

Firmware Update Guide

Electric Vehicle Communication Controller (EVCC)

Please completely read this document and the contained safety instructions and note all given information before usage.

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This firmware update guide is intended to improve the operator's efficiency throughout the procedure and does not entirely absolve them of responsibility.

Change Record

Rev. No.	Date	Details	Revised By	Approved By
1	21/04/2026	Initial Release	Vishvas Mirani	Vivek Vasavada
2	05/05/2026	Revised Email Address	Rajkumar Patel	Vivek Vasavada

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1 Intended Use

This firmware update guide is designed to help users update the firmware on the Electrical Vehicle Communication Controller (EVCC). The guide outlines a standardised approach for ensuring reliable and consistent firmware update procedures across the upcoming updates.

Furthermore, users can contact our team to resolve their issues by using the contact information provided on the last page.

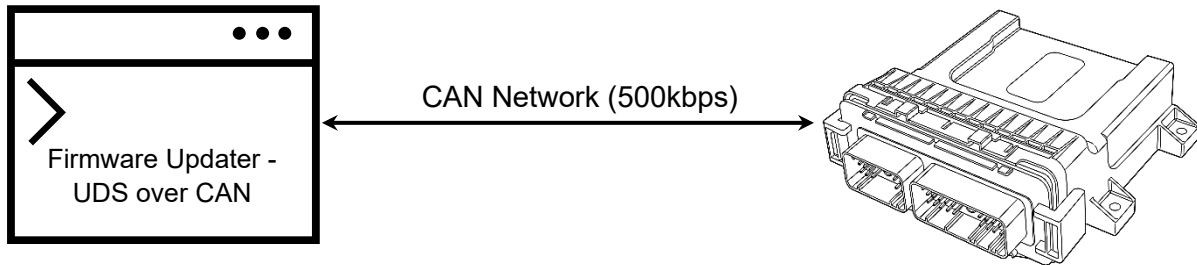
WARNING!	Risk caused by inappropriate use!
	Any unconventional usage or operation of the product may have unintended repercussions. <ul style="list-style-type: none">• Only use the product in a conventional manner.

1.1 Alteration and Restoration of the Product or System

To prevent risks and ensure optimal performance, no alterations, attachments, or restoration of the product are permitted without explicit authorisation of Bacancy Systems PVT LTD.


2 Overview


This firmware is designed to enable secure, remote firmware updates over the CAN communication interface. It implements the ISO 14229 - 1 (UDS - Unified Diagnostic Services) protocol stack to provide comprehensive programming capabilities.





3 Procedure

A firmware update is essential to ensure that the EVCC operates optimally. Please read the safety precautions carefully before proceeding with the firmware upgrading procedure.

MANDATORY	Read Firmware Installation Procedure
	To get an understanding of the procedure, the user should pay careful attention to the upgrade procedure.

WARNING!	Risk of void for warranty and its services
	Inappropriate handling of the product may result in the voiding of the warranty for the product or its services.


NOTE!	Firmware installation files
	For technical support, Bacancy Systems will provide the latest version of the firmware installation/updated files.

NOTE!	Firmware Update
	<ul style="list-style-type: none"> Do not interrupt the update process once it has started. Ensure both firmware files are available: Flash Driver and Application. The progress bar indicates the overall update status, ranging from 0% to 100% completion.

- Prerequisite**

Table 1 Pre-Requirement Tool / Equipment.

No.	Tool / Equipment	Source / Responsibility
1.	PC / Laptop (Windows 10/11 64-bit)	User
2.	CAN Interface for USB (PCAN-USB Adapter with Driver)	Link
Firmware Files		
3.	1. Flash Driver (<i>Flash_api.bin</i>) 2. Application (<i>EVCC_vx.x.x.bin</i>)	Bacancy Systems

NOTE!	CAN Interface for USB (PCAN-USB Adapter)
	This prerequisite is a recommendation; the user may also use another type.

3.1 Interface

To update the firmware, the user must connect the EVCC to the PC using a PCAN-to-USB adapter, which connects the DB-9 female connector to the EVCC's connector. The user can make a connection shown in the diagram below.

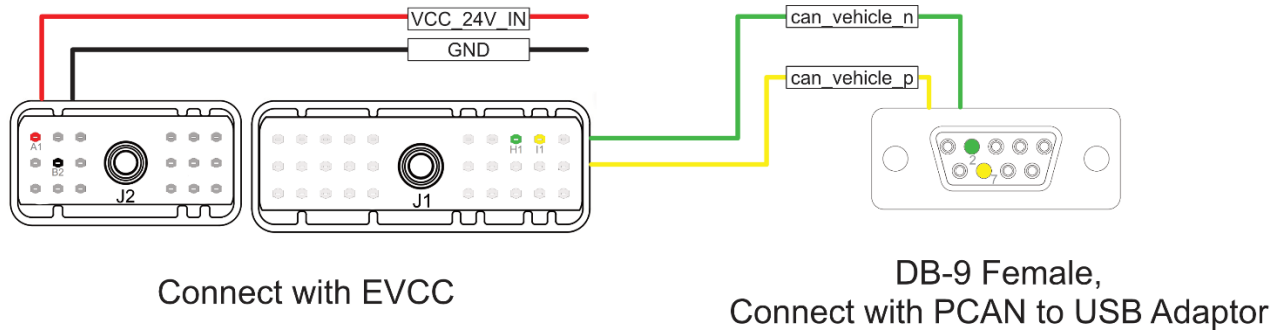


Figure 1 Connection Diagram.

Table 2 Pin Connection with EVCC and DB-9.

No.	EVCC's Pin	DB-9's Pin	Description
1.	A1	-	Power Supply (VCC_24V_IN)
2.	B2	-	Ground (GND)
3.	H1	2	CAN Low (can_vehicle_n)
4.	I1	7	CAN High (can_vehicle_p)

- Step 1.** Make connections as per the diagram.
- Step 2.** Connect the DB-9 female with the PCAN-to-USB adapter.
- Step 3.** Connect the PCAN-to-USB adapter to the PC.
- Step 4.** Install the PCAN-to-USB adaptor's driver.

3.2 Firmware Update

Step 1. Open the firmware_updater_gui.exe

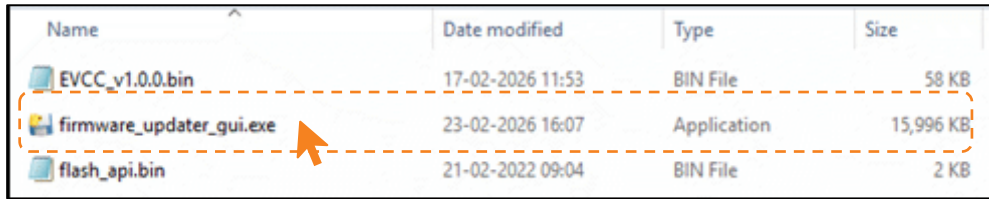


Figure 2 Open the Application.

Step 2. Configure the CAN connection parameters.

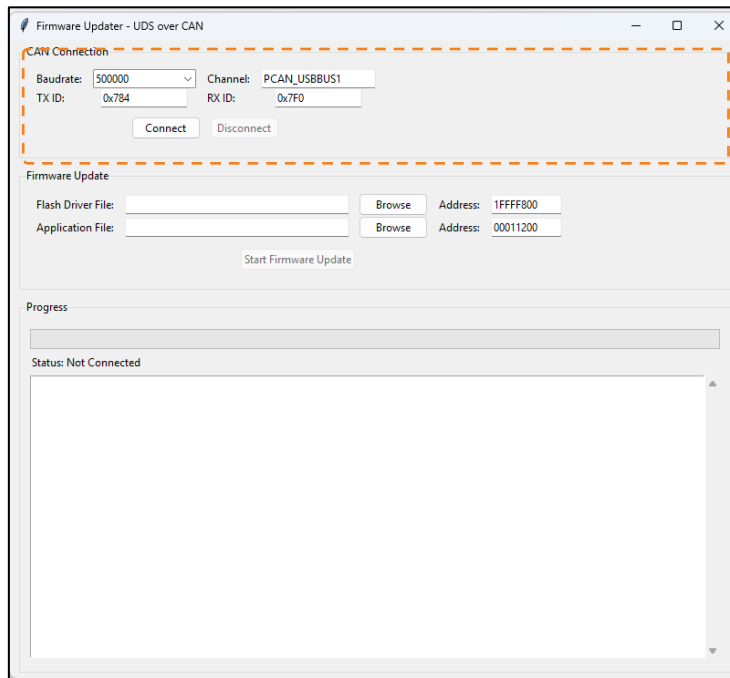


Figure 3 Configure the CAN Connection Parameters.

Table 3 CAN Connection Parameters.

Parameters	Value
Baud Rate	Default
TX ID	
Channel	

Step 3. Select the Firmware Files

A. Flash Driver File:

- Click “browse” next to “Flash Driver File”.
- Select the Flash_api.bin
- Address : 0x1FFF800(Do not change).

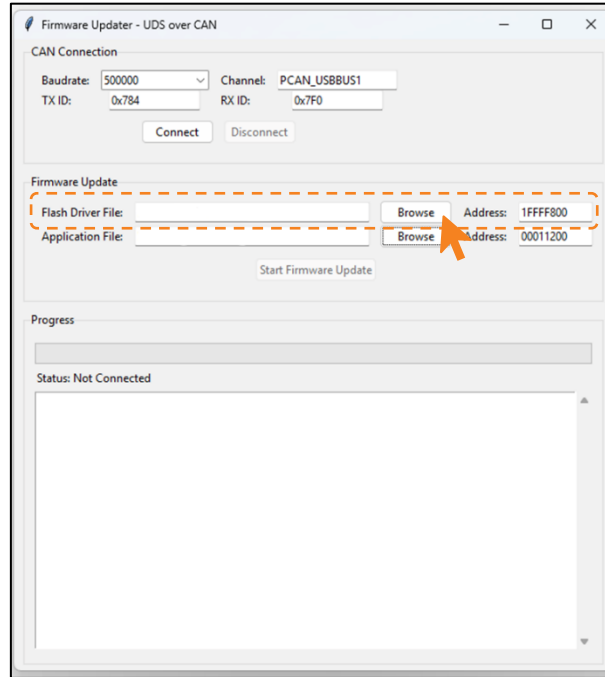


Figure 4 Load the “Flash Driver File”.

Name	Date modified	Type	Size
EVCC_v1.0.0.bin	17-02-2026 11:53	BIN File	58 KB
firmware_updater_gui.exe	23-02-2026 16:07	Application	15,996 KB
flash_api.bin	21-02-2022 09:04	BIN File	2 KB

Figure 5 Select the “flash_api.bin”.

B. Application File:

- Click “browse” next to “Application File”.
- Select the EVCC_vx.x.x.bin
- Address: 0x00011200 (Do not change).

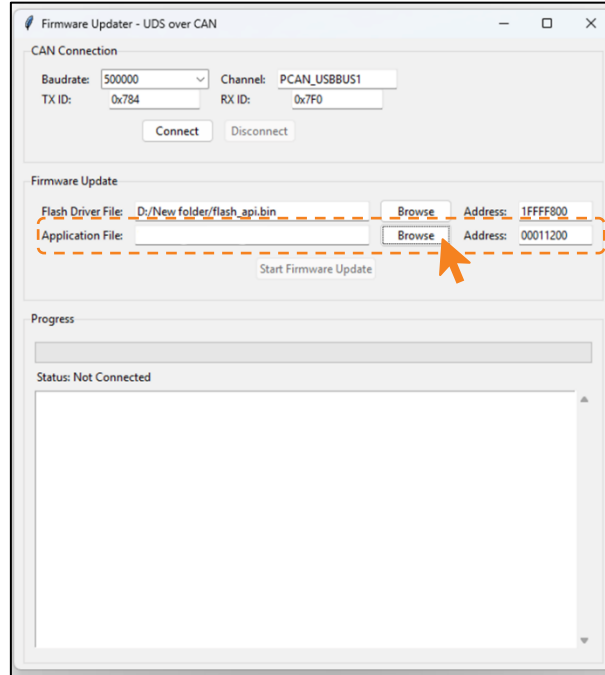


Figure 6 Load the “Application File”.

Name	Date modified	Type	Size
EVCC_v1.0.0.bin	17-02-2026 11:53	BIN File	58 KB
firmware_updater_gui.exe	23-02-2026 16:07	Application	15,996 KB
flash_api.bin	21-02-2022 09:04	BIN File	2 KB

Figure 7 Select the “EVCC_vx.x.x.bin”.

Step 4. Connect to ECU

Click the “Connect” button and wait for the status to be “Connected”.

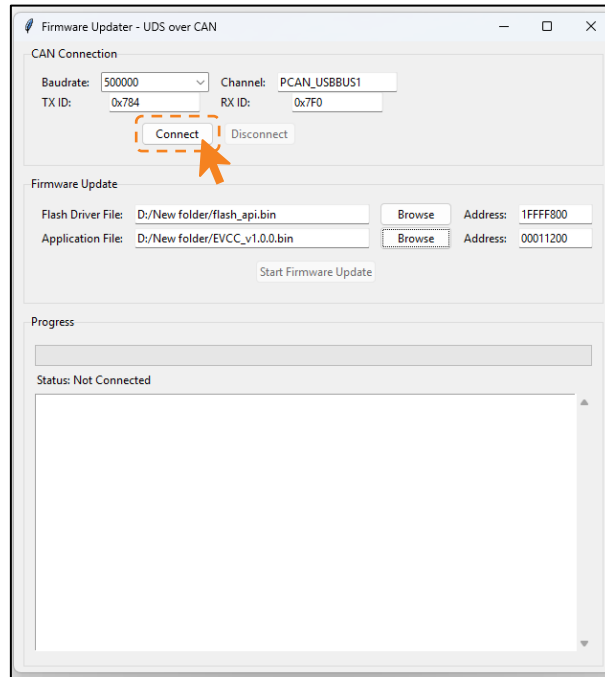


Figure 8 Press the “Connect” Button.

Step 5. Start Firmware Update

Click the “Start Firmware Update” button. Monitor the progress bar and logs.

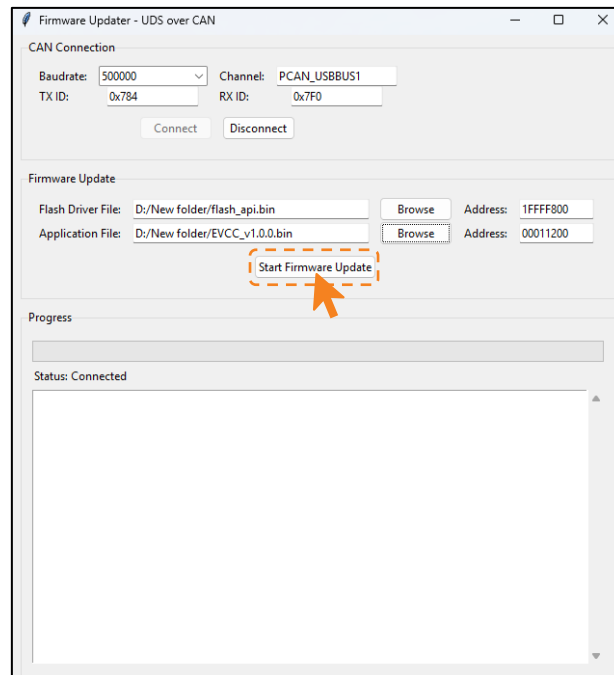


Figure 9 Press the “Start Firmware Update”.

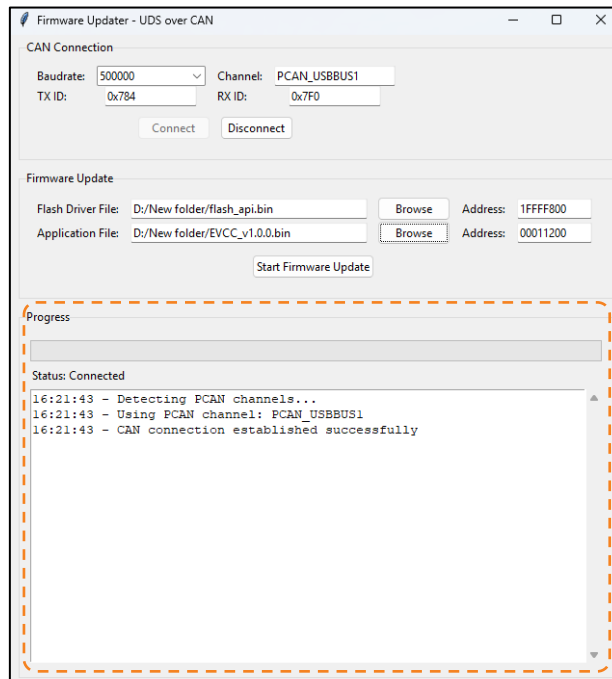



Figure 10 Monitor the Progress Bar and Logs.

Expected logs:


```


16:30:45 - Step 1: Entering Extended Diagnostic Session (0x10 0x03)...
16:30:45 - ✓ Extended Diagnostic Session established
16:30:46 - Step 2: Communication Control (0x28 0x03 0x03)...
16:30:46 - ✓ Communication Control set
16:30:47 - Step 3: Entering Programming Session (0x10 0x02)...
16:30:47 - ✓ Programming Session established
16:30:48 - Step 4-5: Security Access (Level 1 & 2)...
16:30:48 - Received seed: 00003D0000801E0000A00700000000
16:30:48 - Calculated key: 317B41EDC98917...
16:30:49 - ✓ Security Access granted
16:30:49 - Step 6: Write Data By Identifier (0x2E 0xF15A 0x5555)...
16:30:49 - ✓ Data written successfully
16:30:50 - Step 7: Downloading Flash Driver (0x1FFFF800, max 2KB)...
16:30:50 - File size: 1476 bytes, Address: 0x1FFFF800
16:30:50 - Sending RequestDownload...
16:30:50 - Max block size: 4224 bytes
16:30:51 - Transferring block 1/13 (1024 bytes)
...
16:31:05 - ✓ Flash Driver downloaded (CRC: 0x0711)
16:31:05 - Step 8: Routine Control - CRC Check Flash Driver (0x31 0x01 0x0202)...
16:31:05 - Sending CRC: 00000711
16:31:06 - ✓ Flash Driver CRC verified
16:31:06 - Step 9: Routine Control (0x31 0x01 0xFF00)...
16:31:07 - ✓ Routine 0xFF00 completed
16:31:07 - Step 10: Downloading Application (0x00011200)...
...
16:32:45 - ✓ Application downloaded (CRC: 0x57A4)
16:32:45 - Step 11: Routine Control - CRC Check Application (0x31 0x01 0x0202)...
16:32:45 - Sending CRC: 000057A4
16:32:46 - ✓ Application CRC verified
16:32:46 - Step 12: Routine Control (0x31 0x01 0xFF01)...
16:32:47 - ✓ Routine 0xFF01 completed
16:32:47 - Step 13: ECU Reset (0x11 0x01)...
16:32:47 - ✓ ECU Reset initiated
16:32:47 -
16:32:47 - FIRMWARE UPDATE COMPLETED SUCCESSFULLY!
16:32:47 -
  
```

Upon completion, a success message will appear, and the progress bar reaches 100%. ECU will reset automatically.

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