

**Electrical Vehicle Interface** 

# **EVI GUI**

					Websocket connection	ALPHA	🕒 LOGOUT	
#8	Dashboard EVSE control	Supervisor Manage EVSE charge point locally	,					
ę	EVIS A CCS	Activation state						
• •	EVIS A CHA Device Management Simulation	SECC Measurements	A O V O KwH	State CP0_Init Substate 0				
<b>1</b>	SWUpdate		Control pilot	Error no_cp_error				
*	Settings	5	Standby ( state : A)	Error from state CP0_Init Error from sub state CP8_0_Steady	-			
		SECC Control	Limitations	Power unit allocations				
		Interface 0 0 0 1 2 SUP0_IDLE SUP1_APPROBATION SUP2_CANCELLATION SUP3_ALLOCATIONDONE SUP4_STOPCHARGE SUP5_TERNINATE SUP6_RESET SUP7_REARMWITHOUTUNPLUG	Max Dc Charge Voltage 0 V Max Dc Charge Current 0 A Max Dc Charge Power 0 kW Max Ac Charge Current 0 A UPDATE	Mode  Parallel O Series  Allocations  UPDATE				



The given values are susceptible to change without prior notice.



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**Revision AC** 

#### **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 n	avigation bar		Websocket connection	ALPHA
	Dashboard EVSE control v Device Management Simulation SWUpdate	Success rate () (s) (teal) (Prov. Nat) Charging sessions () Cate	Energy 4 kwh Average : kwh RALL				
۵	Settings	Counter 10 Session	on ID 💼 Start time	🖬 End time	C Duration	Result 👍 Total energy (kWh)	
				() No sessions to display			
				Main window			
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:

	ANTEL OF						
<b>C</b> 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		
<b>±</b>	Upload new license file		
		CLOSE	1 UPLOAD



SN400109

Thursday 5, October, 2023 ... LIC File

#### Then press "UPLOAD" button:

Lo	oadlicense	
<u>±</u>	Upload new license file SN400109.lic (238 B)	8
		1 files (238 B in total)
		CLOSE 1 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 &WE								
<b>C</b> ia 888	EVSE control ~	Settings Update EVI global settings						
<b>€</b>	Simulation Settings	BASIC + LOAD LICENSE						

# **7 EVSE Control view**

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

	Dashboard     EVSE control     Secondary     EVSE A CCS	Supervisor activation, for controlling SECC with GUI Supervisor Manage EVSI/charge point locally Activation state		ty Websocket connection ALPHA		
Charge point type	<ul> <li>EVISA CIVA</li> <li>Device Management</li> <li>Simulation</li> <li>SWUpdate</li> <li>SWUpdate</li> </ul>	SECC Measurements	0 V 0 KwH pilot state : ?)	State 0 Substate 0 Error Error from state Error from state	Feedback on SECC state and errors if any	
	vension : 2.0.0x2post1.dev0+d018	SECC Control Interface 0 0 1 0 2 0 0 1 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0 0	tions Charge Voltage On V Charge Current On KW Charge Current On KW Charge Current On A	Power unit allocations Mode Paratel Series Allocations * UPDATE	Controlling SECC : Update limitations, the necesseray allocations and sending supervisor controls.	

Figure 3 – EVSE Control



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

	1				Websocket connection ALPHA DOGOUT						
55 D)	Dashboard EVSE control	Supervisor Manage EVSE charge point locally	Supervisor Manage EVSE charge point locally								
8	EVIS A CCS	Activation state									
*	EVIS A CHA	SECC Measurements	A 0 V 0 KwH	State CP17_EmergencyStop							
1	SWUpdate		Control pilot	Error cs_amergancy_error							
Ť			Error (state : F)	Error from sub State							
		SECE CONITOI           Interface           0         0           1         2           SUP3_OLCE           SUP3_CANCELLATION           SUP3_ALLOCATIONDONE           SUP3_ALLOCATIONDONE           SUP3_TEDROCHARGE           SUP4_TERRIMINATE           SUP5_REARMWITHOUTUNPLUG	Limitations Max Dc Charge Current  Max Dc Charge Power  Max Ac Charge Current  Max Ac Charg	Power unit allocations Mode Parslel Senes Allocations							

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		Allocations
compatible : no		• 172 A	BMPU1 (id : 94) 😵
Scheduled	Max Dc Charge Power		
Scheduled		• <b>197</b> kW	UPDATE
Charge	Max Ac Charge Current		
		252 A	
SUP0_IDLE	Max Dc Discharge Voltage		
SUP1_APPROBATION			
SUP2_CANCELLATION	•		
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	
	UPDATE		

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 comman	device ds	De	evice list & info		Websocket-connection	ALPHA	E LOGOUT
	Dashboard	Devices									
<b>E</b> 0	EVSE control V	Manage CANopen der	vices connected	on the CAN netwo	rk	/					
٠	Device Management	Q SCAN 2 REPRO	IGRAM DEVICES	O NMT COMMANDS	SETTINGS	/					
۲	Simulation	Device type	ID Se	erial Number	Version	Build	State (NMT) 🕕	Actions			
1	SWUpdate	😰 EVIS	16 17	742	4.1.4r	18588	OPERATIONAL				
٠	Settings										



#### 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.





Powe	er output control	DSO_PWR_CMD
1		off
2		off
3		off
4		off
-		
5		110
6		off
7		off
8		off
9		off
10		off
	0	

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.

<b>~~</b> P(	ower output control	DSO_PWR_CMD
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.