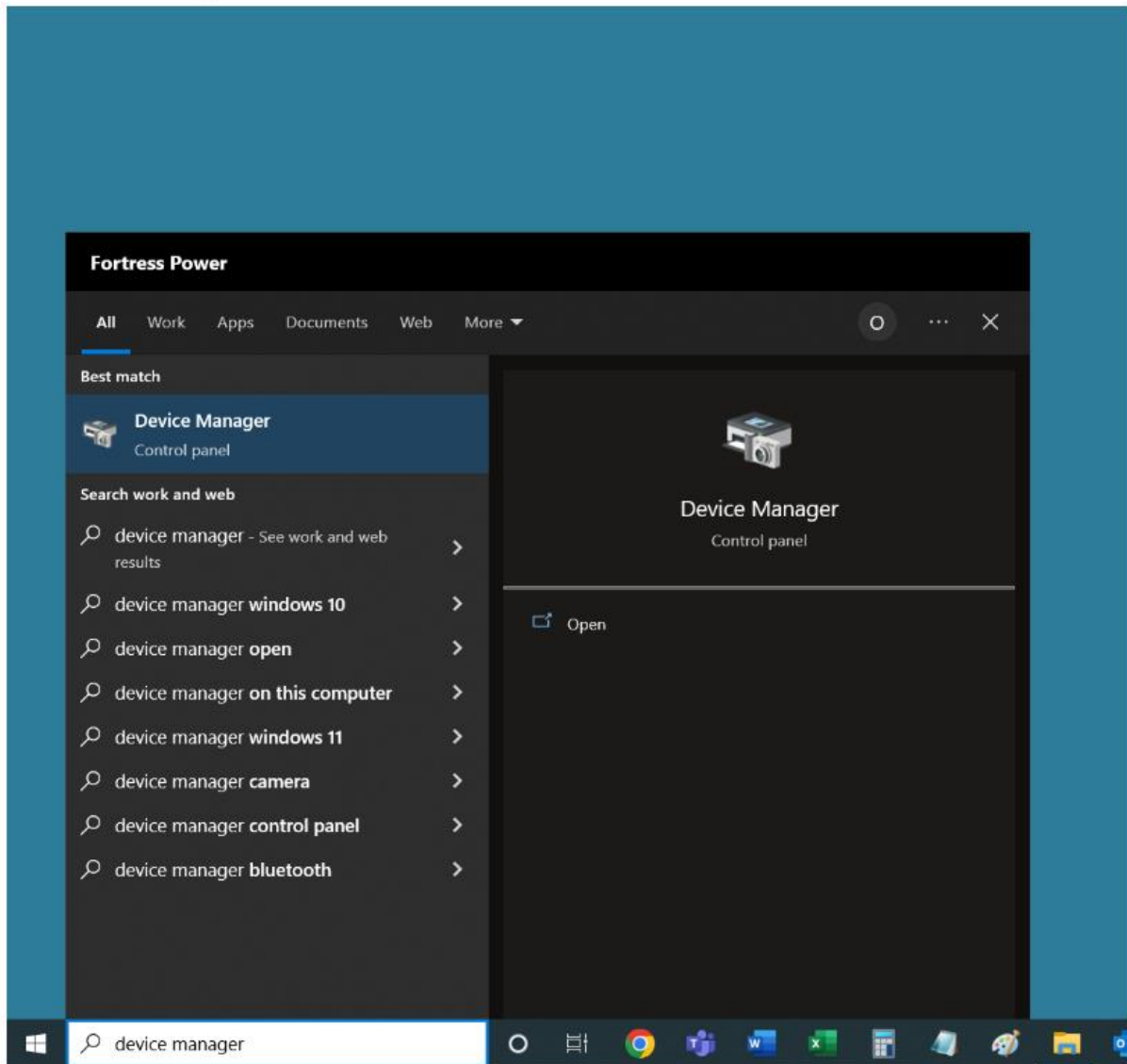
11. Repeat the above two steps (10 and 11) for the two other downloaded files (one at a time). Once all three downloaded files are "extracted", delete the downloaded files so the confusions can be avoided.



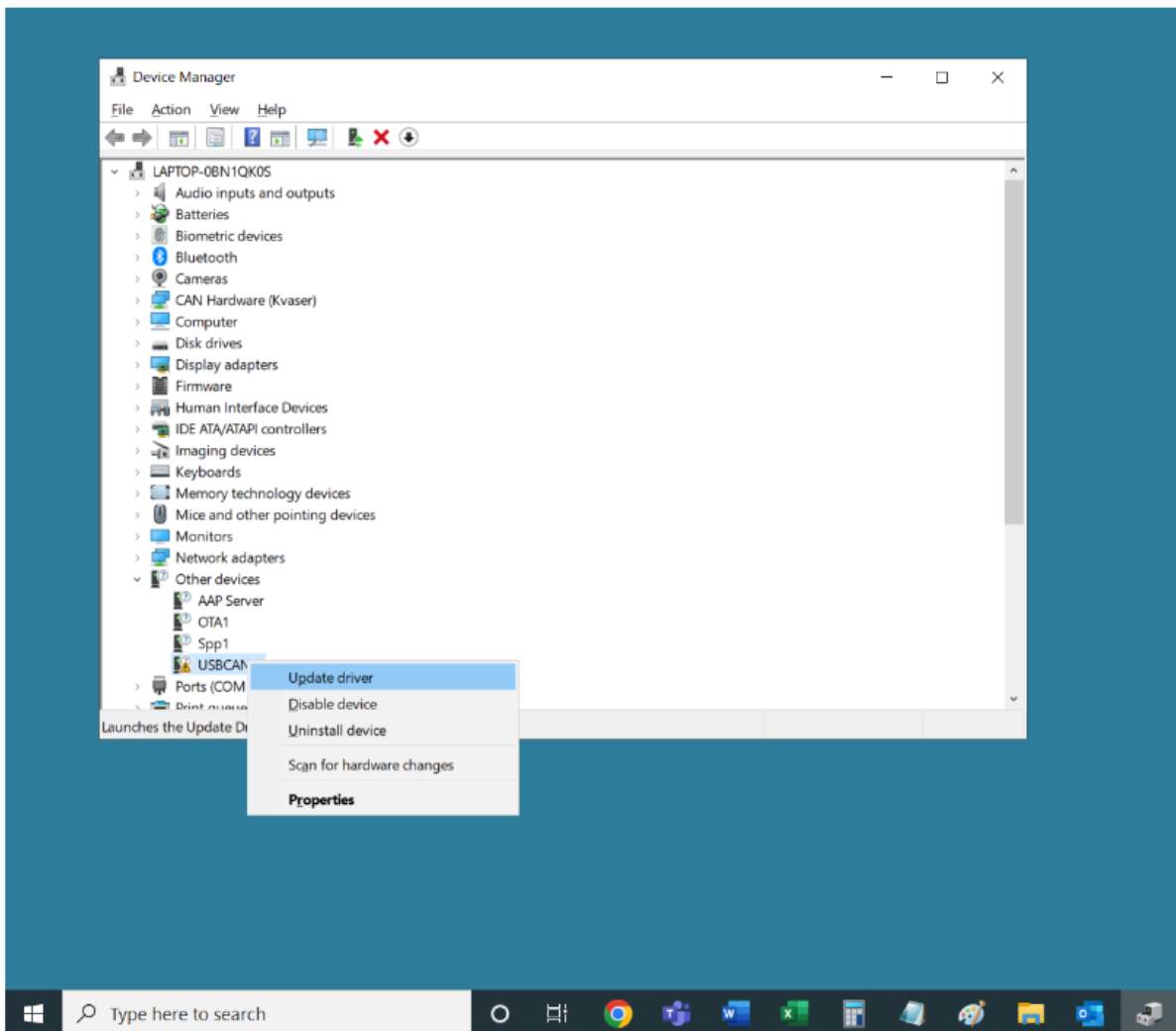
Now the drivers for the CAN tool (USBCAN) need to be installed

Installing the Drivers for the CANtool (USBCAN)

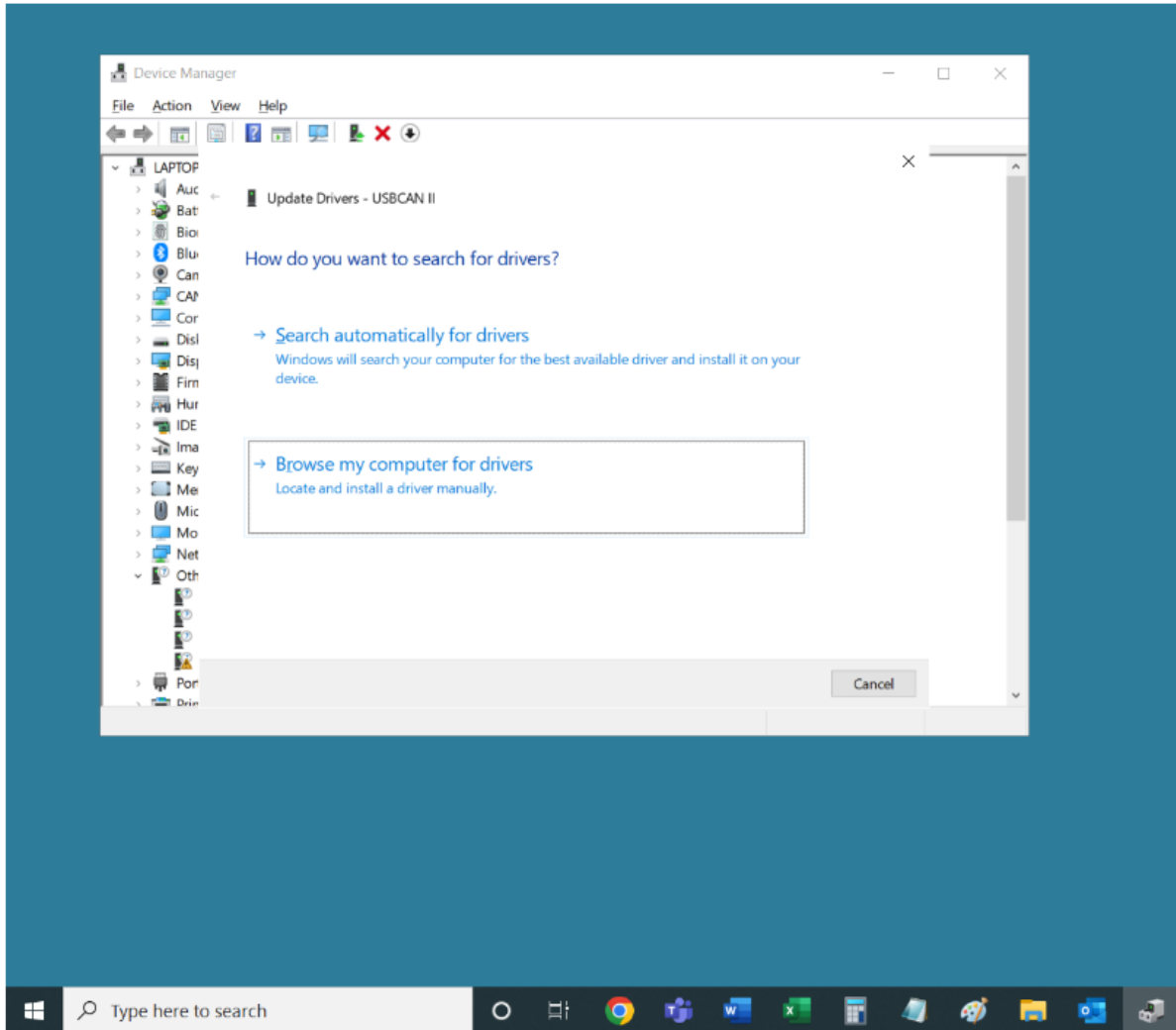
1. Connect the USB cable of the CANtool (USBCAN) to your computer and the CANtool itself.
2. Click on the "Start" icon (looks like a Windows logo) and type in "device manager". Above the search-bar, click on "Device Manager".



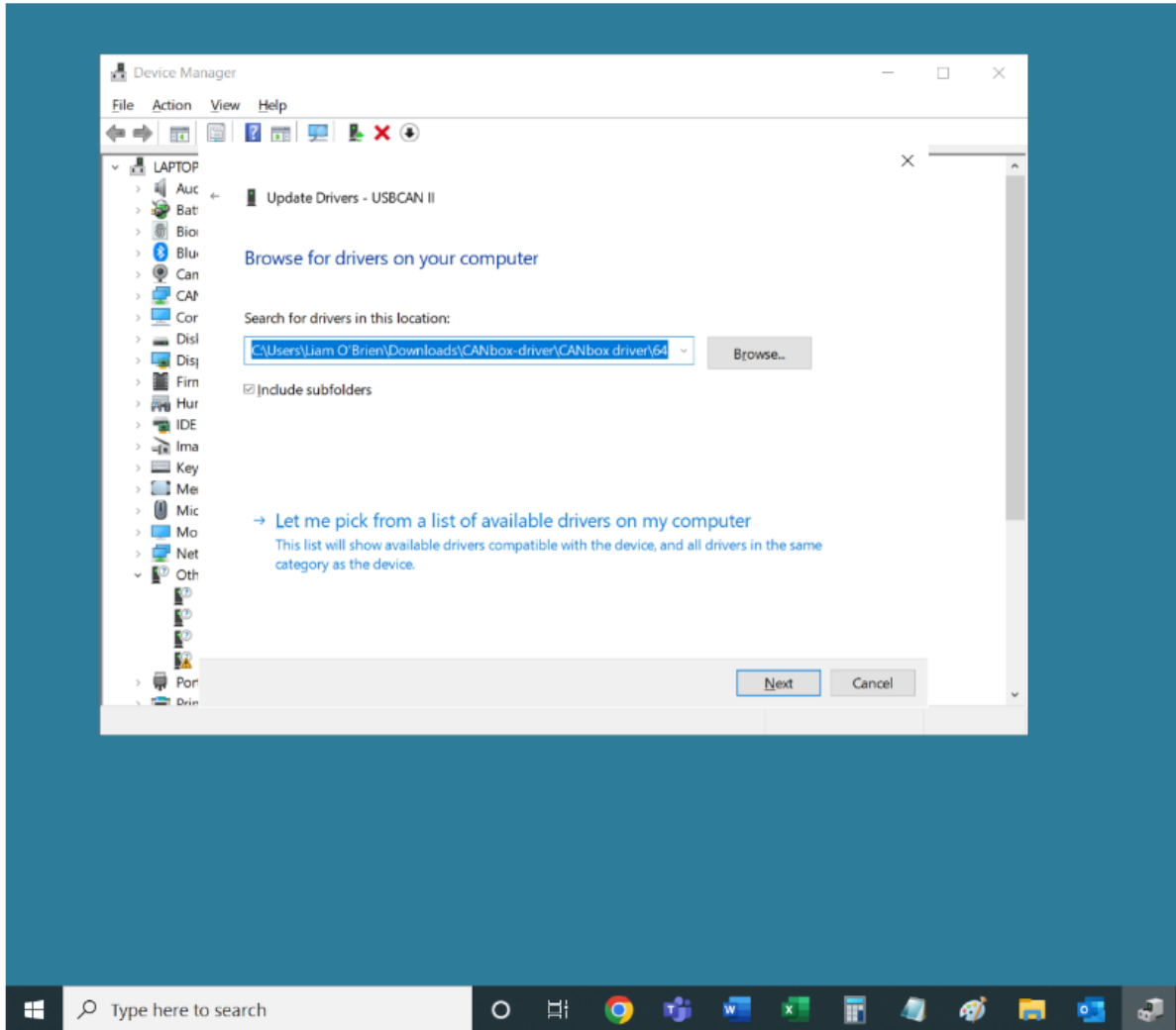
3. A window similar to the one shown below will open and one of the items of the list will be "USBCAN II" with an indent on the left. Right-click on this "USBCAN II" and from the drop-down click on "Update driver".



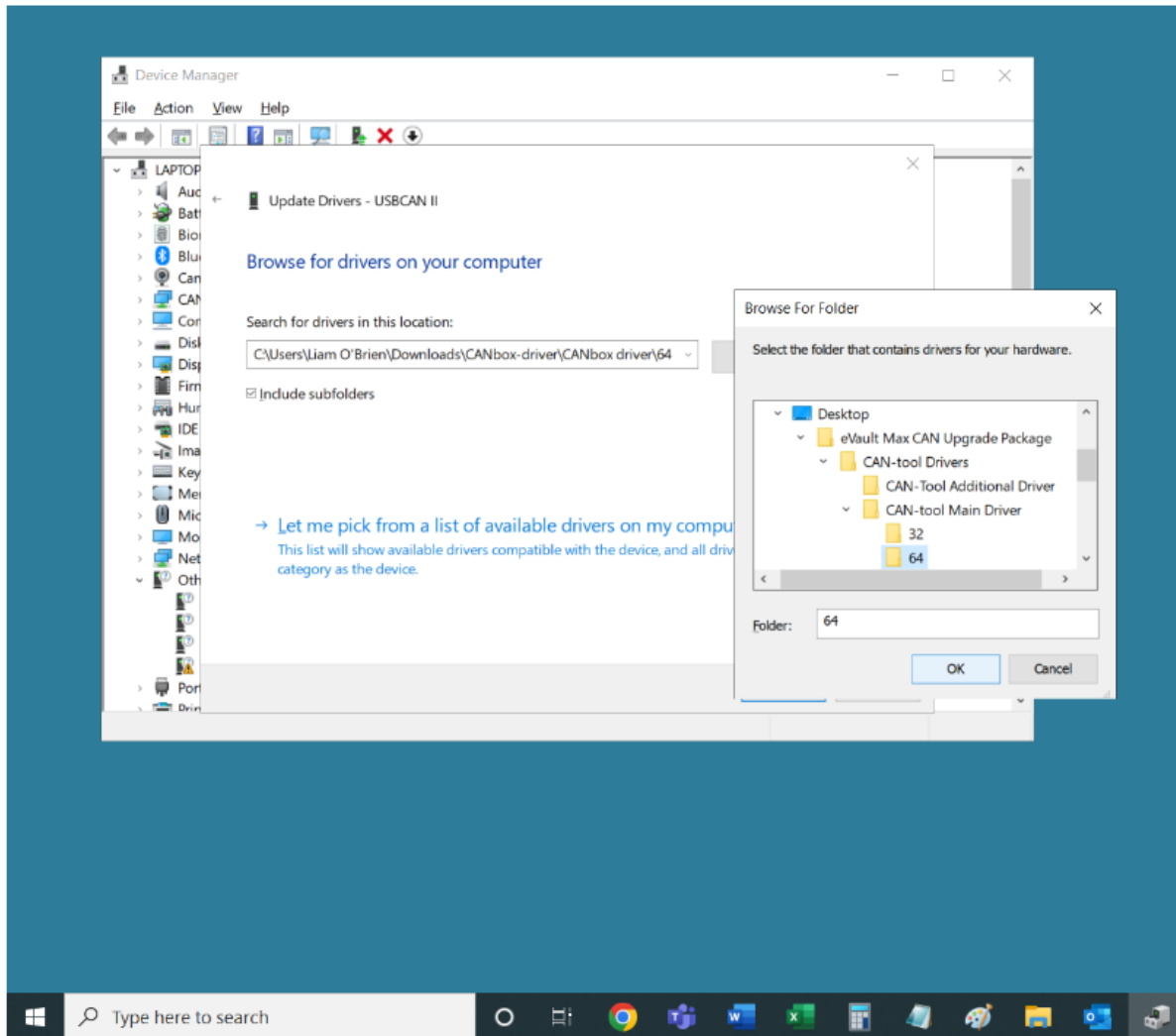
4. Next, click on "Browse my computer for drivers".



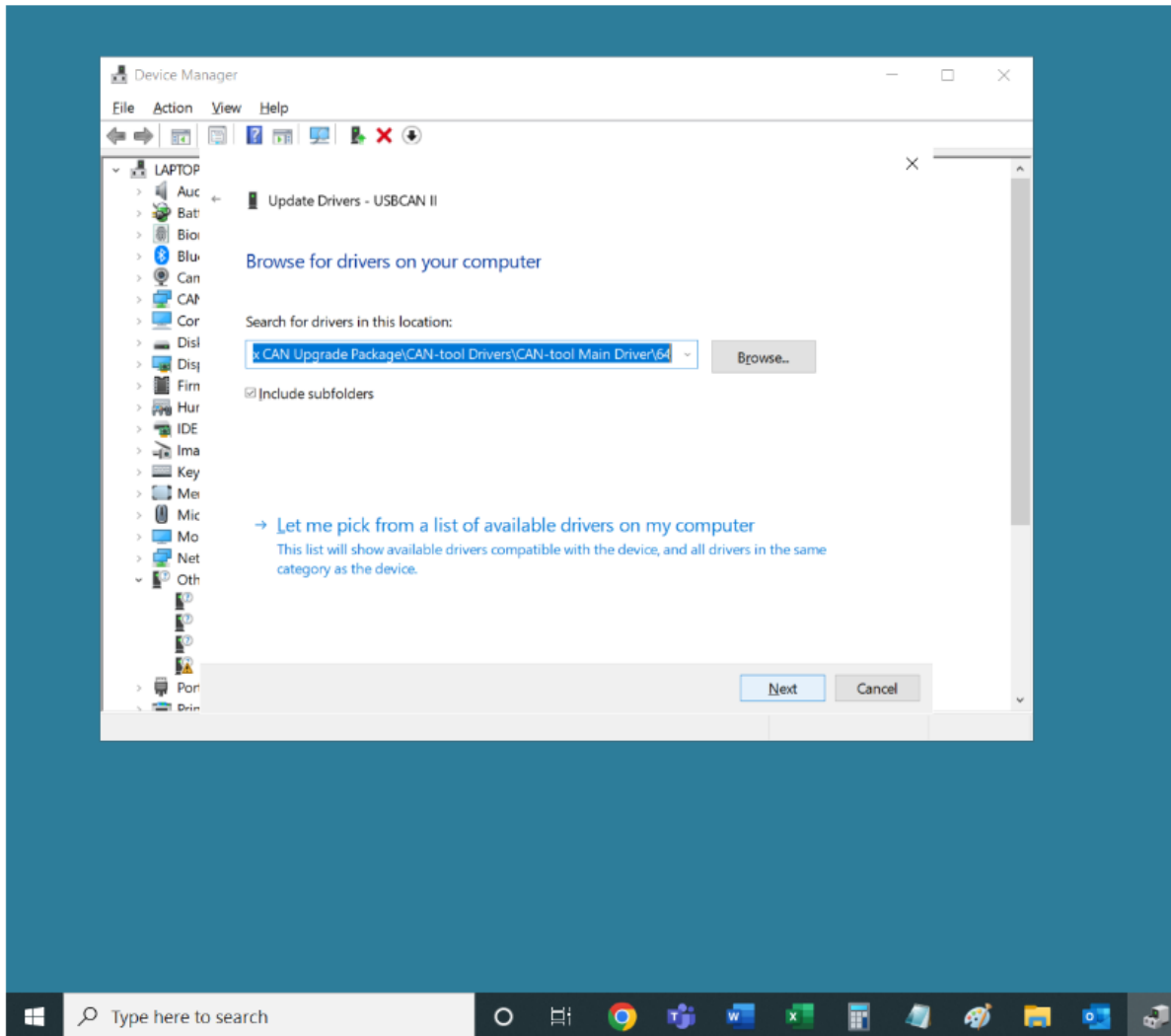
5. Now, click on "Browse..."



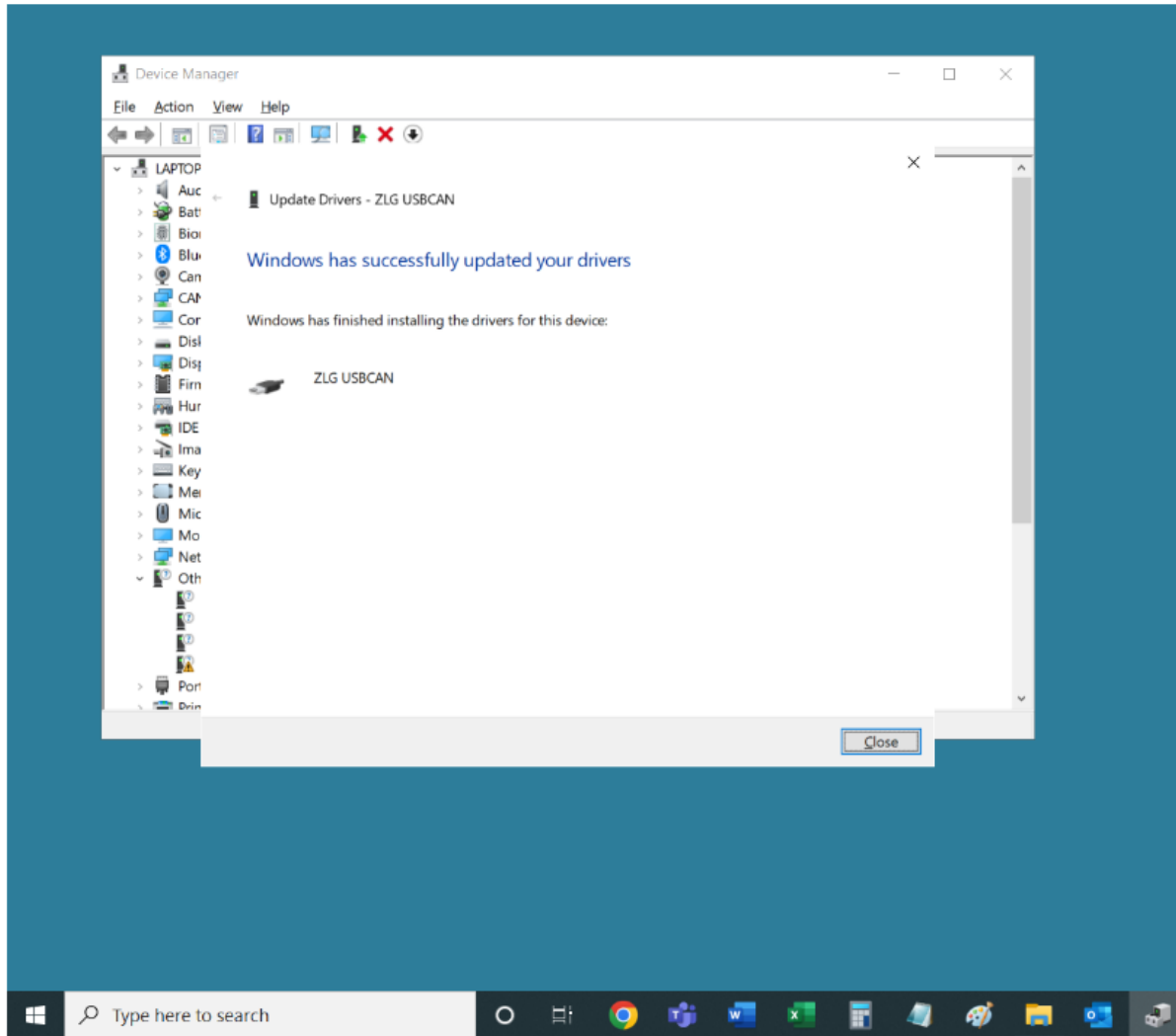
6. Then, navigate to the "eVault Max CAN Upgrade Package" and from there navigate as follows: "eVault Max CAN Upgrade Package" >>> "CAN-tool Drivers" >>> "CAN-tool Main Driver" >>> "64". Once "64" is selected, click "OK".



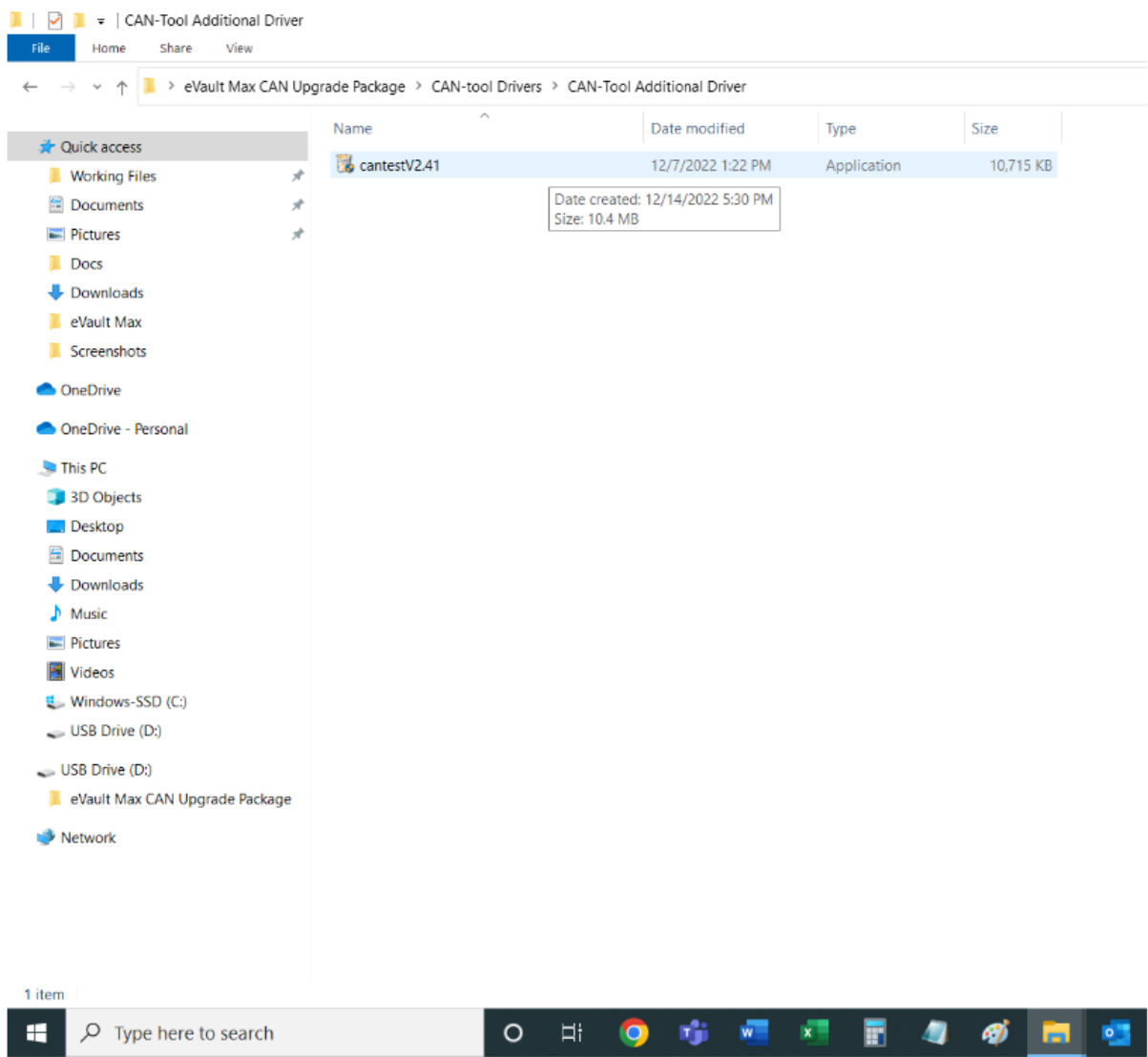
7. Then, click "Next".



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 "eVault Max 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".



10. Double-click "cantestV2.41".

The screenshot shows a Windows File Explorer window with the address bar set to 'eVault Max CAN Upgrade Package > CAN-tool Drivers > CAN-tool Additional Driver'. The left sidebar shows the 'Quick access' pane with various folders. The main pane displays a table of files:

Name	Date modified	Type	Size
cantestV2.41	12/7/2022 1:22 PM	Application	10,715 KB

The 'cantestV2.41' file is selected. Overlaid on the right is the 'CANTest 2.41 Setup' window. The window has a title bar with the text 'CANTest 2.41 Setup'. The main content area has a dark blue background with a white icon of a computer and a circular arrow. The text reads:

Welcome to CANTest 2.41 Setup

Setup will guide you through the installation of CANTest 2.41.

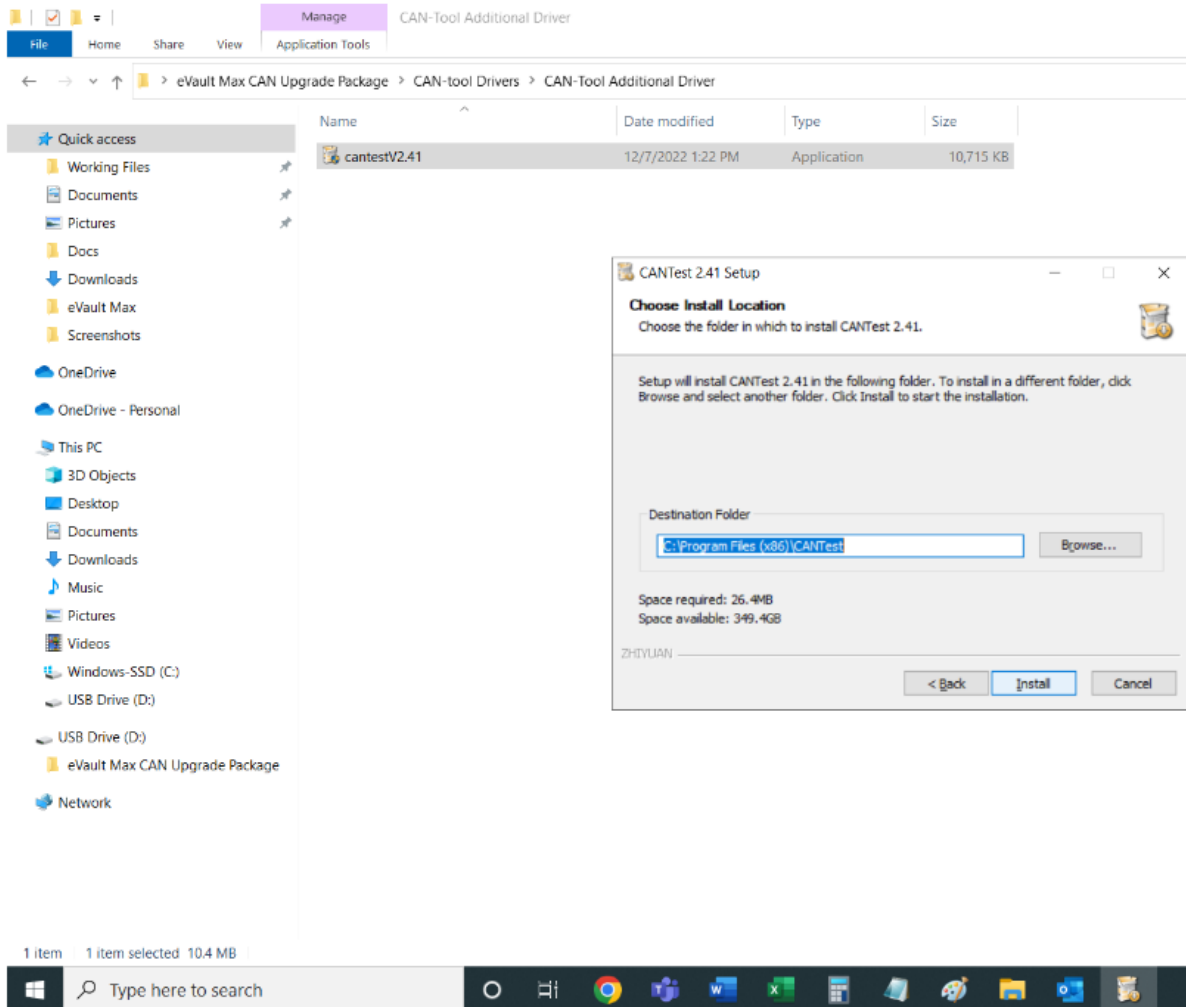
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

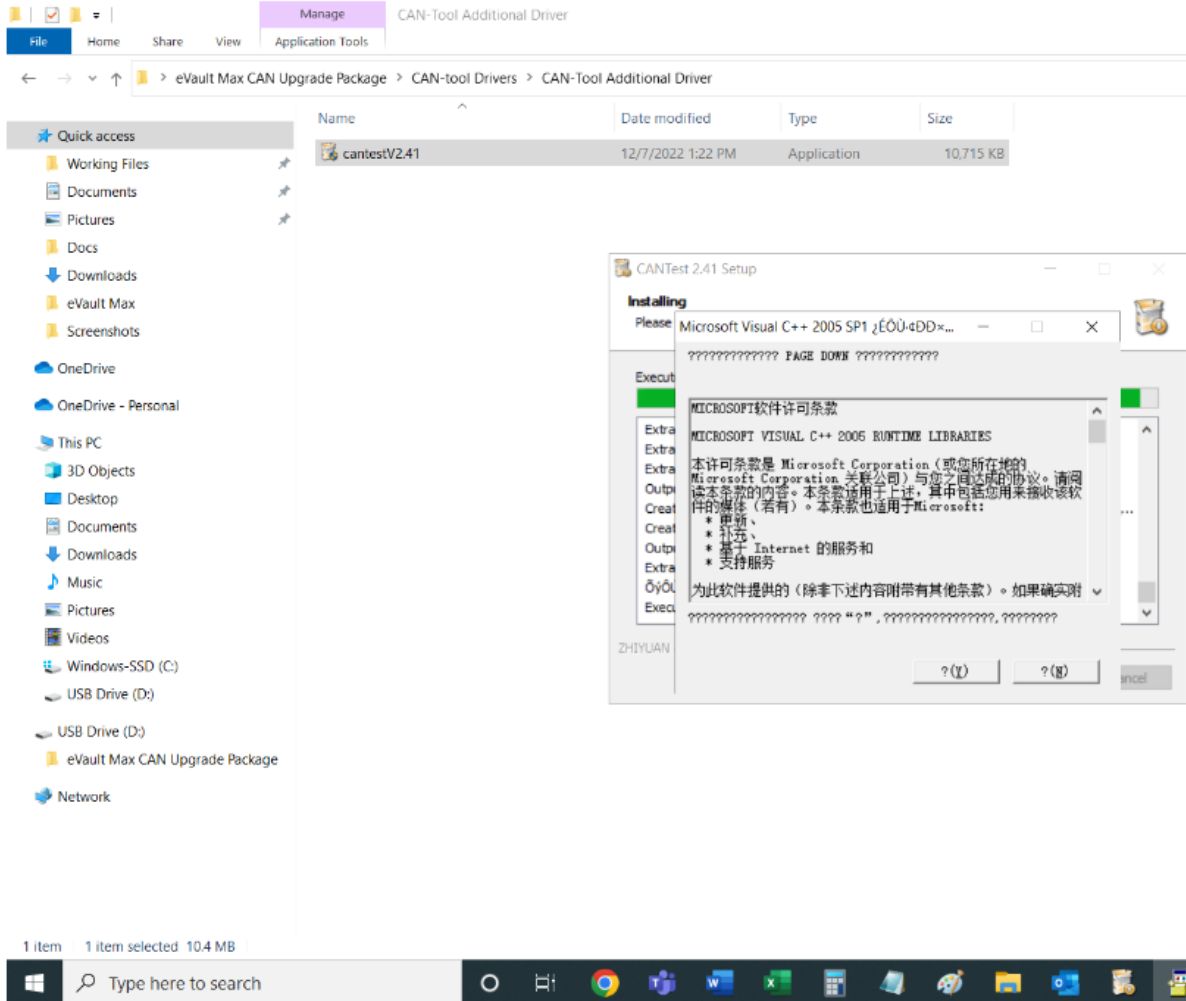
At the bottom right of the window are two buttons: 'Next >' and 'Cancel'.

The Windows taskbar at the bottom shows the search bar with the text 'Type here to search' and several application icons including Chrome, Word, Excel, and the File Explorer icon.

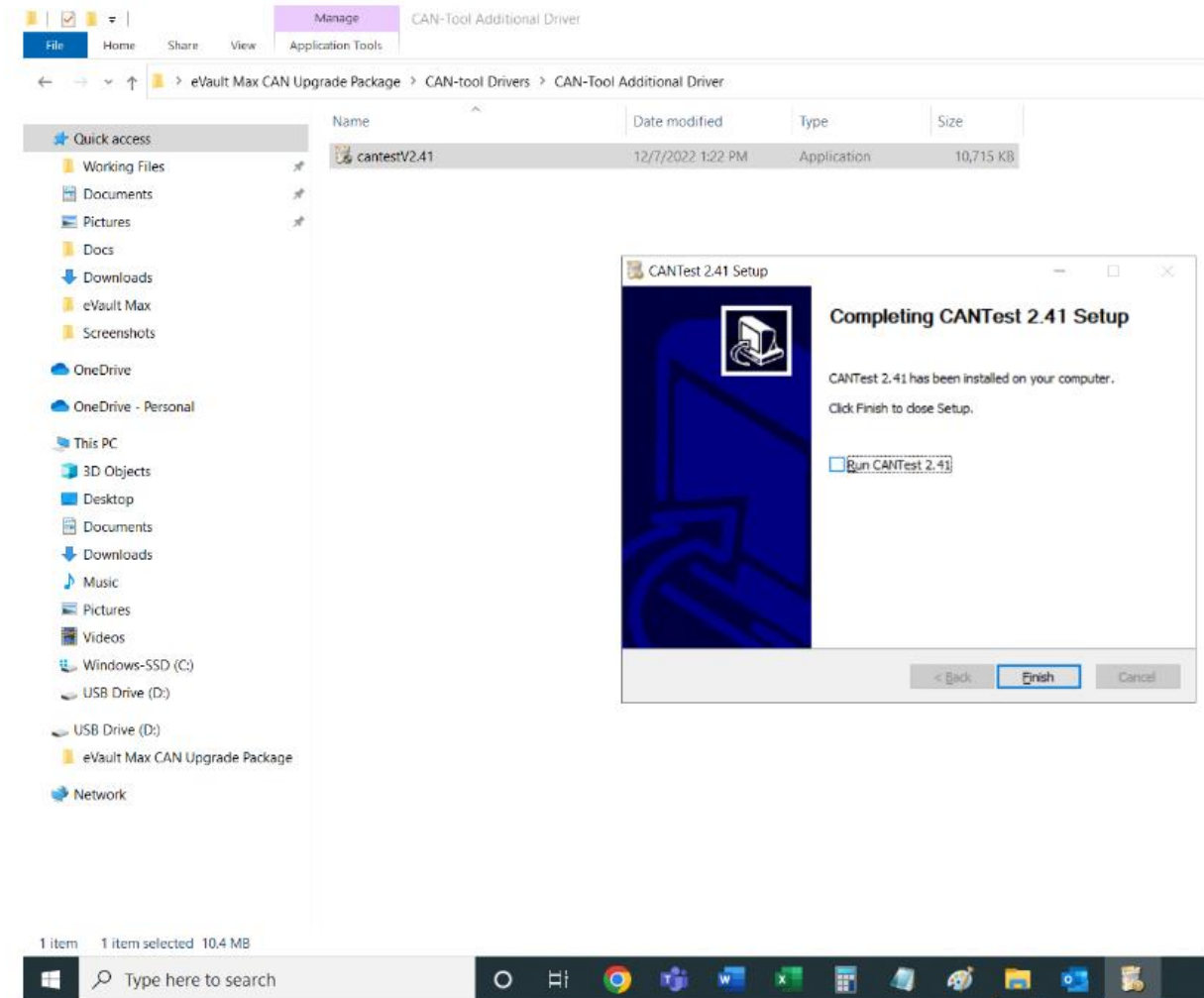
11. Then click "Install" and the installation process will start.



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



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



14. Go back to folder "eVault Max 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.

Obtaining and Organizing the Required Files

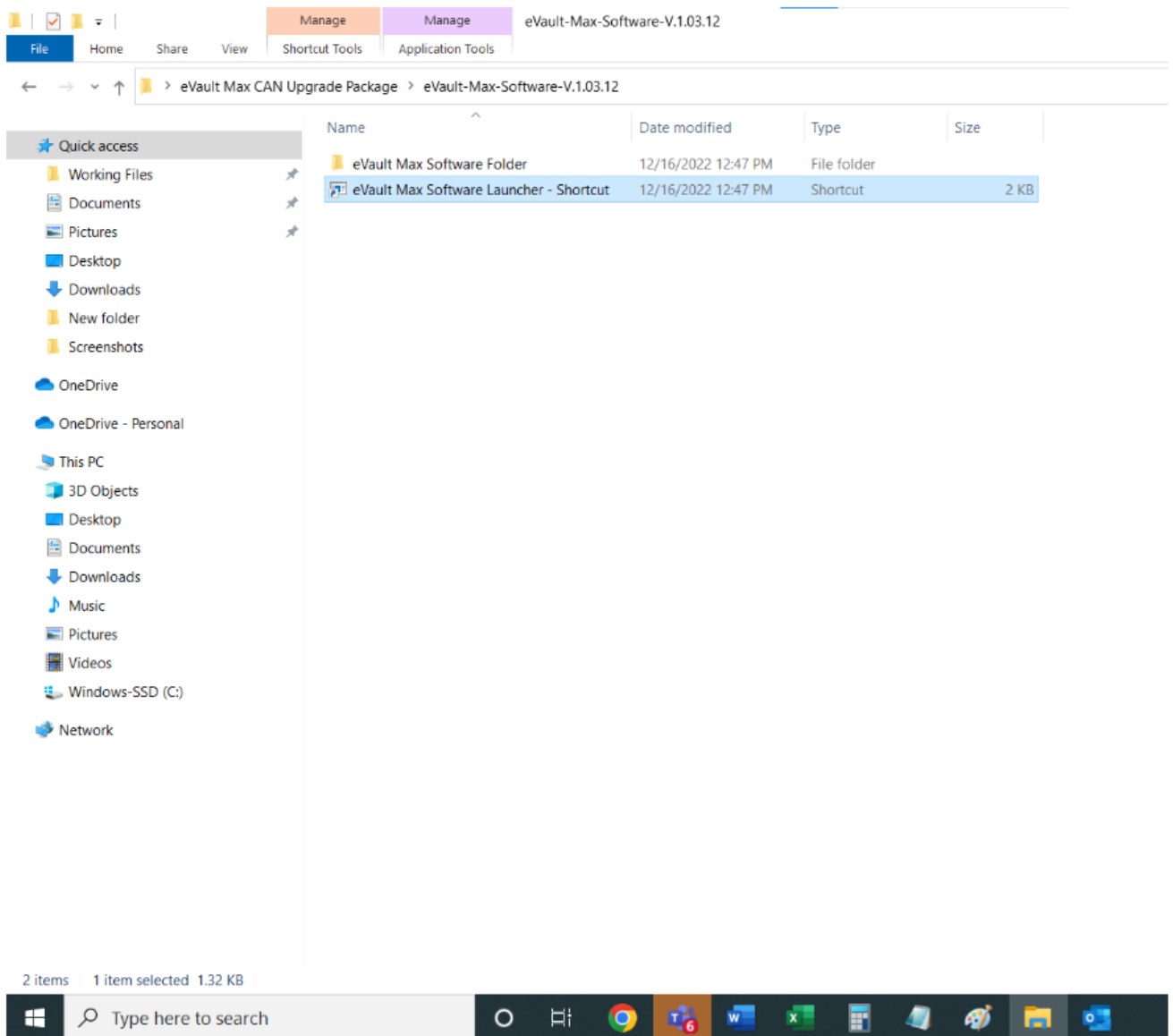
Important!

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 DC breakers in the 'OFF' position on all batteries in the system or 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. While not having the battery to inverter communication cable connected to any of the batteries, either 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) or have one end of the battery to battery communication cable disconnected for all battery to battery communication cables present 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 COM Parallel ports (in/out).

1. Open "eVault Max CAN Upgrade Package" folder, then open "eVault-Max-Software-V....." folder and double click on "eVault Max Software Launcher - Shortcut".



2. Click "Open".

The screenshot shows a Windows File Explorer window with the address bar set to "eVault Max CAN Upgrade Package > eVault-Max-Software-V.1.03.12". The left sidebar shows the "Quick access" pane with various locations like "Working Files", "Documents", "Pictures", "Desktop", "Downloads", "New folder", "Screenshots", "OneDrive", "OneDrive - Personal", "This PC", "3D Objects", "Desktop", "Documents", "Downloads", "Music", "Pictures", "Videos", "Windows-SSD (C:)", and "Network". The main pane displays a table of files:

Name	Date modified	Type	Size
eVault Max Software Folder	12/16/2022 12:47 PM	File folder	
eVault Max Software Launcher - Shortcut	12/16/2022 12:47 PM	Shortcut	2 KB

A "Security Warning" dialog box is open, asking "Do you want to open this file?". The dialog box contains the following information:

- Name: ...03.12\eVault Max Software Launcher - Shortcut.Lnk
- Publisher: **Unknown Publisher**
- Type: Shortcut
- From: C:\Users\Avtandil Giorgadze\OneDrive - Fortress P...

The dialog box has "Open" and "Cancel" buttons. Below the buttons, there is a checkbox labeled "Always ask before opening this file" which is checked. At the bottom of the dialog box, there is a warning icon and a message: "While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not open this software. [What's the risk?](#)"

The taskbar at the bottom shows the Windows Start button, a search bar, and several pinned applications including Chrome, Teams, Word, Excel, and OneDrive.

3. Then, click on "OPEN CAN-BUS" in the bottom left corner of the window. If the CAN tool. Remember, at this time the battery that you have the CAN tool connected to must not be communicating with any other element of the system. If the communication between your computer and the battery is present, "OPEN CAN-BUS" will change font to red and the cell voltages for example would show non-zero values.

The screenshot displays the eVaultMax_Upper_Computer V1.03.09 software interface. The top bar includes the 'FORTRESS POWER' logo, navigation icons (home, lock), and connection settings (COM Ports: COM5, BAT ID: 01). On the right, it shows 'PROTECTION' status (red circle) and 'ALARM' status (yellow circle) with a timestamp of 2022-12-17 17:36:11.

The main interface is divided into a left sidebar and a central display area. The sidebar contains a 'GENERAL' section with sub-items: 'BASE INFO' (highlighted), 'PARALLEL INFO', 'HISTORY' (with 'HISTORY DATA' and 'LOGS HISTORY' sub-items), 'SETTINGS' (with 'PARAMETER', 'FIRMWARE', and 'MANUFACTURE' sub-items), and a 'TYPE' dropdown set to 'USBCAN2'. Below the sidebar are three buttons: 'OPEN CAN-BUS' (highlighted in red), 'CLOSE CAN-BUS', and 'STATUS' (set to 'Static').

The central display area shows various battery metrics: SOC (95.3%), VOLTAGE (53.3 Vdc), CURRENT (0.0 A), POWER (0.000 kW), TOTAL ENERGY (1.23 MWh), and HEALTH (100.0%). Below these are four modules, each with a table of cell voltages and temperatures. The bottom of the interface features four toggle switches: 'PRE-CHG' (OFF), 'DISCHARGE' (ON), 'CHARGE' (ON), and 'MAIN-2nd' (ON).




Max Cell Volt		Min Cell Volt		Max Temp		Min Temp	
3.336V	C-15	3.334V	C-1	22°C	T-2	20°C	T-1

Module 1		Module 2		Module 3		Module 4	
Cell_01	3.334V	Cell_05	3.336V	Cell_09	3.334V	Cell_13	3.336V
Cell_02	3.334V	Cell_06	3.336V	Cell_10	3.336V	Cell_14	3.336V
Cell_03	3.336V	Cell_07	3.336V	Cell_11	3.336V	Cell_15	3.336V
Cell_04	3.335V	Cell_08	3.334V	Cell_12	3.334V	Cell_16	3.334V
Temp_1	20°C	Temp_3	20°C	Temp_5	20°C	Temp_7	20°C
Temp_2	22°C	Temp_4	20°C	Temp_6	20°C	Temp_8	20°C

PRE-CHG	DISCHARGE	CHARGE	MAIN-2nd
OFF	ON	ON	ON


4. It's time to select a firmware file to be used. Click on "FIRMWARE" under the "SETTINGS".


eVaultMax_Upper_Computer V1.03.09



COM Ports **COM5**

BAT ID **01**

PROTECTION  2022-12-14

ALARM  17:36:19

GENERAL

BASE INFO

PARALLEL INFO

HISTORY

HISTORY DATA

LOGS HISTORY

SETTINGS

PARAMETER

FIRMWARE

MANUFACTURE

Manufacturing Info

Serial Number **21050518B0031**

Model Number **eVault Max**

SUCCESS

CLEAR

BMS Info

Firmware Version **51360ST0102**

Select File

0%

START


TYPE: **USBCAN2**

OPEN CAN-BUS

CLOSE CAN-BUS

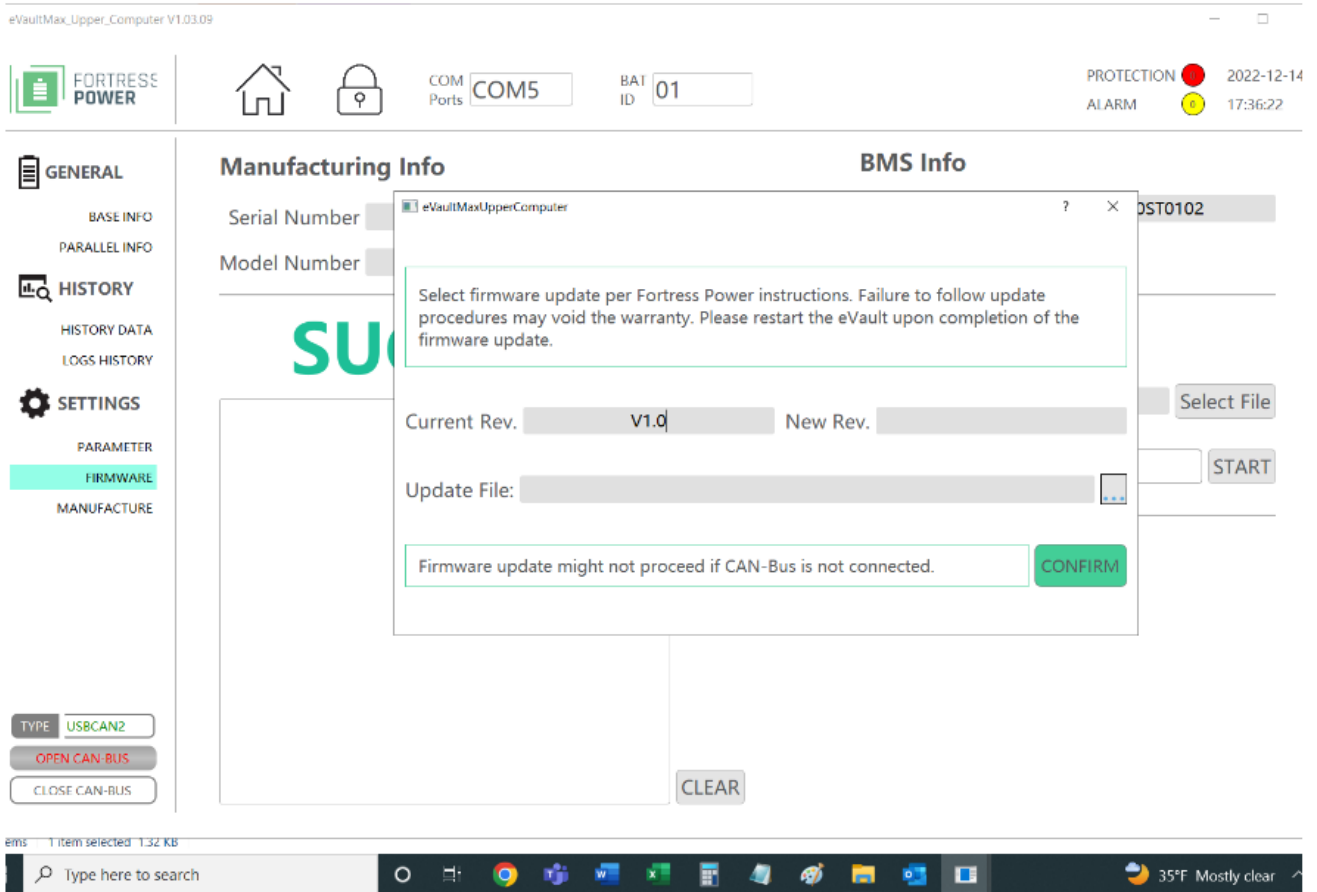
0ms 1 item selected 1.32 KB

Type here to search



35°F Mostly clear

5. And Click on "Select File".



6. Across "Update File" on the other side you'll see an icon with three dots. Click on the latter.

eVaultMax_Upper_Computer V1.03.09

FORTRESS POWER

COM Ports: COM5 BAT ID: 01

PROTECTION: 2022-12-14
ALARM: 17:36:28

GENERAL

- BASE INFO
- PARALLEL INFO
- HISTORY
- HISTORY DATA
- LOGS HISTORY
- SETTINGS
- PARAMETER
- FIRMWARE**
- MANUFACTURE

Manufacturing Info

Serial Number
Model Number

BMS Info

OST0102

Select File

START

CLEAR

File name: firmware upgrade file (*.bin *.s19)

Open Cancel




ims 1 item selected 1.32 KB

Type here to search

35°F Mostly clear


7. Navigate to the "eVault Max CAN Upgrade Package" in this pop-up window, double-click on "eVault Max CAN Upgrade Package" and then double click on "eVault Max Firmware (.....)" and double-click on the single file that this folder contains. Afterwards, click "CONFIRM".


eVaultMax_Upper_Computer V1.03.09



COM Ports **COM5**

BAT ID **01**

PROTECTION  2022-12-14

ALARM  17:36:55

GENERAL
BASE INFO
PARALLEL INFO
HISTORY
HISTORY DATA
LOGS HISTORY
SETTINGS
PARAMETER
FIRMWARE
MANUFACTURE


Manufacturing Info
Serial Number
Model Number
SUCCESS

BMS Info
eVaultMaxUpperComputer
Serial Number
Model Number
Current Rev. **V1.0** New Rev. **V7.01.1**
Update File: **rade Package/eVault Max Firmware (V.51360ST0102)/51360ST0102.s19**
Firmware update might not proceed if CAN-Bus is not connected. **CONFIRM**

TYPE **USBCAN2**
OPEN CAN-BUS
CLOSE CAN-BUS
CLEAR

1 item selected 1.32 KB

Type here to search



35°F Mostly clear

8. Initiate the firmware update by clicking "START".

Fortress Power

Home

Lock

COM PortsCOM5

BAT ID01

PROTECTION2022-12-14

ALARM17:36:59

GENERAL

BASE INFO

PARALLEL INFO

HISTORY

HISTORY DATA

LOGS HISTORY

SETTINGS

PARAMETER

FIRMWARE

MANUFACTURE

Manufacturing Info

Serial Number21050518B0031

Model NumbereVault Max

BMS Info

Firmware Version51360ST0102

SUCCESS

It Max Firmware (V.51360ST0102)/51360ST0102.s19

Select File

0%

START

CLEAR

TYPEUSBCAN2

OPEN CAN BUS

CLOSE CAN-BUS

1 item selected 1.32 KB

Type here to search

35°F Mostly clear

9. Firmware update is only completed when progress bar shows 100% **AND** on the left side it displays "SUCCESS" (instead of "Sending").

eVaultMax_Upper_Computer V1.03.09

FORTRESS POWER

COM Ports: COM5

BAT ID: 01

PROTECTION: 2022-12-14

ALARM: 17:36:59

GENERAL

BASE INFO

PARALLEL INFO

HISTORY

HISTORY DATA

LOGS HISTORY

SETTINGS

PARAMETER

FIRMWARE

MANUFACTURE

Manufacturing Info

Serial Number: 21050518B0031

Model Number: eVault Max

BMS Info

Firmware Version: 51360ST0102

SUCCESS

It Max Firmware (V.51360ST0102)/51360ST0102.s19 **Select File**

0% **START**

CLEAR

TYPE: USBCAN2

OPEN CAN BUS

CLOSE CAN-BUS

1 item selected 1.32 KB

Type here to search

35°F Mostly clear

The firmware is now updated!