



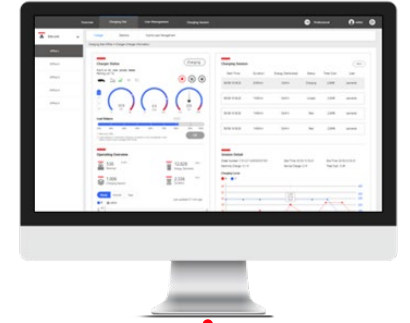
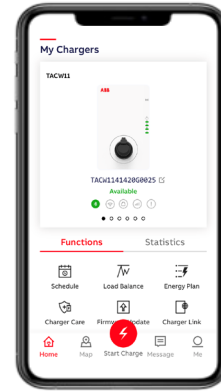
JUNE 2020

Terra AC: ChargerSync App & Essentials Operational portal

Introduction

Agenda

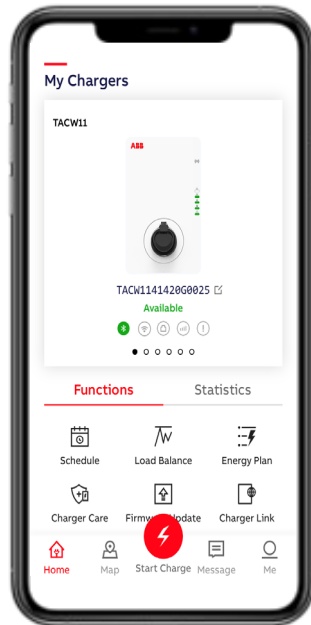
- Introduction
- ChargerSync App
- ChargerSync Essentials Operational portal



Introduction

Fully connected

ChargerSync Smartphone App

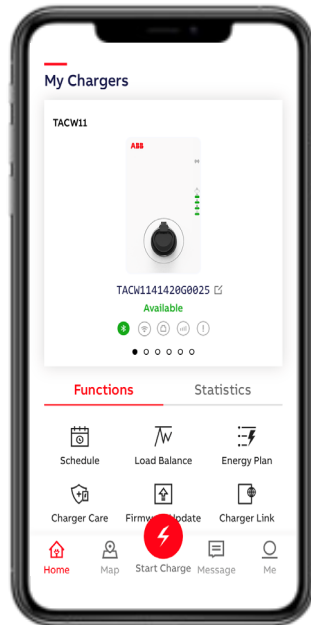


- User is typically the owner/ EV driver that creates an account on the app and then adds a charger to the account.
- One charger can be operated by multiple smart phones if they all share the same account (with same username and password). This allows multiple people to share an access controlled charger.

Introduction

Fully connected

ChargerSync Smartphone App



For home and single use cases

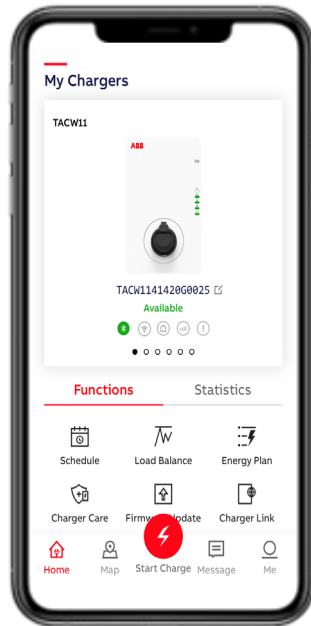
Functionality:

- Authentication
- Adding a charger (and unbinding a charger)
- Firmware upgrade
- Load balancing - adjust to static power limit
- Energy Plan
- Schedule
- Status monitoring
- Troubleshoot
- Statistics

Introduction

Fully connected

ChargerSync Smartphone App



For home and single use cases

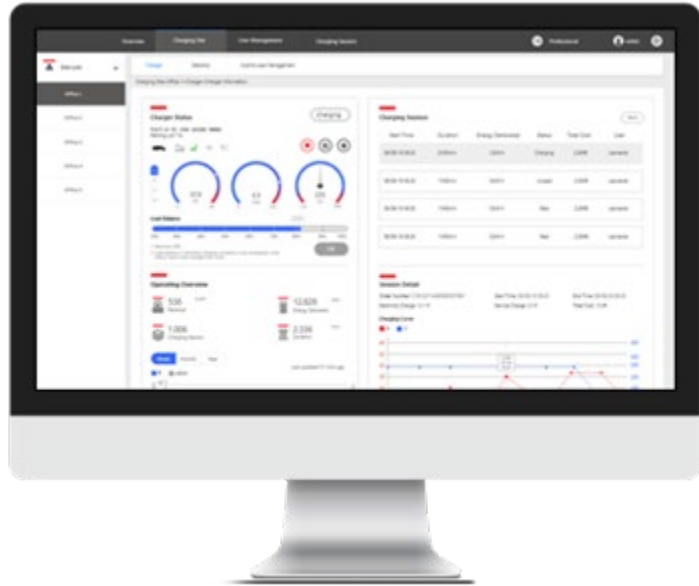
Functionality – to be released later:

- Charger Link - Network connectivity options
- Map
- Message

Introduction

Fully connected

ChargerSync Essentials Operational portal

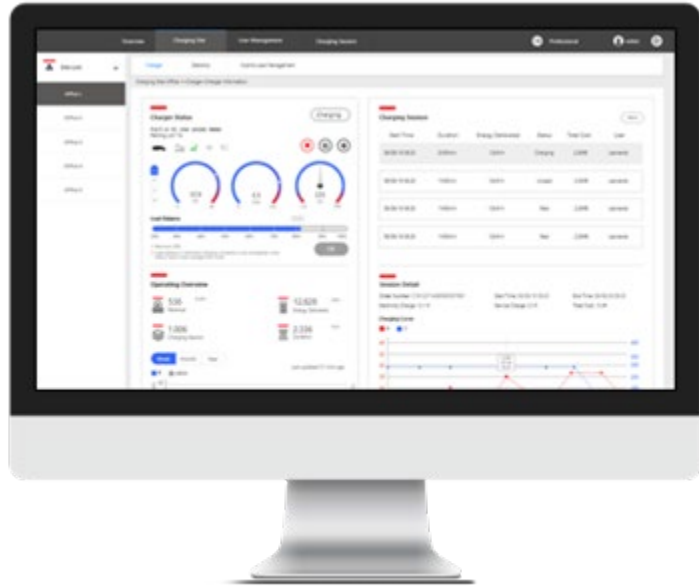


- User is typically the remote administrator of a site/installation/group of chargers that creates an account and adds numerous chargers and users to the account.
- Main portal for configuration and monitoring of cloud based load management.
- Allowing the owner to connect to the charger when the charger is online (via LAN/Wifi/4G) to do advanced configuration, view charging status, statistics and errors.
- Used for mapping various RFID cards in groups and priority to the accounts
- Allows to top up each card with virtual money and to specify a cost per kWh.

Introduction

Fully connected

ChargerSync Essentials Operational portal [Beta]



For larger businesses and charging sites

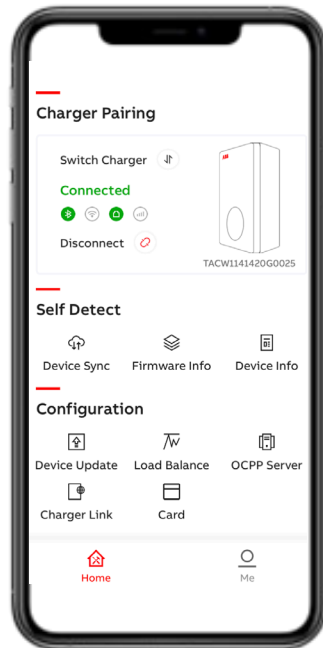
Selected functionality:

- Configure charging site
- Operate charging site
- Add multiple chargers
- Manage user group & authentication
- Detailed usage and status monitoring
- Revenue data
- Static load management
- Hybrid load management (will be subscription based first 6 months for free)
- Remote control
- OCPP logs
- Logs of charging sessions

Introduction

Fully connected

Terra Config Smartphone App for ABB employee only, for non ABB use release August



For installers or technical operator

Specific account is required to enable installer Terra Config App)

Functionality:

- Device Sync - to synchronize charger with ABB back-end server
- Firmware + Device info
- Device update
- Load balance - to configure by installer maximum charge current by static limit vs grid/ cable connection
- OCPP configuration
- Connectivity options + configuration like 4G and WIFI
- Enable external RFID cards

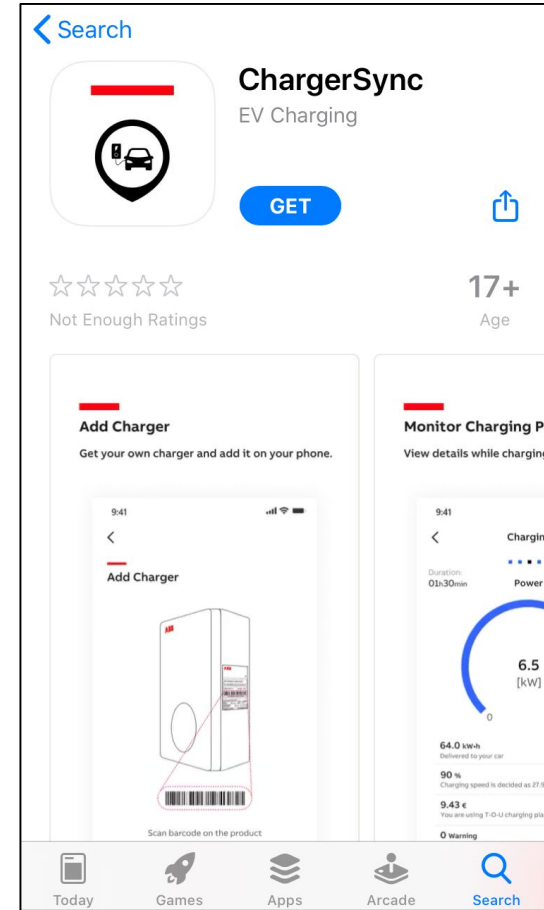
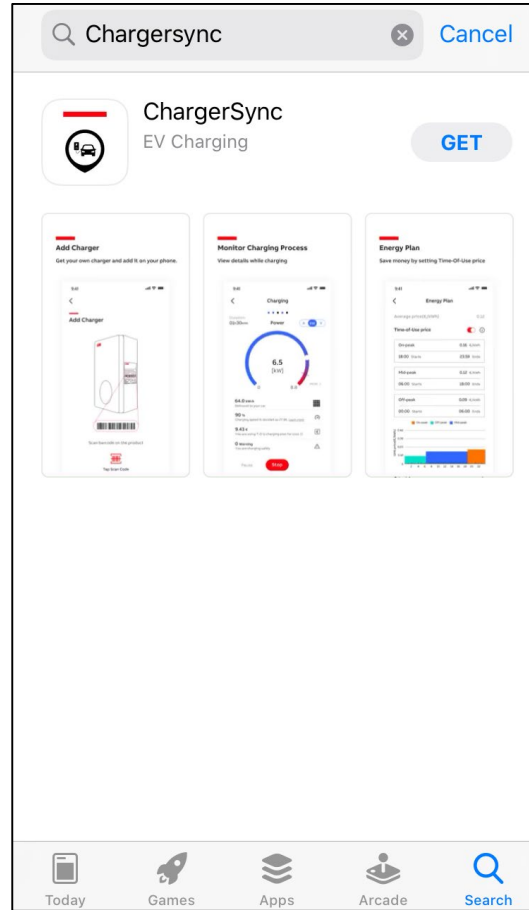
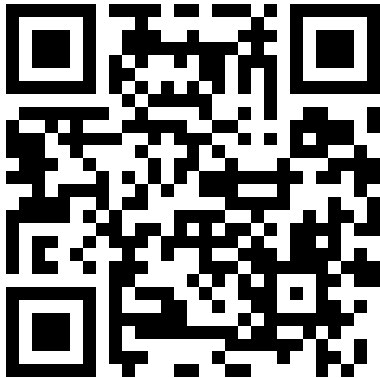
—

App

Where to find the ChargerSync App?

By 'ChargerSync' in App or Google play store

*Note:
Previously downloaded iOS App version need
to be updated.*



Create an account + log in

Create your own free account
(For the EV driver)

CHARGER Sync English

Log in

E-mail address

Password

Forgot your password?

Login

Need an account? [Sign up](#)

CHARGER Sync English

Create Account

Christian

Christian.van-maurik@nl.abb.com

I have read and agree to the [Privacy Policy](#) and [Terms of Service](#).

Continue

CHARGER Sync English

Thank you!

We have sent you an email to confirm your account.

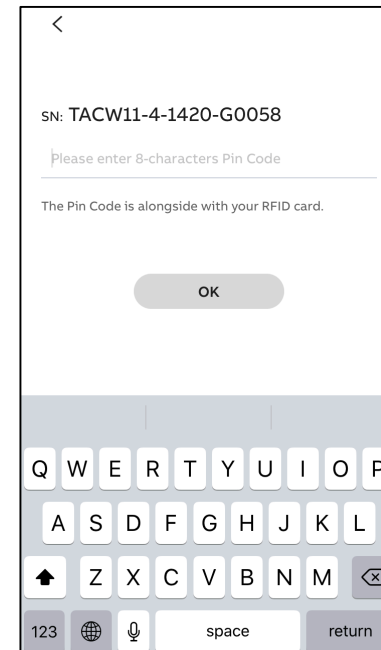
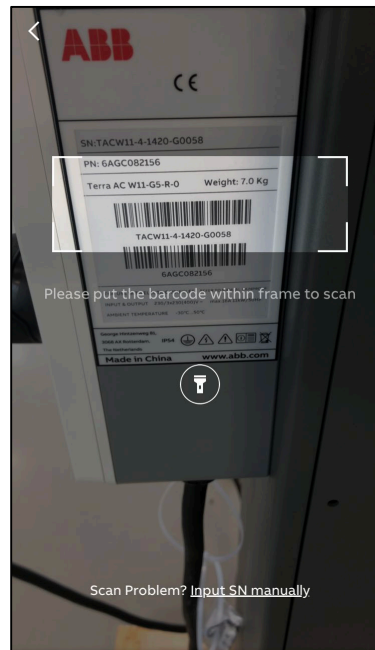
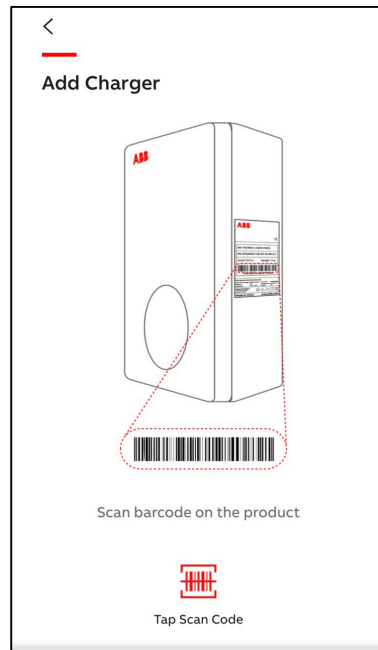
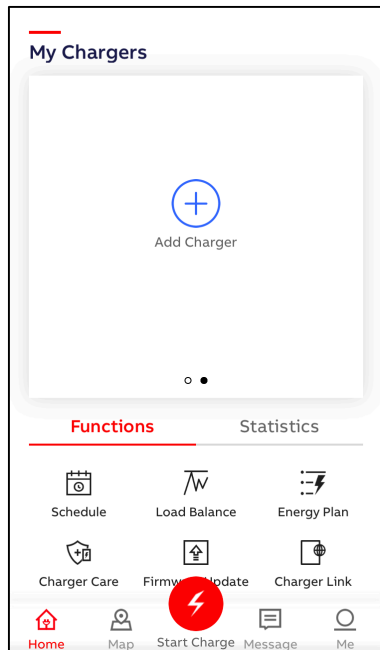
OK

Didn't receive the email? [Resend](#)

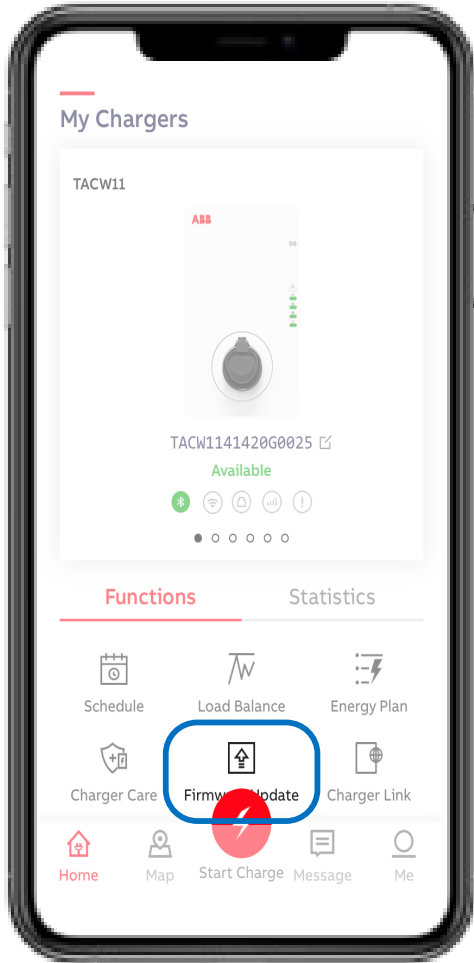
Add Terra AC to your account

1. Install Terra AC
2. Select 'Add Charger' in home screen
3. Scan (top) barcode on the charger or manually input the charger serial number.
4. Enter the PIN code which can be found with the RFID card. This will establish the 'binding' between user account and charger.

Note: !Do not lose the PIN code. In case of loss, there is a separate manual service team ticket procedure.

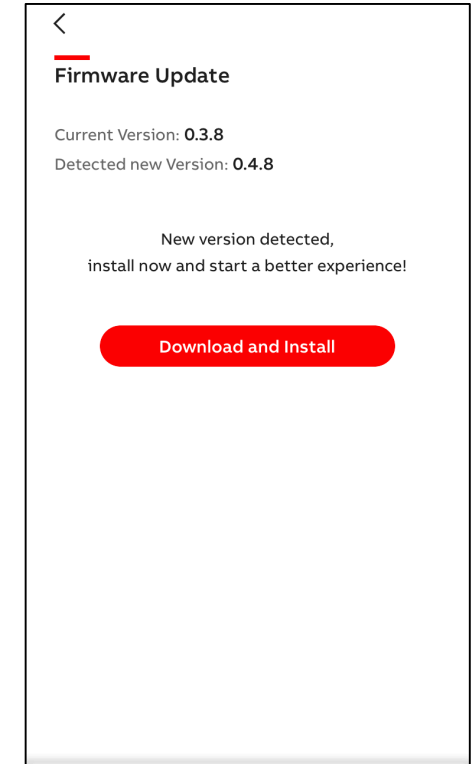
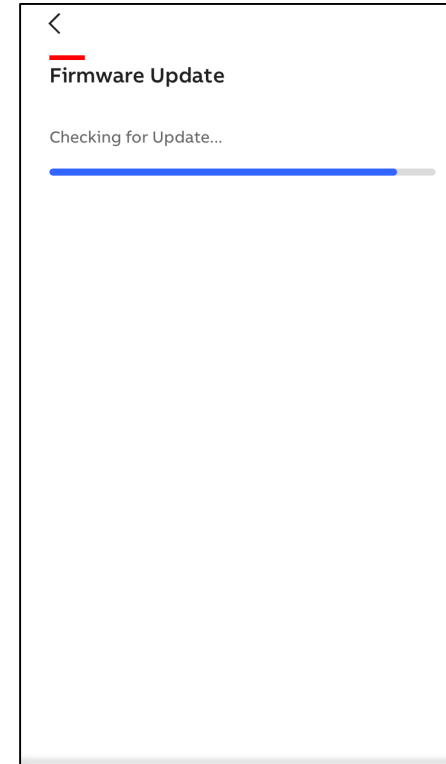


Home screen – Firmware Update

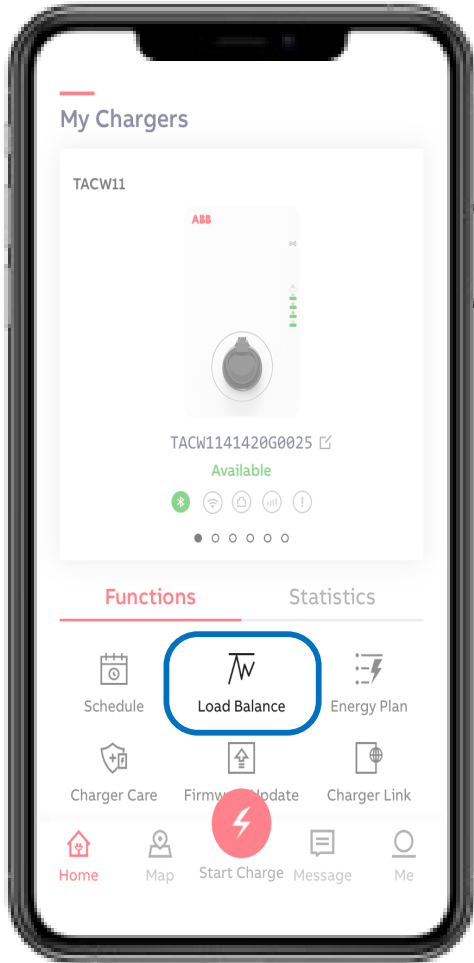


Update charger firmware to latest available version

- Update takes +/- 5 min
- Keep charger and phone powered during update
- Keep Bluetooth connection and phone network settings untouched
- !Do not upgrade during charging session



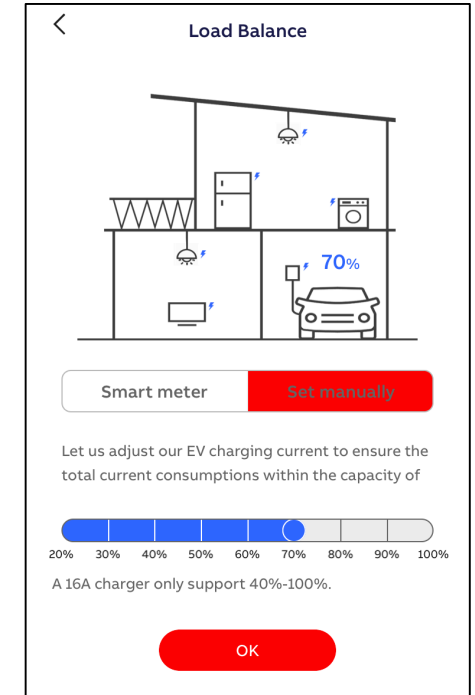
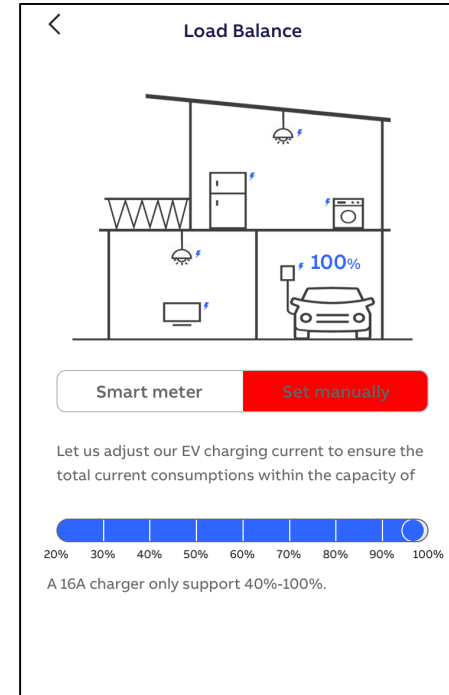
Home screen – Static Load Balance



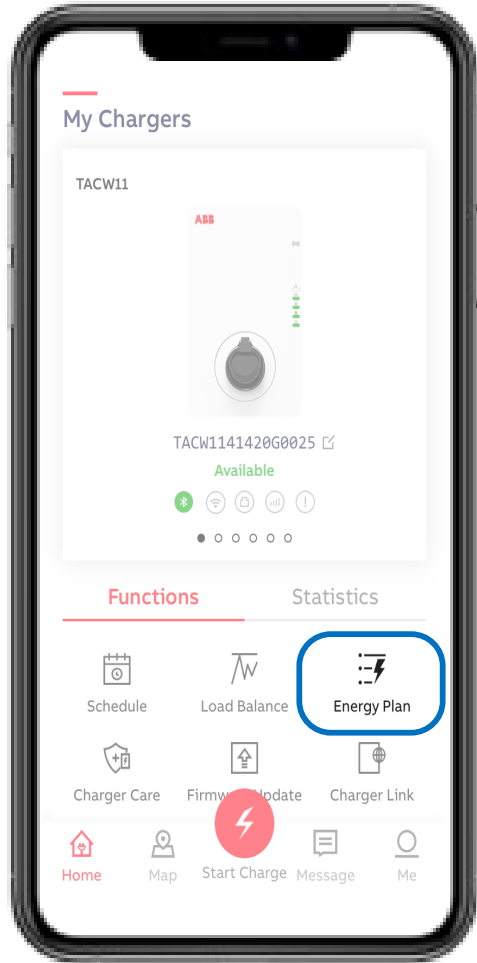
With Load Balance a user selected power limit can be set. The option 'Set manually' is ready pre-selected. The option 'Smart meter' will be released later.

- By sliding the blue dot in the bar preferred percentage can be set.
- Confirm by 'OK'

To limit energy costs in peak energy period.

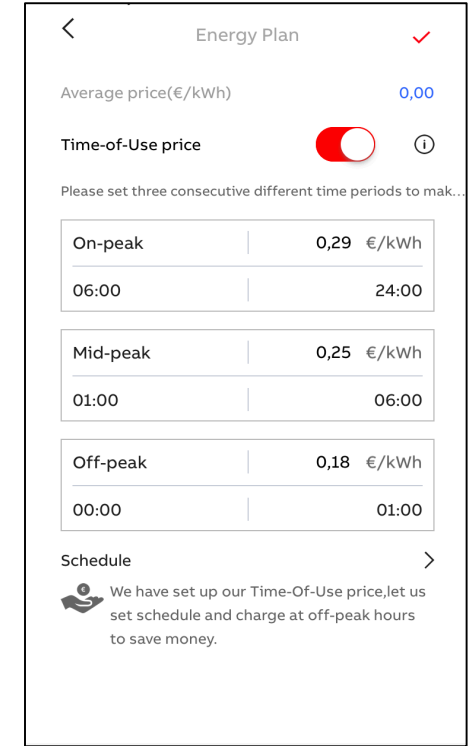


Home screen – Energy Plan

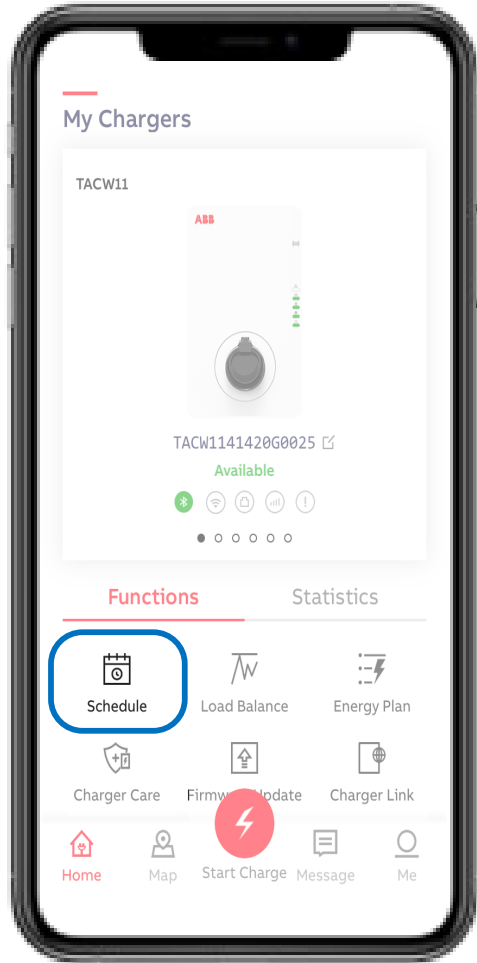


With Energy Plan price per kWh can be set and can be used for own energy monitoring.

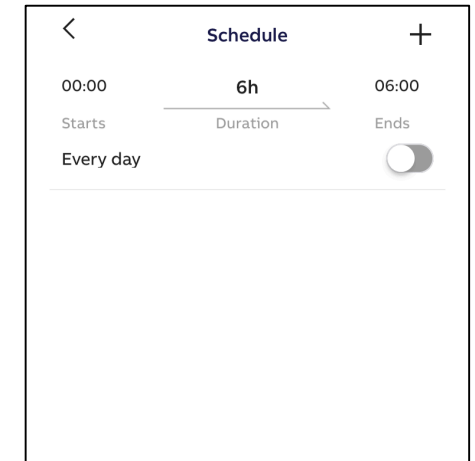
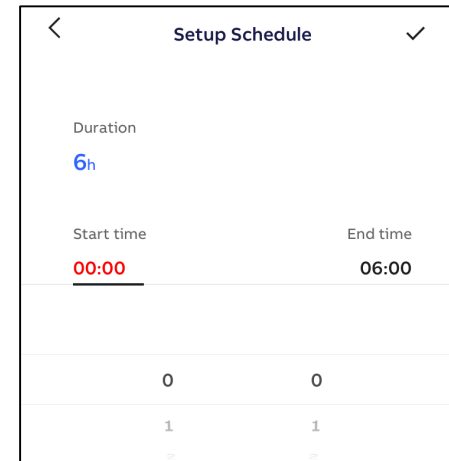
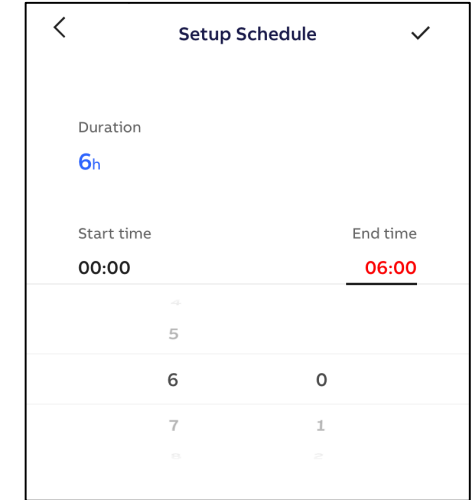
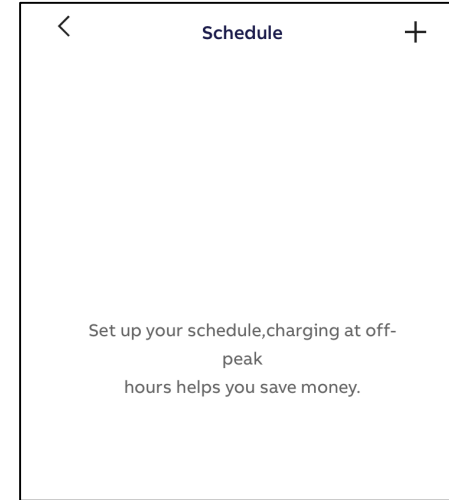
Different currency and time of use prices will be released later.



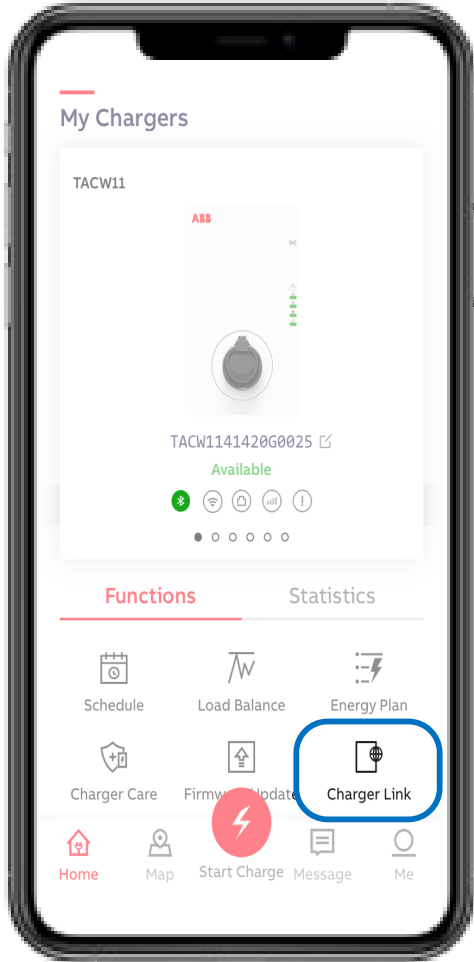
Home screen – Schedule



With Schedule specific charge time period(s) can be set to start delayed charge session.
Free access mode as there is no authorization needed when making use of Schedule.



Home screen – Charger Link



With Charger Link the connectivity option can be selected between charger and ABB server back-end.

Available connectivity options depends on charger model.

Options are LAN, WIFI, 4G (is optional feature)

Charger Link function in Charger Sync app currently not supported will be released later.



LAN = plug & play (requires an ethernet cable)

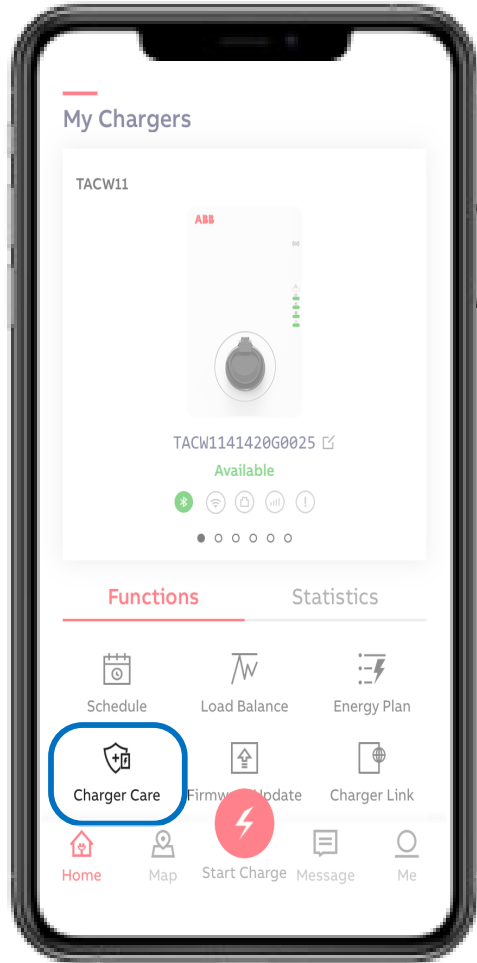


WIFI = settings can be configured via Terra Config App



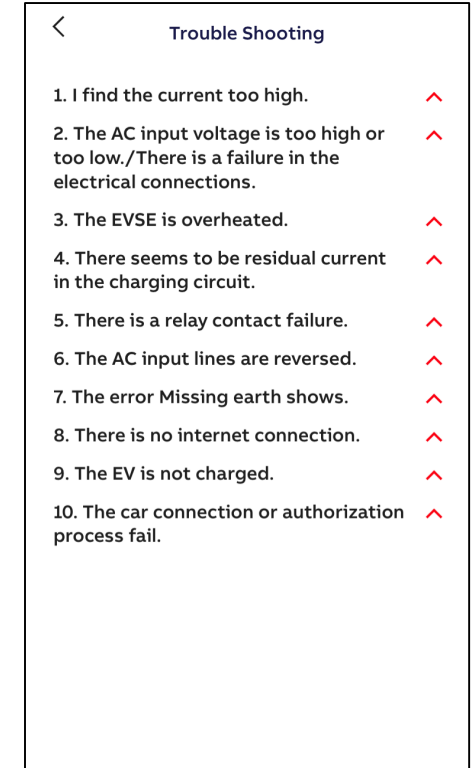
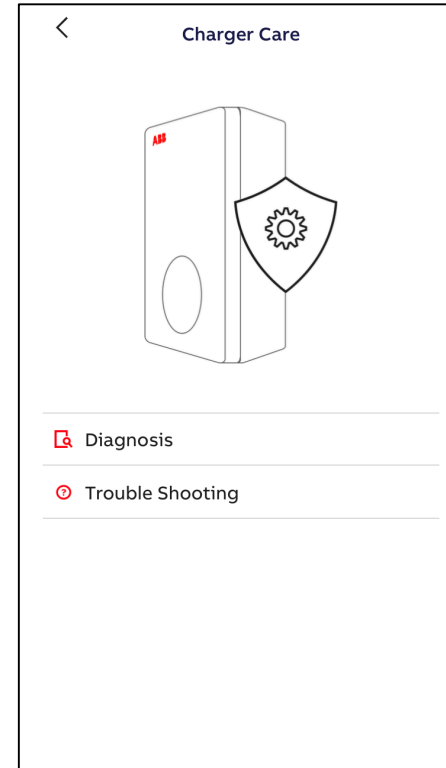
4G = certain (nano) sim cards work automatically or can otherwise configured via Terra Config App

Home screen – Charger Care

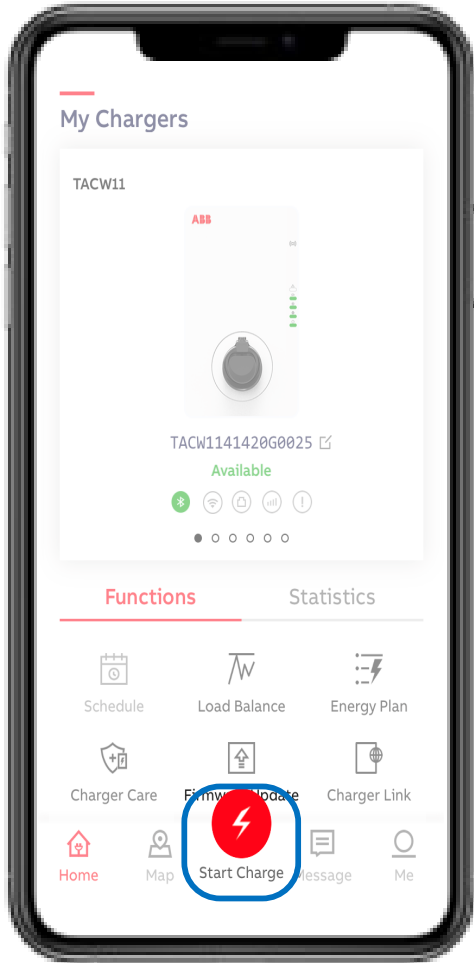


Basic Trouble Shooting guide for the EV driver can be in Charger Care.

With Diagnosis the charger log file can be found *(to be released later)*.

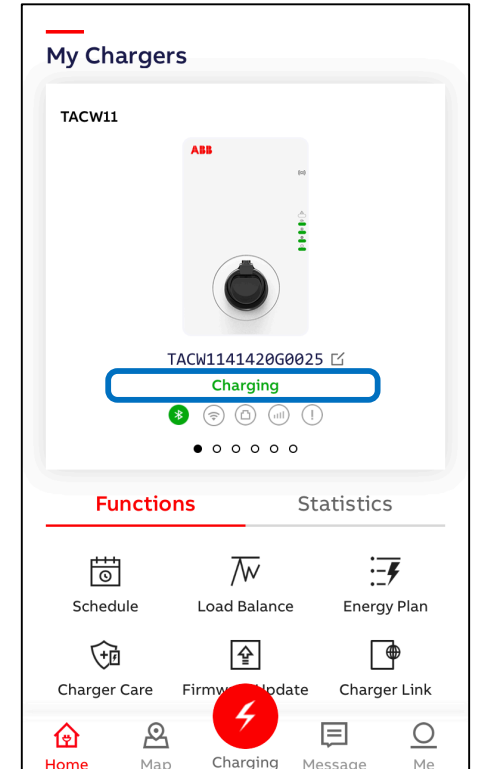
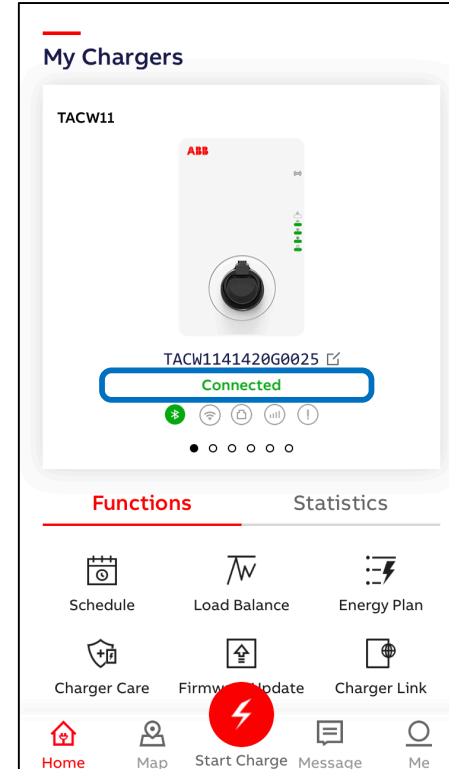


Home screen – Start – Charging



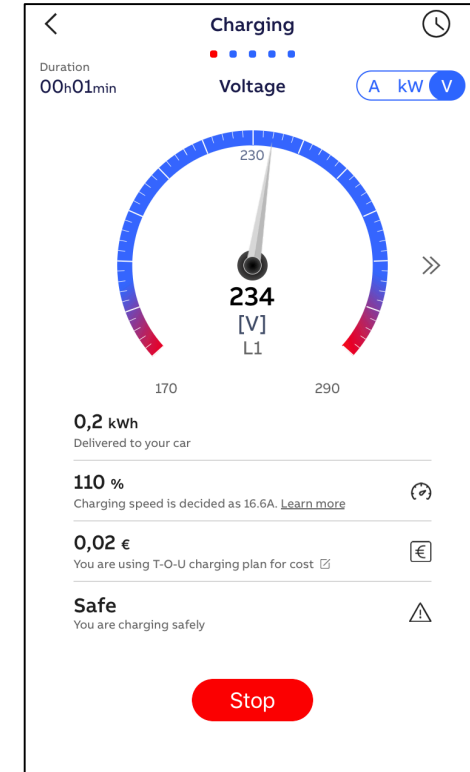
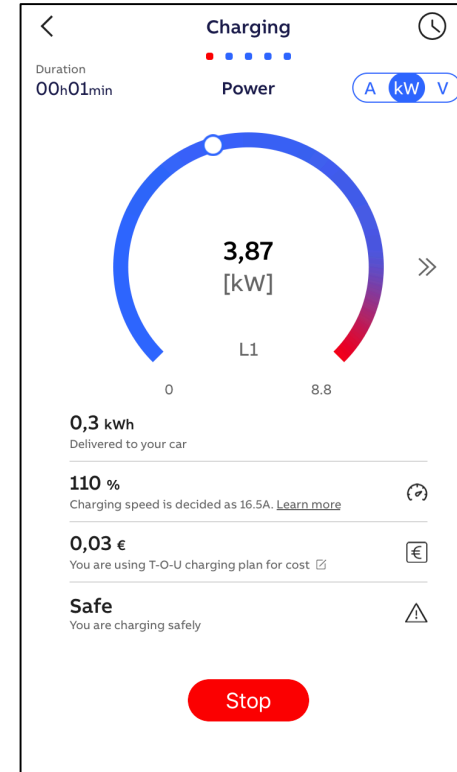
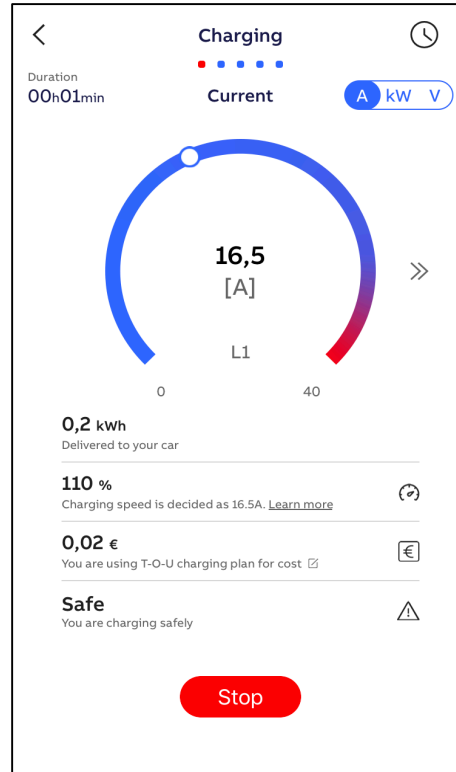
When connecting the charger to the EV the status message bar will change from 'Available' to 'Connected'.

Charge session can be start via red 'Start Charge' button . The charge session will start after quick check between charger and EV (seconds). Status message bar will change in 'Charging'.



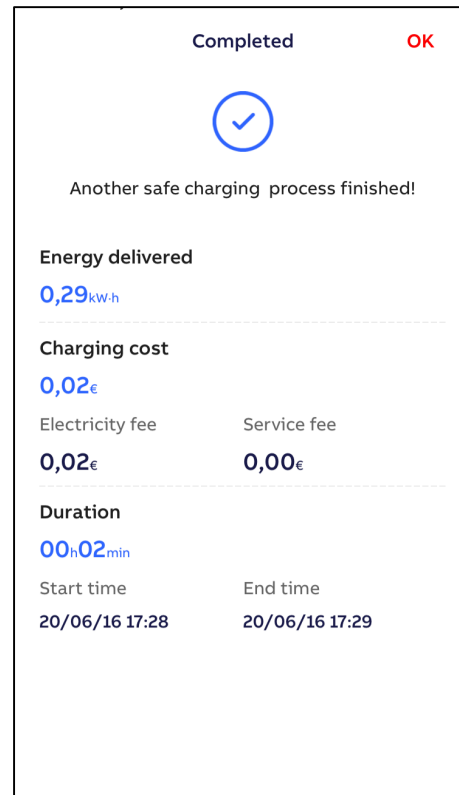
Charging monitoring data

When charging the following monitoring data can be displayed per phase: Current, Power and Voltage.



Charging Complete

To Stop the charge session can be done via the red 'stop' button. Status bar will change in 'Charging complete'. Charge session details will be showed in 'Completed'. All Charge sessions can be found with 'Charging Activity'.



Completed OK

Another safe charging process finished!

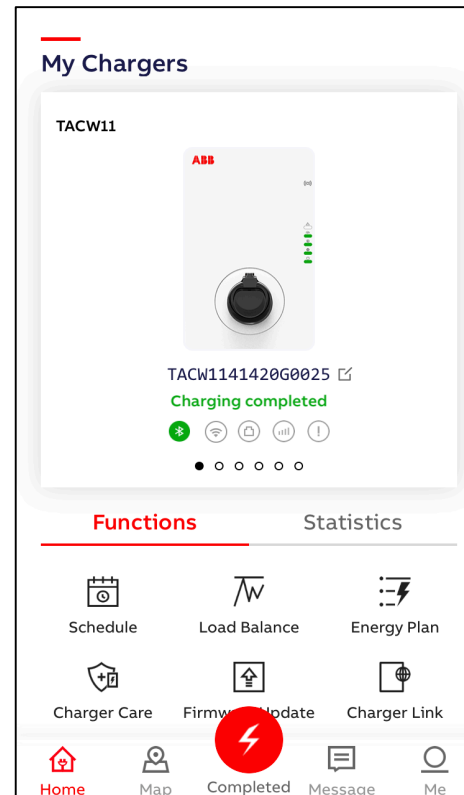
Energy delivered
0,29kWh

Charging cost
0,02€

Electricity fee Service fee
0,02€ 0,00€

Duration
00h02min

Start time End time
20/06/16 17:28 20/06/16 17:29



My Chargers

TACW11

ABB

TACW1141420G0025

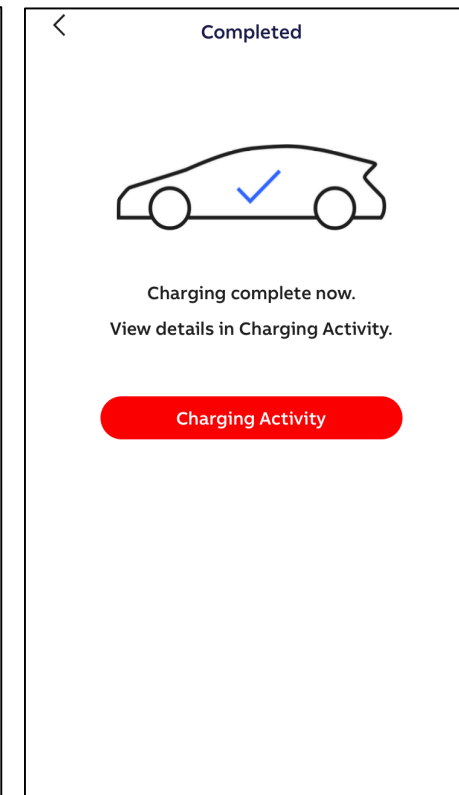
Charging completed

Functions Statistics

Schedule Load Balance Energy Plan

Charger Care Firmware Update Charger Link

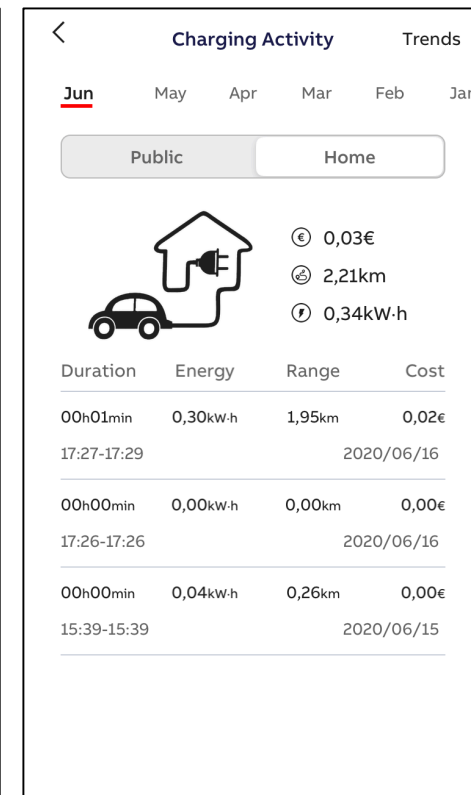
Home Map Completed Message Me



Completed

Charging complete now.
View details in Charging Activity.

Charging Activity



Charging Activity Trends

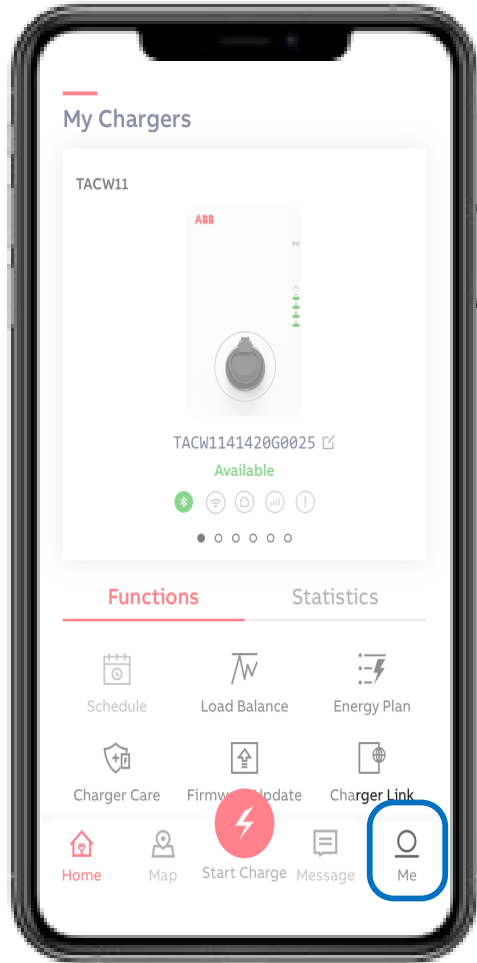
Jun May Apr Mar Feb Jan

Public Home

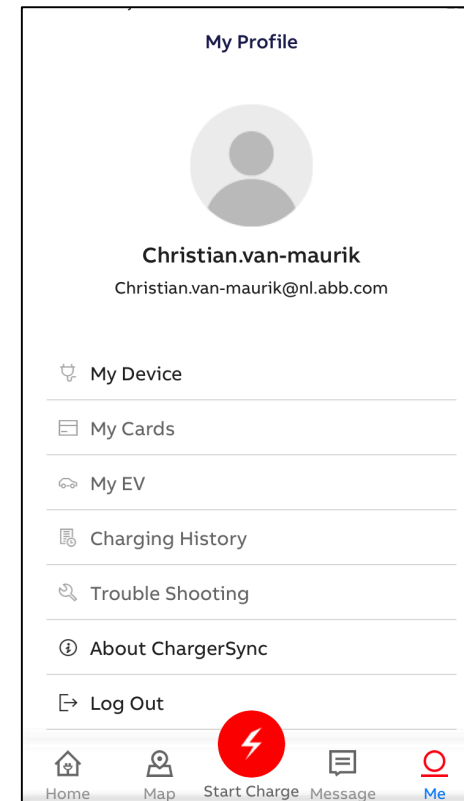
€ 0,03€
⌚ 2,21km
🔌 0,34kW-h

Duration	Energy	Range	Cost
00h01min 17:27-17:29	0,30kWh	1,95km	0,02€ 2020/06/16
00h00min 17:26-17:26	0,00kWh	0,00km	0,00€ 2020/06/16
00h00min 15:39-15:39	0,04kWh	0,26km	0,00€ 2020/06/15

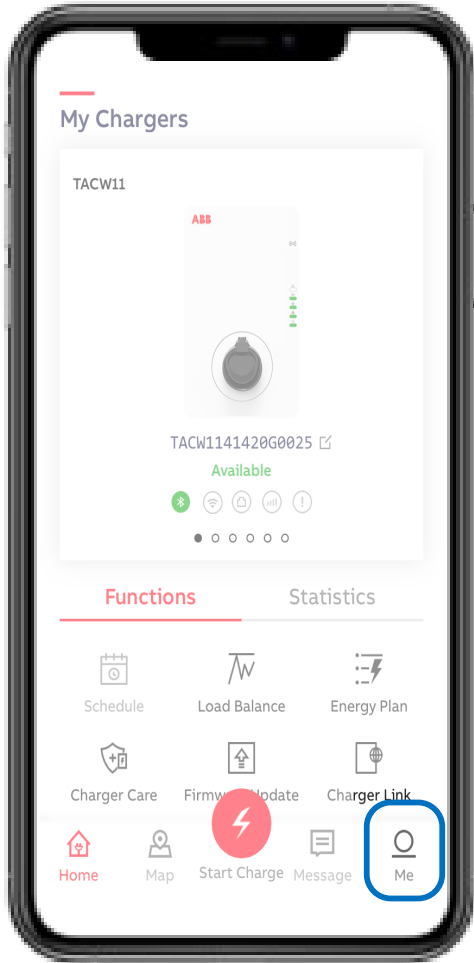
Home screen – Me – User Account



User account details can be found in 'Me'.
As well the option to 'Log Out' from user account.



Home screen – Me – Unbind the Charger



In 'My devices' the list of owned device(s) to the user account can be found.

(Authentication via PIN code)

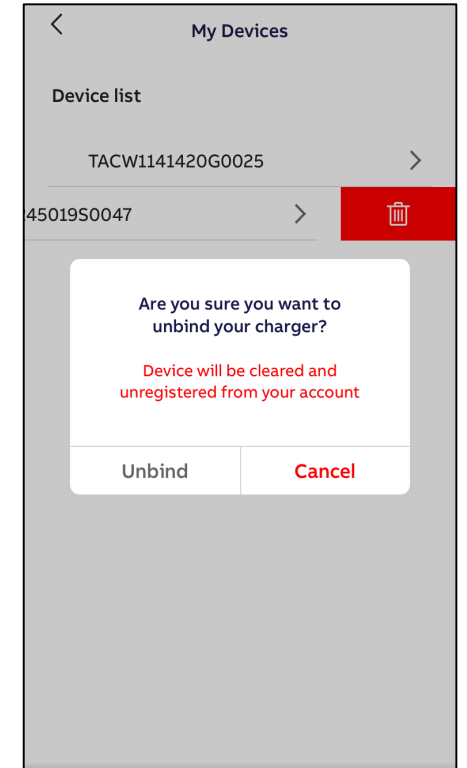
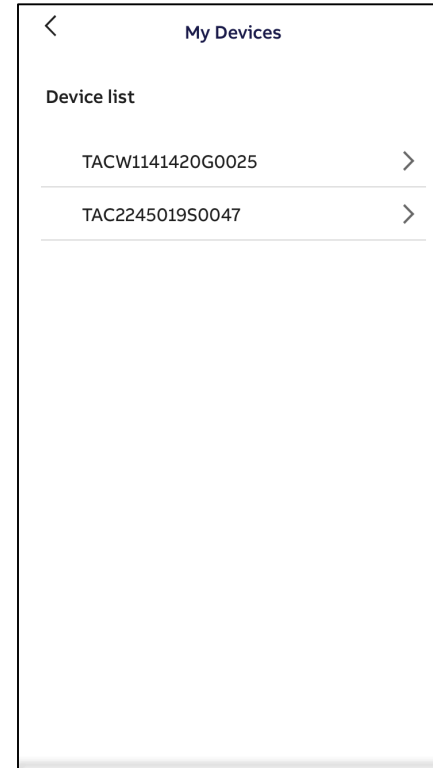
To remove the device(s) from the user account can be done via 'unbind' option.

Slide the device from right to left and use the red delete bin to open the unbind option.

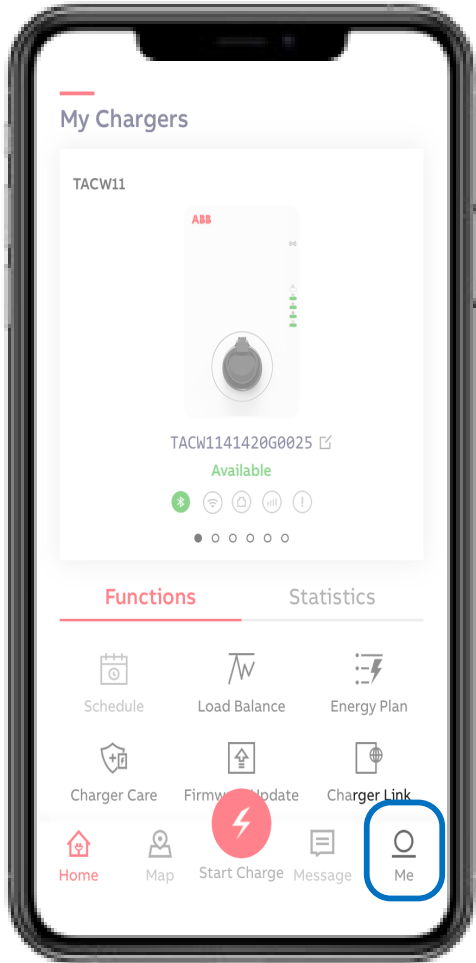
By 'Unbind' the charger will be removed from the user account.

Note:

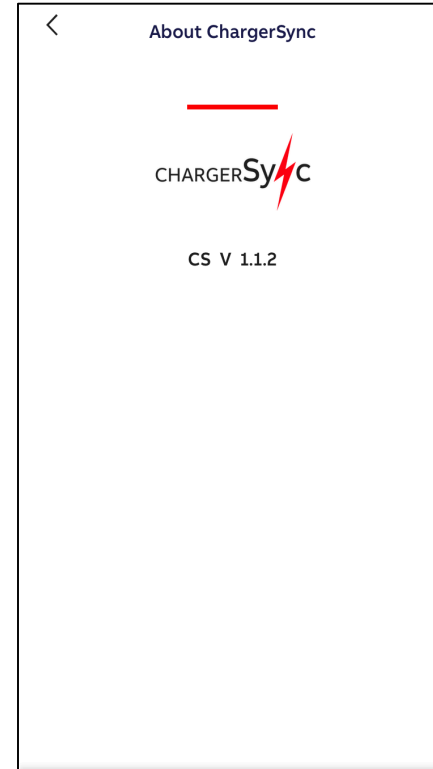
the owner of the PIN code is the owner of the Charger



Home screen – Me – Charger Sync App version



In 'About ChargerSync' the App version number can be found.



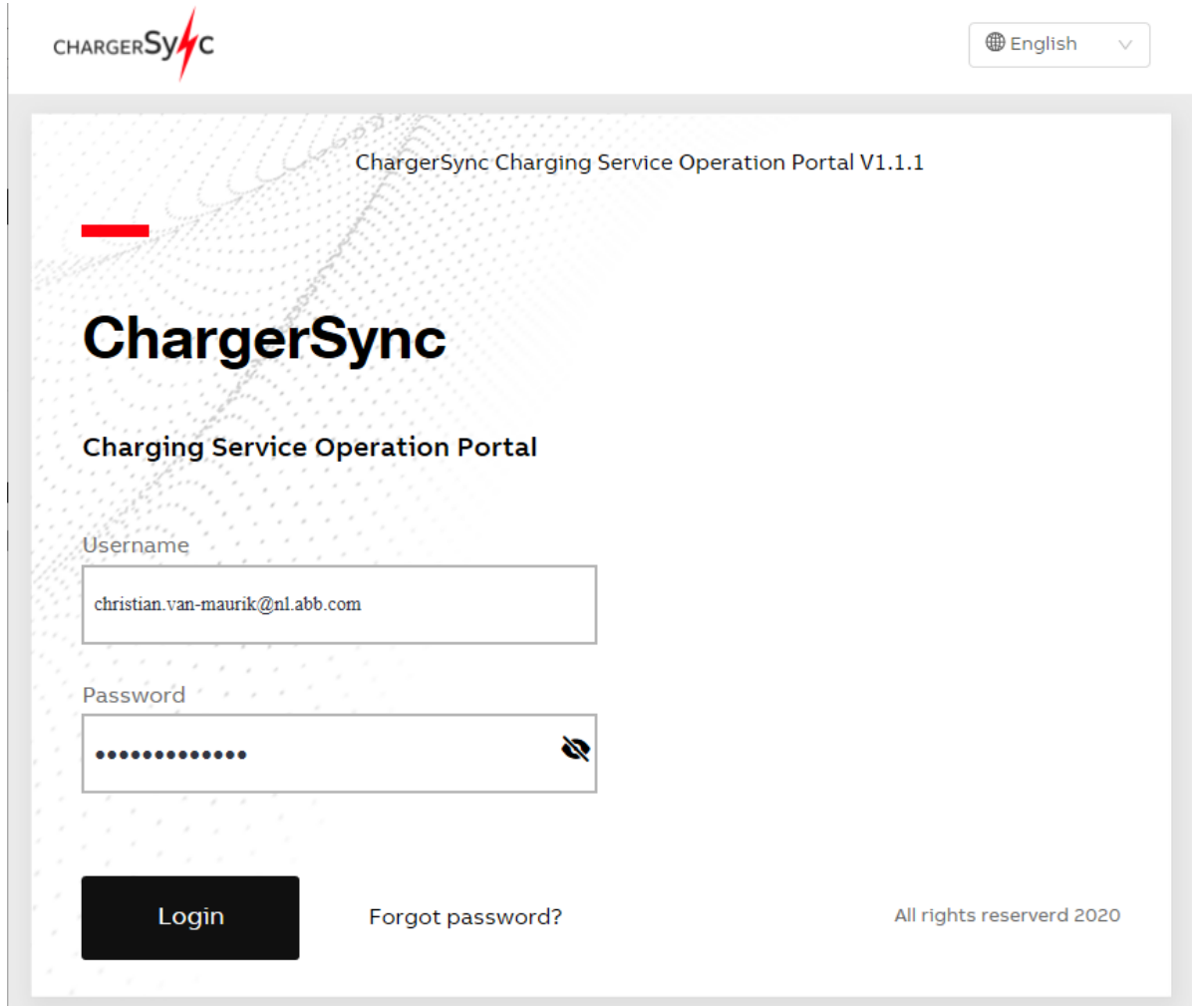


Portal

ChargerSync Essentials Operational portal

Available in August as a self subscription basic level operator portal

Account owner can be the remote administrator of a site/installation/group of chargers. In order to do that the owner creates an account and adds chargers and users to that account.



The screenshot shows the login interface for the ChargerSync Charging Service Operation Portal V1.1.1. At the top left is the CHARGERSync logo, and at the top right is a language selection dropdown set to 'English'. The main heading is 'ChargerSync' in a large, bold font, followed by 'Charging Service Operation Portal'. Below this are two input fields: 'Username' with the value 'christian.van-maurik@nl.abb.com' and 'Password' with masked characters. A 'Login' button is positioned below the password field. To the right of the button is a 'Forgot password?' link. At the bottom right, it says 'All rights reserved 2020'.

ChargerSync Essentials Operational portal - Charging Site

Example of Charging Site:

- Charging Site 'test site Delft' with two chargers
- List of chargers can be filtered by Connector type/phase(s)/status/rated power
- To Add new charger

The screenshot displays the CHARGERSync Operational portal interface. The top navigation bar includes 'Overview', 'Charging Site' (highlighted with a blue box), 'User Management', and 'Charging Session'. The user is logged in as 'Professional' with the name 'testtes'. The main content area shows the 'test site Delft' overview, including the address 'Heertjeslaan, 2629 3D Delft, Netherlands'. Key metrics are displayed: 2 connectors, 1 phase, 2 available chargers, 0 charging, and 0 unavailable. The 'Rated Output Power' is shown as 7.4kW, 11kW, and 22kW. A table lists two chargers:

NO.	Alias/SN	Connector	Phase	Network	Status	Derating	Current	Remote Control
1	TACW1141420G0025 TACW1141420G0025	CHAdeMO	3-phase	4G	Available	70%	11,2A	Refresh Stop Stop Stop
2	TACW741320G0018 TACW741320G0018	CHAdeMO	3-phase	4G	Available	100%	32A	Refresh Stop Stop Stop

ChargerSync Essentials Operational portal - Charging Site

Example of Charging Site:

Status connectivity option

Remote control

Restart/stop/status details/ static load management

Set Static load management percentage

Switch off/on or configure Hybrid load management

CHARGERSync Overview Charging Site User Management Charging Session Professional testtest

Site List test site Delft

Charger Statistics Hybrid Load Management

Charging Site>test site Delft>Charger

test site Delft Heertjeslaan, 2629 JD Delft, Netherlands , Delft Zuid-Holland Netherlands

Connector Type 2 Power Supply Phase 1 1 Charger Status 2 Available 0 Charging 0 Unavailable Rated Output Power 1 7,4kW 1 11kW 0 22kW

Hybrid Load Management OFF ON

NO.	Alias/SN	Connector	Phase	Network	Status	Derating	Current	Remote Control
1	TACW1141420G0025 TACW1141420G0025			4G	Available	70%	11.2A	
2	TACW741320G0018 TACW741320G0018			4G	Available	100%	32A	

Load Balance 11.2A
Manual Load Balance for TACW1141420G0025

20% 30% 40% 50% 60% 70% 80% 90% 100%

OK

ChargerSync Essentials Operational portal - Charger Details

- Charger status
- list of Charging sessions
- Energy & Cost overview
- Session Details
- Charger status during charge session

The screenshot displays the 'ChargerSync Essentials' operational portal. The main navigation bar includes 'Overview', 'Charging Site', 'User Management', and 'Charging Session'. The current view is 'Charger Details' for a site named 'Delft'. The interface is divided into several sections:

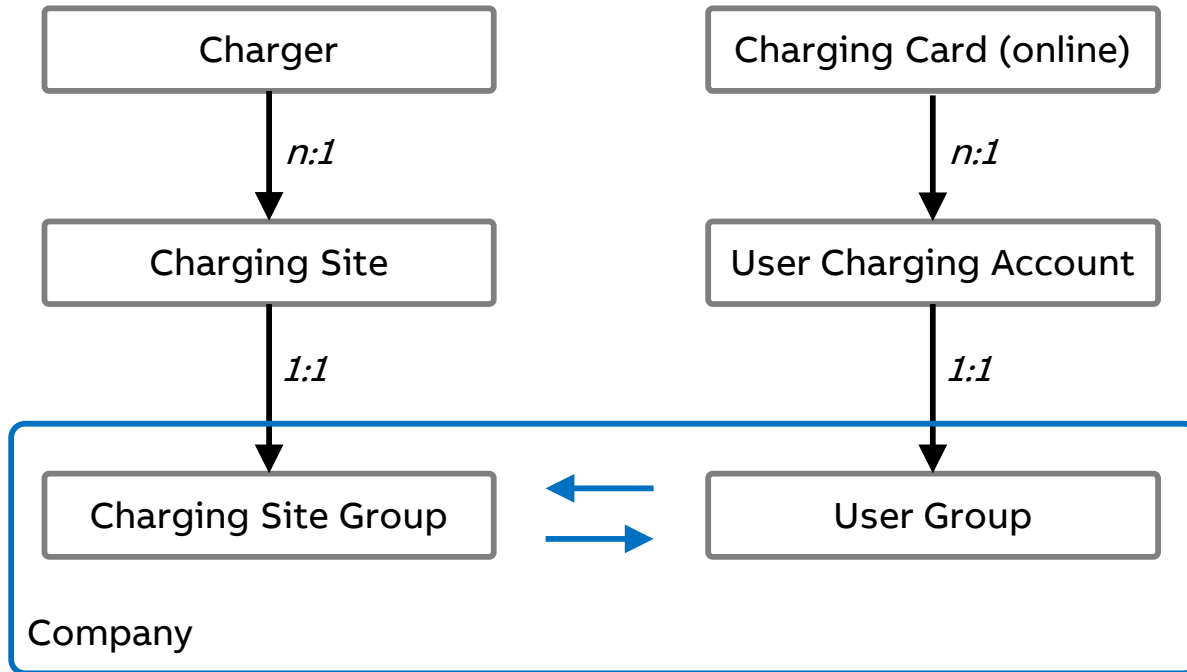
- Charger Status:** Shows the charger is 'Idle'. It includes three gauges for current (0 A), power (0 kW), and voltage (0 V). A 'Load Balance' bar is at 100%. A red 'OK' button is present.
- Charging Session:** A table listing recent sessions:

Start Time	End Time	Energy Delivered	Duration	Total Cost	User Name
11/06/2020 11:00	11/06/2020 11:03	0,4kWh	02min	0,12(€)	3rd party card
19/05/2020 11:39	19/05/2020 12:32	0,06kWh	53min	0,02(€)	Elirini
19/05/2020 10:44	19/05/2020 10:48	0,59kWh	04min	0,18(€)	Elirini
18/05/2020 13:49	18/05/2020 13:49	0kWh	1min	0(€)	Elirini
- Energy & Cost Overview:** Shows a revenue of 0,12 EURO, 0,4 kWh of energy delivered, and 1 charging session. A graph shows cost and energy over time.
- Session Detail:** Provides specific data for the first session: Order Number: C20061109000521501, Start Time: 11/06/2020 11:00, End Time: 11/06/2020 11:03, card.ElecCost: 0,04, Service Cost: 0,08, Total Cost: 0,12. A 'Charging Curve' graph shows current (A) and voltage (V) over time.

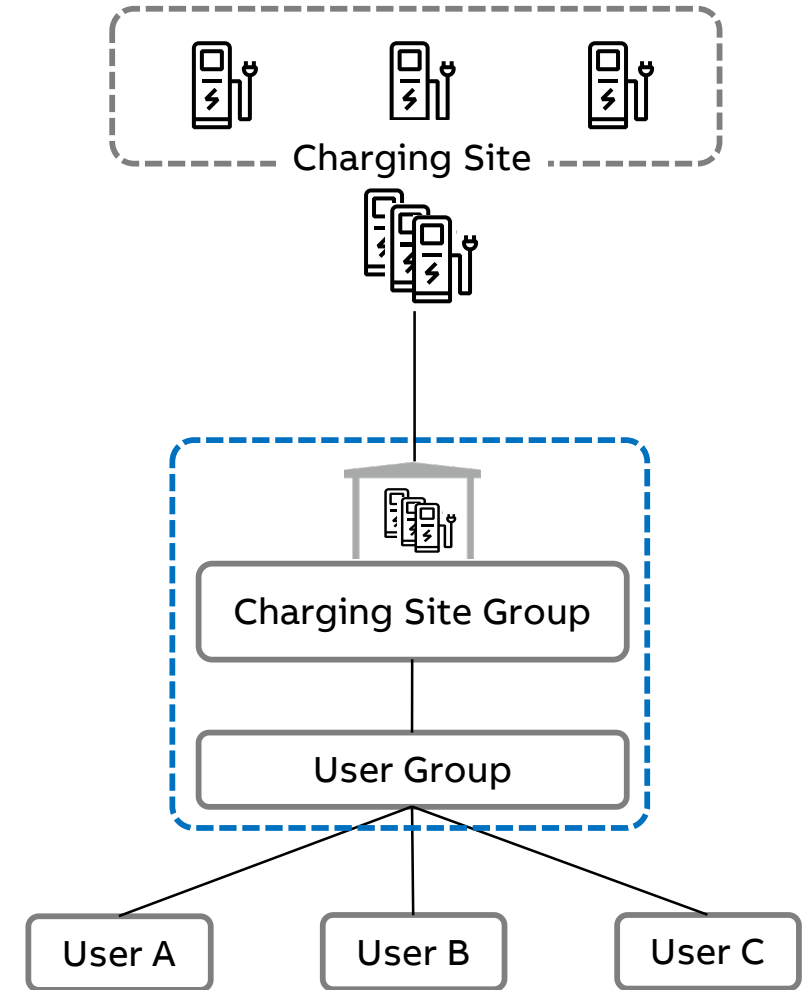
This panel shows the 'Charger Status' in 'Charging' mode. It features three gauges: Current at 32.1 [A], Power at 7.4 [kW], and Voltage at 233,1 [V]. The 'Load Balance' bar is at 100%. A red 'OK' button is located at the bottom right.

ChargerSync Essentials Operational portal

Relation between user group and site group



When creating the company by default it creates the Charging Site Group and User Group



ChargerSync Essentials Operational portal - User Management




In User Management,
**Charging Account
management**
account can be operated.

RFID card number

User details

Charging Account Management | Charging Card Management

User ID: Account Status: All User Name: User Email:

NO.	User ID	User Email	User Name	Bound Cards	Account Status	Account Management
1	3059340550	christian.van-maurik@nl.abb.com	3rd party card	-	Not Frozen	  

ChargerSync Essentials Operational portal - User Management

In User Management,
Charging card Account
card balance can be
operated.

User details

Balance

CHARGERSync Overview Charging Site User Management Charging Session Professional admin

Charging Account Management Charging Card Management

Created Time: Start date ~ End date Charing Card ID: Card Account Status: All

User Name: User Email: Card Status: All

Search

Add a New Charging Card

NO.	Charing Card ID	User Email	User Name	Card Account Status	Card Status	Created Time	Account Balance	Balance Management	Card Management
1	3059340550	christian.van-maurik@nl.abb.com	3rd party card	Not Frozen	Activated	11/06/2020 16:59	19.88(€)	Top Up Withdraw	Activate

ChargerSync Essentials Operational portal - Charging session

List of sessions

Details per session

Session charge curve

The screenshot displays the 'Charging Session' tab in the ChargerSync Essentials Operational portal. The interface includes a navigation bar with 'Overview', 'Charging Site', 'User Management', and 'Charging Session' (highlighted). The user is logged in as 'admin' (Professional).

Summary Metrics:

- Total Charging Session: 53
- Total Duration: 21h08min
- Total Energy Delivered: 146,22 unit.energ
- Total Cost: 39,78 (unit.mone)

Session List:

NO.	Session ID	Charger Alias/SN	Start Time	End Time	Duration	Energy Delivered	Total Cost	Session Status	User Name	Details
1	C20061109000521501	TAC224501950047	11/06/2020 11:00	11/06/2020 11:03	00h02min26s	0.402kwh	0.12(€)	Paid	3rd party card	>
2	C2006081610000981	TAC2244919G0022	08/06/2020 18:09	08/06/2020 18:24	00h14min09s	4.873kwh	1.46(€)	Paid	Elirini	∨

Session Detail (C2006081610000981): Status: Paid

Charger Info: SN: TAC2244919G0022, Connector Type: [Icon], Power Supply Phase: [Icon], Rated Output Power: 22kw

Charging Site: Delft

Billing Info: User Name: Elirini, User ID: 20030602, Date: 08/06/2020, Duration: 14min, Start: 18:09, End: 18:24, Energy: 4,87kwh, Status: Fully charged or unplug

Electricity Charge: 0,49€ | **Service Charge:** 0,97€ | **Total: 1,46€**

Charging Curve: A line graph showing current (A) and voltage (V) over time. The x-axis represents time from 16:11 to 16:21. The y-axis represents current/voltage from 0 to 40. The current (red line) is constant at approximately 30A, and the voltage (blue line) is constant at approximately 230V.

AABB