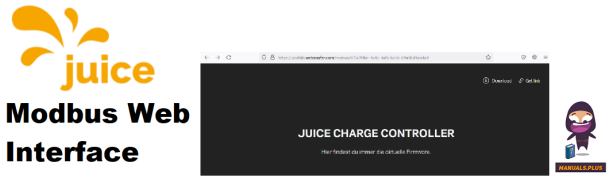

Juice Modbus Web Interface Instructions

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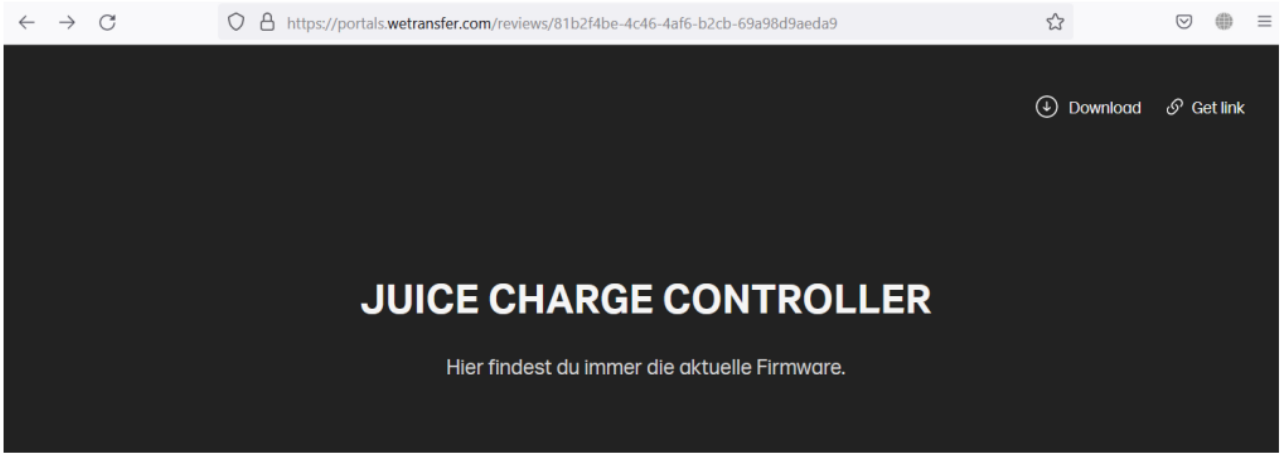
Juice Modbus Web Interface



Product Specifications

- Compatibility: External meters
- Max Current: 160 A
- Safety Margin: 10 A per phase
- Dropout Level: 9999 A
- Port Number: 502

FAQs

Q: How do I log in to the web interface?

A: Use the provided Username: operator and Password: JuiCeMeUP! to access the web interface.

Q: What should I do if I cannot save my settings?

A: Scroll to the Local area and set the status of external input 1 to Switch off, then try saving again.

WEB INTERFACE INSTRUCTIONS

Log in to the web interface with the following details: Username: operator Password: JuiCeMeUP!

Click on the topic and you will be directed to the article.

- Integrate an external meter
- Configure load shedding
- Activate Plug & Charge (ISO 15118)
- Update firmware
- Add or delete RFID cards/badges on the station without a backend connection
- Switch station without backend connection to Free Charge (charging without authentication)
- Read out charging history on station without backend connection
- Activate PV-controlled charging
- Establishing a connection to the charging station
- MODBUS register set

INTEGRATE AN EXTERNAL METER

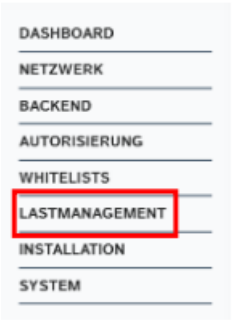
Make sure that you have a connection to the station. If you do not have a connection, see Establishing a connection to the charging station

The following meter models are compatible:

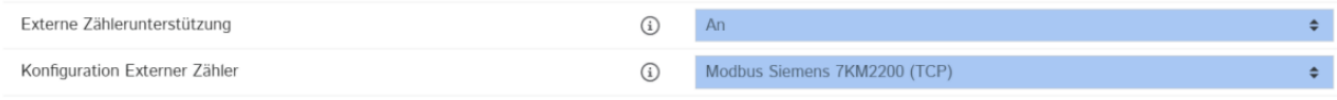
- Modbus TQ EM300-LR (TCP)
- Modbus TQ EM410/EM420 (TCP)
- Modbus IPD Control (TCP)
- Modbus Janitza UMG 512/96 PRO (TCP)

- Modbus Janitza UMG 605 PRO (TCP)
- Modbus Phoenix Contact EEM-MB371 (TCP)
- Modbus Siemens 7KM2200 (TCP)

Click on LIST MANAGEMENT in the main menu on the left.



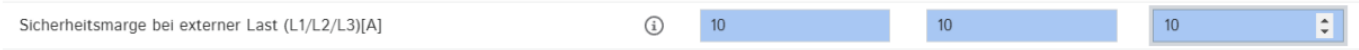
Scroll to External meter support and select On. Select the meter you would like to set up in the dropdown under External meter configuration.



Once you have selected a compatible meter, two additional lines will appear below it. Then look up the IP address assigned to the meter in your network router and enter it under IP address of external meter. The port number should be set to 502.

Then enter the maximum available current (in amperes) at the house connection in the next item Mains connection current limit (L1/L2/L3) [A]. Once for each phase. In our example, this is 160 A.

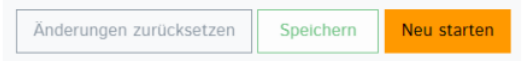
Next, set the safety margin for the external load (L1/L2/L3) [A] to the safety distance (buffer) to the maximum value in amperes per phase. In the example, this is 10 A.



Then enter the external load assumed in the event of a fault in amperes per phase in the drop-out level of the external load (L1/L2/L3) [A]. In our example with 9999 A, the assumed load is in-finite, so all charging points would be switched off.

Example: If you enter 20 A per phase here, the mains connection current limit is reduced by 20 A in the event of a fault.
Then set under External meter topology whether the meter only measures the external loads (Without charging station sub-distribution) or whether the meter measures the external loads and the charging station sub-distribution (Including charging station sub-distribution) together.

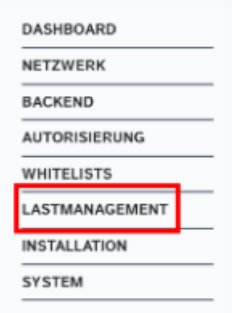
Finally, press *Save* and *Restart at the* bottom right.



CONFIGURE LOAD SHEDDING

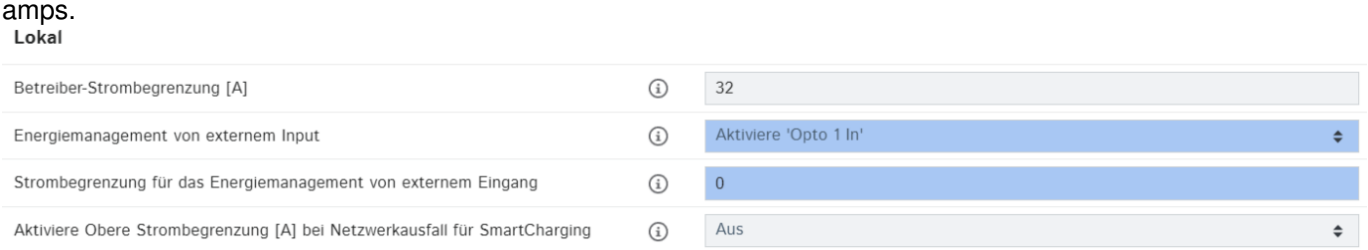
Ensure that the two potential-free contacts are connected correctly in accordance with the installation instructions. Make sure that you have a connection to the station. If you do not have a connection, see Establishing a connection to the charging station

Click on LIST MANAGEMENT in the main menu on the left

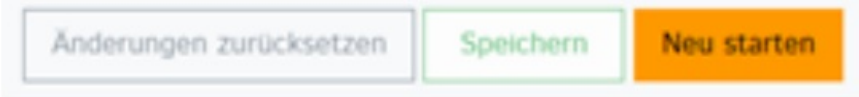


Without load management

Scroll to the Local section. Set energy management from external input to Activate ‘Opto 1 In’. With current limitation for energy management from external input, you can set how many amps the station’s power should be reduced to. In other words, 0 stops the charge in the event of a load shedding, 10 would reduce the power to 10 amps.

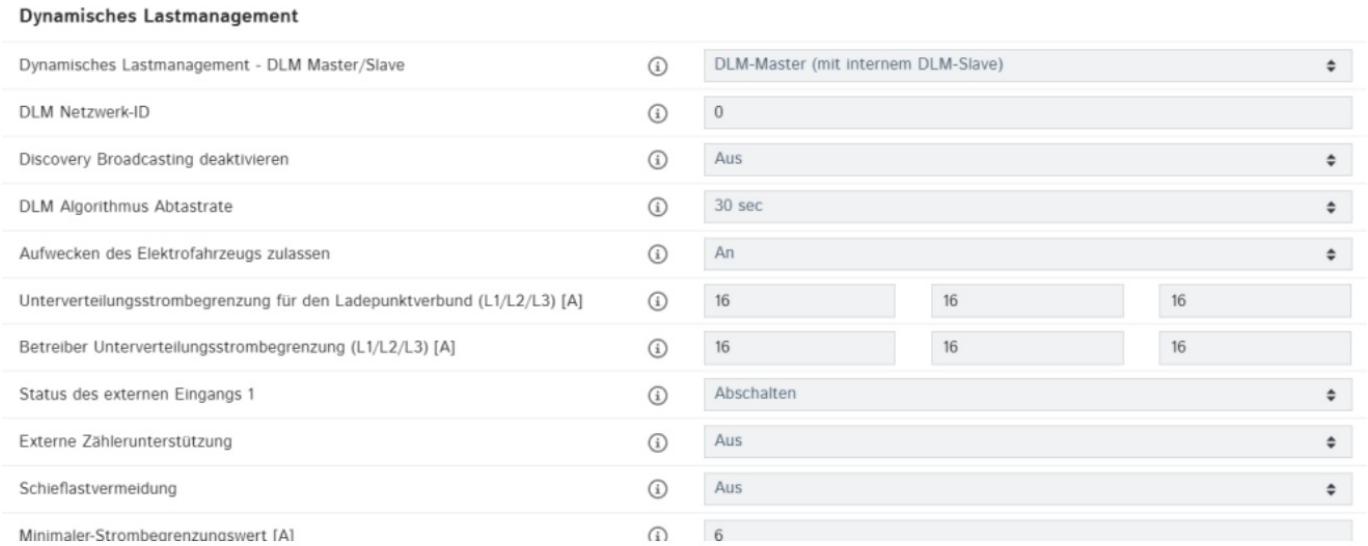


Finally, press Save and Restart at the bottom right.



With load management

Scroll to the Dynamic load agent area.



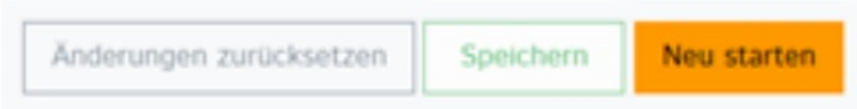
Open the drop-down status of external input 1 and select ‘Opto 1 In’.

Next, set the polarity of the external input. The external input can respond to a low-active (“Normally open”) or a high-active (“Normally closed”) signal. This setting must be selected in consultation with the responsible energy supplier.

Finally, you can define the current offset. In other words, how much each individual phase should be reduced in the event of load shedding. You should also discuss this setting with your energy supplier.

Here is another example: 16 A are distributed to the charging network. The current offset is set to -10 A. As soon as the load-shedding signal from the energy supplier is received, the power is reduced by the current offset. 16 A – 10 A = 6 A This means that load management continues to run at 6 A after shedding.

Finally, press Save and Restart at the bottom right.



Important: If you cannot save, scroll to the Local area and set the status of external input 1 to Switch off, then it will work.

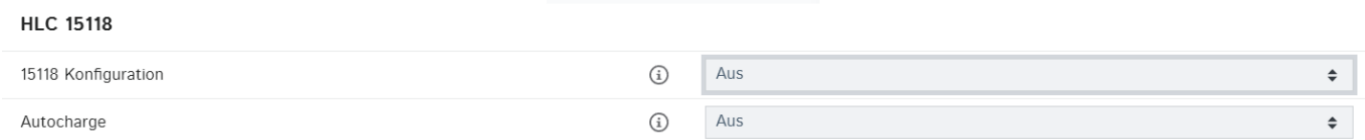
ACTIVATE PLUG & CHARGE (ISO 15118)

Check whether your vehicle really supports Plug & Charge. https://de.wikipe-dia.org/wiki/ISO_15118

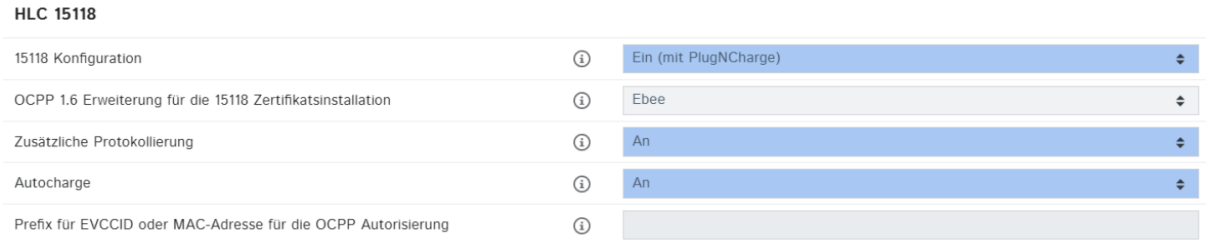
Make sure that you have a connection to the station. If you do not have a connection, see Estab-lishing a connection to the charging station

Activate Plug & Charge (ISO 15118)

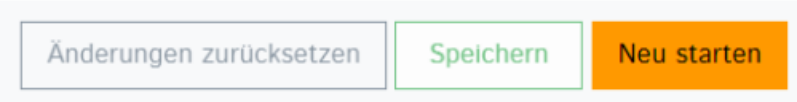
Click on AUTHORISATION in the main menu on the left and scroll to the bottom of the page. This screen then appears



Set the parameters as shown in the following screenshot



Then click on Save at the bottom right and finally on Restart.

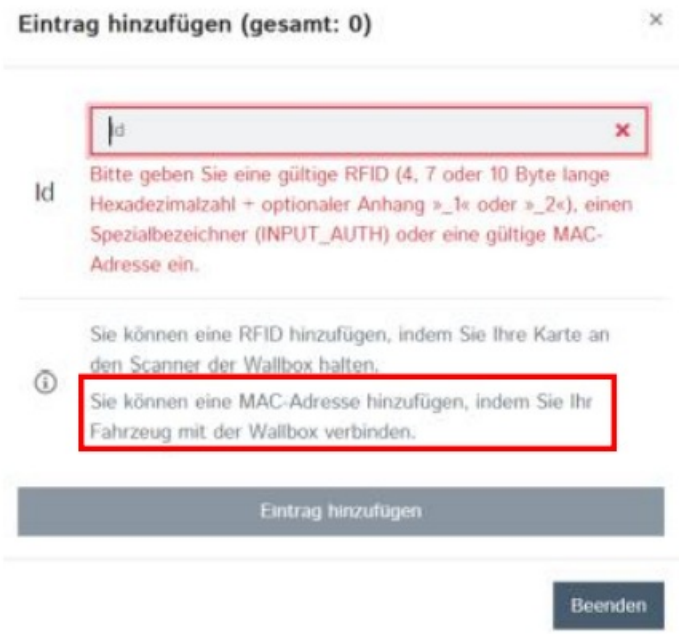


This means that Plug & Charge (ISO 15118) is active. In order for your car to be recognised, we now need to add it.

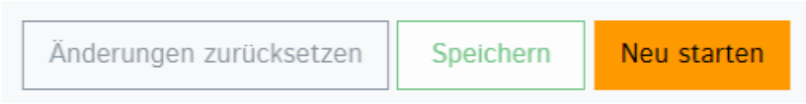
Add your car

To do this, click on WHITELISTS in the main menu on the left.

Click on Add entry, the following window appears:



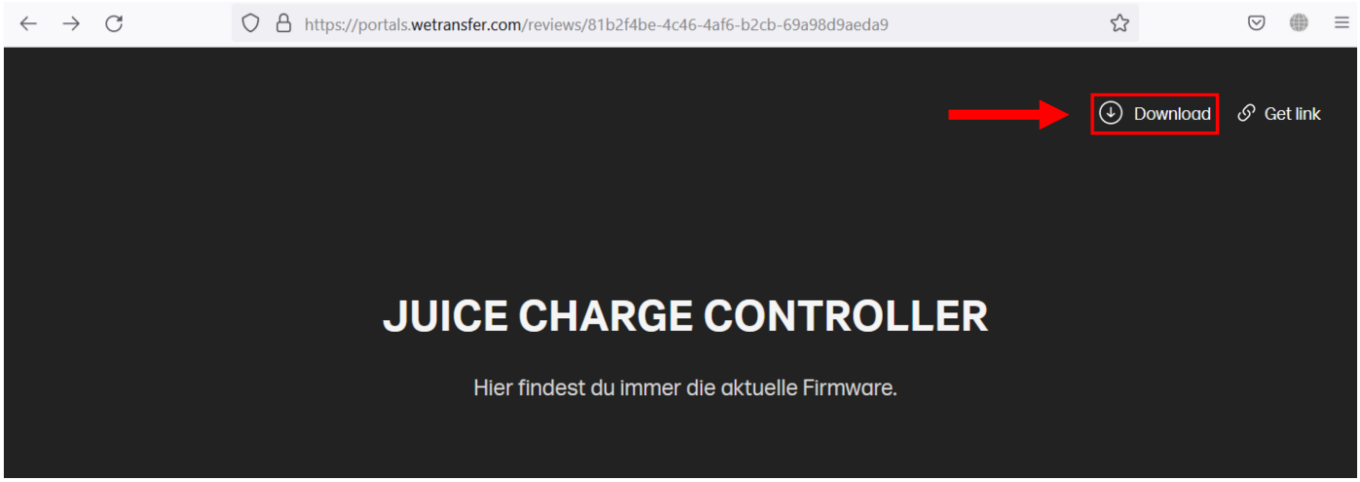
Now connect the type 2 cable of the charging station to your car and wait until the ID field is au-tomatically filled in.
Then click on Add entry.
Finally, press Save and Restart at the bottom right.



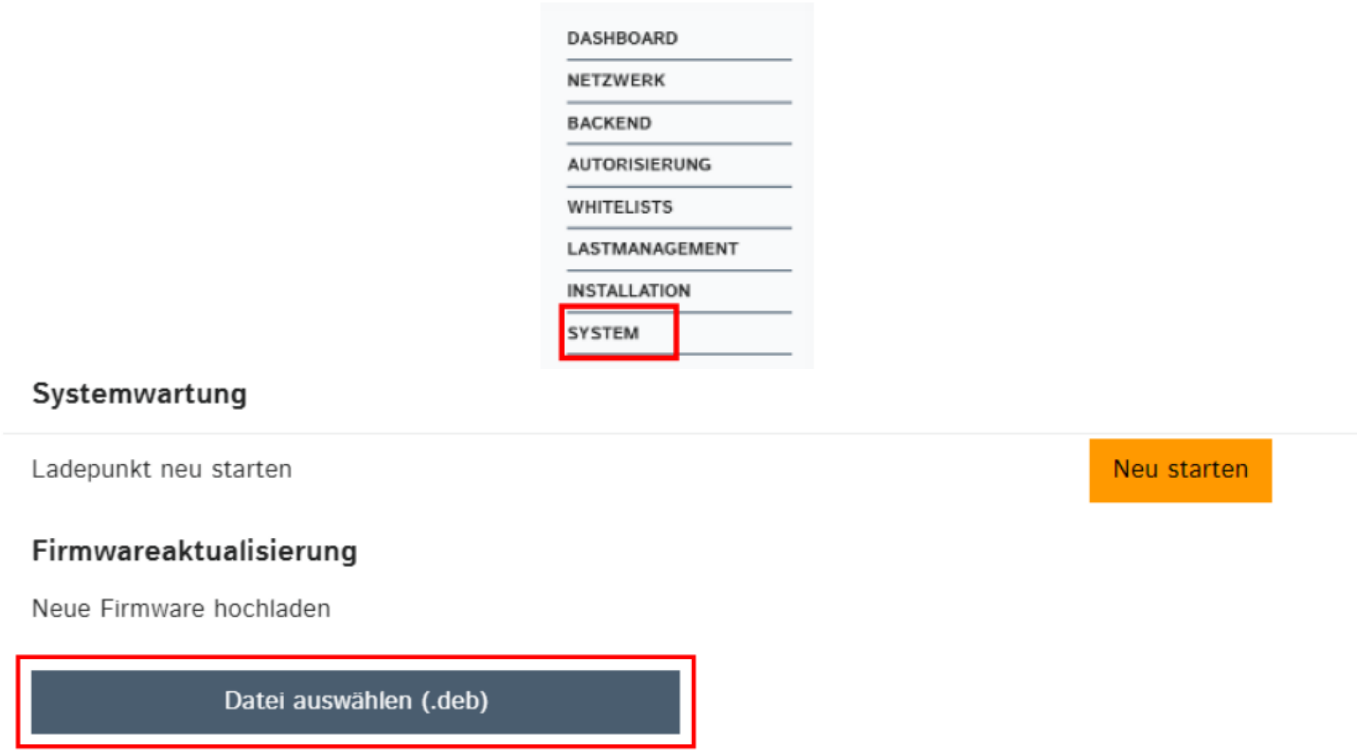
UPDATE FIRMWARE

Make sure that you have a connection to the station. If you do not have a connection, see Establishing a connection to the charging station

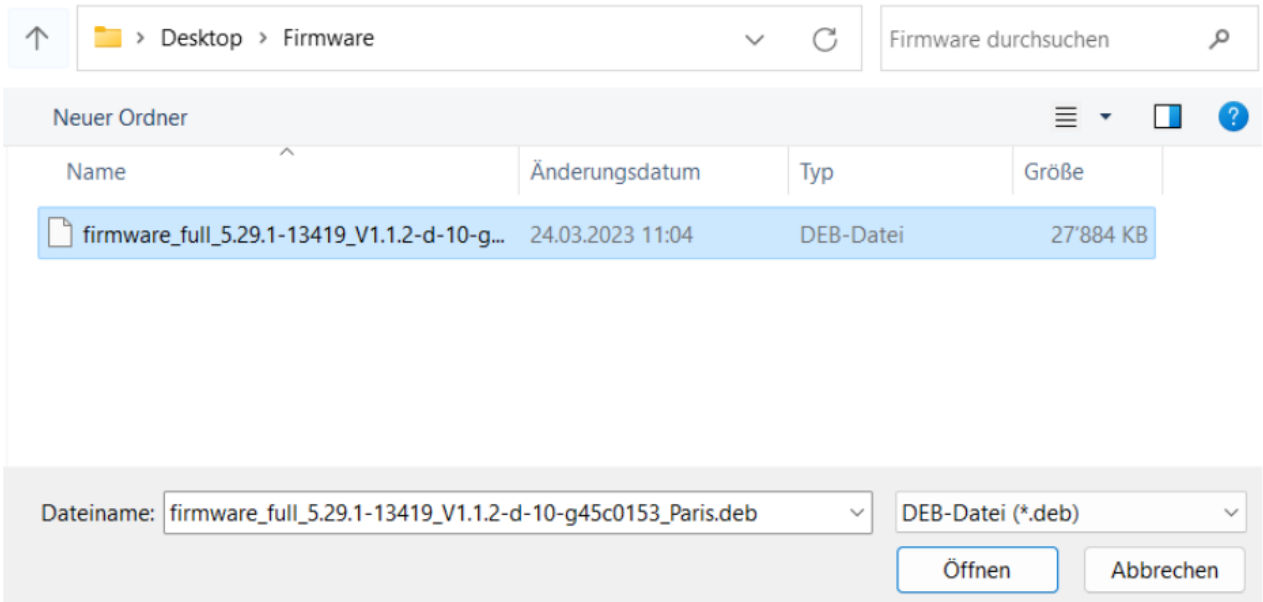
Open the following link and download the latest firmware using the download button:
https://portals.wetransfer.com/reviews/81b2f4be-4c46-4af6-b2cb-69a98d9aeda9



Open the ZIP file you just downloaded and unzip the contents.
Then switch back to the web interface, click on the SYSTEM item in the main menu on the left and scroll to the bottom of the page.
Click on the Select file (.deb) button under Firmware update.



Then navigate to the current firmware you have just downloaded.



Select the file and click on Open.
Then click on Upload & install in the web interface.

Then wait until the firmware update is complete. You can recognize this by the fact that you have to log in again in the browser or by the green flashing LED on the JUICE CHARGE CON-TROLLER.
Repeat this process for each charging station so that they are all at the same level.

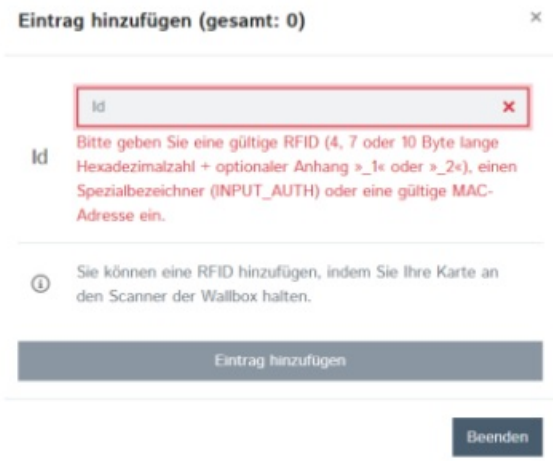
ADD OR DELETE RFID CARDS/BADGES ON STATION WITHOUT A BACKEND CONNECTION

Make sure that you have a connection to the station. If you do not have a connection, see Establishing a connection to the charging station
Then click on WHITELISTS in the main menu on the left. This screen then appears:

Only the framed part is important for you. There you can see all the RFID cards and RFID badges registered on your station. The example shows the two pre-programmed RFID cards sup-plied free of charge.
RFID compatibility All variants of MIFARE are currently supported.

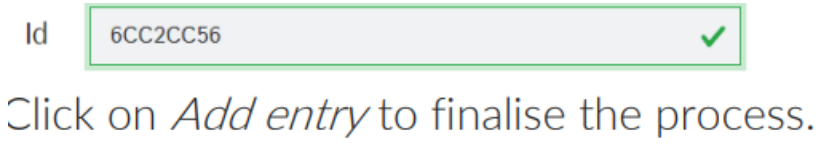
Add a single card/badge

Click on Add entry, the following window appears:



Now you can either enter the ID manually, but we recommend holding the card/badge up to the station reader ( ) so that the ID is read in automatically.

As soon as the text field is automatically filled in, the card/badge has been successfully read in.



Click on *Add entry* to finalise the process.

Click on Add entry to finalise the process.

Important!

If you enter the ID manually, make sure that you type it in correctly. For security reasons, the code on the JUICE RFID card is not identical to the ID.

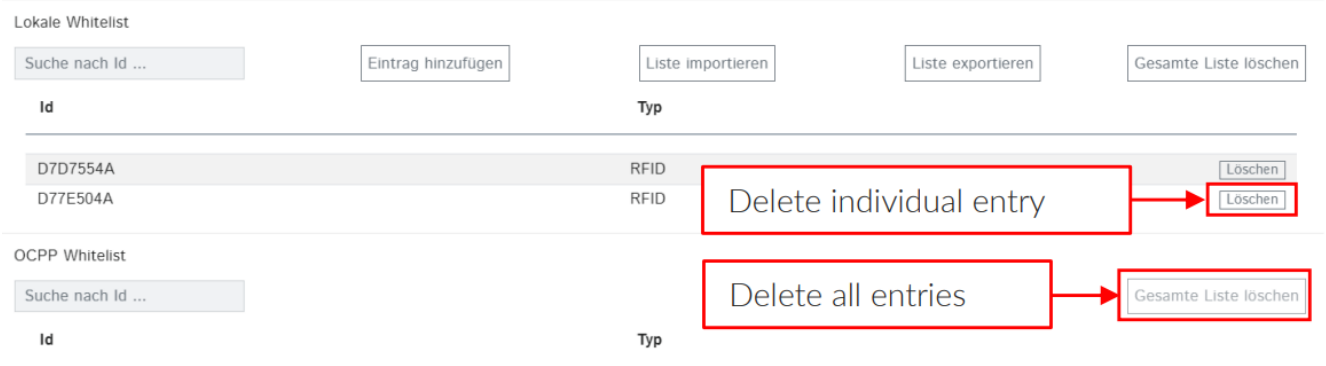
Import a list of RFID cards/badges

Create a table (in Excel or similar) with all the IDs to be imported in a column one below the other. Save the file as .csv (comma-separated values). Then click on Import list and select your list.

Export a list of all registered RFID cards/badges

Click on Export list. All IDs registered on this station will be compiled and downloaded in a .csv file.

Delete RFID cards/badges

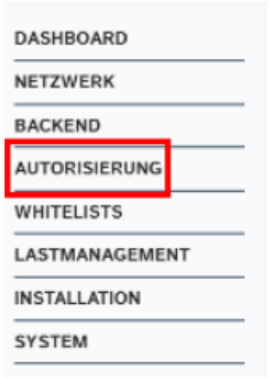


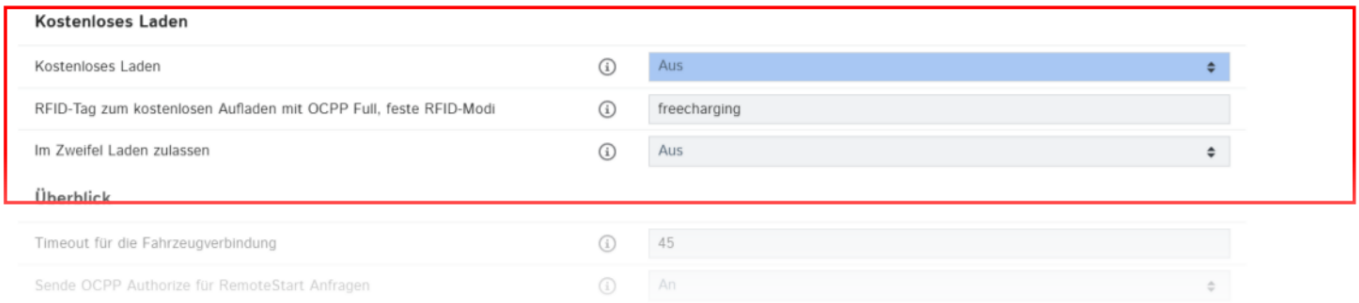
SWITCH STATION WITHOUT BACKEND CONNECTION TO FREE CHARGE (CHARGING WITHOUT

AUTHENTICATION)

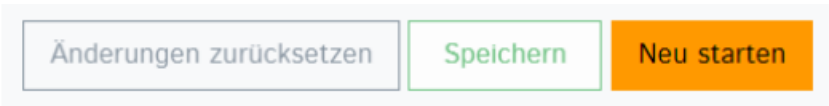
Without backend Make sure that you have a connection to the station. If you do not have a connection, see Establishing a connection to the charging station

Then click on AUTHORISATION in the main menu on the left. The following screen then appears:





Only the framed part is important for you. There you will see that free charging is currently switched off. Open the drop-down menu and select On.
Then click on Save at the bottom right and finally on Restart.

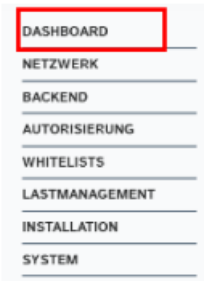


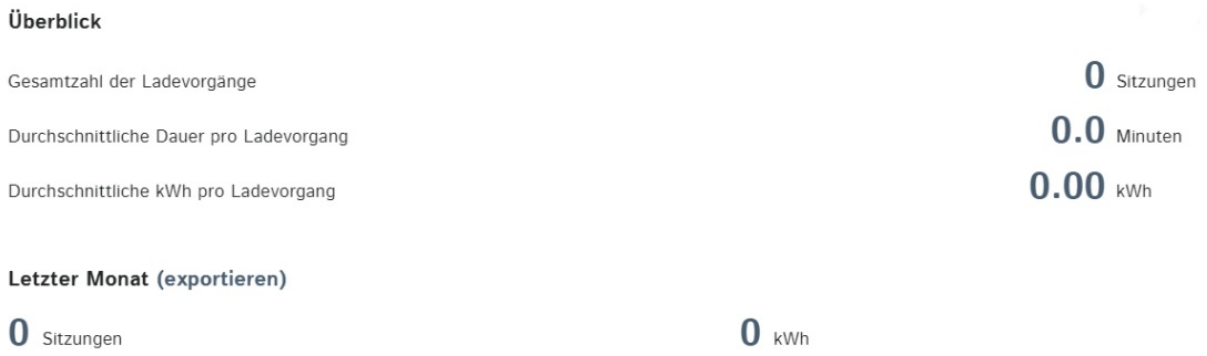
After restarting, each person can charge freely. The charging process starts immediately after establishing a connection to the car.

READ CHARGING HISTORY ON STATION WITHOUT BACKEND CONNECTION

The charging history can only be called up for devices with a built-in MID meter.

Make sure that you have a connection to the station. If you do not have a connection, see Establishing a connection to the charging station
Click on the DASHBOARD item in the main menu on the left. This overview will then appear:





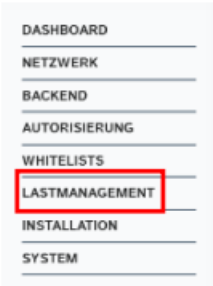
You can click on Export next to Last month. You will then see all charges from the last 30 days with

- Start date
- Start time
- Duration
- Charge quantity (Wh)
- RFID tag in a .csv file and downloaded.

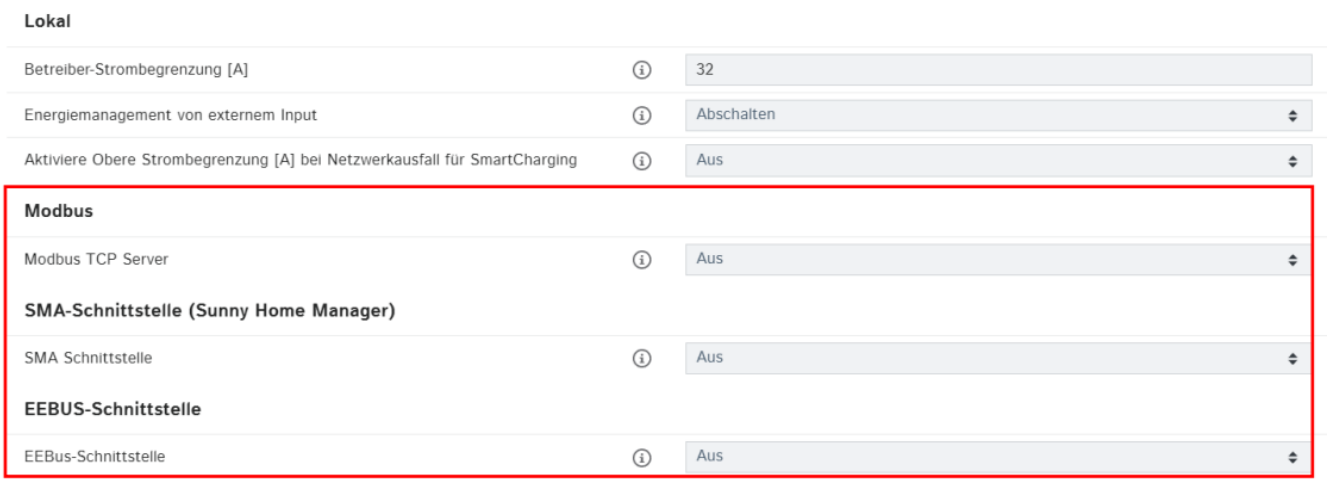
ACTIVATE PV-CONTROLLED CHARGING

Make sure that you have a connection to the station. If you do not have a connection, see Estab-lishing a connection to the charging station

Click on the LIST MANAGEMENT item in the main menu. You can activate PV-controlled charging in three different ways:

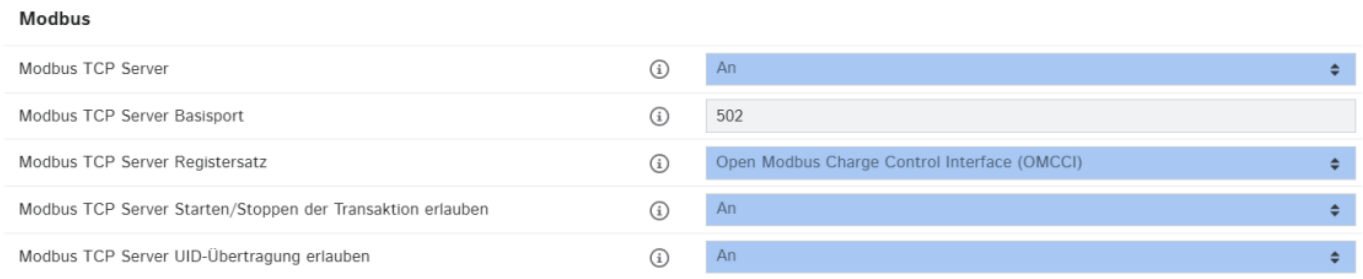


- Modbus
- SMA interface (Sunny Home Manager, SEMP protocol)
- EEBUS interface



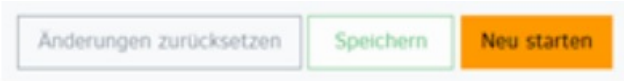
Modbus

Set the parameters as follows:



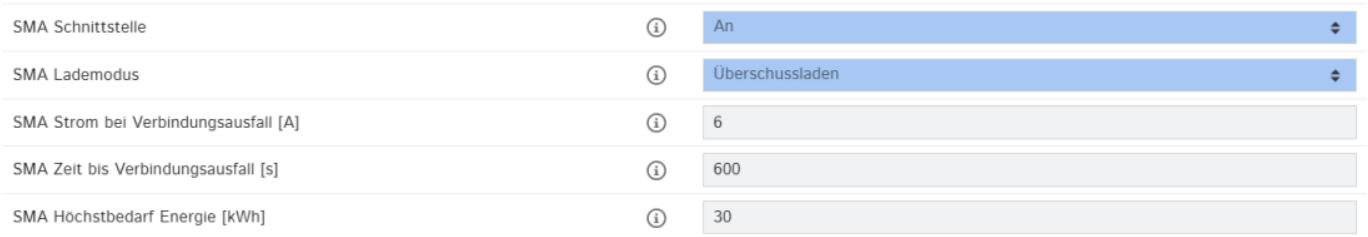
Here you will find the Modbus register set with all possible commands.

Finally, press Save and Restart at the bottom right.

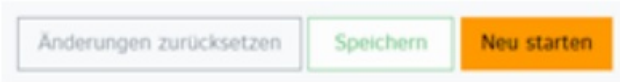


SMA interface (Sunny Home Manager)

Set the parameters as follows:

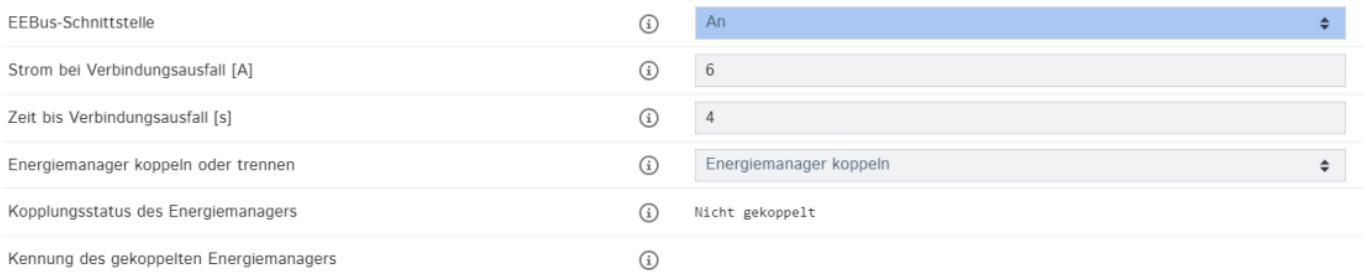


The Sunny Home Manager should automatically recognise your station. If not, please contact the manufacturer of the Sunny Home Manager, as no further parameters can be set on the station.
Finally, press Save and Restart at the bottom right.

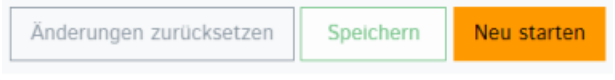


EEBUS interface

Set the parameters as follows:



Finally, press Save and Restart at the bottom right.



ESTABLISHING A CONNECTION TO THE CHARGING STATION

The following options are available to establish a connection to the charging station:

Access via USB

Insert the micro USB plug of your cable into the corresponding port on the controller. This is labeled with the word “CONFIG”. Here you will find a photo of the controller and the corresponding micro USB port. Plug the other end of the cable into your PC. You can now enter the local IP address of the charge controller in the address bar of your browser: **http://192.168.123.123/**.
Access is via the operator access. Username: operator Password: JuiCeMeUP!

Access via Ethernet

Dynamic IP

Plug the Ethernet cable into the socket provided. If the charge controller receives an IP address from a DHCP server (standard configuration), which may be part of a network router, for example, you must research the IP address there.
Static IP

With a static IP configuration, use the configured static IP address.

A permanent static second IP address is configured on the Ethernet interface of the controller to enable configuration if both of the described paths are not possible or accessible for you. This IP address is 192.168.124.123. To do this, you must manually configure your PC to an IP address in the same address space and with the same subnet mask. For example, you can use the address 192.168.124.100 and the subnet mask 255.255.255.0.
The web interface is then accessed with the URL http://IP-Adresse/operator, i.e. in the last example with the URL **http://192.168.124.123/operator**.
Access is via the operator access. Username: operator Password: JuiCeMeUP!

MODBUS REGISTER SET

Reg. type	Address	Name	R/W	No. Regs.	Description
Holding company	100	Firmware version	R	2	Returns the Application version number (example: 0.91 = {0x30, 0x2E, 0x39, 0x31) 4.40 = {0x34, 0x2E, 0x34, 0x34}).
Holding company	104	OCPP CP Status	R	1	Charge Point status according to the OCPP spec. enumaration
Holding company	105	Error codes 1	R	2	Aggregated error states (see Spec. sheet for mask mappings)
Holding company	107	Error codes 2	R	2	Aggregated error states (see Spec. sheet for mask mappings)
Holding company	109	Error codes 3	R	2	Aggregated error states (see Spec. sheet for mask mappings)
Holding company	111	Error codes 4	R	2	Aggregated error states (see Spec. sheet for mask mappings)
Holding company	120	Protocol version	R	2	Modbus TCP Server Protocol Version number (example: 0.6 = {0x30, 0x2E, 0x36}).
Holding company	122	Vehicle (Control Pilot) state	R	1	A=1, B=2, C=3, D=4, E=5
Holding company	123	Vehicle (Control Pilot) state in Hex. format	R	1	A = 0x0A, B = 0x0B, etc.
Holding company	124	Charge Point availability	R/W	1	Get/Set available/unavailable
Holding company	131	Safe Current (Amps.)	R/W	1	Max. charge current under communication failure
Holding company	132	Comm. Timeout (seconds)	R/W	1	Communication timeout
Holding company	133	Hardware current limit	R	1	
Holding company	134	Operator current limit	R	1	
Holding company	135	RCMB Mode	R	1	
Holding company	136	RCMB Last RMS value (integral part)	R	1	
Holding company	137	RCMB Last RMS value (fractional part)	R	1	

Reg. type	Address	Name	R/W	No. Regs.	Description
Holding com-pany	138	RCMB Last DC value (integral part)	R	1	
Holding com-pany	139	RCMB Last DC value (fractional part)	R	1	
Holding com-pany	140	Relays State	R	1	
Holding com-pany	141	Device ID	R	1	This register is a device identifier and always returns the value 0xEBEE (decimal 60398)
Holding com-pany	142	ChargePoint Model	R	2	ChargePoint Model. Bytes 0 to 3.
Holding com-pany	144	ChargePoint Model	R	2	ChargePoint Model. Bytes 4 to 7.
Holding com-pany	146	ChargePoint Model	R	2	ChargePoint Model. Bytes 8 to 11.
Holding com-pany	148	ChargePoint Model	R	2	ChargePoint Model. Bytes 12 to 15.
Holding com-pany	150	ChargePoint Model	R	2	ChargePoint Model. Bytes 16 to 19.
Holding com-pany	152	Plug lock detect	R	1	Status of plug lock detection
Holding com-pany	200	Energy L1	R	2	Energy in Wh. (phase 1) from primary meter
Holding com-pany	202	Energy L2	R	2	Energy in Wh. (phase 2) from primary meter
Holding com-pany	204	Energy L3	R	2	Energy in Wh. (phase 3) from primary meter
Holding com-pany	206	Power L1	R	2	Power in W (phase 1) from primary meter
Holding com-pany	208	Power L2	R	2	Power in W (phase 2) from primary meter
Holding com-pany	210	Power L3	R	2	Power in W (phase 3) from primary meter
Holding com-pany	212	Current L1	R	2	Current in mA (phase 1) from primary meter
Holding com-pany	214	Current L2	R	2	Current in mA (phase 2) from primary meter

Reg. type	Address	Name	R/W	No. Regs.	Description
Holding company	216	Current L3	R	2	Current in mA (phase 3) from primary meter
Holding company	218	Total Energy	R	2	Total Energy in Wh. from primary meter
Holding company	220	Total Power	R	2	Total Power in Wh. from primary meter
Holding	222	Voltage L1	R	2	Returns the voltage of phase 1 of the ocpp meter in V.
Holding company	224	Voltage L2	R	2	Returns the voltage of phase 2 of the ocpp meter in V.
Holding company	226	Voltage L3	R	2	Returns the voltage of phase 3 of the ocpp meter in V.
Holding company	600	DLM Mode	R	1	Indicates the DLM mode configured for this device.
Holding company	610	DLM EVSE Sub-distribution Limit L1	R	1	Overall current limit for DLM available for EVs
Holding company	611	DLM EVSE Sub-distribution Limit L2	R	1	Overall current limit for DLM available for EVs
Holding	612	DLM EVSE Sub-distribution Limit L3	R	1	Overall current limit for DLM available for EVs
Holding	**613**	**DLM Operator EVSE Sub-distribution Limit L1**	**R/W**	**1**	**Operator current limit for DLM available for distribution to EVs**
Holding company	**614**	**DLM Operator EVSE Sub-distribution Limit L2**	**R/W**	**1**	**Operator current limit for DLM available for distribution to EVs**
Holding company	**615**	**DLM Operator EVSE Sub-distribution Limit L3**	**R/W**	**1**	**Operator current limit for DLM available for distribution to EVs**
Holding company	620	DLM External Meter support	R	1	Value of this register is 1 when External Meter is enabled, 0 when disabled
Holding company	621	DLM Number of slaves connected	R	1	The number of DLM Slaves connected to this Master device
Holding	630	DLM Overall Current applied L1	R	1	Overall Current (A) the DLM Master is currently applying (sum of current distributed among the slaves)
Holding company	631	DLM Overall Current applied L2	R	1	Overall Current (A) the DLM Master is currently applying (sum of current distributed among the slaves)
Holding company	632	DLM Overall Current applied L3	R	1	Overall Current (A) the DLM Master is currently applying (sum of current distributed among the slaves)
Holding company	633	DLM Overall Current available L1	R	1	Overall Current (A) the DLM Master has available to distribute among the slaves

Reg. type	Address	Name	R/W	No. Regs.	Description
Holding	634	DLM Overall Current available L2	R	1	Overall Current (A) the DLM Master has available to distribute among the slaves
Holding company	635	DLM Overall Current available L3	R	1	Overall Current (A) the DLM Master has available to distribute among the slaves
Holding company	701	Scheduled Time (hhmmss)	R	2	Scheduled departure time (format is `hhmmss` in big-endian packed BCD with left zero padding) - 15118 only
Holding company	703	Scheduled Date (yymmdd)	R	2	Scheduled departure time (format is `ddmmyy` in big-endian packed BCD with left zero padding) - 15118 only
Holding company	706	Signalled Current	R	1	The maximum current that's being signaled to the EV for charging
Holding company	707	Start Time (hhmmss)	R	2	Start time of charging process
Holding company	710	End Time (hhmmss)	R	2	End time of charging process
Holding company	712	Minimum current limit	R	1	Minimum current limit for charging
Holding company	713	EV Required Energy (Wh)	R	2	Returns the amount of energy in Wh required by the EV
Holding company	715	Max. Current EV	R	1	This is the maximum current with which the EV can charge
Holding	716	Charged Energy	R	2	Sum of charged energy for the current session (Wh)
Holding	718	Charging duration (seconds)	R	2	Duration since beginning of charge
Holding company	720-721	User ID, 32-bit	R	2	User ID (OCPP IdTag) from the current session. Bytes 0 to 3.
Holding company	722-723	User ID, 32-bit	R	2	User ID (OCPP IdTag) from the current session. Bytes 4 to 7.
Holding	724-725	User ID, 32-bit	R	2	User ID (OCPP IdTag) from the current session. Bytes 8 to 11.
Holding	726-727	User ID, 32-bit	R	2	User ID (OCPP IdTag) from the current session. Bytes 12 to 15.
Holding	728-729	User ID, 32-bit	R	2	User ID (OCPP IdTag) from the current session. Bytes 16 to 19.
Holding company	740	15118 Smart vehicle detected	R	1	Returns 1 if an EV currently connected is a smart vehicle, or 0 if no EV connected or it is not a smart vehicle
Holding company	741	EVCCID - 15118 only	R	2	ASCII representation of the Hex. Values corresponding to the EVCCID. Bytes 0 to 3.
Holding company	743	EVCCID - 15118 only	R	2	ASCII representation of the Hex. Values corresponding to the EVCCID. Bytes 4 to 7.

Reg. type	Address	Name	R/W	No. Regs.	Description
Holding company	745	EVCCID - 15118 only	R	2	ASCII representation of the Hex. Values corresponding to the EVCCID. Bytes 8 to 11.
Holding company	1000	Hems Current Limit (A)	R/W	1	Current limit of the HEMS module in Amps
Holding company	1110	User ID	W	2	Write user ID (OCPP IdTag) for the current session. Bytes 0 to 3.
Holding company	1112	User ID	W	2	Write user ID (OCPP IdTag) for the current session. Bytes 4 to 7.
Holding company	1114	User ID	W	2	Write user ID (OCPP IdTag) for the current session. Bytes 8 to 11.
Holding company	1116	User ID	W	2	Write user ID (OCPP IdTag) for the current session. Bytes 12 to 15.
Holding company	1118	User ID	W	2	Write user ID (OCPP IdTag) for the current session. Bytes 16 to 19.

Documents / Resources

	Juice Modbus Web Interface [pdf] Instructions Modbus Web Interface, Web Interface, Interface

References

- WeTransfer Portals
- User Manual