



Starter Kit – From delivery to first charge guide

Revision AA



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Starter Kit presentation

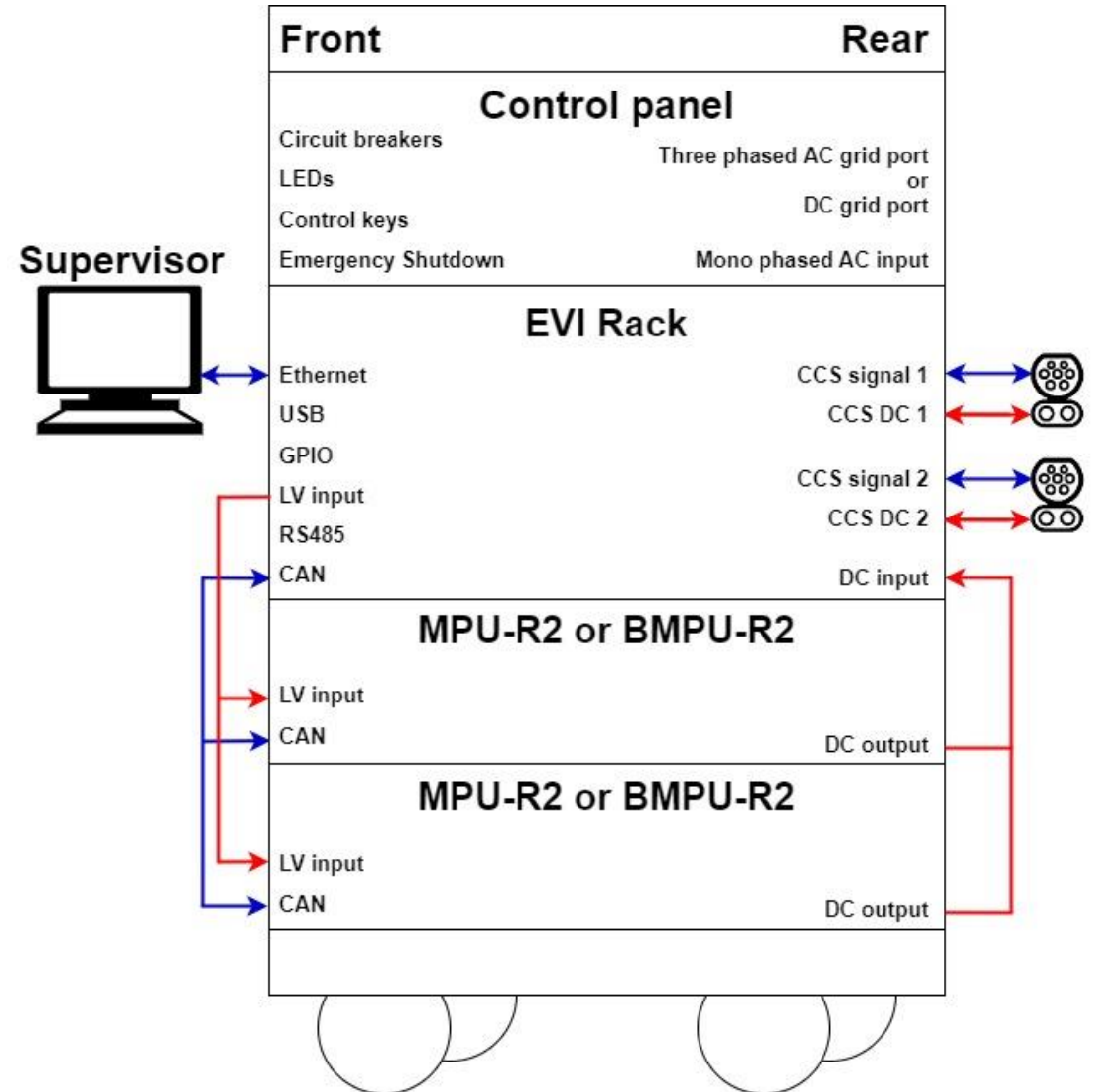
Starter kit is a modular mobile cabinet designed to reduce the time between delivery of SECC and power module equipment and the first safe and successful charge of an Electric Vehicle

It features:

- 2 CCS charge points
- 2 power units
- Equipment to serialize, parallelize, or manage independently the power units on the charge points
- SECC boards

Starter kit is available in 4 configurations:

- SK-V1G-AC (AC grid, charge only)
- SK-V2G-AC (AC grid, charge and V2G)
- SK-V1G-DC (DC input, charge only)
- SK-V2G-DC (DC input, charge and V2G)



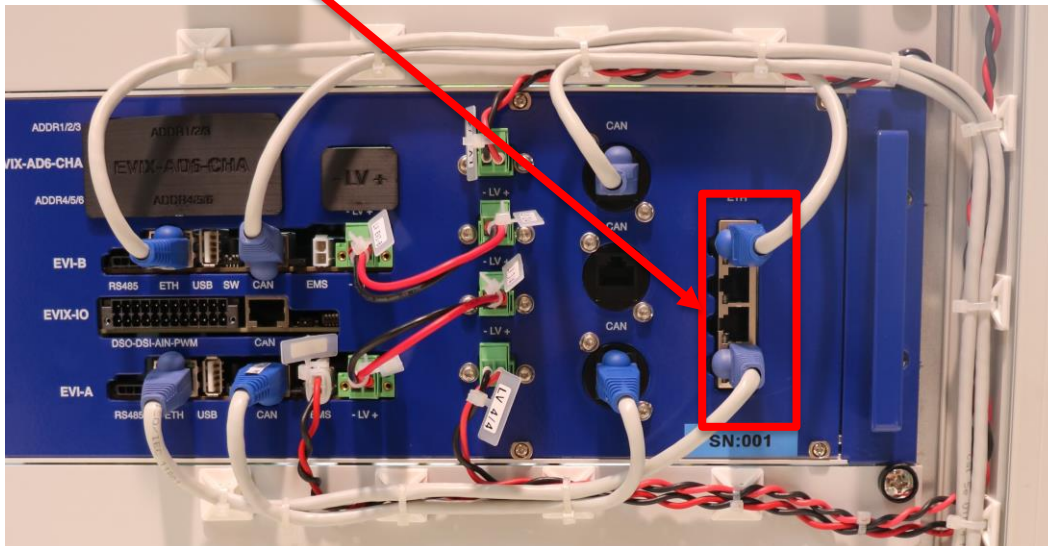
Credentials request

- Watt & Well shall send an e-mail with a onetimesecret link
- This link provides a user name and password for the Graphical User Interface (GUI)
- This link can only be accessed once



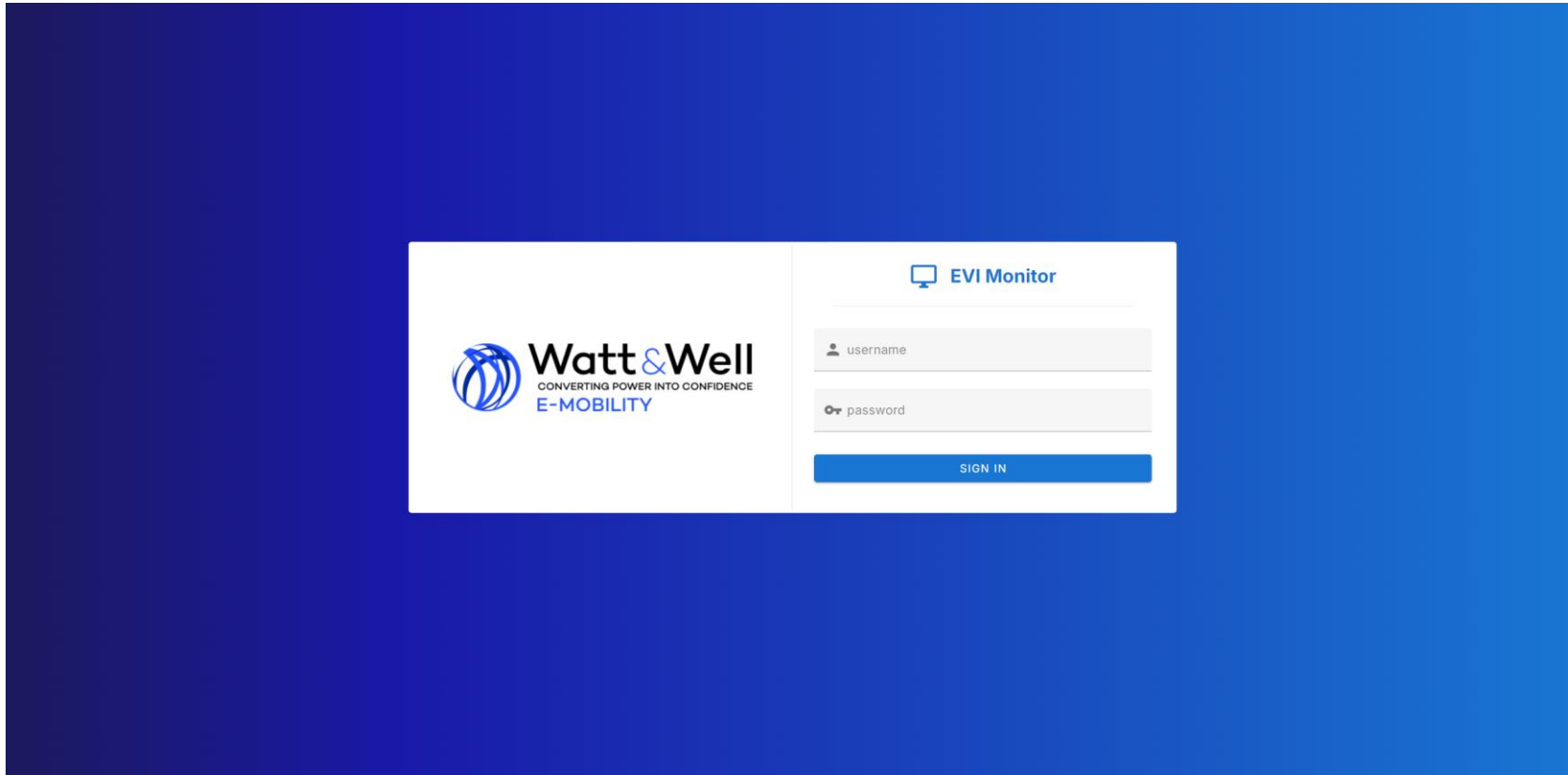
Connection to the EVI GUI

- Set IPv4 of PC ethernet port to the 192.168.137.XXX/24 network, take any id (xxx) except 11 (address of EVIA), 12 (address of EVIB) and 100 (reserved for debug)
- Connect the computer on the Ethernet switch of the Starter Kit:



Connection to the EVI GUI

- Go to the following address in your navigator: <http://192.168.137.11:8333>
- You will be transferred to the page shown below to enter the login and password:



The screenshot shows a login interface for the EVI Monitor. On the left side, there is the Watt & Well logo with the tagline "CONVERTING POWER INTO CONFIDENCE" and "E-MOBILITY". On the right side, the page is titled "EVI Monitor" and features two input fields: "username" and "password". Below these fields is a blue "SIGN IN" button.

Supervisor view



Click on EVIS A: →
This allows to manage the CCS 1 charge point (tag on the CCS plugs).

To manage the CCS 2 charge point, you will have to open a new GUI window, with the IP address of EVIS B. More information is available in the user guide.

Dashboard

EVSE control

EVIS A CCS

EVIS A CHA

Devices

EVIX IO

Simulation

SWUpdate

Settings

Success rate

100 %

Total : 0

Errors : 0

Energy

0 kwh

Average : 0 kwh

Charging sessions

Search

Session ID	Start time	End time	Duration	Result
No data available				

Supervisor view

👉 If the Supervisor view is greyed, please click on the “activation state” slider

The screenshot shows the 'Supervisor' interface with the following components:

- Navigation Sidebar:** Dashboard, EVSE control, EVIS A CCS, EVIS A CHA, Devices, EVIX IO, Simulation, SWUpdate, Settings.
- Supervisor Header:** 'Supervisor' title, 'Manage EVSE charge point locally' subtitle, 'DEBUGGING' button, 'Websocket connection' indicator, and 'LOGOUT' button.
- Activation State:** A green slider is highlighted with a hand icon. A tooltip reads: 'Activating supervisor will launch a CANopen node that communicates with the EVI chipset. Make sure that no other supervisor exists on the bus, otherwise it could interfere.'
- SECC Measurements:** 0 kW, 0 A, 1 V, 0 kWh, 0 %.
- Control Pilot:** A plug icon with the text 'EV connected (state : B)'.
- State Information:** State: CP1_WaitForSupApprob, Substate: 255, Error: no_cp_error, Error from state: CP255_No_State, Error from sub state: CPx_255_no_substate.
- SECC Control:** Interface: 0 1 2 (1 is selected), SUP0_IDLE, SUP1_APPROBATION.
- Limitations:** Max Charge Voltage (Battery): 500 V, Max Charge Current (Battery): 32 A.
- Power unit allocations:** Mode: [Warning] Actual contactor wiring should be double checked before starting a charge ! Wrong wiring could break power units or damage EV.

Supervisor view

This view allows users to set limitations and power units allocations

Press update after filling each section:

- 1) Fill limitations
- 2) Press update
- 3) Then fill the allocations
- 4) Press update

The screenshot displays the 'Supervisor' interface for managing EVSE charge points. It includes a sidebar with navigation options like 'EVSE control', 'EVIS A CCS', and 'Settings'. The main area shows 'SECC Measurements' with various units, 'SECC Control' with interface selection, 'Limitations' with sliders for voltage, current, and power, and 'Power unit allocations' with mode selection and allocation lists. A 'DEBUGGING' button is visible in the top right. A 'Websocket connection' indicator and a 'LOGOUT' button are also present. The interface is annotated with numbered arrows: 1 points to an error message 'Error (state: F)', 2 points to an 'UPDATE' button in the Limitations section, 3 points to an 'UPDATE' button in the Power unit allocations section, and 4 points to another 'UPDATE' button in the Power unit allocations section.

Supervisor view - Limitations Overview

	SK-VIG-AC		HV SK-V2G-AC		HV SK-VIG-DC		HV SK-V2G-DC		
PARAMETER	VALUE		VALUE		VALUE		VALUE		UNITS
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
Max charge current (grid)	0	63	-32	32	0	100	-64	64	A
Max charge voltage (battery)	200	920	150 (G2V) ; 250 (V2G)	1000		920	150	1000	V
Max charge current (battery)		100	-64	60		100	-64	60	A
Max charge power (battery)		44	-22	22		60	-22	22	kW



Supervisor feature configuration - Power Unit allocations

Parallel configuration (1 to 2 PUs):

- Allocate the PUs through the drop-down list regardless of the PU IDs
- If you are allocating a single PU, use this configuration

Serial configuration (2 PUs):

- You MUST have two PUs
- The PU addresses MUST follow each other
- You MUST allocate the even numbered ID first, as shown on the right
- In the SK-V1G-AC, SK-V1G-DC and SK-V2G-DC configurations of the Starter Kit, the PUs should never be serialized.


The screenshot displays the supervisor configuration interface for power unit allocations. At the top, there are three status indicators: 0 V, 0 kWh, and 0 %. Below these, there is a section for 'Control pilot' with a plug icon and a status indicator 'Detected (state : B)'. The main configuration area is divided into two panels. The left panel, titled 'Limitations', contains four sliders with corresponding input fields: Max Charge Voltage (Battery) set to 500 V, Max Charge Current (Battery) set to 32 A, Max Charge Power (Battery) set to 11 kW, and Max Charge Current (Grid) set to 32 A. An 'UPDATE' button is located at the bottom of this panel. The right panel shows a list of detected and not detected power units (BMPU9 to BMPU14). BMPU9 (id: 102) and BMPU10 (id: 103) are marked as 'Detected', while BMPU11 (id: 104), BMPU12 (id: 105), BMPU13 (id: 106), and BMPU14 (id: 107) are marked as 'Not detected'. Below the list, there is an 'Allocations' section showing two selected power units: BMPU9 (id: 102) and BMPU10 (id: 103), each with a close button (X). A green hand icon points to the close button for BMPU10. An 'UPDATE' button is also present at the bottom of the right panel.

Supervisor feature configuration - Power Unit allocations

- Be careful not to allocate a power units to both charge points.
- Once power allocation is done, it is required to manage the contactors included in the Starter Kit thanks to the EVIX-IO view:
 - Power unit (PU) allocation and configuration (series/ parallel) must match the contactor management
 - Watt & Well provides .json configuration files for setting this up.

Power unit allocations

Mode

 Actual contactor wiring should be double checked before starting a charge ! Wrong wiring could break power units or damage EV.

Parallel Series


Allocations

BMPU9 (id : 102) × BMPU10 (id : 103) ×

UPDATE

Power unit allocations

Mode

 Actual contactor wiring should be double checked before starting a charge ! Wrong wiring could break power units or damage EV.

Parallel Series

Allocations

BMPU9 (id : 102) × BMPU10 (id : 103) ×

UPDATE

EVIX-IO view



Click on EVIX IO: →

Supervisor
Manage EVSE charge point locally

Activation state Silent mode

SECC Measurements

10.9 kW	24.2 A	449.9 V	0 kWh	31 %
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Control pilot

Charging allowed (state : C)

SECC Control

Interface
 0 1 2

SUP0_IDLE

SUP1_APPROBATION

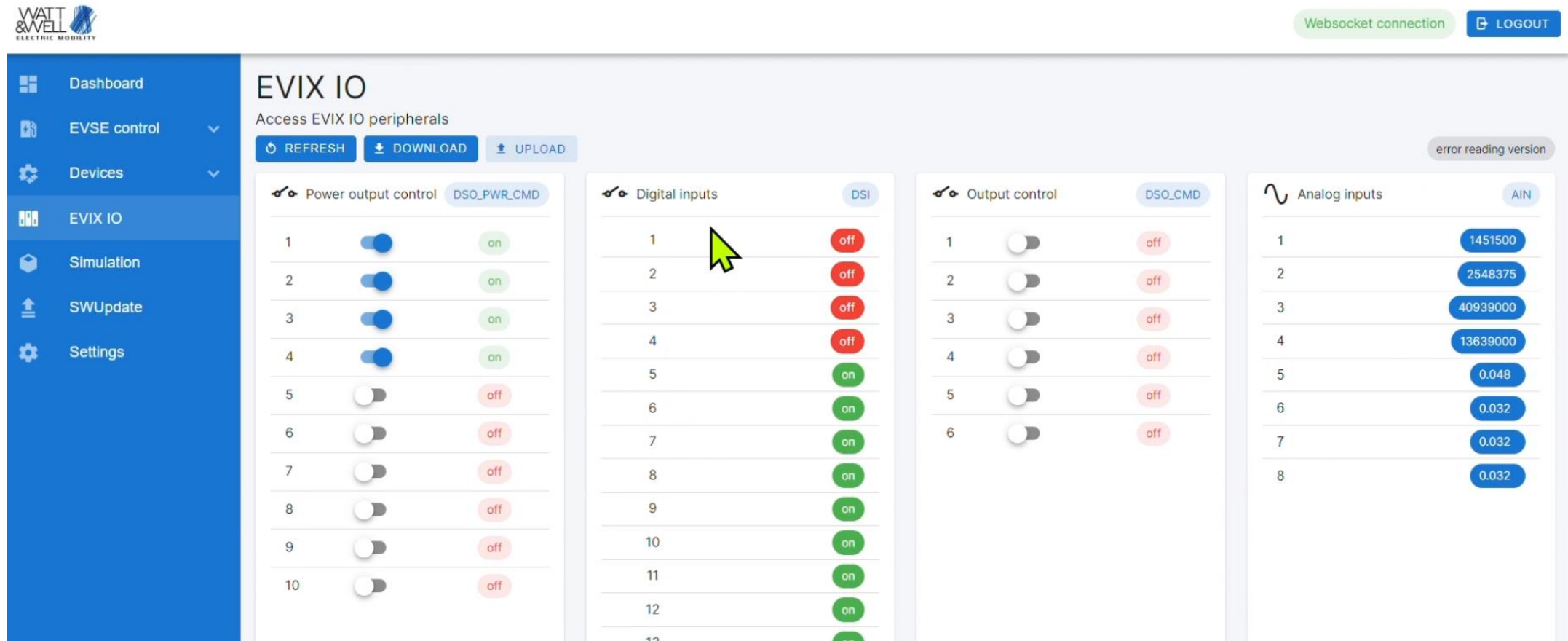
Limitations

Max Charge Voltage (Battery)
500

Max Charge Current (Battery)
32

EVIX-IO view

This view grants access to contactor management and other GPIO



The screenshot displays the EVIX IO web interface. At the top right, there is a 'Websocket connection' indicator and a 'LOGOUT' button. The left sidebar contains a navigation menu with options: Dashboard, EVSE control, Devices, EVIX IO (selected), Simulation, SWUpdate, and Settings. The main content area is titled 'EVIX IO' and includes sub-headers 'Access EVIX IO peripherals' and buttons for 'REFRESH', 'DOWNLOAD', and 'UPLOAD'. Below these are four panels:

- Power output control (DSO_PWR_CMD):** A list of 10 items with toggle switches and status indicators (on/off).
- Digital inputs (DSI):** A list of 12 items with status indicators (on/off).
- Output control (DSO_CMD):** A list of 6 items with toggle switches and status indicators (on/off).
- Analog inputs (AIN):** A list of 8 items with numerical readout buttons.

An 'error reading version' message is visible in the top right corner of the main content area.

EVIX-IO view – contactor management

Click on the upload button to upload the configuration for series or parallel use of the PUs

This will open a pop-up window



The screenshot shows the EVIX IO web interface. On the left is a blue sidebar menu with options: Dashboard, EVSE control, Devices, EVIX IO (selected), Simulation, SWUpdate, and Settings. The main content area is titled 'EVIX IO' and includes a sub-header 'Access EVIX IO peripheral'. Below this are three buttons: REFRESH, DOWNLOAD, and UPLOAD. A yellow hand icon points to the UPLOAD button, with a tooltip that says 'Upload a json configuration'. The interface is divided into three control panels:

- Power output control (DSO_PWR_CMD):** A table with 10 rows. The first four rows have blue toggle switches and green 'on' buttons. The remaining six rows have grey toggle switches and red 'off' buttons.
- Digital inputs (DSI):** A table with 12 rows. The first four rows have red 'off' buttons. The remaining eight rows have green 'on' buttons.
- Output control (DSO_CMD):** A table with 6 rows. All rows have grey toggle switches and red 'off' buttons.

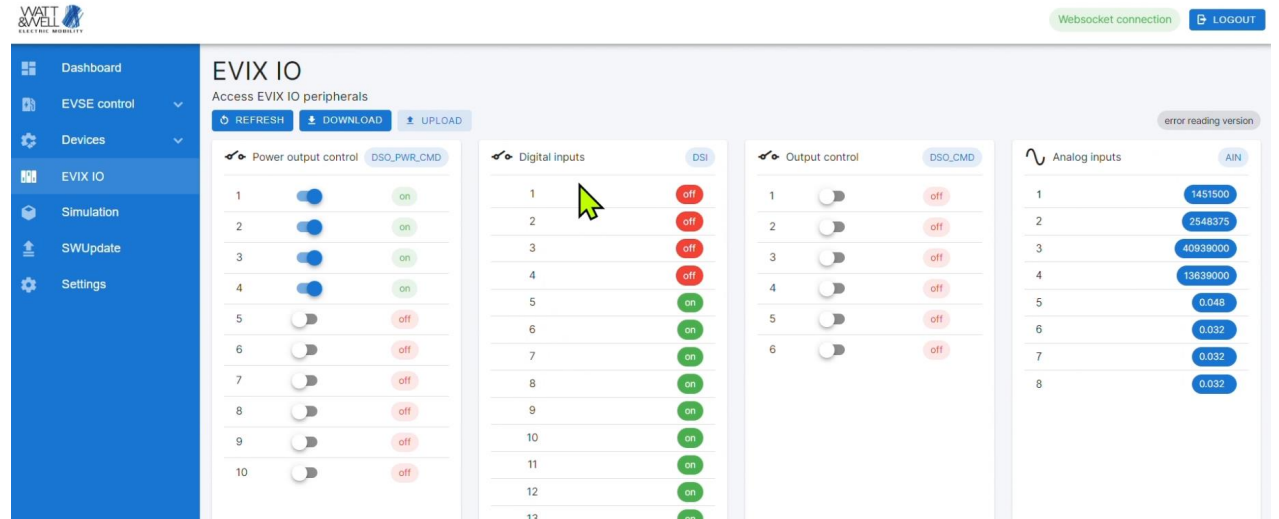
EVIX-IO view – contactor management

• The .json files provided by Watt & Well can be drag&dropped in this window

• Please chose the configuration file corresponding to the previously chosen PU allocation.

The screenshot displays the 'EVIX IO' management interface. On the left is a navigation menu with options: Dashboard, EVSE control, Devices, EVIX IO (selected), Simulation, SWUpdate, and Settings. The main area is titled 'EVIX IO' and 'Access EVIX IO peripherals', featuring 'REFRESH', 'DOWNLOAD', and 'UPLOAD' buttons. Below are three sections: 'Power output control' (DSO_PWR_CMD), 'Digital inputs' (DSI), and 'Output control' (DSO_CMD). Each section contains a list of 10 items with toggle switches and status indicators (on/off). An 'Upload configuration' dialog box is overlaid in the center, containing an information icon and the text: 'Manually select or drag&drop new configuration to apply to EVIX-IO'. Below this is a text input field with the placeholder 'upload configuration : eg. config.json' and an upload icon. A 'CLOSE' button is located at the bottom right of the dialog box.

EVIX-IO view



For more advanced management of contactors and other peripherals, please consult:

- the Starter Kit Datasheet
- the Starter Kit User Manual
- the GUI user guide

It is possible to launch a charge session once the contactor configuration is set up.

Single output

Output	Configuration	DSO_PWR_1 = K1	DSO_PWR_2 = K2	DSO_PWR_3 = K3	DSO_PWR_4 = K4	DSO_PWR_6 = K9	DSO_PWR_7 = K5	DSO_PWR_8 = K6	DSO_PWR_9 = K7	DSO_PWR_10 = K8
CCS1	Parallel	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
CCS1	Series	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
CCS1	PU1	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
CCS1	PU2	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
CCS2	Parallel	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON
CCS2	Series	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
CCS2	PU1	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
CCS2	PU2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON

Dual output

CCS1 PU	CCS2 PU	DSO_PWR_1 = K1	DSO_PWR_2 = K2	DSO_PWR_3 = K3	DSO_PWR_4 = K4	DSO_PWR_6 = K9	DSO_PWR_7 = K5	DSO_PWR_8 = K6	DSO_PWR_9 = K7	DSO_PWR_10 = K8
PU1	PU2	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
PU2	PU1	OFF	OFF	ON	ON	OFF	ON	ON	OFF	OFF

Charge launching

Click on EVSE Control and EVIS CCS A to return on the supervisor view:

The screenshot shows the 'Supervisor' interface for managing an EVSE charge point. The left sidebar contains navigation options: Dashboard, EVSE control (selected), EVIS A CCS, EVIS A CHA, Devices, EVIX IO, Simulation, SWUpdate, and Settings. The main content area is titled 'Supervisor' and includes a 'DEBUGGING' button. Below the title, there are toggle switches for 'Activation state' (on) and 'Silent mode' (off). The 'SECC Measurements' section displays: 0 kW, 0 A, 394.3 V, 0 kWh, and 31%. A 'Control pilot' section shows a charging plug icon and a green bar indicating 'Charging allowed (state : C)'. The 'SECC Control' section has an 'Interface' dropdown set to '1' and two buttons: 'SUP0_IDLE' and 'SUP1_APPROBATION'. The 'Limitations' section features sliders for 'Max Charge Voltage (Battery)' set to 500 V and 'Max Charge Current (Battery)' set to 32 A. The 'Power unit allocations' section shows a warning message: 'Actual contactor wiring should be double checked before starting a charge ! Wrong wiring could break power units or damage EV.' On the right side, a 'State' panel lists: State (CP7_CableCheck), Substate (25), Error (no_cp_error), Error from state (CP255_No_State), and Error from sub state (CPx_255_no_substate). A mouse cursor is pointing at the 'Substate' value.

Charge launching

After setting all the relevant data, a charge can be launched

The SECC control section includes SUP_RequestCode buttons

The screenshot displays the 'Supervisor' interface for managing an EVSE charge point. The interface includes a sidebar with navigation options like 'EVSE control', 'EVIS A CCS', and 'Settings'. The main content area is divided into several sections: 'SECC Measurements' showing 0 kW, 0 A, 0 V, 0 kWh, and 0 %; 'SECC Control' with a list of request codes (e.g., SUP1_APPROBATION, SUP2_CANCELLATION) highlighted in a black box; 'Limitations' with sliders for Max Charge Voltage (820 V), Max Charge Current (30 A), Max Charge Power (15 kW), and Max Charge Current (Grid) (30 A); and 'Power unit allocations' with a warning message and an 'UPDATE' button. A 'Control pilot' section shows an error state 'Error (state : F)'. The interface also features a 'DEBUGGING' button and a 'Logout' button.

Charge launching

These request buttons allow to launch charges by following the state machine of the EVI, as described in next slides and detailed in the EVI Technical Reference manual (available on demand).

After plugging the CCS1 plug in an electric vehicle, everything is set up for a first charge session.

The screenshot displays the 'Supervisor' interface for managing EVSE charge points. Key sections include:

- SECC Measurements:** Shows 0 kW, 0 A, 0 V, 0 kWh, and 0 %.
- SECC Control:** Features a 'Control pilot' section with an 'Error (state : F)' indicator. Below it, a list of control actions is shown, with a black box highlighting the following: SUP1_APPROBATION, SUP2_CANCELLATION, SUP3_ALLOCATIONDONE, SUP4_STOPCHARGE, SUP5_TERMINATE, SUP6_RESET, SUP7_REARMWITHOUTUNPLUG, and SUP8_IDLEENDUNPLUG.
- Limitations:** Includes sliders for Max Charge Voltage (Battery) at 820 V, Max Charge Current (Battery) at 30 A, Max Charge Power (Battery) at 15 kW, and Max Charge Current (Grid) at 30 A.
- Power unit allocations:** Shows a warning about double-checking contactor wiring and options for Parallel or Series mode.

Charge launching

As a generic guideline, after setting up all parameters treated in the previous slides :

- To launch a charge from CP_State 1 :
 - Send SUP1 > SUP3
- To launch a charge from CP_State 17 :
 - Send SUP6 > SUP0 > SUP1 > SUP3
- To stop a charge normally when in CP_State 8 :
 - Send SUP4 > SUP5
- To stop a charge at any state in emergency :
 - Send SUP2

The screenshot displays the 'Supervisor' interface for managing EVSE charge points. On the left, the 'SECC Control' window is open, showing a list of control requests such as SUP0_IDLE, SUP1_APPROBATION, SUP2_CANCELLATION, SUP3_ALLOCATIONDONE, SUP4_STOPCHARGE, SUP5_TERMINATE, SUP6_RESET, SUP7_REARMWITHOUTUNPLUG, and SUP8_IDLENOUNPLUG. The 'Interface' section has radio buttons for 0, 1, and 2, with 1 selected. On the right, the main supervisor view shows 'SECC Measurements' (0 kW, 0 A, 0 V, 0 kWh, 0 %) and 'Control pilot' status (Error [state : F]). A callout box at the top right highlights the 'State' as 'CP17_EmergencyStop' in red. Another callout box at the bottom right contains the instruction: 'Press the requests in the "SECC Control" window and observe the state you are in.'

Charge launching

The system should go into cable check state before charging:

The screenshot shows the 'Supervisor' interface for managing an EVSE charge point. The main status area indicates 'Charging allowed (state : C)'. A table on the right shows the current state as 'CP7_CableCheck'. Below this, a warning message states: 'Actual contactor wiring should be double checked before starting a charge ! Wrong wiring could break power units or damage EV.'

State	CP7_CableCheck
Substate	25
Error	no_cp_error
Error from state	CP255_No_State
Error from sub state	CPx_255_no_substate

Charge launching

Charging measurements appear in the SECC Measurements section:

The screenshot displays the 'Supervisor' interface for managing an EVSE charge point. The left sidebar contains navigation options: Dashboard, EVSE control, EVIS A CCS, EVIS A CHA, Devices, EVIX IO, Simulation, SWUpdate, and Settings. The main content area is titled 'Supervisor' and includes a 'DEBUGGING' button and toggle switches for 'Activation state' (on) and 'Silent mode' (off). The 'SECC Measurements' section, highlighted with a black box, shows the following data: 10.8 kW, 24.1 A, 449.6 V, 0 kWh, and 31%. Below this, the 'Control pilot' status is 'Charging allowed (state : C)'. The 'SECC Control' section shows the 'Interface' set to 1 (selected) and 2, with buttons for 'SUP0_IDLE' and 'SUP1_APPROBATION'. The 'Limitations' section features sliders for 'Max Charge Voltage (Battery)' at 500 V and 'Max Charge Current (Battery)' at 32 A. The 'Power unit allocations' section shows the 'Mode' and a warning message: 'Actual contactor wiring should be double checked before starting a charge ! Wrong wiring could break power units or damage EV.'

End of charge

➤ To end the charge, please click on the SUP4_STOPCHARGE button of the SECC control section.

➤ Once the charge is over, please unplug the CCS1 plug from the electric vehicle.

The screenshot displays the 'Supervisor' interface for managing an EVSE charge point. The left sidebar contains navigation options: EVSE control, EVIS A CCS, EVIS A CHA, EVIX IO, Simulation, SWUpdate, and Settings. The main content area is divided into several sections:

- SECC Measurements:** Shows 0 kW, 0 A, 0 V, 0 kWh, and 0 %.
- SECC Control:** Includes an interface selector (0 or 1) and a list of control actions. The 'SUP4_STOPCHARGE' button is highlighted with a black box and a red arrow pointing from the text above.
- Limitations:** Features sliders for Max Charge Voltage (Battery) at 820 V, Max Charge Current (Battery) at 30 A, Max Charge Power (Battery) at 15 kW, and Max Charge Current (Grid) at 30 A. An 'UPDATE' button is at the bottom.
- State:** Shows 'CPT1.EmergencyStop' and '01'.
- Error:** Shows 'cs_timeoutLmbc_sup_error'.
- Power unit allocations:** Includes a warning about double-checking wiring and a selection between Parallel and Series modes.

Thank you for purchasing our product

