

xxter

OCPP car charger Manual

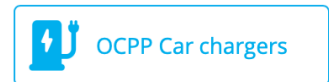
SETTING UP OCPP	2
USING THE CAR CHARGER WITH XXTER	3
OCPP OBJECT INFORMATION	4

Setting up OCPP

OCPP allows a car charger to be linked to the xxter controller. By default, two chargers are supported per xxter controller. In case you need to connect more chargers, contact our sales department. To connect to the charger, xxter uses the OCPP standard, version 1.6j. The charger needs to support this protocol to integrate with xxter.

1) Configure the charger in *My xxter*

Go to *My xxter*, select your project, and go to the OCPP Car charger configuration. Here you can add a charger and set up the parameters.



Parameters	Group objects
Name	Charger 1
OCPP identifier (often SN)	OCPP123455A9876
Connector number	1
Current for normal charging (A)	10
Current for fast charging (A)	16
Datapoint type for time to use	DPT 10.001
Datapoint type for current to use	DPT 14.019
RFID tags to start charging	*
RFID tags to enable in Smart Energy Manager	

The OCPP charger will identify itself with an ID, which will often be the serial number of the charger. If this cannot be found in the documentation of the car charger (after step 3 of this instruction, when the charger will try to connect to the xxter controller), the ID can also be found on the status page of your xxter controller. You should also set the connector number and the charging capacity according to the charger's specifications. Some chargers are equipped with an RFID tag reader, to prevent unauthorized usage. In the configuration, you can choose which RFID tags are allowed (by default set to all "*"). You can also configure an RFID tag to enable the charger in the Smart Energy Manager of xxter. Instead of charging immediately, it will be scheduled at the most efficient moment. For the Smart Energy Manager, a separate manual is available.

If you want, you can also link the group objects to group addresses to visualize and control the charger from other parts of your installation (KNX bridge). See the last chapter for more information. For the use within xxter this is not required.

Parameters	Group objects	
OCPP status	9/7/0	DPT 5.010
OCPP error code	9/7/100	DPT 5.010
Start / stop charging	9/7/1	9/7/2 DPT 1.010
Reserve now / free reservation		9/7/3 DPT 1.010
Availability	9/7/4	9/7/5 DPT 1.003
Unlock connector		9/7/6 DPT 1.003
Transaction used (Wh)	9/7/10	DPT 13.010
Start charge time	9/7/20	DPT 10.001
End charge time	9/7/30	DPT 10.001
Charging current (A)	9/7/40	DPT 14.019
Max charging current (A)	9/7/41	9/7/42 DPT 14.019
Reset charger		9/7/101 DPT 1.015

2) Prepare the xxter controller

Next, load the configuration into your xxter controller. Log onto the xxter controller and press “Load configuration”.

Next, enable OCPP support on the protocol page and select if you want to use OCPP secure (WSS). If you enable WSS, it will not be possible to connect unsecure (WS). Of course, the use of the secure version is recommended.

OCPP protocol:

OCPP enabled

OCPP secure (WSS):

Please note: When using WSS, you might need the xxter OCPP root certificate. This certificate can be downloaded here: <https://my.xxter.com/OCPP-CA.pem>.

3) Set up the car charger

Now you can set up the charger. The charger needs to connect directly to the xxter controller for the integration. Go to the configuration of your charger and let it connect using OCPP 1.6j. When using OCPP secure, use `wss://ip-address:8016/` for connecting unsecure, use `ws://ip-address:8016/`. Herein, you need to replace the “ip-address” with the local IP address of the xxter controller.

How to set up your charger to make this connection, depends on the type and brand of the charger. In some cases, you might need to contact the support department of the manufacturer of the charger.

On the status page of the xxter controller, you can see the status of the OCPP car chargers that (try to) connect. After some minutes, the charger should be connected.

Using the car charger with xxter

In the visualization there is a separate element available to control the charger. Go to *My xxter*, select the profile and page where you want to place the charger and add it to the page. Using this element, you can see the status of the charger and start/stop charging. Optionally, you can also enable fast charging or unlock the plug (if available).



Of course, using the group addresses you have set up in the OCPP configuration, you can also visualize and control the charger using any (KNX) switch or panel from the automation. By also adding the relevant group addresses as components in the main configuration of xxter, you can set up statistics, to display in graphs in the visualization. This can be helpful to see the historic charge periods and power usage of the charger.

OCPP object information

The group objects of a charger are optional and can be used to bridge OCPP to KNX. They are defined as follows:

Status (enum) – Sending GA

- 0 - Available
- 1 - Preparing
- 2 - Charging
- 3 - Temporarily suspended by vehicle
- 4 - Temporarily suspended by charger
- 5 - Finishing
- 6 - Reserved (the charger is reserved for a future charge)
- 7 - Not available
- 8 - Error

Error code (enum) – Sending GA

- 0 - No error
- 1 - Error with lock
- 2 - Error in communication with vehicle
- 3 - Ground fault
- 4 - Temperature too high
- 5 - Internal error
- 6 - Error in local list (for authorization of RFID)
- 7 - Other error
- 8 - Current too high
- 9 - Voltage too high
- 10 - Meter reading error
- 11 - Power switch error
- 12 - RFID read error
- 13 - Reset error
- 14 - Voltage too low
- 15 - Weak signal

Start / stop charging – Sending & Receiving GA

Sends the actual charging state when it changes. When a “1” is received charging will start and “0” will stop charging. Please note: some chargers do not allow a stop and resume of charging, without unplugging and replugging the cable.

Reserve now / free reservation – Receiving GA

Not supported by all chargers. Sets the charger in reserved state when receiving “1”, frees reservation with “0”. No charging can start while the charger is reserved.

Availability – Sending & Receiving GA

Sends the actual availability state when it changes. A charger can become unavailable (“0”), for instance when it is in error state. You can manually set the charger to unavailable with a “0” or back to available with “1”. No charging can start while the charger is unavailable.

Unlock connector – Receiving GA

Some chargers auto lock the connector when it is plugged in. When a “1” is received, the charger is unlocked (if available).

Transaction used – Sending GA

When the charger is stopped, status information is sent of the total amount of power (Wh) used in the last charging period.

Start charge time– Sending GA

When the charger starts, the current time is sent. Either as DPT 10.001 or DPT 19.001 depending on your parameters settings.

End charge time – Sending GA

When the charger ends, the current time is sent. Either as DPT 10.001 or DPT 19.001 depending on your parameters settings.

Charging current – Sending GA

Status information of the actual power usage is sent when the value changes (more than 0.2A). Either as DPT 14.019 or DPT 9.021 depending on your parameter settings.

Max charging current – Sending & Receiving GA

Sends the maximum power the charger allows when the value changes. If a new value is received, it will override the previous charging current. When using the app, the button to switch between normal or fast charging will revert this value to the setting according to the parameters. Please note that the actual charging current is the result of a negotiation between the charger and the vehicle. Either as DPT 14.019 or DPT 9.021 depending on your parameter settings.

Reset charger – Receiving GA

When a “1” is received, xter will request the charger to perform a soft reset, for instance to clear an error state.