Ensto EV Manager user manual - V2
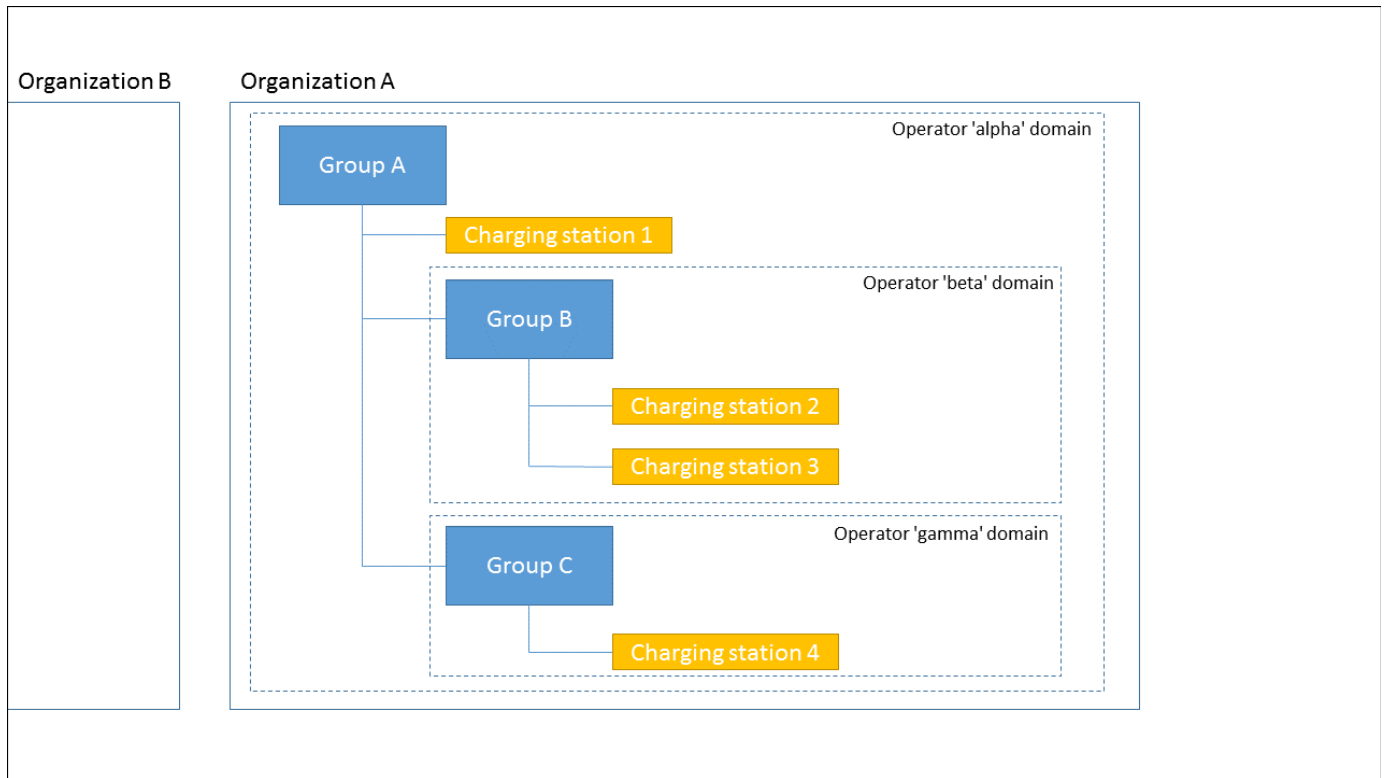
Table of contents

Terminology

Term or acronym	Explanation
Admin operator	Operator that has all permissions to operate the system. See Operator permissions and limitations for more info.
Base group	Operators 'root group' in tree-like group structure. The operator can see all groups and charging stations under that group.
Basic operator	Operator that has limited permissions to operate the system. See Operator permissions and limitations for more info.
Charging user	End user of the charging station. Person, who charges his/her EV at the charging station.
Charging point	A physical EV charging device, which contains one or more charging sockets. Charging sockets on charging point may or may not be used simultaneously, that is, if sockets are not possible to be used simultaneously, reserving one socket reserves the whole charging point.
Charging station	A physical device, which contains one or more charging points.
CSV	Comma Separated Value format. A (text based) data file that uses comma as a data column separator. CSV files can be opened and modified with all commonly used spreadsheet applications.
EV	Electric Vehicle.
Free charging	Anonymous charging. Charging station does not require chargers to be identified.
Operator	Charger management system operator.
Operator domain	Operators 'horizon' over the organization. Operator domain can be equal to organization (domain), which means that the operator can see all charging groups and charging stations in the organization. Operator domain can also be only a part of the organization domain. Meaning, the operator can only see that part of the organization. Operator domain is defined by setting a 'base group' (a group in the organization's tree-like group structure) for the operator. Operator can then see everything (charging groups and charging stations) under that particular group. Operator domains can be overlapping, which means that operator who has base group higher in the group structure can see and control all base groups that derive from his base group. See the image below, which illustrates the operator domain concept.
Organization	Environment containing varying number or charging groups and charging stations. Operators cannot see charging groups or charging stations which reside in some other organization than their own.
Orphan charging station	A charging station that is not associated with any charging group.
RFID token	Usually, a small physical token which is used to identify charging station user. Tokens come in various sizes and shapes. Token communicates with the charging station wirelessly.
Socket	In this context, a physical socket at the end of charging cable. There are many different socket standards, and usually EV user must select a charging station which contains a socket that is compatible with his/her EV.

Operator domains

Organization B

Organization A

Operator 'alpha' domain

Group A

Charging station 1

Operator 'beta' domain

Group B

Charging station 2

Charging station 3

Operator 'gamma' domain

Group C

Charging station 4

This picture illustrates the concept 'operator domain'.

- Operators in organization 'A' cannot see or manage anything in organization 'B'.
- Operator 'gamma' can manage group 'C' and charger '4'.
- Operator 'beta' can manage group 'B' and charging stations '2' and '3'.
- Operator 'alpha' can manage groups 'A', 'B' and 'C' and charging stations '1', '2', '3' and '4'.

Operator permissions and limitations

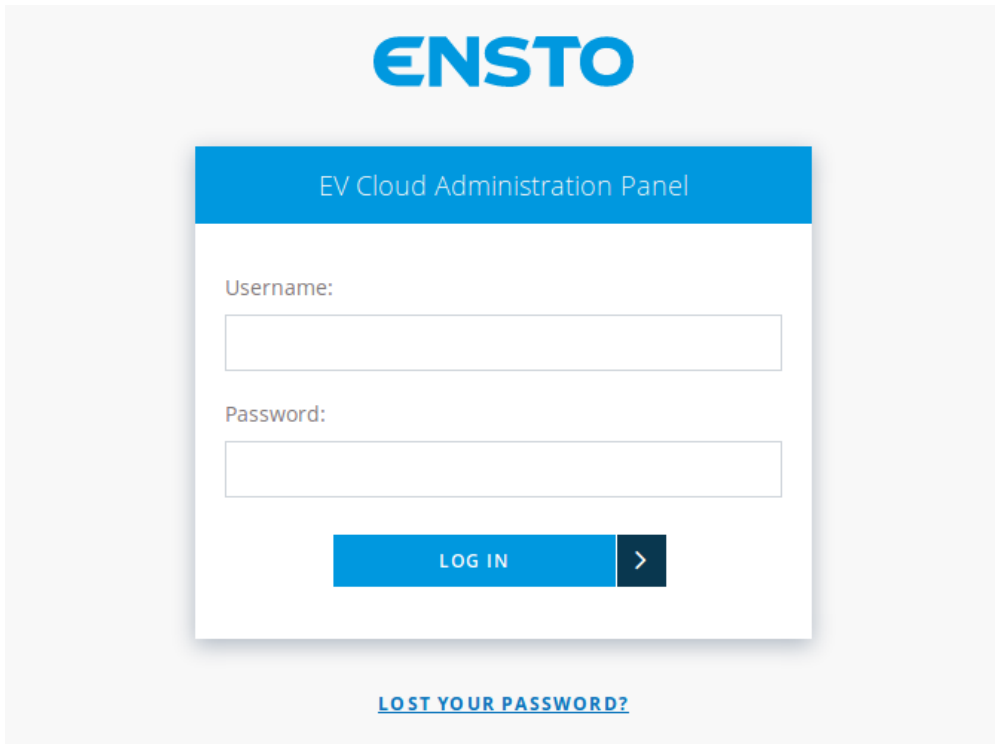The system has two kinds of operators:

Admin operator

Admin operator has all permissions and no limitations.

Basic operator

Basic operator has limited permissions to operate the system. Basic operator **can not**:
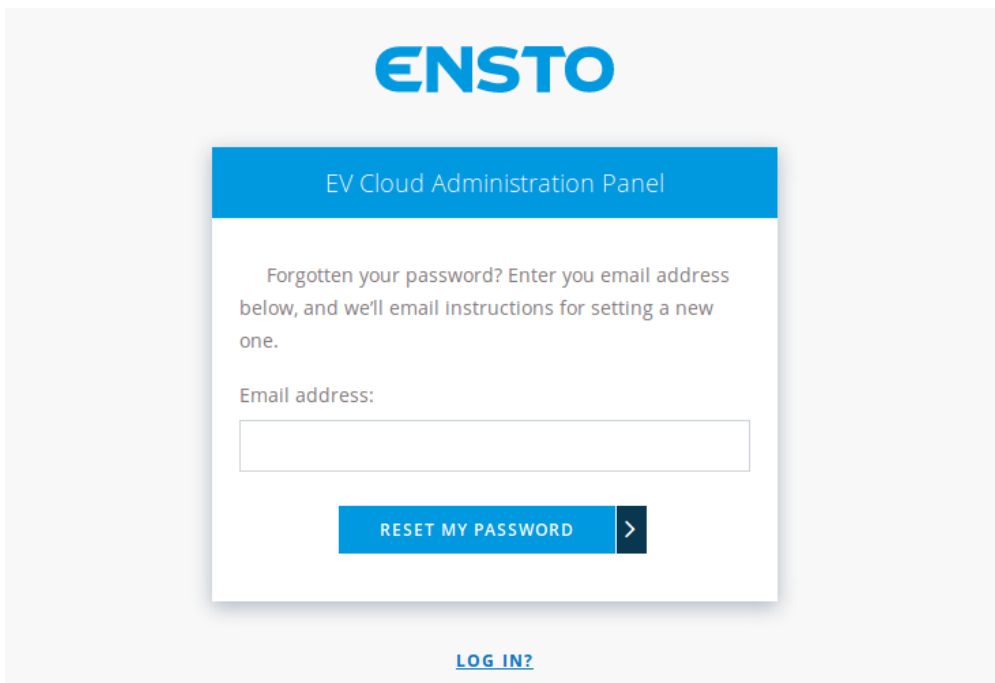
- Manage other operators (except himself).
- Add or remove charging stations.
- Remove users.
- Delete authorization tokens from charging users.
- Perform firmware updates to charging stations.

Log in

Enter your username and password and then press *LOG IN*. If you have lost or forgot your password, press *LOST YOUR PASSWORD*.

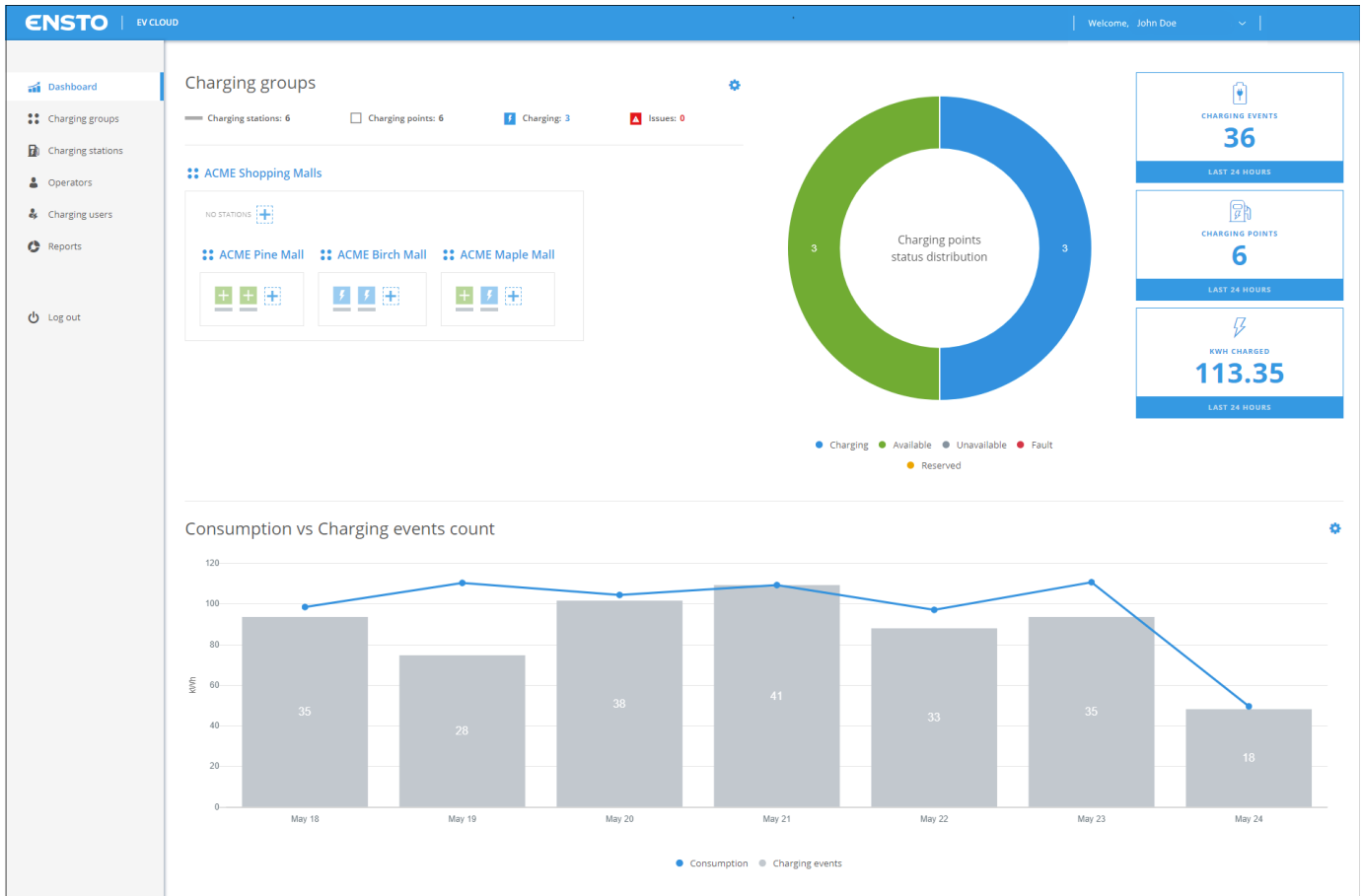Enter your email address and press *RESET MY PASSWORD*. Shortly you should receive an email which contains instructions on resetting your password.

Dashboard

Dashboard gives you an overall status view on charging points of your selection.

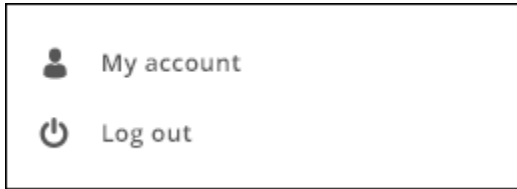Top right corner functionalities:

- Operator functions

Links to different pages:

- Dashboard
- Charging groups
- Charging stations
- Operators (this link is present only if you are logged in a an admin operator)
- Charging users
- Log out

Operator functions

Operator functions contains operator related settings.

My account takes you to a view in which you can change your information.

Log out logs you out from the system.

Dashboard Sections

Dashboard is divided into four sections.

1. Charging groups view and selection
2. Status summary
3. Cumulatives over last 24 hours
4. Consumption over selected timeframe

Charging groups view and selection

Charging group view shows you the logical grouping of charging stations. Operator can define charging groups according to his/her needs. See C harging groups for more info.

By clicking the gearwheel image you can select which charging point groups you want to display.

Some overall status information is displayed on top of the charging groups view.

| | Charging stations: **6** | | Charging points: **6** | ⚡ Charging: **3** | ⚠ Issues: **0** |

This current information shows that selected groups contain in total:

- 6 charging stations (physical devices).
- 6 charging points (one charging station can contain multiple charging points).
- 3 charging points that are currently charging.
- 0 charging points which are in some kind of error condition.

Meaning of charging group symbols

:: ACME Shopping Malls

The name of this charging group is *ACME Shopping Malls*. All charging stations enclosed by the thin rectangle belong to this group. Charging group can also contain other charging groups.
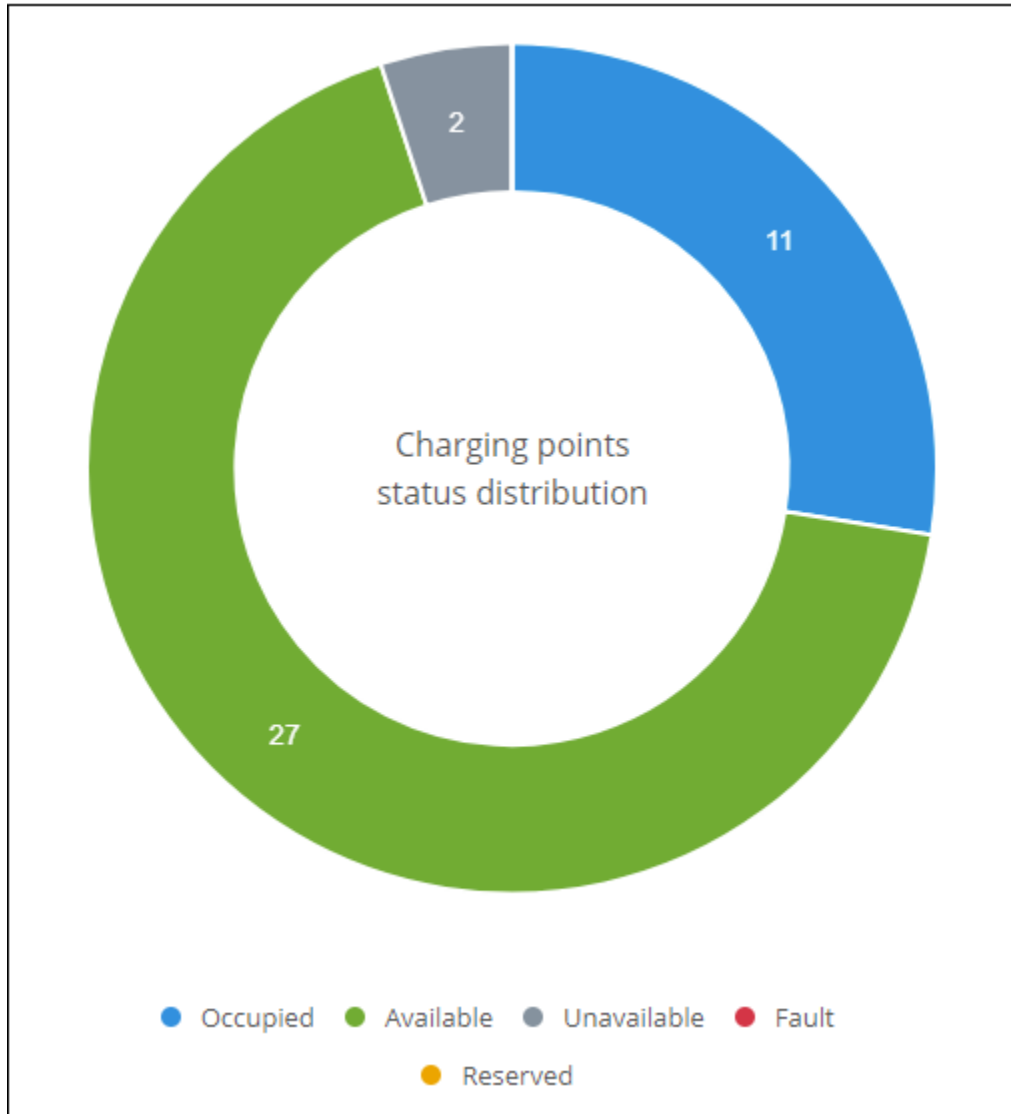
Charging station (the horizontal line below squares). This is a physical device which can contain multiple charging points (squares). This particular charging station contains 3 charging points.

Charging	Available	Unavailable	Issue detected	Suspended	Edit group

Charging point information icons.

Status summary

The donut diagram shows a status summary of charging points in operators domain.

Cumulatives of last 24 hours

Cumulatives are calculated over charging points in operators domain. Cumulatives show:

- The number of charging events.
- The number of used charging points.
- Total amount of energy charged.

| CHARGING EVENTS	CHARGING POINTS	KWH CHARGED
36	**6**	**113.35**
LAST 24 HOURS	LAST 24 HOURS	LAST 24 HOURS
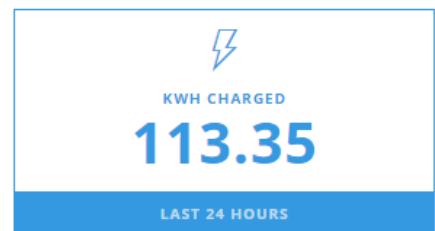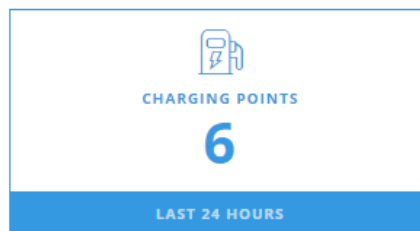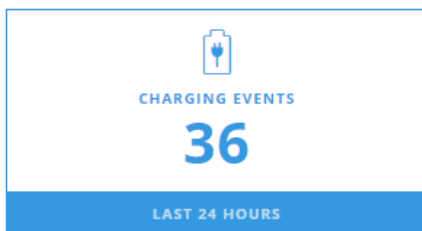
Consumption over selected timeframe

Timeframe can be selected from the gear icon at the right edge of the page.
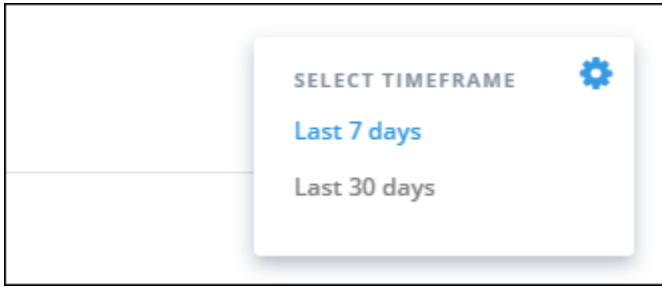
Consumption (kWh's) over charging events count shows the amount of electricity charged and number of charging sessions as a diagram over selected time frame. Diagram shows the data over entire environment regardless of selected groups.
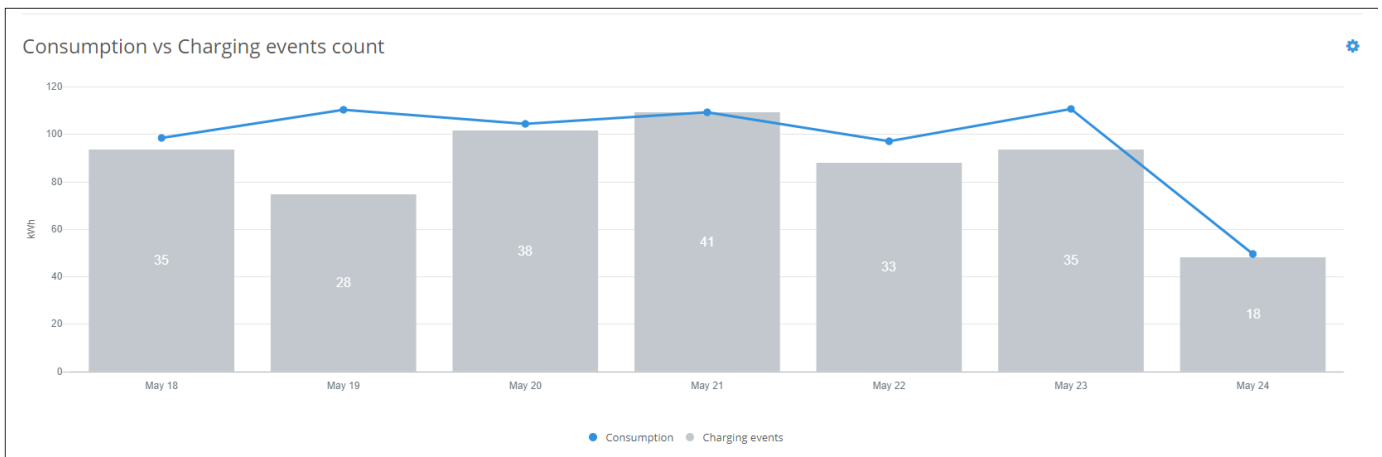
Charging groups

Charging groups views allows you to manage charging groups. On charging group list view, you can:

- Jump to charging group statistics view (click group name or info button at the end of line).
- Edit charging group (click the edit button).
- Add new charging group.

Charging group statistics view

On this view you can see the statistics information of this charging group, very similar than on dashboard. From this view you can jump to edit charging point group view.

Edit charging group

On this view you can:

- Change charging group name.
- Change charging group parent. Effectively that means that you move this group under some other group.
- Add charging stations to this group.
- Remove charging stations from this group.
- Delete this group. **Note!** Group to be deleted must be empty, that is, it cannot contain charging stations or subgroups. Should this group have any subgroups, they must be moved under some other group.

Add new charging group

When adding a new charging group, the only mandatory information is its name. If you do not select *PARENT GROUP*, this group will be placed right under your base group.

Charging stations

Charging stations view allows you to manage charging stations. On charging stations list view, you can:

- Add new charging station.
- Edit charging station settings (click the edit button).
- Issue remote commands to charging station (click the info button).

Add new charging station

Information to be entered:

- *CHARGING STATION NAME* : This is a free form name of the station.
- *IDENTIFIER* : This must be the same that is configured to the physical charging station. This information links this station to the physical device.
- *PARENT GROUP* : The group this station belongs to.

Charging station name vs. identifier

Note that charging station identifier **cannot** be changed after station has been created. Charging station name can be edited, if needed. That will not effect the communication between EV Manager and charging station. However, if the identifier is incorrect to begin with, charging station will have to be deleted and recreated.

Composition of identifier

Use only letters A...Z, a...z, dash '-', underscore '_' and numbers 0...9 on identifier. Forbidden characters like slash '/' will produce an error.

Charging stations inside EV Manager and out there

It should be noted that adding a charging station to EV Manager does not magically create a real device somewhere. The link between real charging station and station in EV Manager is established, when the physical device connects to backend system **with same identifier** that is configured here. After that it's possible to control and monitor the charging station.

Edit charging station (basic settings)

Edit charging station

CANCEL   SAVE CHANGES

| Basic settings | Advanced settings | Charging points |

General information

CHARGING STATION NAME

Pine Mall entry

PARENT GROUP

ACME Pine Mall

Delete this station

DELETE CHARGING STATION

CANCEL   SAVE CHANGES

On this view you can:

- Change charging station name.
- Change charging station (parent) group.
- Delete this charging station. If you delete this station, it becomes an *orphan charging station*.
- Edit charging station advanced settings. For advanced settings, see charging-station-advanced-settings.

Note

Only admin operators can edit charging stations.

Edit charging station (advanced settings)

Basic settings	Advanced settings	Charging points

🔍 Search for advanced settings

CELLID

0

REFRESH CONFIGURATION 🔄

WELDCHECK_2

0

DLMPHASE3LIMIT

16

STOPTRANSACTIONMODEUNPLUG

0

ENERGYMANINPUTPOWERCURRENTLIM_2

16

APNUSERNAME

0

On this view you can edit charging station advanced settings. Before you edit settings, you must *REFRESH CONFIGURATION*. This gets the current settings from the charging station.

Notes:

- Grayed settings are *read-only* settings. Their values cannot be changed.
- Invalid settings may cause charging station to malfunction. Do not change these settings, if you are not sure what they do.
- Most of the configuration keys are vendor specific.

Edit charging stations (Charging points)

On this view you can define socket types for charging points. Here, one charging point can have at maximum 4 sockets (usually it has 2 or 1). Socket definitions do not serve any functional purpose. They are only information for operators.

Issue remote commands to charging station

On this view you can:

- Jump to Edit charging station settings
- *RELEASE CABLE*, this releases charging cable from the charging station.
- *STOP CHARGING*, or alternatively *START CHARGING* depending on charging station *Status*.
- Send remote commands to the charging station. Commands can be found by clicking the small gearwheel image at *Charging points* box:
  - *Clear cache* : clears charging station RFID cache.
  - *Soft reset* : restarts charging station application.
  - *Hard reset* : restarts the whole charging station.
  - *Set available* : sets charging station available for charging (enable).

- Set unavailable : sets charging station unavailable for charging (disable).
- Refresh configuration : Fetches the latest configuration settings from the charging station. This command can also be issue from charging station settings view.
- Firmware update : Updates charging station firmware. See the note below.
- Get diagnostics : Fetches diagnostics from charging station. See the note below.

Firmware update and Get diagnostics

Firmware update and *Get diagnostics* require very specific information about servers that are used in conjunction with EV Manager. Please, contact Ensto for more details (https://www.ensto.com/support/service-request/)

View charging station events

On this view you can browse charging station events. Charging station sends a *StatusNotification* message to central system when something notable happens. Each event contains following data fields:

- Info : Additional information to notification message.
- Charging point : Charging point ID. Number zero refers to whole charging station and non-zero number refers to a single charging point.
- Status : Charging station or charging point status, defined by OCPP standard.
- Error type : Type of error (including no error), defined by OCPP standard.
- Date & time : Date and time of the event occurrence.

Charging station statistics
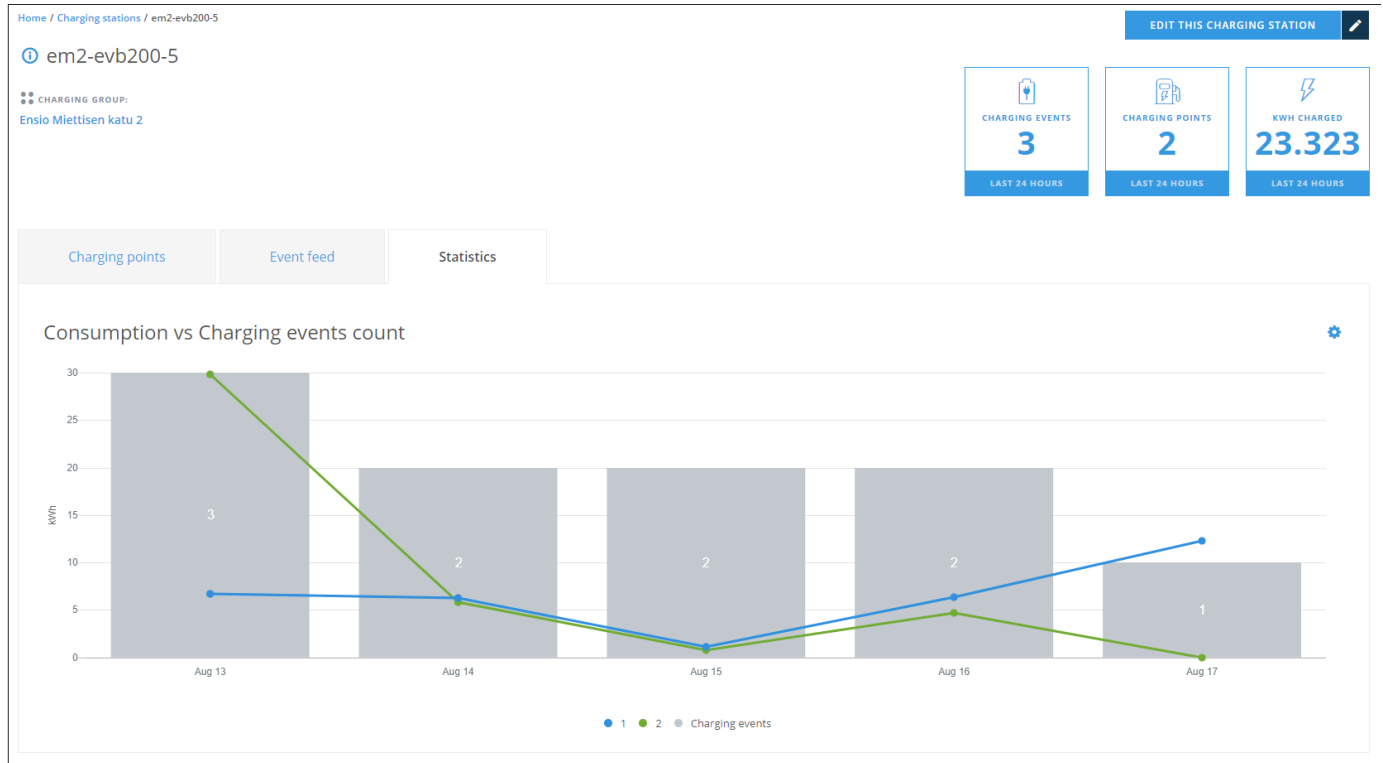
On this view you can examine charging station usage statistics. For statistics you can select 7 or 30 days time span.

Operators

On this view you can:

- Browse and search for operators.
- Edit operator information (click the edit button).
- Invite new operator.
- Resend invitation e-mail to operator (click the send button).

> **Note**
>
> This view is available only for admin operators.

Edit operator information

On this view you can:

- Edit operator information.
- Set operator status to *Active* or *Inactive*. Inactive operators exist in the system but they cannot log in.
- Send a reminder e-mail to operator. Reminder can be sent only if the operator has not activated his account yet.
- Send an e-mail to operator to reset his password.
- Set operator permission level.
- Delete operator.

Invite new operator

Dashboard

Charging groups

Charging stations

Operators

Charging users

Reports

Log out

Invite new operator

CANCEL   SEND INVITATION

E-MAIL ADDRESS

CONFIRM E-MAIL ADDRESS

USERNAME

FIRST NAME

LAST NAME

Permissions

○ Admin operator
All permissions

⦿ Basic operator
Limited permissions

CANCEL   SEND INVITATION

On this view you enter the new operator information and send an invitation e-mail to the operator.

Charging users

On this view you can:

- Browse and search for charging users.
- Edit charging user information (click the edit button).
- Add new charging user.

Edit charging user

In this view you can edit charging user information. Basically it is the same as add new charging user, except that you cannot modify e-mail address and RFID token ID's.

Add new charging user

On this view you can add new charging user information. Description of fields:

- *Access rights* : Charging stations that user is allowed to use.
  - *Charging groups* : User is allowed to use all charging stations that belong to selected groups.
  - *Charging stations* : User is allowed to use selected charging stations.
- *Authentication tokens* : RFID tokens, which are used to identify the user at the charging station. The number of tokens per user is unlimited.
  - *TOKEN (RFID)* : RFID token ID. A unique ID code that charging station reads from the token.
  - *TOKEN NAME* : A friendly name of the token (e.g. *Workplace token*).
  - *TOKEN VALID FROM* : The date from which the token will be valid (usable).
  - *TOKEN VALID TO* : The end date of token validity.
  - *TOKEN VALID INFINITELY* : Token has no validity end date.
  - *DELETE TOKEN* : Deletes the token. See the note below.

Note

Only admin operators can delete (RFID) tokens.

Reports

On this view you can generate screen or CSV reports of energy consumption statistics of selected charging points and tokens. Description of fields:

- *FROM* : Starting date of report.
- *TO* : Ending date of the report.
- *Select charging points* : Charging points to be included to the report. At least one charging point must be included.
- *Select tokens* : (Charging user) RFID tokens that will be included to the report. If no tokens are selected, all charging events are included, including free charging events.
- *EXPORT CSV* : Generates (and downloads to your browser) a CSV based report file.

How to generate a report

- Select starting and ending dates for report.
- Select charging stations to be included to the report.
- Select RFID tokens to be included to the report.
- Click *SHOW DATA*, now you see the report data on screen.
- Click *EXPORT CSV*, now you get the CSV formatted report downloaded to your browser.
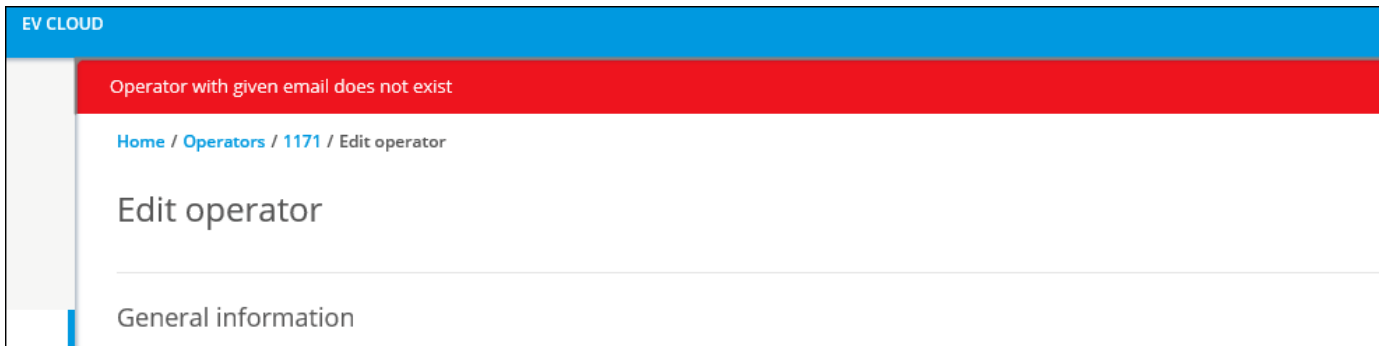

Sometimes it takes time...

If you generate a report with large number of charging stations and/or charging users and use a long time range, report generating might take some time.

Log out

Log out from the system. When you log in, the session is valid for 2 hours, that is, after 2 hours you will have to log on again whether or not you have been active with the system.

Error messages

This section describes all error messages the system can emit.

An example of an error message.

Error message	Context	Description	Remedy (if any)
Error #XX encountered. If this error persists, please consult user manual for further actions.	All	System error. Please refer instructions after this table on how to proceed.[(1]	
Operator with given email does not exist.	*Edit operator*	If you try to execute *RESET PASSWORD* on *Edit operator* view and someone else has changed operators email address just before you execute the command, you will have this error.[(2]	Exit *Edit operator* view, refresh page and re-edit the operator.
Invalid charging station identifier.	*Add new charging station*	Charging station identifier contains forbidden characters. Do not use special characters in identifiers. Avoid characters like slash, backslash, colon, etc. Minus sign (-) and underscore (_) are allowed.	
Identifier contains forbidden characters.			
Charging station already exists for that identifier.	*Add new charging station*	Duplicate charging station identifier. Identifiers must be unique within organization.	Check that the identifier is spelled correctly. If so, locate the already existing charging station and see if it has misspelled identifier.
Charging point configuration error.	*Edit charging station (Advanced)*	Setting or reading charging station configuration parameter failed.	Check that the value you are providing, is correct. Note that invalid values on configuration can cause unpredictable results.
Token already exists.	*Edit charging user*	You tried to add a duplicate RFID token for user. Tokens must be unique.	
Remote command execution failed.	*Charging station remote commands*	Charging station responded with error to remote command.	Retry.
Operator is inactive.	*Log in*	Operators status has been set to *Inactive*. Operator cannot log in until status is set to *Active*.	Operator must be set active from *Edit operator* page.
Operator is not active.			
Access denied.	All	Current operator does not have permissions to perform the action at hand. For example, admin operator has permissions that basic operator does not.	

Wrong credentials.	*Log in*	Operators log in credentials do not exist or are misspelled.	Check your credentials.
Error while updating operator.	*Edit operator*	Editing operator information failed.	Retry.
Adding a new charging user failed.	*Add new charging user*	Transient problem with adding a new charging user.(3	Retry.
Charging user updating failed.	*Edit charging user*	Transient problem with saving charging user information changes.(3	Retry.
Adding a new group failed. Parent group is required.	*Add new charging group*	When basic user is adding a new group, parent group is required.	
Charging station deletion failed.	*Edit charging station*	Transient problem with deleting charging station.(3	Retry.
Charging station does not exist.	*Edit or view charging station*	Charging station does not exist in operators environment. It may have been moved or deleted by some other operator.(2	Exit current view, refresh page and retry.
Username already exists.	*Add new charging user*	Duplicate username. Usernames must be unique.	
Password does not conform to password policy.	*Change operator password*	Very likely the new password is not complex enough. Try longer password or add special characters or numbers to it.	Try more complex password.
Problem with email address.	*Invite new operator or edit operator*	Some problem with email address when inviting a new operator, sending a reminder to operator or resetting password.	Try again after a while or try with a different email address.
Operator not found.	*Invite new operator or edit operator*	Can happen when inviting new operator or changing operator status (active or inactive).(2	Exit current view, refresh page and retry.
Operator access forbidden.	All	Can happen when operator is modifying resources (s)he does not have permission to. One case might be, when someone demotes you from admin to basic operator while you are modifying some resources which require admin operator permissions.(2	Retry.
Charging user not found.	*Add new charging user, edit charging user*	Can happen when some other operator is modifying the same charging user as you are.(2	Retry.
Operator invitation failed.	*Invite new operator*	Transient problem with new operator invitation.(3	Retry.

1) Should you encounter this kind of error message, try again a few times whatever function caused the error. If the error persists, please fill in a service request form (https://www.ensto.com/support/service-request/).

To your feedback, attach at least the following information:

- Your contact information
- Date and (approximate) time of the incident
- What was tried to do
- Error number
- Other mentionable factors, if any

2) *Concurrent modification problem* may emerge if someone else is modifying the same resources (operator, charging user, charging station, charging group) simultaneously. These cases are very rare and they are usually 'fixed' by refreshing the view.

3) Transient problems can be caused by myriad different sources inside or outside system. Well designed and implemented systems are resilient to these kinds of problems. They only cause minor discomfort.