



QPS Web App Manual

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Prelude

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Purpose of the manual

The purpose of this manual is to provide guidelines for the users who use Enequi's 'QPS Web App' for controlling and monitoring Enequi's QuiPower storage. This manual is same for all kinds of QuiPower Storages, namely QuiPower Storage Indoor, QuiPower Storage Outdoor, QuiPower Storage Module, that are purchased from Enequi.

For safe operation, it is compulsory to read this manual before connecting the user's device (Mobile or PC) to QuiPower Storage.

About the app

The app that is addressed in this manual provides remote access to QPS. So, a user can directly access QPS from anywhere, instead of going to the place where it is located. This app is portable that could be accessed via Mobile or Tablet or PC and is available in Google Play and App Store.

Download links:

Google Play:

<https://play.google.com/store/apps/details?id=se.enequi.netzon.enequi&gl=SE>

App Store:

<https://apps.apple.com/se/app/enequi/id1427309068>

Web link:

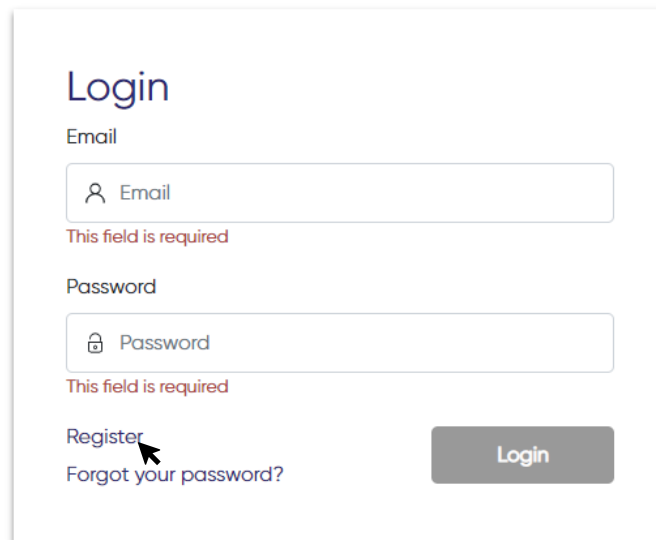
<https://portal.enequi.com/login>

1. Login Page

The web interface for the app can be accessed using the following link:

<https://portal.enequi.com/login>

The link mentioned above directs the user to the login page as shown in Figure 1.



The screenshot shows a login form with the following elements:

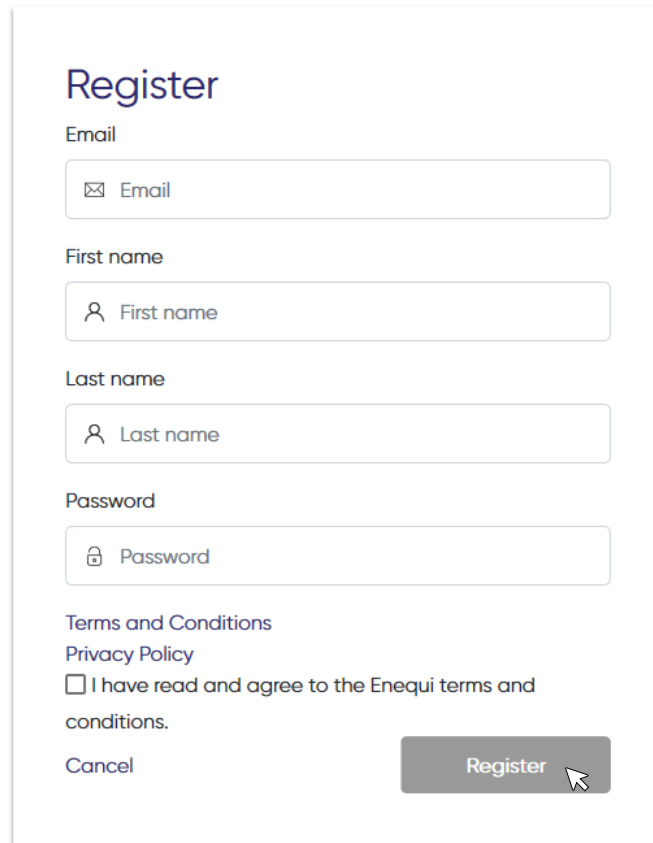
- Title:** Login
- Email Field:** A text input field with a placeholder 'Email' and a red error message 'This field is required' below it.
- Password Field:** A text input field with a placeholder 'Password' and a red error message 'This field is required' below it.
- Links:** 'Register' (with a mouse cursor pointing to it), 'Forgot your password?', and a 'Login' button.

Figure 1: Picture showing the login page of the app

A new user can register by clicking on 'Register' as shown in Figure 1. The 'Register' page is as shown in Figure 2. The user can register by entering his/her Email, First name, Last name, and Password. After entering the correct information, the 'Register' button should be pressed.

The email and the password entered in the registration page should be used to log into the app. In case if the user forgot the password, it could be recovered by using the option *Forgot your password?* as shown in Figure 1.

After logging into the app, the user is directed to the 'QPS' section of the main navigation bar, see section 2.1.



The image shows a registration form titled "Register". It contains the following elements:

- Email:** A text input field with an envelope icon and the placeholder text "Email".
- First name:** A text input field with a person icon and the placeholder text "First name".
- Last name:** A text input field with a person icon and the placeholder text "Last name".
- Password:** A text input field with a lock icon and the placeholder text "Password".
- Terms and Conditions:** A link labeled "Terms and Conditions".
- Privacy Policy:** A link labeled "Privacy Policy".
- Agreement:** A checkbox followed by the text "I have read and agree to the Enequi terms and conditions."
- Buttons:** A "Cancel" button on the left and a "Register" button on the right. A mouse cursor is pointing at the "Register" button.

Figure 2: Picture showing 'Register page'.

2. Main navigation bar

The main navigation bar consists of QPS, Profile and Logout sections.

2.1 QPS

The QPS section shows the list of QPSs that are linked to the account. If there are no QPSs linked then the list would be empty, see Figure 3. A QPS can be linked to an account by click on 'Add New QPS' button, see Figure 3. Clicking this button directs the user to 'Create new QPS' page, where a user can enter Serial Number, QPS Name and QPS location, see Figure 4.

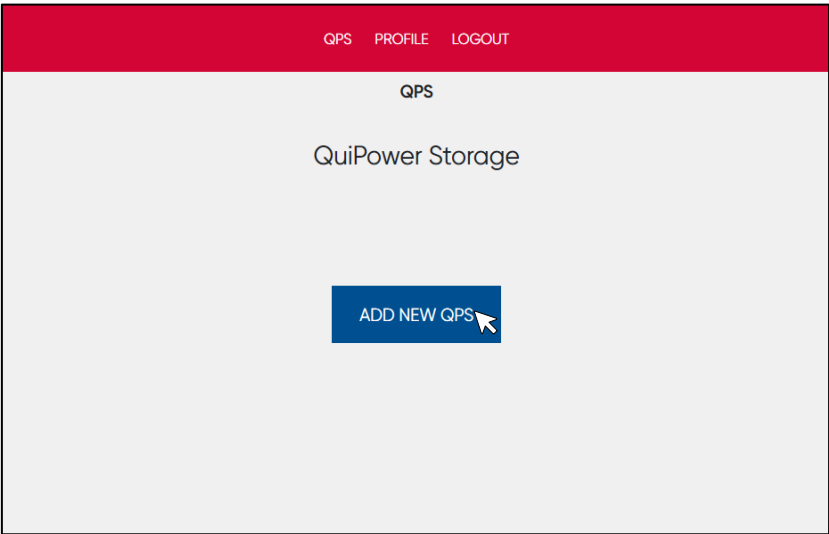


Figure 3: QPS section

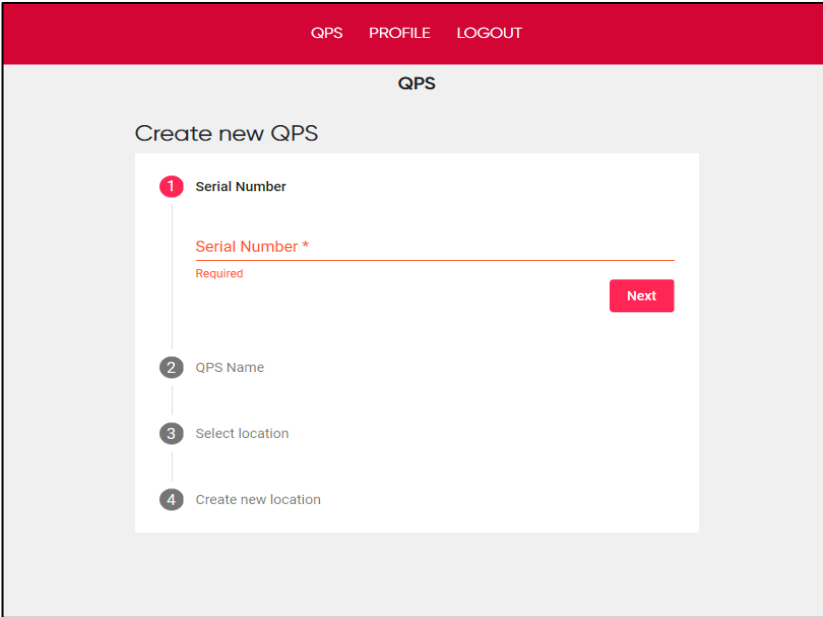


Figure 4: Create new QPS section.

However, If there is already one or more QPSs that are added to the account, then the QPS section appears as shown in Figure 5. To access the QPS data and to set commands, a user can choose a QPS among the list, by simply clicking on any QPS option.

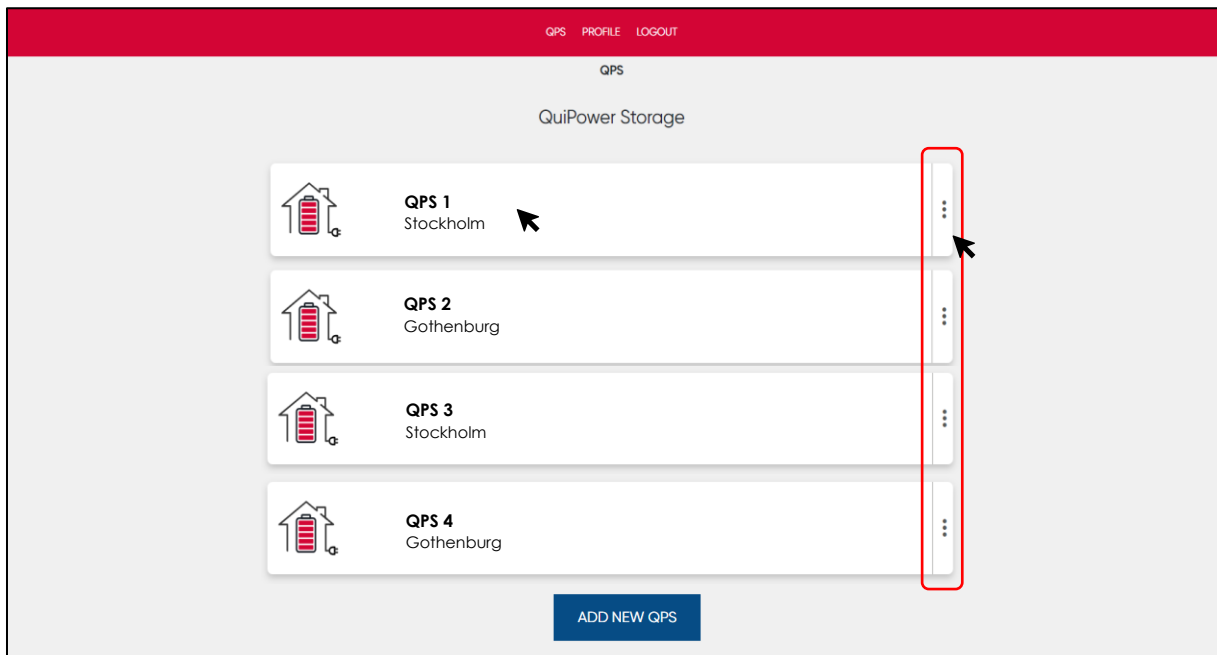


Figure 5: QPS section with 4 QPSs

A user can click on the dot symbols, of any QPS, indicated with a rectangle in Figure 5, to see the details of a particular QPS. The QPS details include name of the QPS, Serial number and System Name as shown in Figure 6. It can also be observed from this figure that QPS 1 and QPS 3 are grouped, this is since that these two QPSs have the same location name.

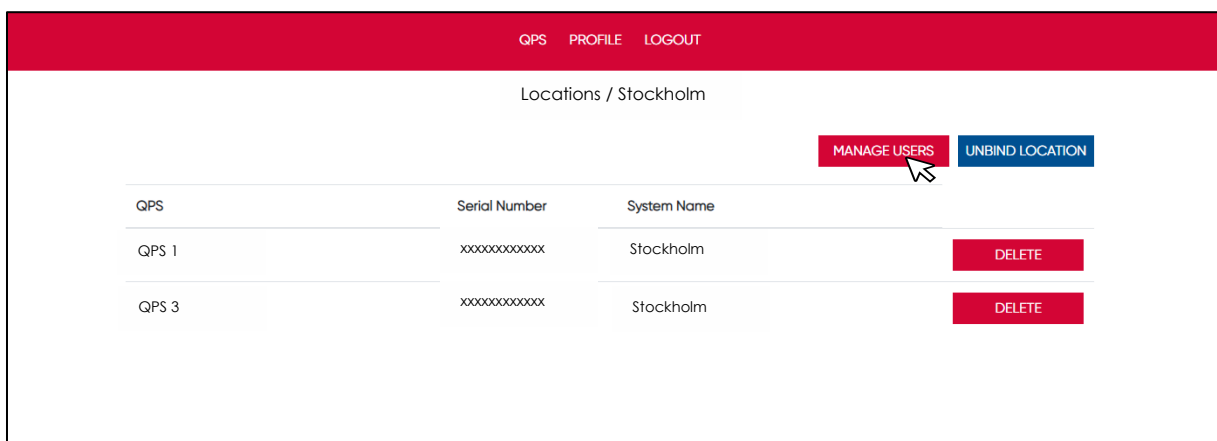


Figure 6: QPS details

2.1.1 Sending location invitations

When a new QPS is added, by a user, as mentioned in section 2.1, that particular user will be automatically added, as an Admin, in the 'Manage Users' section (can be accessed by clicking on the 'MANAGE USERS' button), se Figure 6. User 1 can invite another user, for example User2, by using 'Add New User' button, se Figure 7.

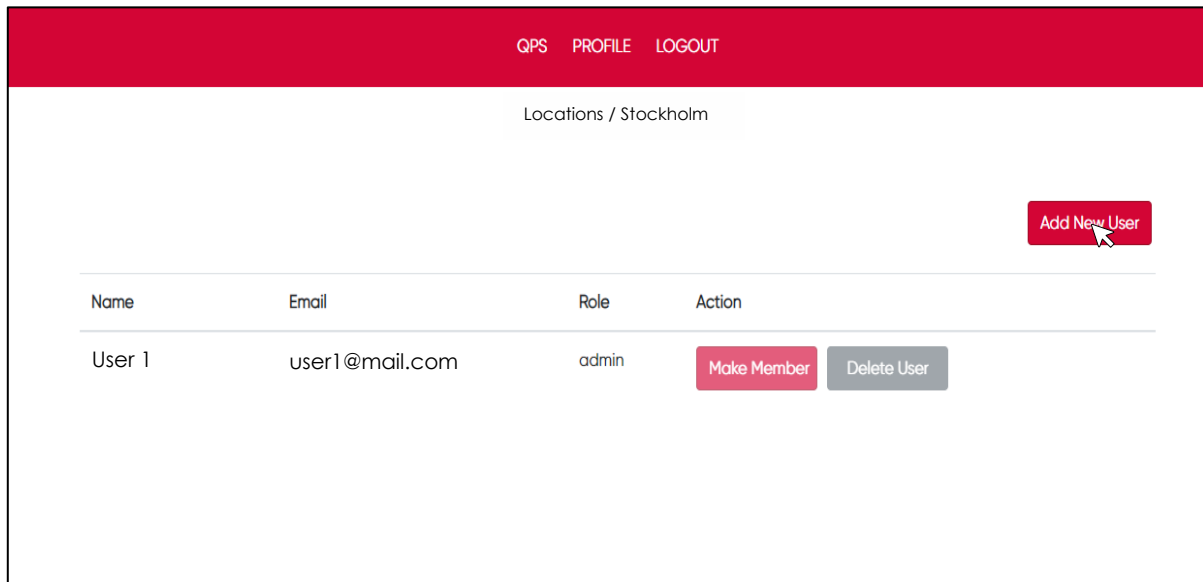


Figure 7: Manage Users section

An invitation can be sent to User 2 by entering his/her email address and role. If User 1 wants to be as the Admin then User 2 shall be the member and vice-versa, see Figure 8.

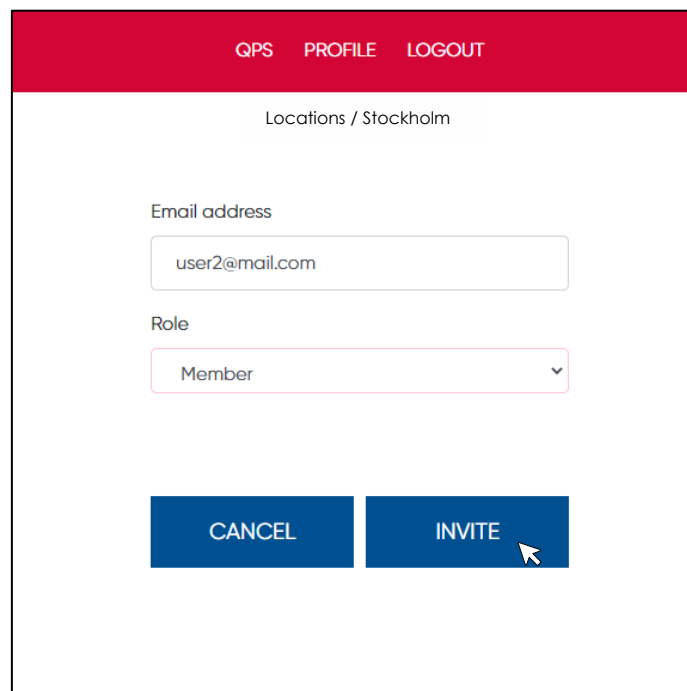


Figure 8: Add New User

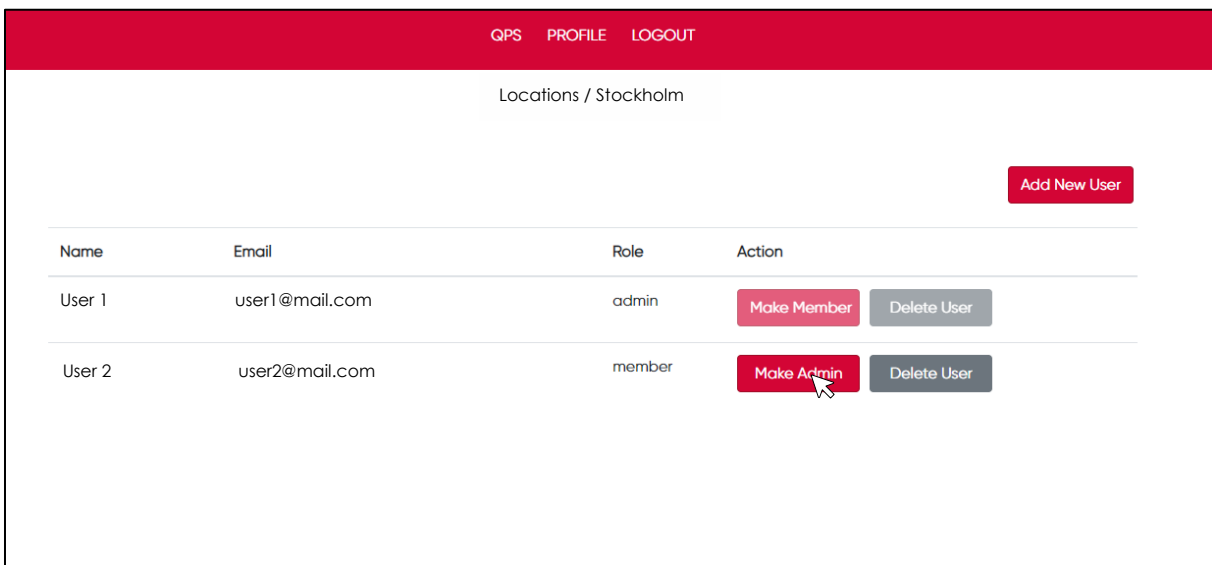
2.2.2 Accepting location Invitations

User 2 can accept the invitation sent by User 1 by clicking on 'View Invitations' button, which can be found in Profile section, see Figure 11. Now User 2 can access the QPS of User 1. If User 1 has more than one QPS in the same location, as shown in Figure 5, then User 2 gets access to all the QPSs that exist in the location shared by User 1. For example, if User 1 sends the invitation for QPS 1, then User 2 can access both QPS 1 and QPS 3, as they belong to the same location (Stockholm). Apparently, User 2 cannot access QPS 2 and QPS 4 since they belong to location 'Gothenburg'.

2.2.3 Making Member as an Admin

As explained in Section 2.1, by clicking on the dots symbol shown in Figure 5, User 1 can see the user list who have access to that QPS, for example QPS 1. Also, if there are other QPSs that share the same location as QPS 1, QPS 3 in this case, then the users who have access to QPS 3 will also appear in this list.

It is up to the Admin to whom he/she wants to transfer the Admin privileges to. In Figure 9, User 1 is already Admin, however he/she can transfer his/her Admin privileges to User 2 by clicking on 'Make Admin' button in User 2's row. After clicking this button User 1 loses the privilege to make anyone an Admin or a member, since he/she is not an Admin anymore. However, as User 1 is just a Member now, yet he/she can make a new person as an Admin or a member by using 'Add New User' button.



Name	Email	Role	Action
User 1	user1@mail.com	admin	Make Member Delete User
User 2	user2@mail.com	member	Make Admin Delete User

Figure 9: QPS 1 user list for User 1

The user list in User 2's account for QPS 1 now will appear as shown in Figure 10. Now it is up to User 2 to continue as an Admin or make User 1 as Admin instead.

QPS PROFILE LOGOUT			
Locations / Mölnd...			
Name	Email	Role	Action
Manoj Saladi	mansal@gycom.com	member	Make Admin Delete User
Manoj Saladi	manojсалadi.49@protonmail.com	admin	Make Member Delete User

Figure 10: QPS 1 user list for User 2

2.2 Profile

This section shows the user's profile from both User 1 and User 2 perspectives. The information shown is the location and numbers of QPSs installed. Considering the scenario shown in Figure 5, User 1's number of locations will be 2 and QPSs will be 4, se Figure 11. Apparently, User 2's number of locations will be 1 and QPSs will be 2, since User 1 has only shared the QPSs that are located in Stockholm (i.e QPS 1 and QPS 3), se Figure 12.

QPS PROFILE LOGOUT	
Profile	
User 1	
user1@mail.com	
2	4
Location	QPS
View Invitations	

Figure 11: Profile section of User 1

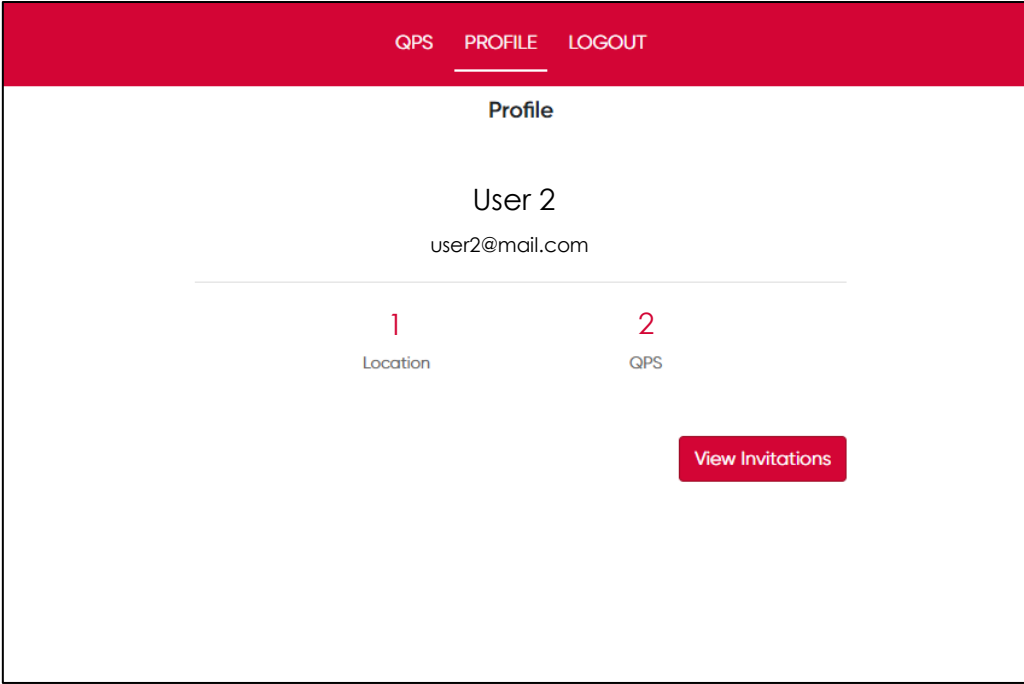


Figure 12: Profile section of User 2

If there are any invitations to be accepted, it could be done by clicking on 'View Invitations' button. More about this function is explained in section 2.2.2.

2.3 Logout

This section shows the dialog to logout from the app

3. QPS Navigation bar

In the app, users can see the QPS navigation bar which consists of the following sections:

- Overview
- Power & Energy
- Commands
- Settings
- PBS
- Alarms
- Profile
- Logout

Each element above, either consist of entries to be filled in by the user or a visualization which shows the data monitored by the QPS. The description of the above-mentioned sections is provided in the following sections.

3.1 Overview

This section in the navigation bar shows the real time data for the following:

1. Power being taken from the grid in Watts.
2. Power being produced by the solar panels in Watts.
3. Power being sold to grid in Watts.
4. Power being consumed in Watts.
5. Power Consumption by Car 1 & Car 2 in Watts

See Figure 13, the lines in the figure are dynamic which indicate the power flow.

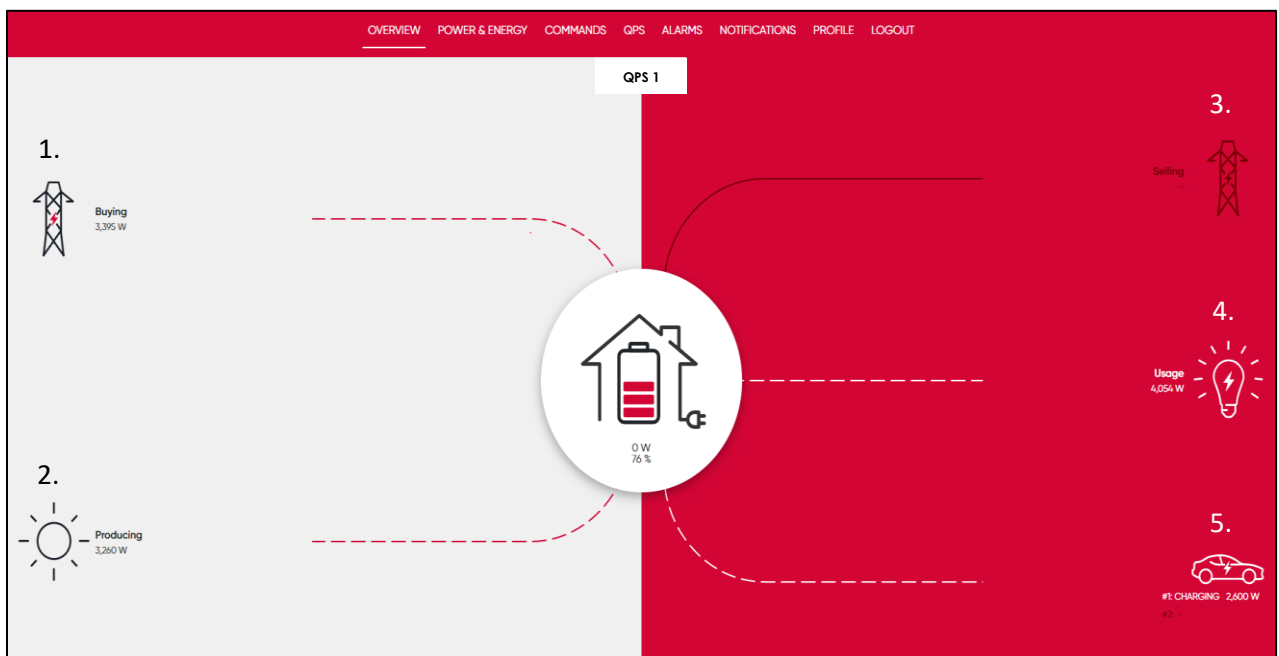


Figure 13: Overview section

3.2 Power & Energy

This section of the navigation bar consists of the plots for the visualizations mentioned in Section 0. In other words, this section serves as a data log for these visualizations. All the data is

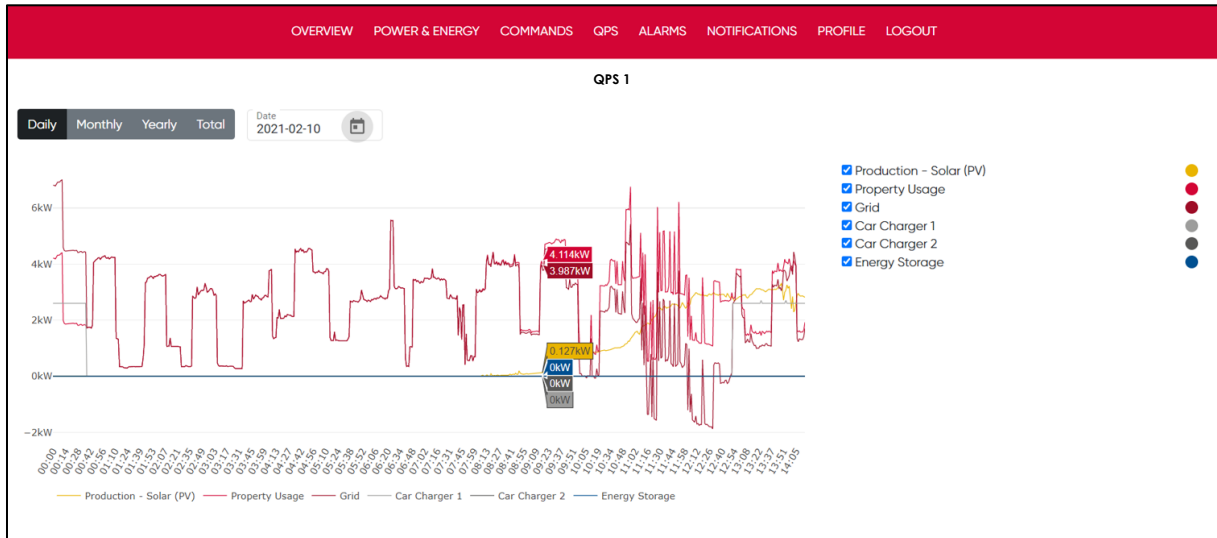


Figure 14: Power & Energy section

logged at regular intervals of time. The sample of the daily data log on 10th Feb of 2021 is shown in Figure 14. User can see/ unsee a curve by checking/unchecking the options on the right side of the page. The power values, in numbers, at any time instant can be seen by hovering the mouse (in case of PC's) or by touching the screen.

Like daily plot, a plot for month can also be seen by selecting the 'Monthly' tab as shown in Figure 15. Furthermore, the user could also see yearly and total plots.

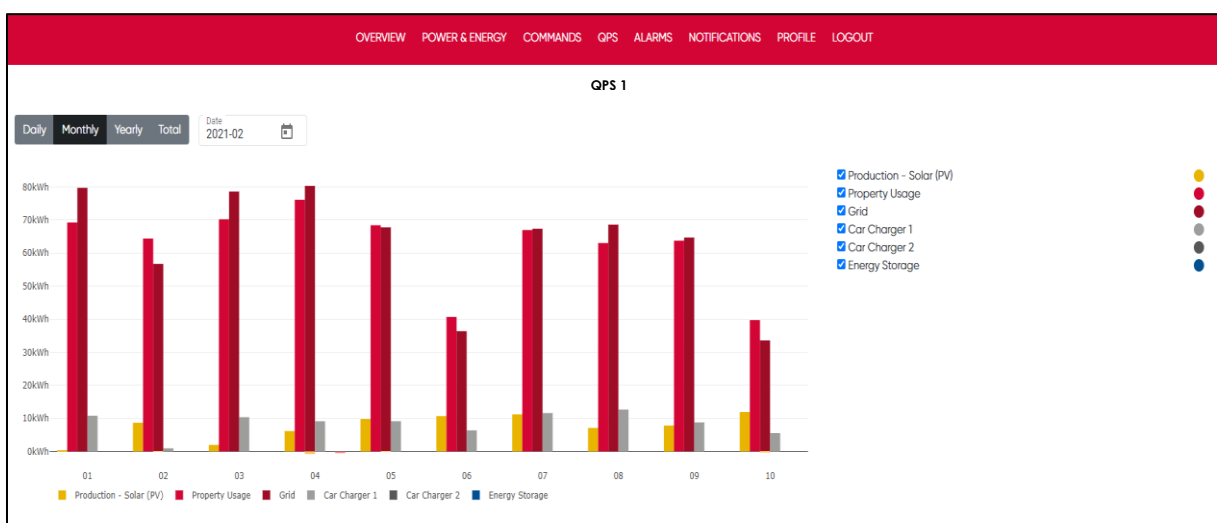


Figure 15: Monthly Power & Energy values

3.3 Commands

Enequi's app facilitates the user to control some of the settings of the QPS remotely. These settings are available in the 'Commands' section of the navigation bar. It should be noted that the app provides access to only some of the settings while the rest should be accessed directly from the screen of the QPS. However, the settings that cannot be changed from the app are the ones that are not changed often.

The settings that are available to change in the Commands component of the navigation bar are as follows:

- Current Limit. (Car 1)
- Automatic charging process. (Car 1)
- Charging station available. (Car 1)
- Current Limit. (Car 2)
- Automatic charging process. (Car 2)
- Charging station available. (Car 2)
- Power peak priority.
- Renewable energy priority.
- Premium car charging priority.
- Battery charging from grid.
- Car charging only from own production.
- Reset Alarms.
- Connect battery storage.
- Max power/phase.

Definitions:

Current Limit (Car 1): This command is used to set the charging current limit of Car 1.

Automatic charging process (Car 1): This command is used enable/disable the automatic charging process setting of Car 1.

Charging station available (Car 1): This command is used to enable/disable the Car 1 charging unit.

Current Limit (Car 2): This command is used to set the charging current limit of Car 2.

Automatic charging process (Car 2): This command is used enable/disable the automatic charging process setting of Car 2.

Charging station available (Car 2): This command is used to enable/disable the Car 2 charging unit.

Power peak priority: The main purpose of this setting is to keep the Power peak below the forecast value for each hour and act as a fuse protection for the main fuses of the installation.

The numbers that could be entered in this setting are 0 or 1 or 2. A '0' entry means that the *Power peak* shaving functionality is turned off, a '1' entry means that it is turned on and has the 1st priority. Many **power supply companies** charge the consumers, such that they must pay the price for their maximum kWh consumption in the month. This price would be substantially higher

than the rest of the consumption prices in that month. In this case, the consumer might have to pay a higher price. So, if the *Power peak* priority is set to '1', the peak demand will be met by both the grid and the renewable energy such that the consumption from the grid never crosses the forecasted value.

If the user entry is '2', then, it means that *Power Peak* is given the 2nd priority and *Renewable energy* is given the 1st priority. Apart from controlling the consumption, this setting also takes care of the battery charging, See main manual.

Renewable energy priority: A '0' entry in this setting means that the *Renewable energy* functionality is turned off.

A '1' entry means that this functionality is turned on. When the user enters '1', the QuiPower storage's main priority is to charge the battery and give the overproduction to the grid. This setting allows the user to send over produced power to the grid when the forecast is high, else it will charge the battery first. During this time, as *Peak power* setting is given the 2nd priority, it will merely act as a fuse protection for the main fuses of the installation.

If the entry is '2' then the power peak is given the 1st priority.

Premium car charging priority: The purpose of this command is to use the stored battery energy for possible car charging. The numbers that could be entered in this setting are 0 or 1. A '0' entry means that the *Premium car charging* functionality is turned off, a '1' entry means that it is turned on. This setting will automatically set to '0', if either or both *Power peak* and *renewable energy* are turned on, this is since faster car charging is not possible with *power peak* shaving or *Renewable energy* use.

Battery charging from grid: This command is used to enable/disable *Battery charging from grid* command

Car charging only from own production: This command is used to enable/disable *Car charging only from own production* command.

Reset Alarms: This command resets all the alarms.

Connect battery storage: This command is used to toggle the connect battery storage button  on the menu of the QPS.

Max power/phase: This command is used to set the maximum power per phase value.

3.4 QPS

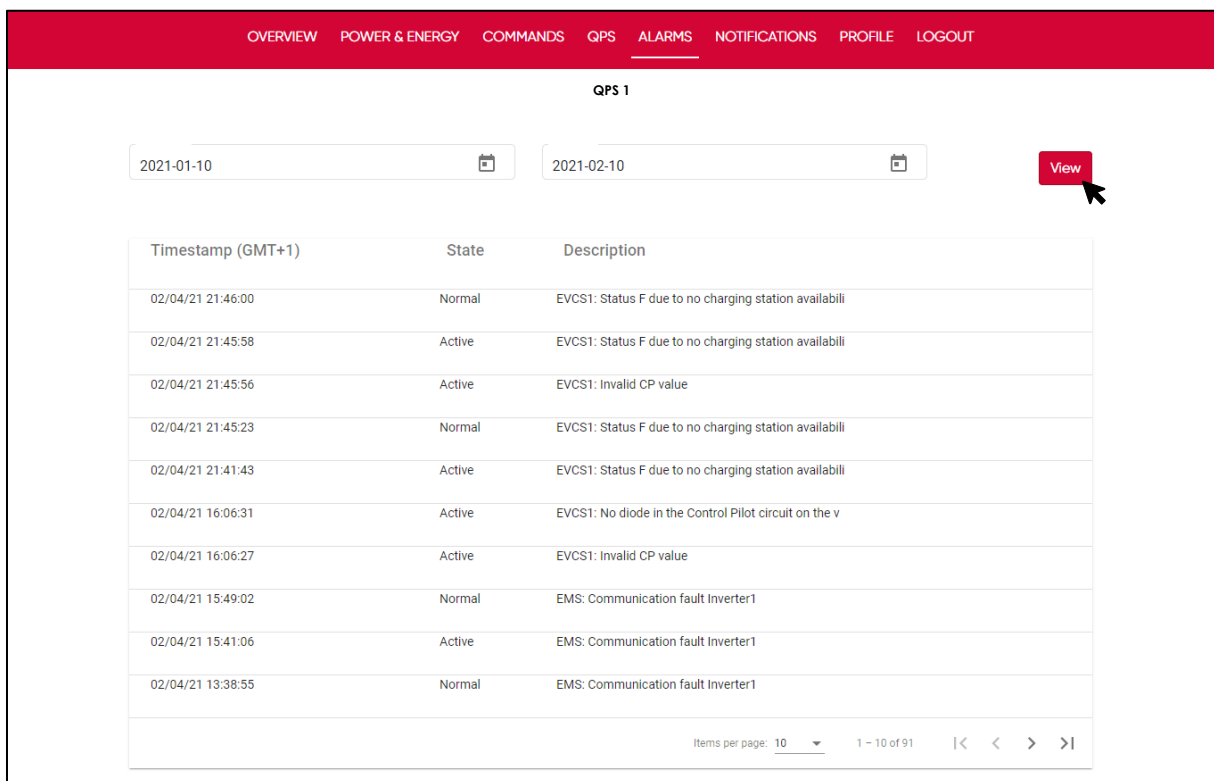
This section facilitates users to navigate between different QPSs that are present in their accounts, directly from the QPS Navigation bar instead of Main navigation bar. Detailed information about QPS section is provided in Section 2.1.

3.5 Alarms

This component provides remote access of the QPS system alarms to the user, so the user can directly see the alarms from the app instead of going to the installed QPS location.

The alarms popped up in the QPS system between 10th Jan to 10th Feb of 2021 are shown in Figure 16, where the Timestamp, State and Description of the alarms are mentioned as well.

Note: The 'View' button should be pressed to see the alarms.



The screenshot shows the 'ALARMS' section of the QPS 1 interface. At the top, there is a navigation bar with options: OVERVIEW, POWER & ENERGY, COMMANDS, QPS, ALARMS (selected), NOTIFICATIONS, PROFILE, and LOGOUT. Below the navigation bar, the title 'QPS 1' is displayed. There are two date range selectors: '2021-01-10' and '2021-02-10', each with a calendar icon. To the right of these selectors is a red 'View' button with a mouse cursor pointing to it. Below the date selectors is a table with three columns: 'Timestamp (GMT+1)', 'State', and 'Description'. The table contains 11 rows of alarm data. At the bottom right of the table, there is a pagination control showing 'Items per page: 10' and '1 - 10 of 91'.

Timestamp (GMT+1)	State	Description
02/04/21 21:46:00	Normal	EVCS1: Status F due to no charging station availabili
02/04/21 21:45:58	Active	EVCS1: Status F due to no charging station availabili
02/04/21 21:45:56	Active	EVCS1: Invalid CP value
02/04/21 21:45:23	Normal	EVCS1: Status F due to no charging station availabili
02/04/21 21:41:43	Active	EVCS1: Status F due to no charging station availabili
02/04/21 16:06:31	Active	EVCS1: No diode in the Control Pilot circuit on the v
02/04/21 16:06:27	Active	EVCS1: Invalid CP value
02/04/21 15:49:02	Normal	EMS: Communication fault Inverter1
02/04/21 15:41:06	Active	EMS: Communication fault Inverter1
02/04/21 13:38:55	Normal	EMS: Communication fault Inverter1

Figure 16: Alarm list

3.6 Notifications

The notifications section facilitates the user to receive all the alarms, that are generated by the QPS, via mail, see Figure 17.

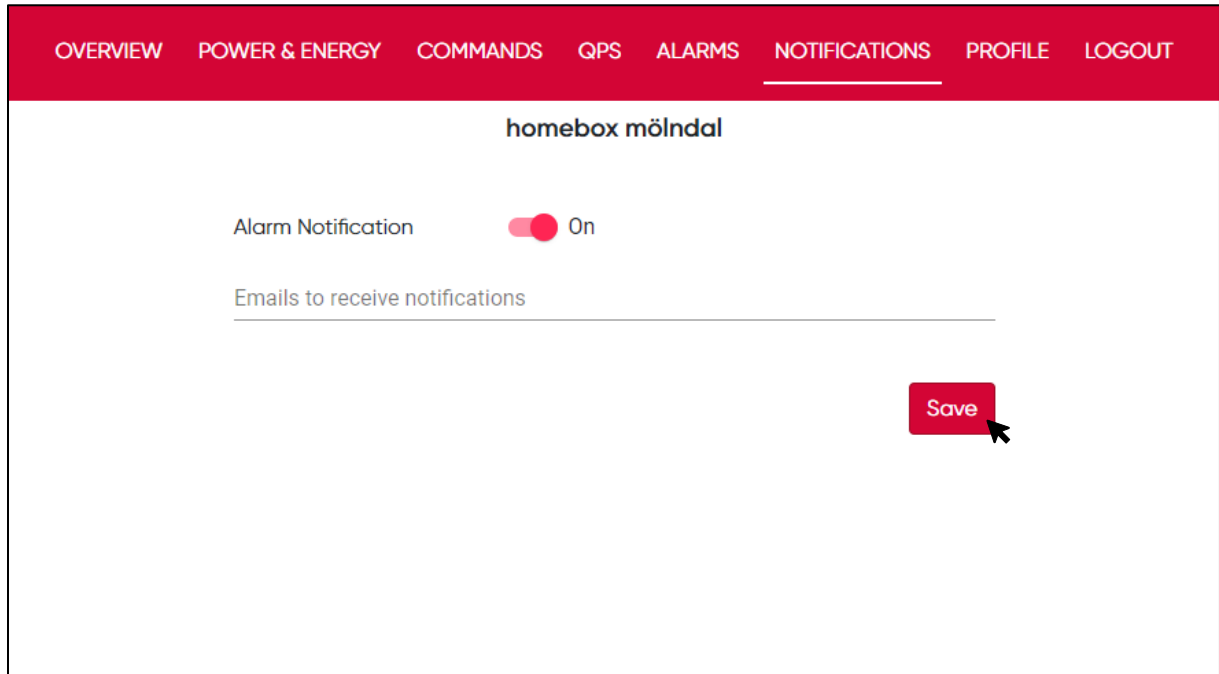


Figure 17: Notifications section

The user shall enter his/her email address and click the 'Save' button.

3.7 Profile

This section facilitates users to look into their profiles, directly from the QPS Navigation bar instead of Main navigation bar. Detailed information about Profile section is provided in Section 2.2.

3.8 Logout

This section shows the dialog to logout from the app

