

Electrical Vehicle Interface

EVI GUI

				Websocket connection ALPHA	D LOGOUT
Dashboard EVSE control	Supervisor Manage EVSE charge point locally	Ŷ			
😰 EVIS A CCS	Cartivation state				
EVIS A CHA Device Management	SECC Measurements		State CP0_Init		
Simulation	A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O	A 0 V 0 KwH	Substate 0		
🛓 SWUpdate		Control pilot	Error ne_sp_arrer		
🏟 Settings		\	Error from state CP0_Init		
		Standby (state : A)	Error from sub-state CP8_0_Steady		
	SECC Control	Limitations	Power unit allocations		
	Interface	Max Dc Charge Voltage	Mode		
	000102	• 0 V	Parallel O Series		
	SUPO_IDLE	Max Dc Charge Current	Allocations -		
	SUP1_APPROBATION	• 0 A			
	SUP3_ALLOCATIONDONE	Max Dc Charge Power	UPDATE		
	SUP4_STOPCHARGE	Max Ac Charge Current			
	SUP5_TERMINATE				
	SUP6_RESET				
	SUP7_REARMWITHOUTUNPLUG	UPDATE			



The given values are susceptible to change without prior notice.



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1 Introduction

This document is a user manual for using the EVI Graphical user interface (GUI). The GUI is a web application with a server running on the EVI :

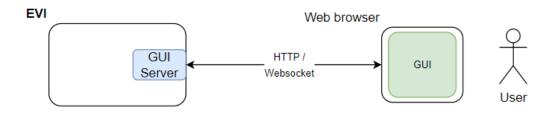


Figure 1 – GUI User diagram

2 Connecting to the GUI

A web browser is required in order to use the GUI, W&W recommends using the latest google chrome versions. The GUI is accessible at the following address:

http://dhsom.local:8333





2.1 Connecting through wi-fi hotspot

The EVI comes with support for TP-LINK 727N wi-fi dongle out of the box. If plugged in, it will act as a wi-fi access point, to which anyone can connect. The wi-fi access point contains the serial number of the EVI board. E.g.: **EVI_20056**. For information on the credentials please walk through our customer credentials delivery process:

- 1. W&W will send to customer an e-mail with link to get credentials (i.e. https://onetimesecret.com/)
- 2. Customer calls W&W technical support to get the « unlock password » by phone (vocal transmission)
- 3. Customer connects to website to unlock credentials.
- 4. Customer gets login and password

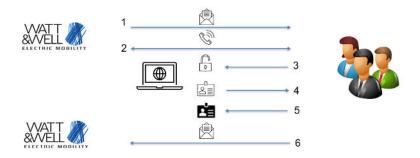


Figure 2 – Credentials delivery process

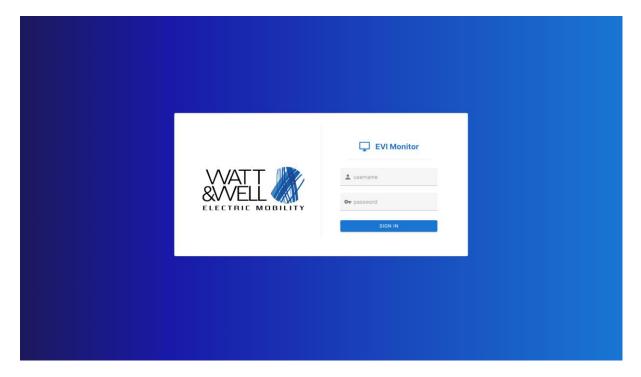
2.2 Connecting through ethernet

The EVI also has an ethernet port to which a user can connect. The standard IP address is **192.168.137.100**, therefore the user should configure his ethernet port to use a IP address in the range **192.168.137.x**.

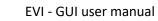


3 Login

When navigating to the GUI link, the user should be prompted with a login page.



The GUI is protected by a login to prevent undesired access to the EVI board. In order to get the credentials please walk through our W&W credentials delivery process (2.1)





4 Global overview

The GUI is composed of several parts:

- A navigation containing information on the WebSocket connection status (live data feedback) as well as a logout button
- The menus, on the left hand side containing the different menus to navigate to
- The main window, with a different content depending on the menu
- At the bottom of the menus, you will find the version of the GUI.

	I		Top navig	ation bar			Websocket connection	ALPHA 🕒 LOGOUT
■ D) ≎ ≜	Dashboard EVSE control v Device Management Simulation SWUpdate	Success rate	kwh age : kwh					
٠	Settings	Counter 10 Session ID	🖬 Start time	End time	Ouration	Result	👍 Total energy (kWh)	
				No sessions to o	lisplay			
	Mann			Main windo	w			
versi	Version m : 2.0.0a7.post1.dev0+d018							



5 Dashboard view

Currently this view is in beta, and will contain information on the different charging sessions.

6 Import license key

License key is required to enable some of the EVI features.

Open the EVI global settings view by clicking on "Settings" button:



If no license key has been loaded, the current features list must be "empty" (see below). To upload Then click on "LOAD LICENSE" button:

	I 🔉		
C a 888	EVSE control	~	Settings Update EVI global settings
۲	Simulation		Current features
٠	Settings		
			() Empty

Then click on "Upload new license file" field and select the license key file, this file has format: SN<EVI_SERIAL_NUMBER>xxxxx.lic :

Loa	d license		
±	Upload new license file		
		CLOSE	1 UPLOAD



SN400109

Thursday 5, October, 2023 ... LIC File

Then press "UPLOAD" button:

Loa	ad license	
±	Upload new license file SN400109.lic (238 B)	8
		1 files (238 B in total)
		CLOSE 主 UPLOAD

A green pop-up windows should appear with message: "uploaded license". The allowed features must be displayed. In the following example, only the basic features are allowed:

WAT 8///E	I ar	
00	EVSE control V	Settings
888	EVIX IO	Update EVI global settings
۲	Simulation	Current features
٠	Settings	BASIC + LOAD LICENSE

7 EVSE Control view

This view is used to control and monitor the charge point.

		Supervisor activation, for controlling SECC with GUI Supervisor Manage EVSc charge point locally	SECC measurements (power, voltage, current, energy transferred	 ВЕВИБОНО 	Websocket connection ALPHA (5 LObout
Charge point type	 EVISA CHA Device Management Simulation SWUpdate Settings 	SECC Measurements	2	State Substate 0 Error Error Error from state Error from sub state	Feedback on SECC state and errors if any
	venion : 20.0a7post1.dev0+d018	Interface 0 • • • • • • • • • • • • • • • • • • •	ations Charge Voltage 0 Charge Current 0 Charge Forver 0 Charge Current 0 Charge Current 0 A	Power unit allocations Mode Paratel Series Allocations	Controlling SECC : Update limitations, the <u>necesseray</u> allocations and sending supervisor controls.

Figure 3 – EVSE Control



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When activated the control view should look something like the following :

	I							Websocket connection	ALPHA	🕒 LOGOUT
55 D)	Dashboard EVSE control	Supervisor Manage EVSE charge point locally	y			0	DEBUGGING			
٤	EVIS A CCS	Activation state								
6 8	EVIS A CHA	SECC Measurements			State	CP17_EmergencyStop				
۲	Simulation	0 kW 0	A 0 V	0 KwH	Substate	171				
\$	SWUpdate		Control pilot		Error	cs_emergency_error				
٠	Settings		X		Error from state	CP0_Init				
			Error (state : F)		Error from sub state	CP8_0_Steady				
		SECC Control	Limitations		Power unit alloca	ations				
		Interface	Max Dc Charge Voltage		Mode					
		000102	•	0 V	Parallel O Series	5				
		SUP0_IDLE SUP1_APPROBATION	Max Dc Charge Current	A O	Allocations	*				
		SUP1_APPROBATION	Max Dc Charge Power							
		SUP3_ALLOCATIONDONE	Max De Charge Power	0 kW	UPDATE					
		SUP4_STOPCHARGE	Max Ac Charge Current		Constant of					
		SUP5_TERMINATE	•	0 A						
		SUP6_RESET								
		SUP7_REARMWITHOUTUNPLUG	UPDATE							

Figure 4 – EVSE Control, supervisor started

The user can enter :

- **Charging limitations** and click on "Update". This will be used when communicating to EV to give the charge point capabilities.
- **Power unit allocations** to allocate the power units to the charge point. This will depend on the configured IDs of the connected power units on the CAN bus.
- **Control SECC** : by sending start/stop signals as well as the interface.

Thorough explanations of the EVI interface can be found in **AN005- Reference manual**.

EVI has several interface types, in particular interface 2, which is needed in order to use V2G functionality adds additional information :



SECC Control	Limitations		Power unit allocations
Interface	Max Dc Charge Voltage		Mode
00102		465 V	O Parallel Series
Discharge	Max Dc Charge Current	172 A	Allocations BMPU1 (id : 94) 🐼
compatible : no	Max Dc Charge Power	02 4	
Scheduled		= 197 kW	UPDATE
Charge	Max Ac Charge Current	= 252 A	
SUP0_IDLE		232 A]
SUP1_APPROBATION	Max Dc Discharge Voltage		
SUP2_CANCELLATION		• 0 V	
SUP3_ALLOCATIONDONE	Max Dc Discharge Current		
SUP4_STOPCHARGE	•	- 0 A	
SUP5_TERMINATE	Max Dc Discharge Power		
SUP6_RESET	•	- 0 kW	
SUP7_REARMWITHOUTUNPLUG	Max Ac Dicharge Current		
	•	- 0 A	

Figure 5 – Interface 2 specific parameters

For a charging sequence example, please read chapters **7.1** and **7.2** of the document **AN005** – **Technical reference manual**.

8 Device management view

The device management view can be used to access information on the connected devices of the CAN bus. This page is still in development and should only be used to view the connected devices.

				General o		D	evice list & info		Websocket connection	ALPHA	G LOGOUT
==	Dashboard EVSE control V	Devices Manage CANopen dev	ices connected o	in the CAN networ	k						
D)	EVSE control V Device Management		/	© NMT COMMANDS		/					
	Simulation	Device type		rial Number	Version	Build	State (NMT) 👔	Actions			
±	SWUpdate	EVIS	16 174		4.1.4r	18588	OPERATIONAL	OVERVIEW			
٠	Settings										



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9 EVIX-IO view

This view can be used to drive EVIX-IO board outputs as well as display its API's feedbacks.

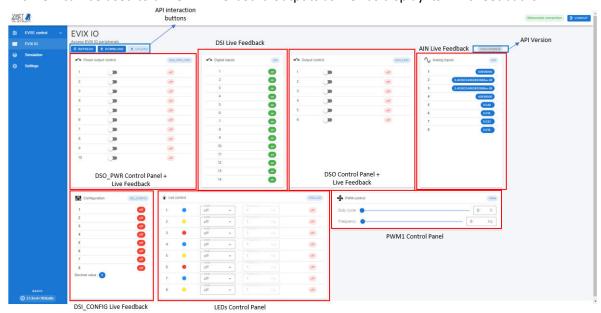


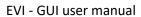
Figure 6: Segmentation of the EVIX-IO view

API interaction buttons functions are described in the table below :

Button	Function
Refresh	Resynchronizes the bistable buttons and fillable areas of the GUI with the API's
	current feedback.
	Should the page be refreshed , or another service be using the API concurrently
	with the GUI, the buttons don't get automatically updated.
Download	Downloads the current drive settings of the various outputs into a reusable
	Request.json file.
Upload	Uploads to the API a pre-formatted or previously downloaded Request.json file
	to automatically set multiple outputs to their desired states/values.

The API version is displayed on the top-right corner of the EVIX-IO view.

Multiple boxes are displayed in the body of the view and correspond each to a set of I/Os controlled and observed by the EVIX-IO API.





✓ Pow	er output control	DSO_PWR_CMD
1		off
2		off
3		off
4		off
5		off
		off
6		
7		off
8		off
9		off
10		off

Figure 7: Example with DSO_PWR and DSI

In those boxes, the number besides any button or displayed value corresponds to the id of the named peripheral (e.g. 1 in Power output control = DSO_PWR_CMD_1).

All outputs have either bistable switch buttons to toggle them ON and OFF, fillable areas to set specific values, or slider bars to roughly set said values. In output peripheral boxes, the value of the last sent command is seen as a feedback right next to each driving command button as shown below.

 Power output control 		DSO_PWR_CME
1	-	off
2	-	off
3		off
4	-	off
5		off
6		off
7		off
8		off
9		off
10		off
	Output Driving Command	Feedback

Figure 8: Example for DSO_PWR_CMD



All inputs (Digital and Analog) as well as feedbacks are automatically refreshed periodically, with a default refresh rate of 500ms (2Hz).

10 Simulation view

This view can be used to emulate power units and the PM. This is still under development and is currently not documented.

11 SwUpdate view

Still under development, will be used to update EVI with SwUpdate.

12 Settings

Still under development, will be used for general EVI configurations.