EnergyEye

Software User Manual

V0.9.0

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1. Introduction

This manual provides instructions on how to use EnergyEye.

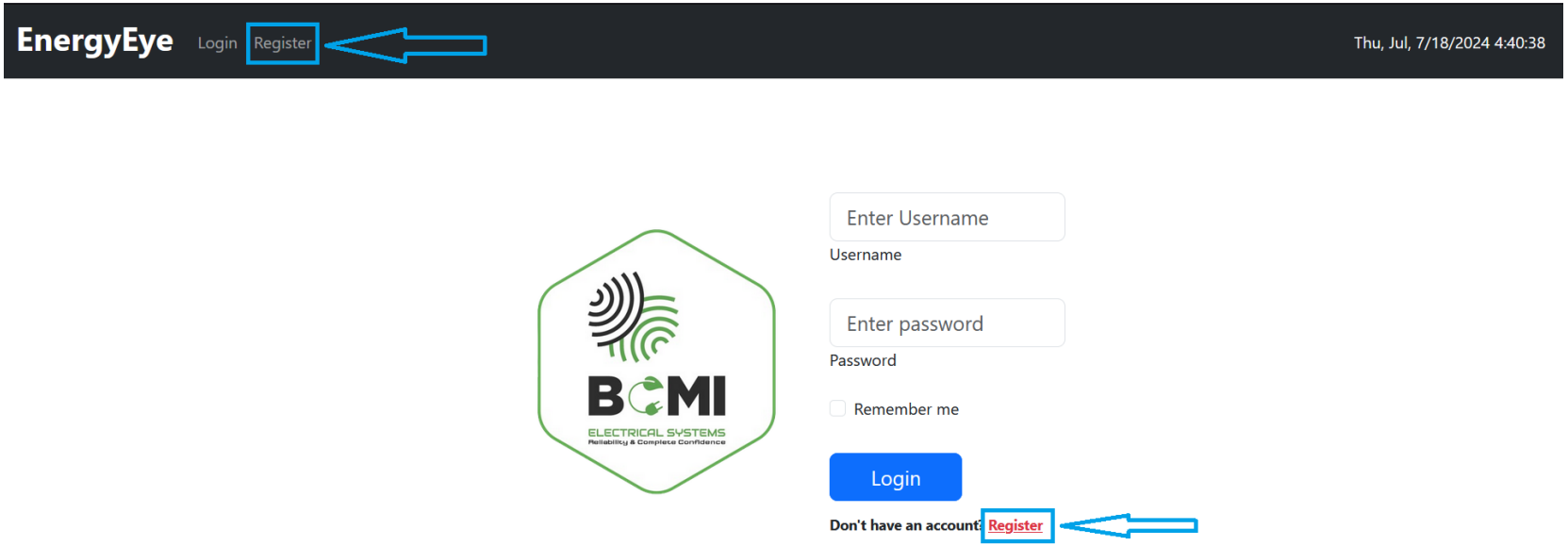
It is designed primarily for users with administrator access. Users with different access levels may encounter variations in the interface and functionality.

2. Sign-up and Login

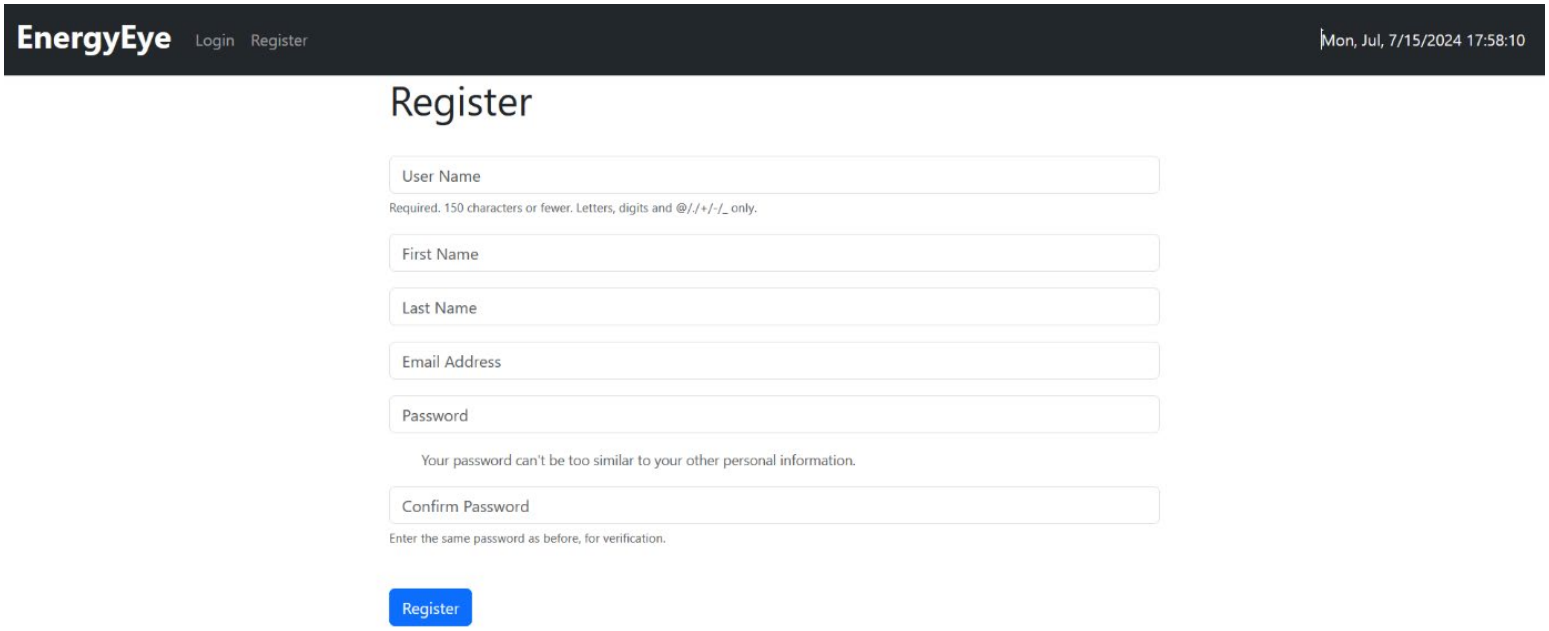
2.1 Sign-up

As a new user, you need to register to be able to use the program.

You can register in two ways: by clicking the register button at the top-left corner of the screen, or by clicking the red highlighted text.



Upon clicking the register button you will be directed to the register page



Fields are as follows: -

1. **Username:**
   Enter username that will be displayed on the website
   !!! Maximum 150 characters, Letters, digits and @/./+/-/_ only.

2. **First Name:** User first name
3. **Last Name:** User Last Name
4. **Email Address:** User Email Address
5. **Password:** Note that password most contain the following criteria:

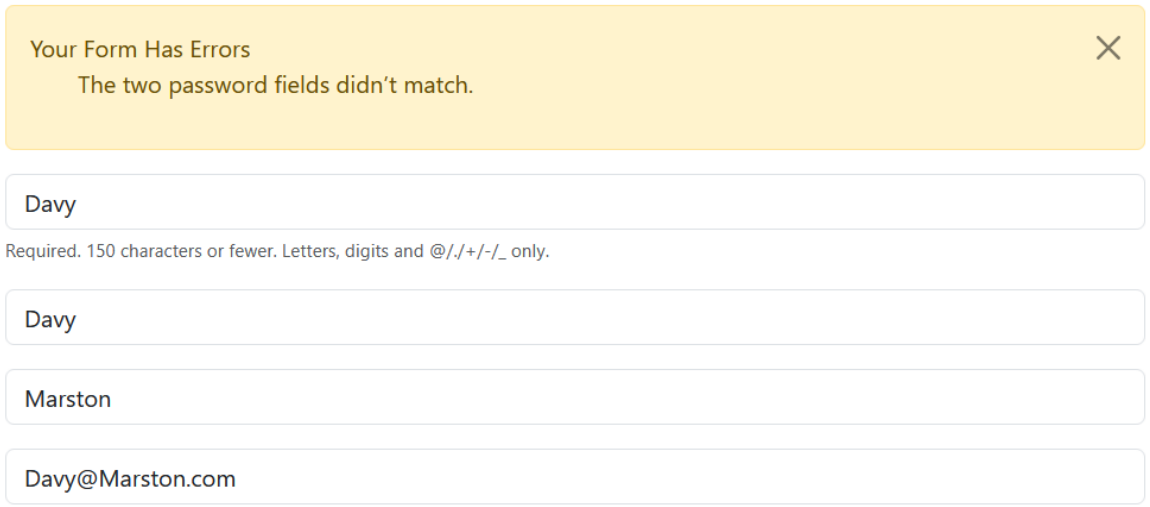
   - A password can't be too like the user's other personal information.
   - A password must contain at least 8 characters.
   - A password can't be a commonly used password.

- A password can’t be entirely numeric.

6. **Confirm Password:**
   Re-enter the password for verification

Once all the fields are filled, proceed by pressing the Register button. If any issue occurs during the registration process, a warning message will be displayed indicating the error.

Example:



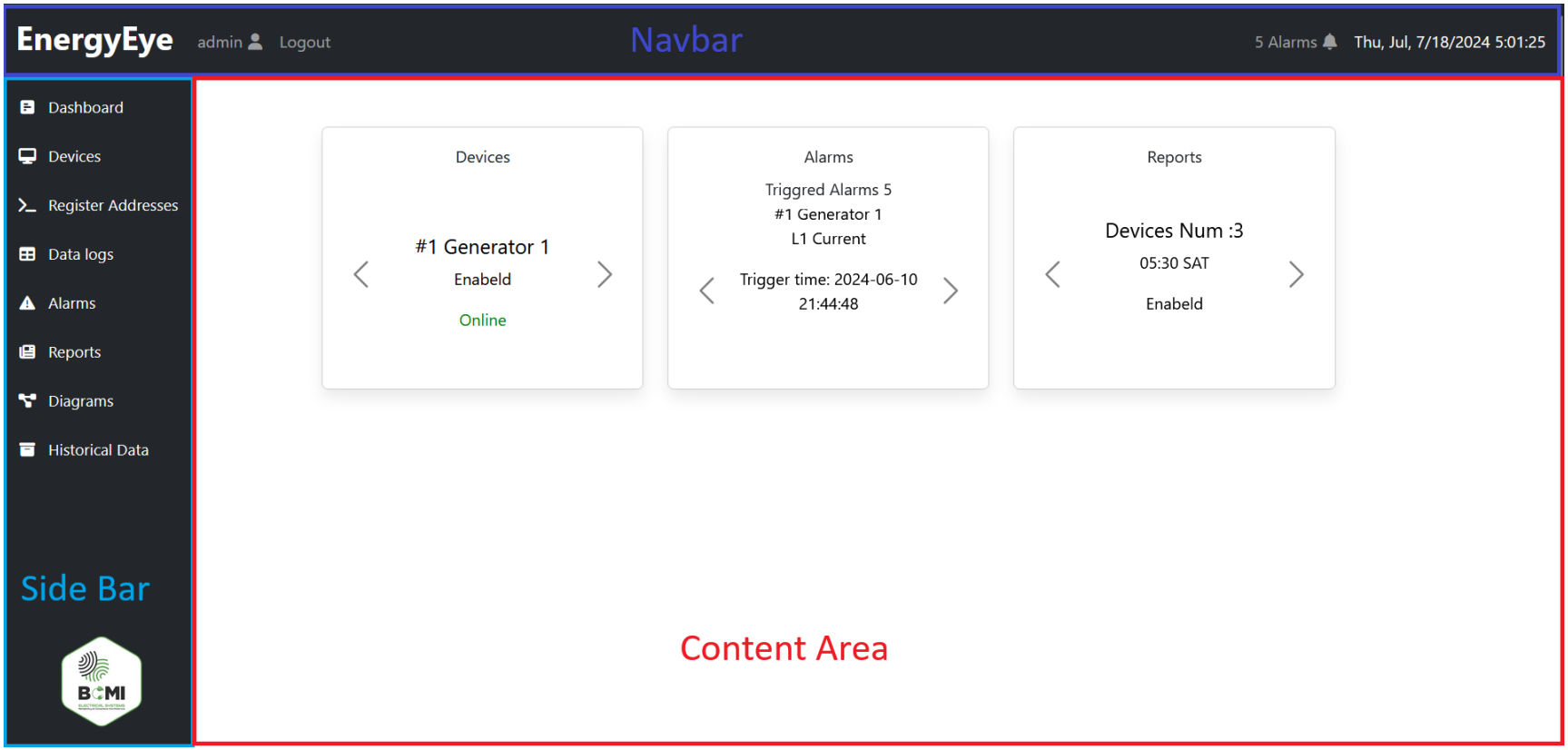
If everything is correct you will be directed to the main page.

Note All newly created users have default base privileges. If a user wants to elevate their privileges, they must contact an administrator.

2.2 Login

By default, after registering, you will be directed to the main page. If you log out, you can log back in using your default credentials on the login page. Simply enter your Username and Password.

3. Main Page



The main page is the landing page for users, it consists of 3 parts

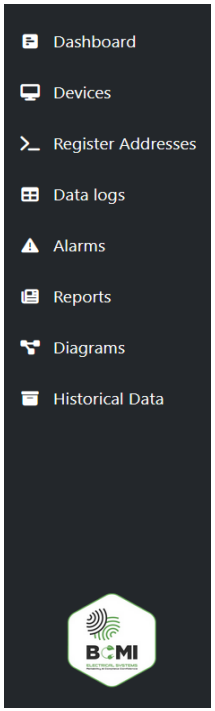
1- Navbar
2- Sidebar
3- Content area

3.1 Navbar items:

- Application name `**EnergyEye**`, (when clicked you will be redirected to the main page)
- Profile information, (when clicked you will be redirected to the user info page)

- Logout, (when clicked you will be logged out)
- Alarms which is an indication of the triggered alarms, (when clicked you will be redirected to the alarms page)
- Date

3.2 Sidebar items:



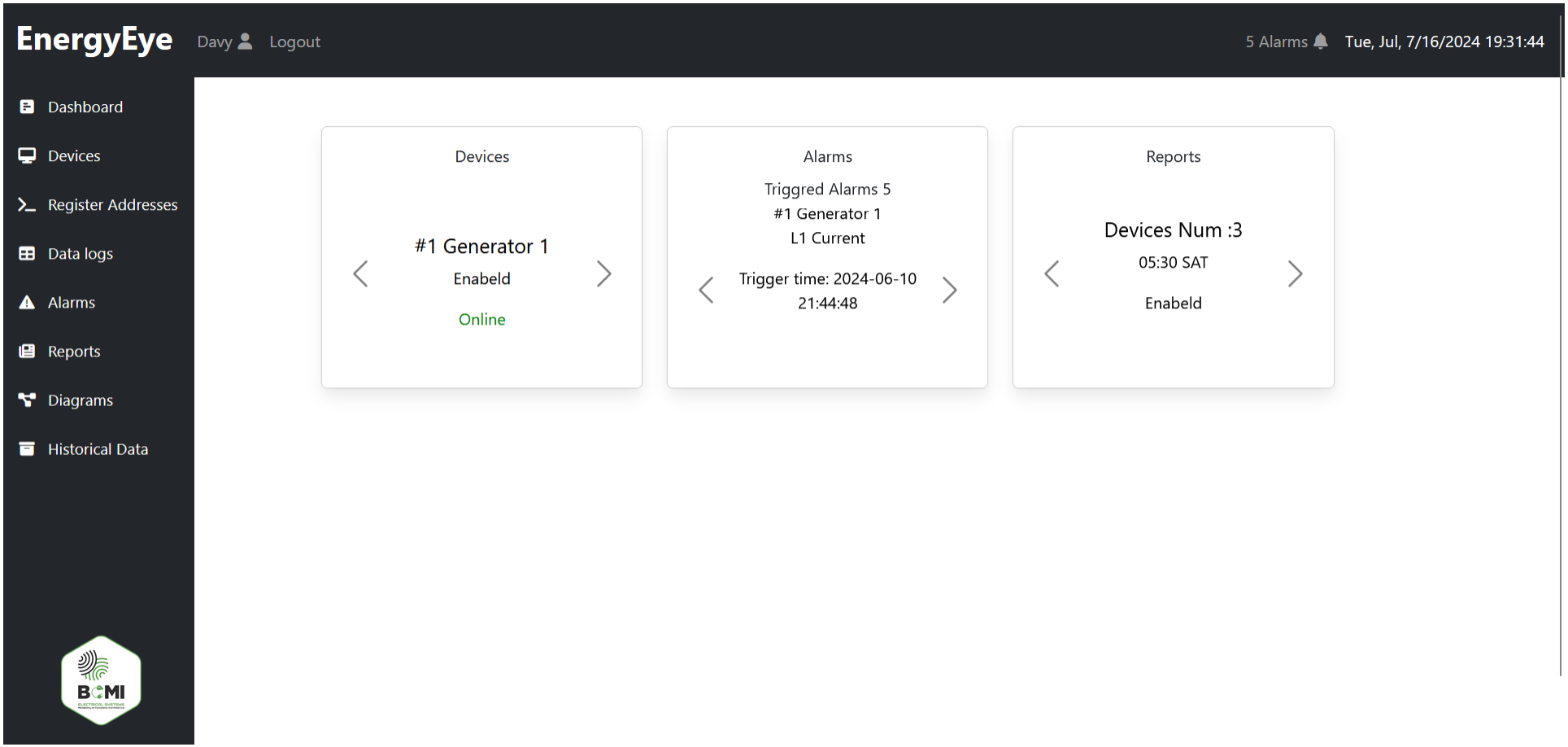
- Dashboard: (Main page)
- Devices: User can view, register, edit and delete devices
- Register Addresses: User can view, add, edit and delete devices registers
- Data Logs: User can view and download saved data
- Alarms: User can view, add, edit, reset and delete alarms
- Reports: User can view, add, edit and delete reports
- Diagrams: User can view devices in a hierarchy way, also provides live-data monitoring
- Historical data: User can access historical saved data

This is only a short brief, but each section will be explained in more detail.

3.3 Content area:

The content area is the space where each section’s content is displayed in.

4. Dashboard (Main Page)



Starting from the main page, the dashboard is simple and straightforward. It features a layout displaying available devices, alarms, and reports.

- **Devices Tab**: This tab shows the activation function, status, and name of each device.
- **Alarms Tab**: This tab displays the total number of triggered alarms and the time of the trigger.
- **Reports Tab**: Like the previous tabs, this section allows you to view and manage report options.

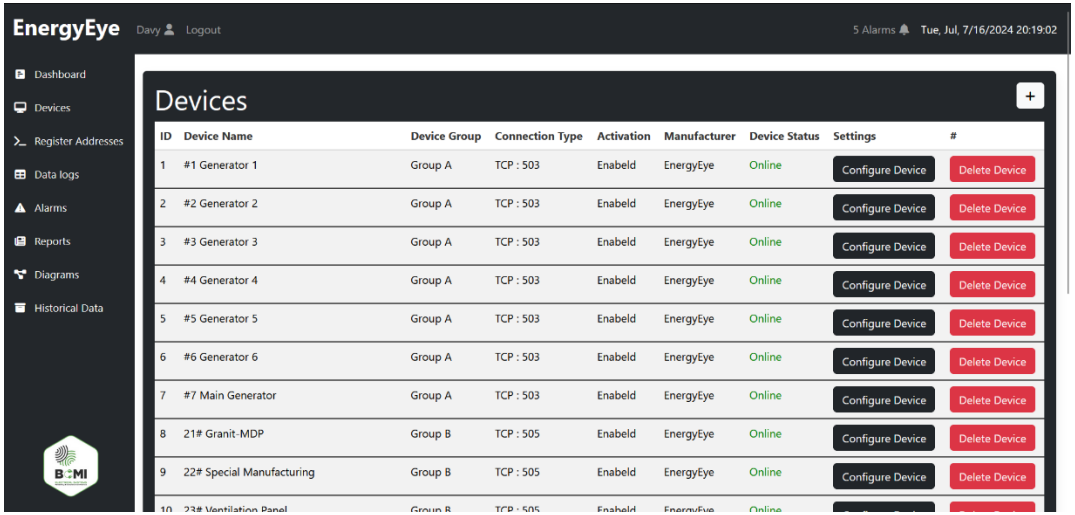
Clicking on any card will forward you to the designated tab.

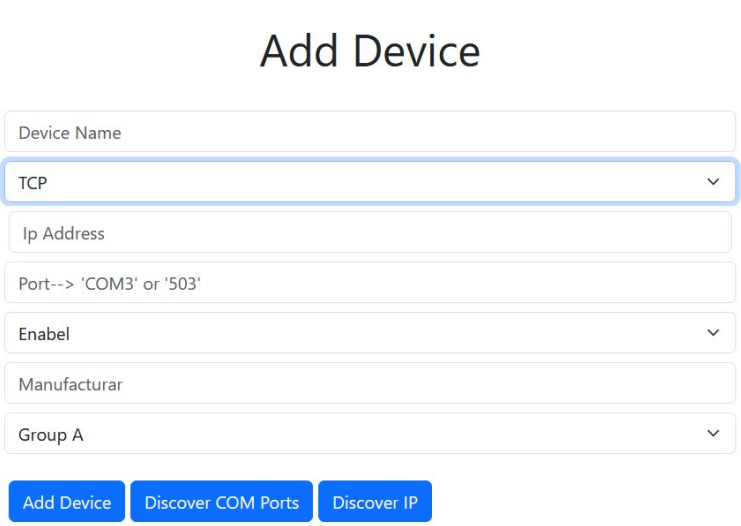
5. Devices

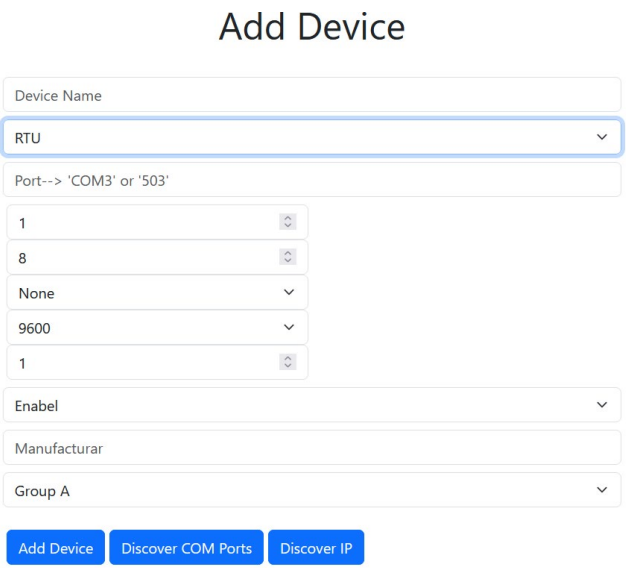
In devices, you can view, add, edit, and delete devices.

5.1 Add device

To add a device, click on the plus sign at the top-left corner





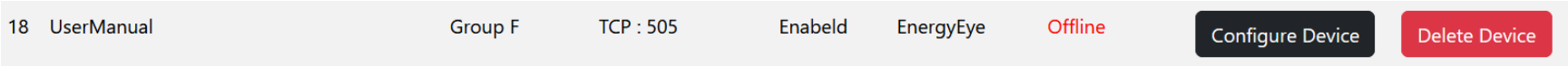


1. Device Name: Enter device name
2. Connection Type: The application supports two connection types, either TCP or RTU.

    a. Fields When TCP is selected:
        i. Ip address: Enter device Ip address
    b. Fields When RTU is selected (stop bit, byte size, parity, baud rate, timeout)
        i. Stop bit: Enter the device stop bit
        ii. Byte size: Enter device byte size
        iii. Parity: select device parity from the drop-down list
        iv. Baud rate: select baud rate from the drop-down list
        v. Timeout: Enter device timeout

3. Activation function: A device can be simply enabled and disabled from the activation function
4. Manufacturer: Enter the manufacturer name
5. Group: Assign device to a group

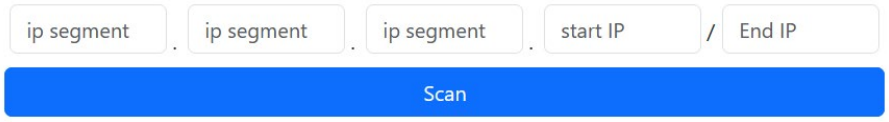
When a device is added, you will be redirected to the devices tab, where the newly added device will be displayed.



Note it might take up to 1 minute for a device status to be updated.

There are also two futures when adding devices which are discover COM ports for RTU connections and discover IP addresses for TCP connections.

- Discover COM ports: will simply display all the available COM ports (Does not require a redirect).
- Discover IP: will redirect the user to new page called IP Scanning



NOTE IP scanning is very case sensitive so make sure to enter variables correctly

5.2 Update device

Updating a device is very similar to adding a device, to update a device simply press the Configure Device button.

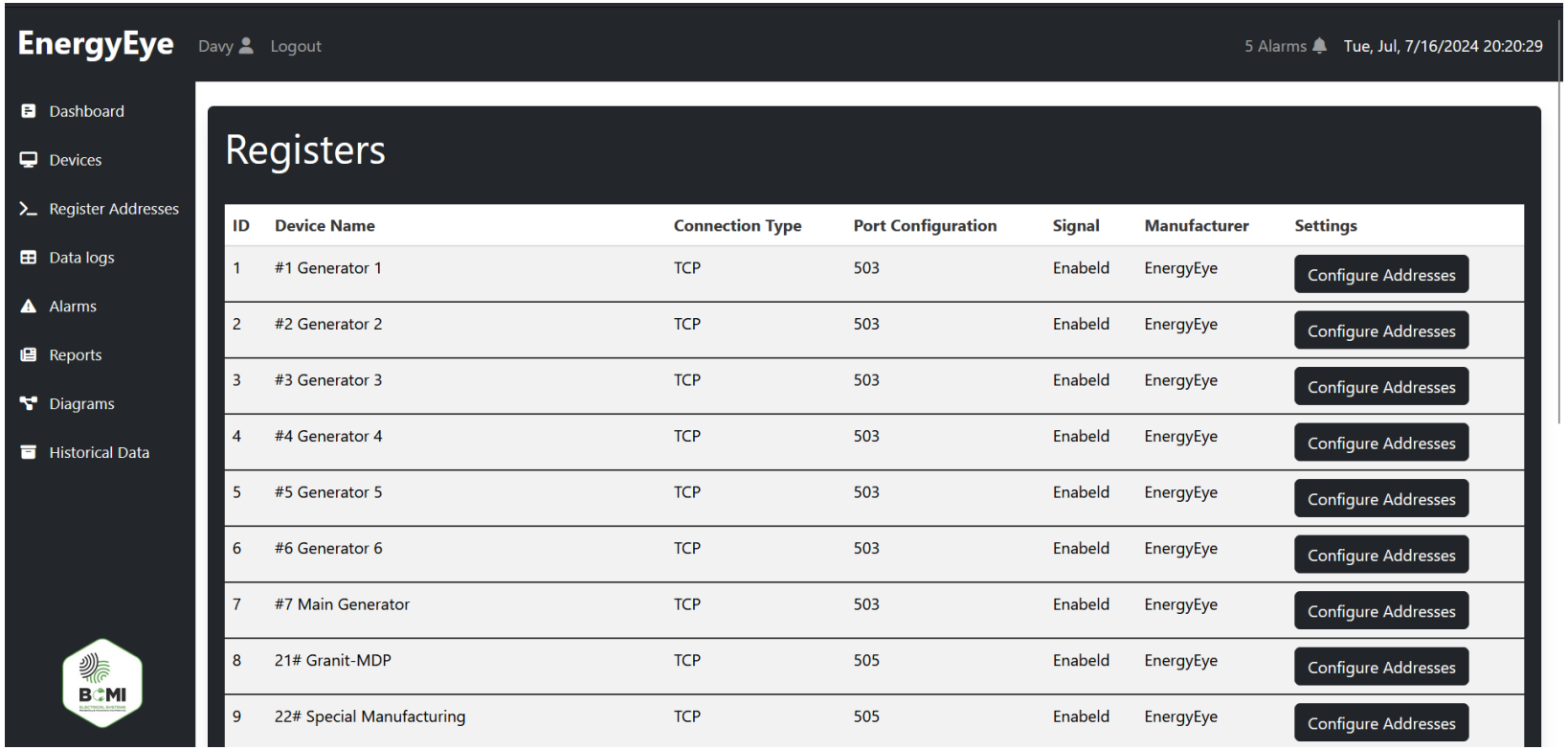
The same inputs are going to be displayed similar to adding a device, you can simply proceed by updating the fields.

5.3 Delete device

You can delete a device by pressing the red Delete Device button, when the delete device button is pressed, a warning pop-up will be displayed for confirmation.

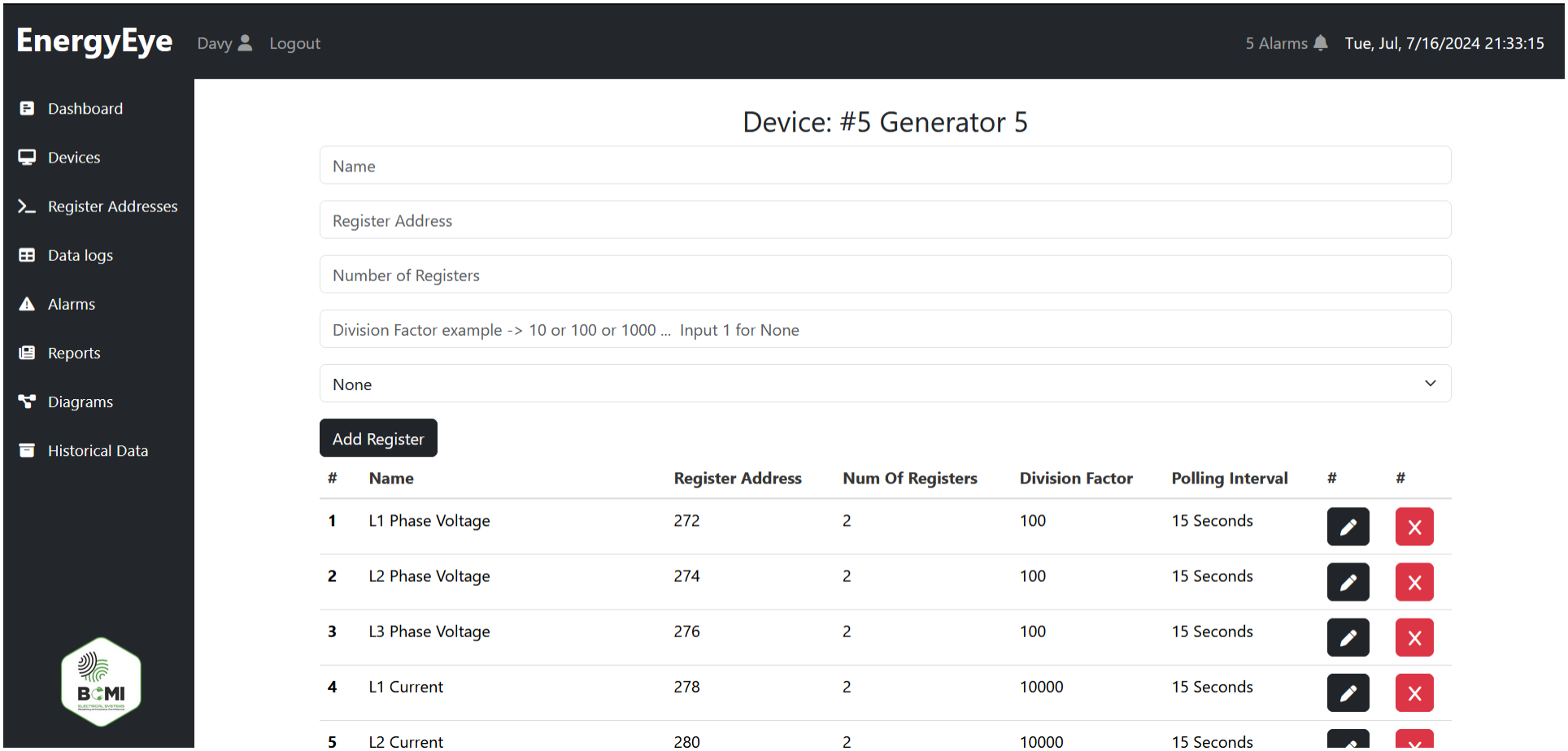
!!!Warning, deleting a device will also delete all related data to that device such as Registers, Alarms, Data logs, ...etc. So be very careful when deleting a device

6. Register Addresses



6.1 Adding Registers

You can begin registering addresses from the Register Address tab. On the Registers page, you'll find a list of all registered devices. To start registering addresses, simply click the Configure Addresses button, which will take you to the adding page.



Registers Fields:

- Name: Enter Register name
- Register Address: Enter the register address
- Number of Registers: Enter the size of the register every 1 byte = 8 bits.
- Division Factor: Enter the amount of division that will be applied to the value of the register
- Polling interval: Select the cooldown time that the data will be pulled from the device

More clarification in terms of adding registers:

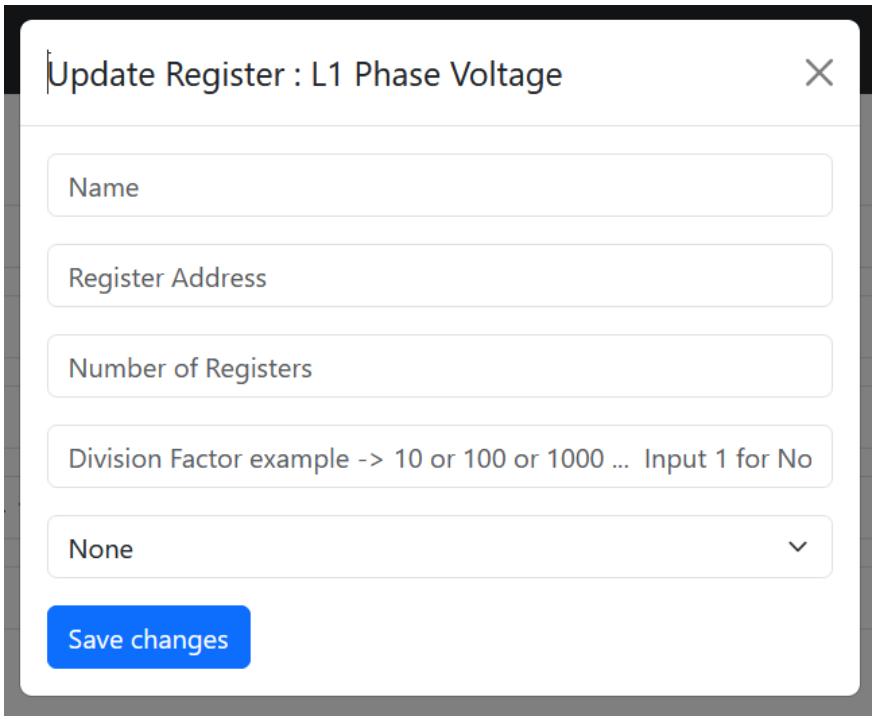
1. Register address is decimal based (0-9), so please make sure to convert to that

2. In the number of registers, it moves by bytes, which means every 1 byte = 8 bits, for example when typed 2 in number of registers that means 2 bytes or 16 bits

Registers	Number of registers
Decimal	Bytes

6.2 Updating Registers

You can update registers at any time by clicking the pencil icon next to any register. When you click the pencil, a pop-up window will appear.



6.3 Deleting registers

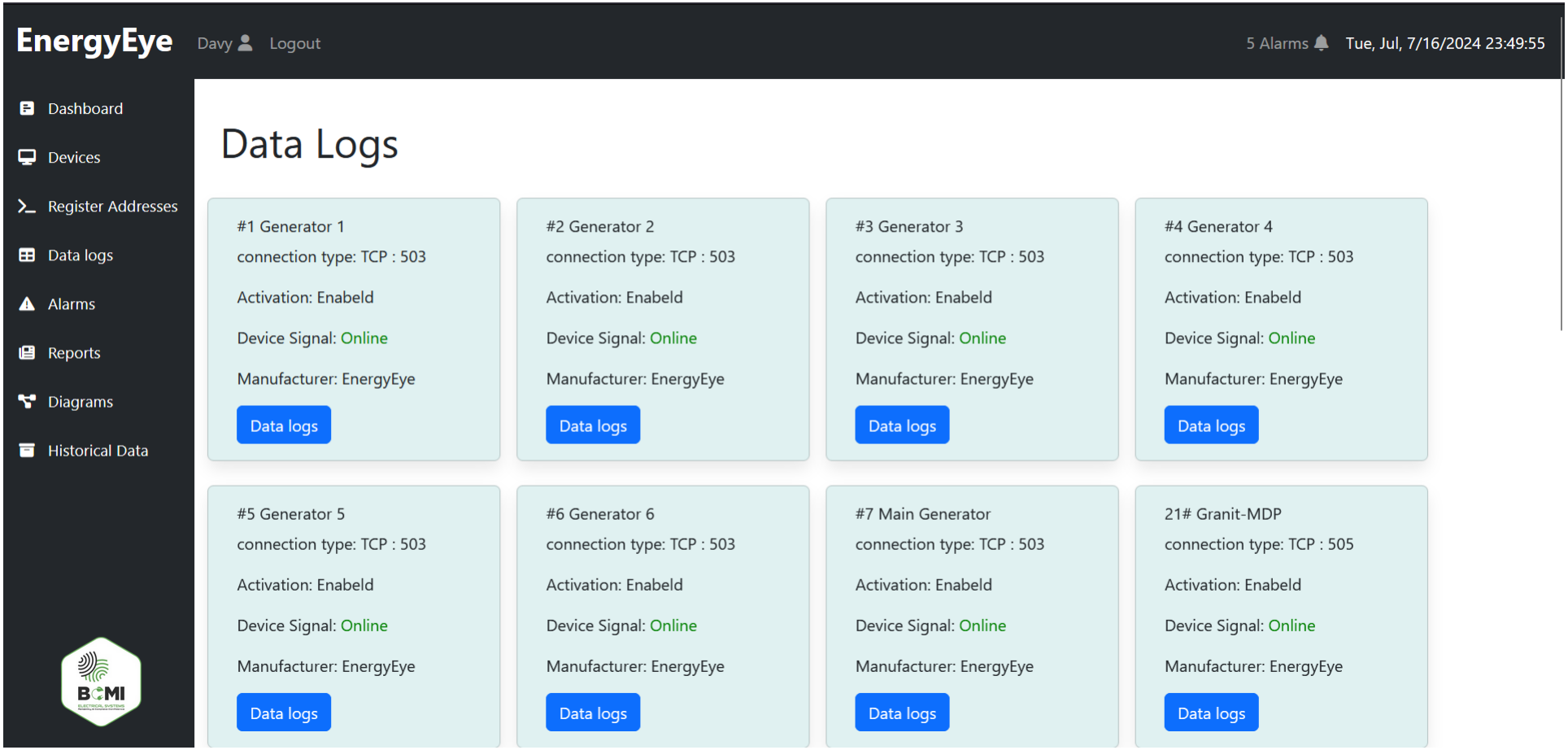
You can delete a register by clicking the red X button

!!!Warning all the fields are very case sensitive so make sure to enter them correctly.

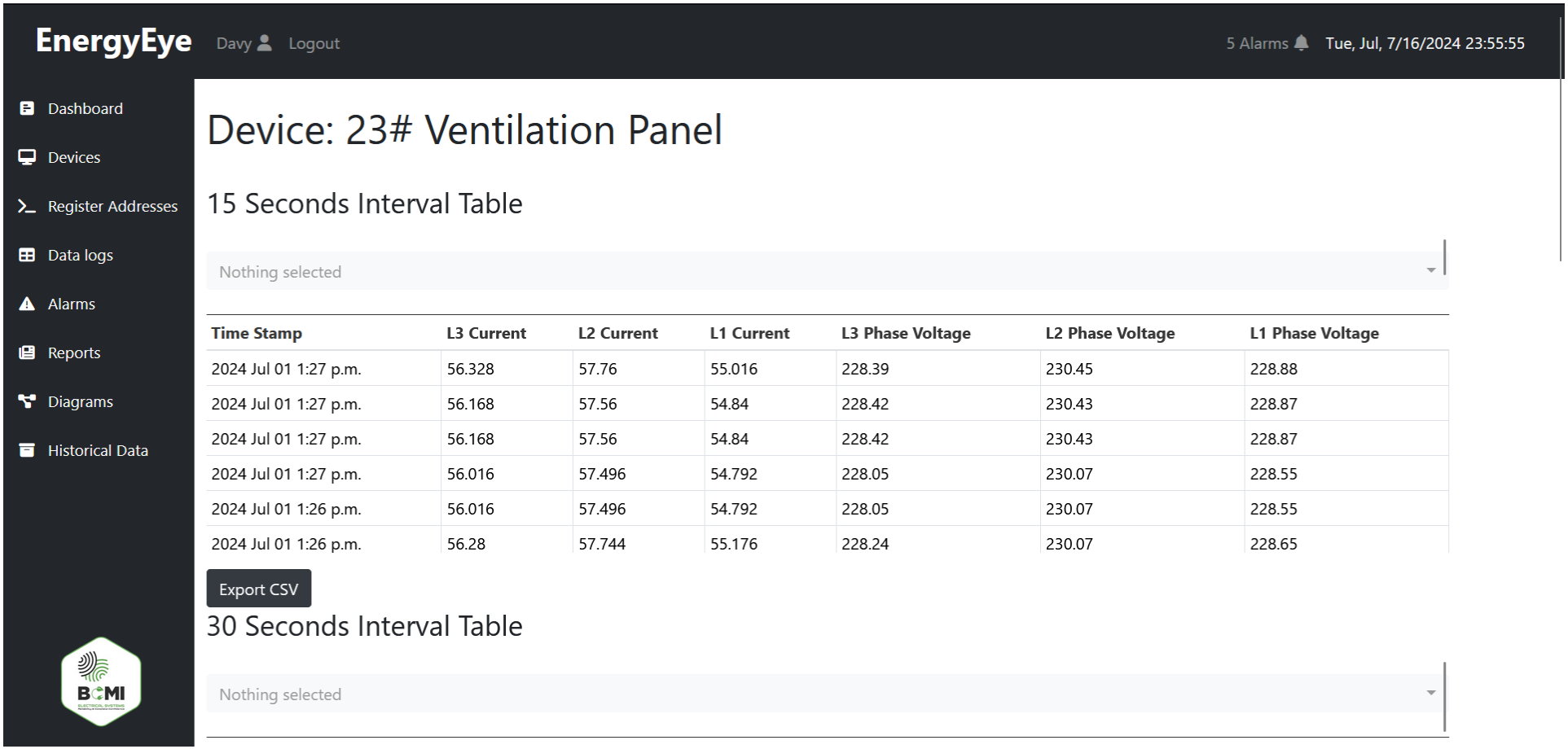
!!!Warning, deleting, adding or updating a register will delete the data-logs for that device, and start from the beginning.

7. Data Logs

The data logs page provides a nice visualization of the registered devices



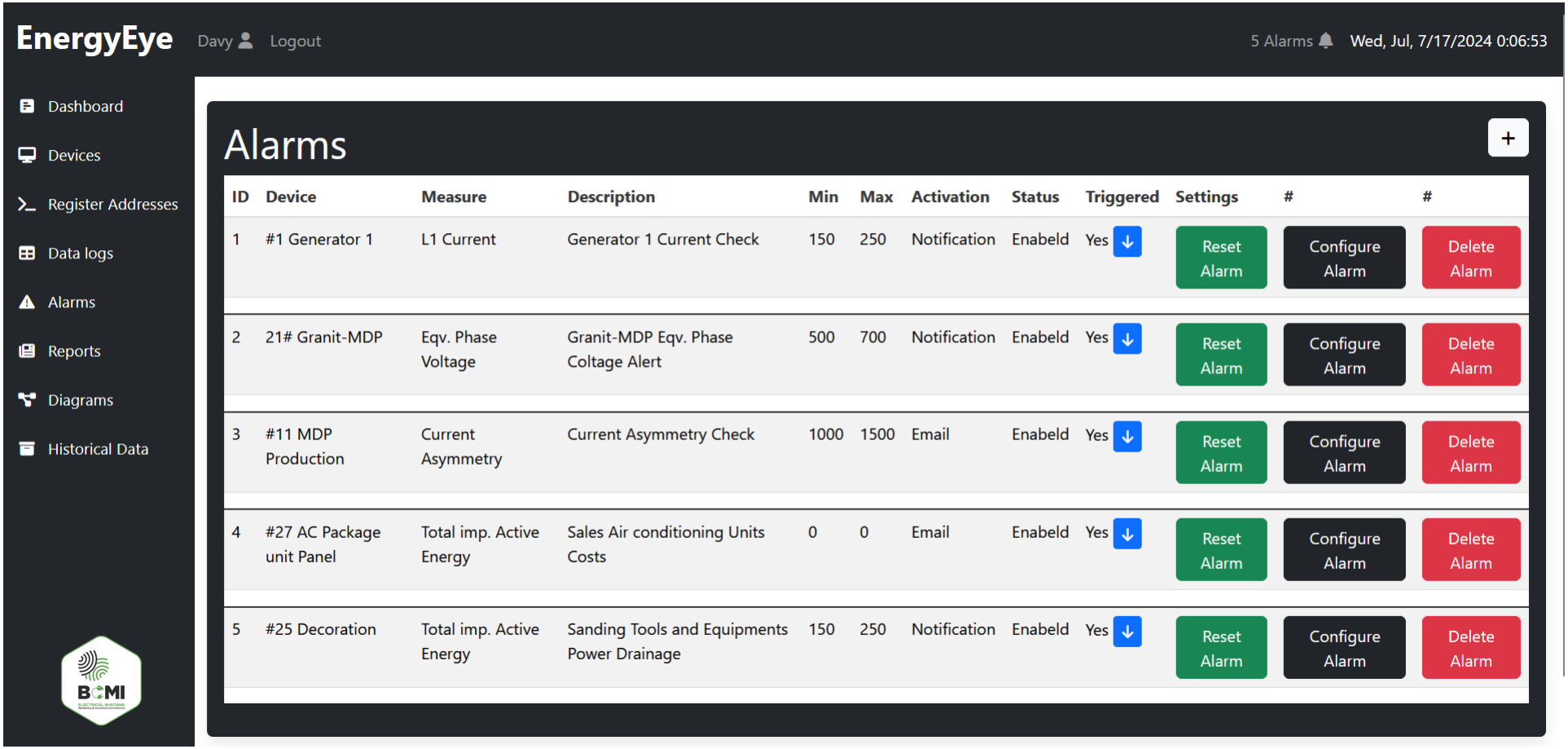
All the registered devices will be displayed in a note card style, you can view any device by clicking on the card.



Only a fraction of the data will be displayed in the data logs table. To obtain all the data, simply click the Export CSV button.

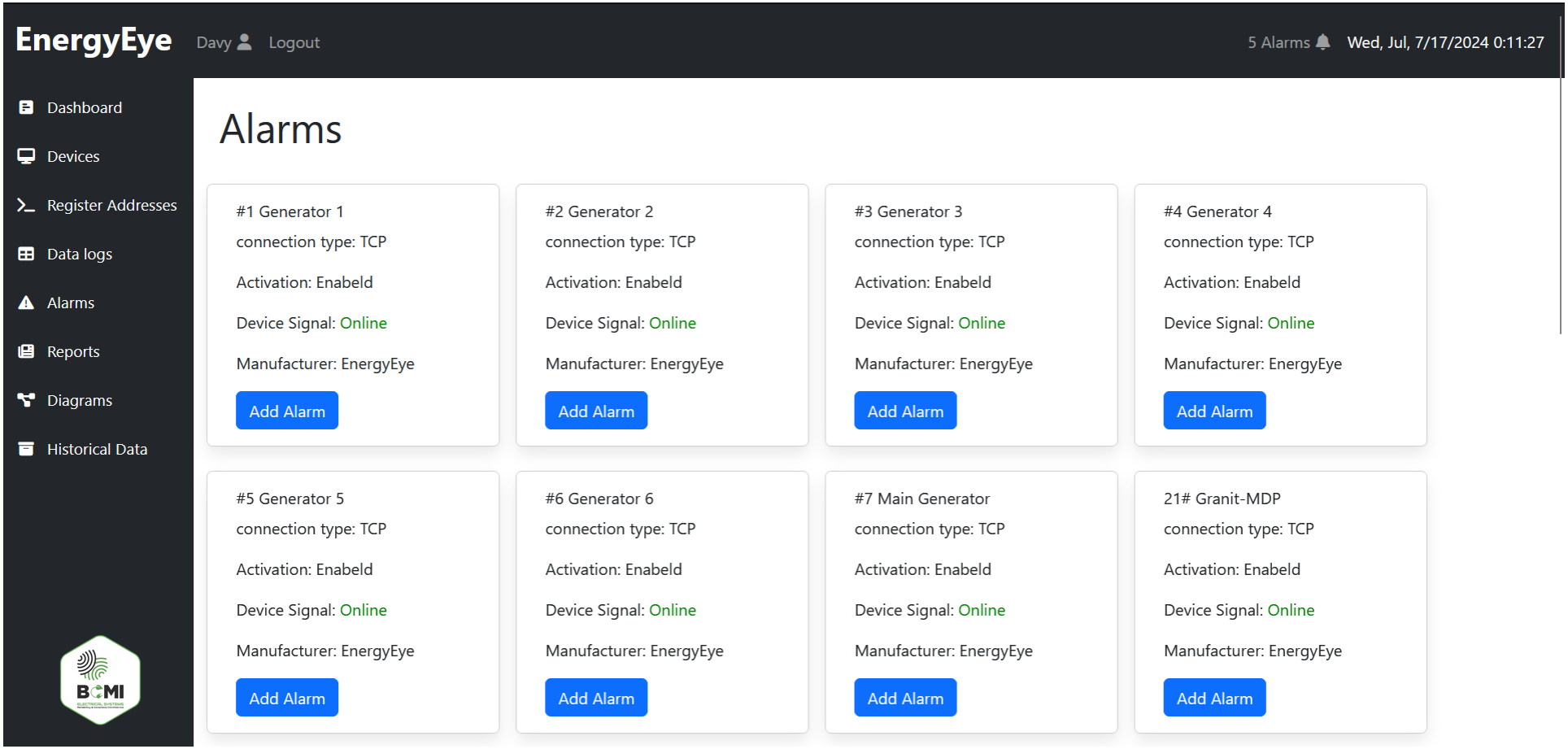
8. Alarms

In the alarms page, you can view, configure, reset, and delete alarms

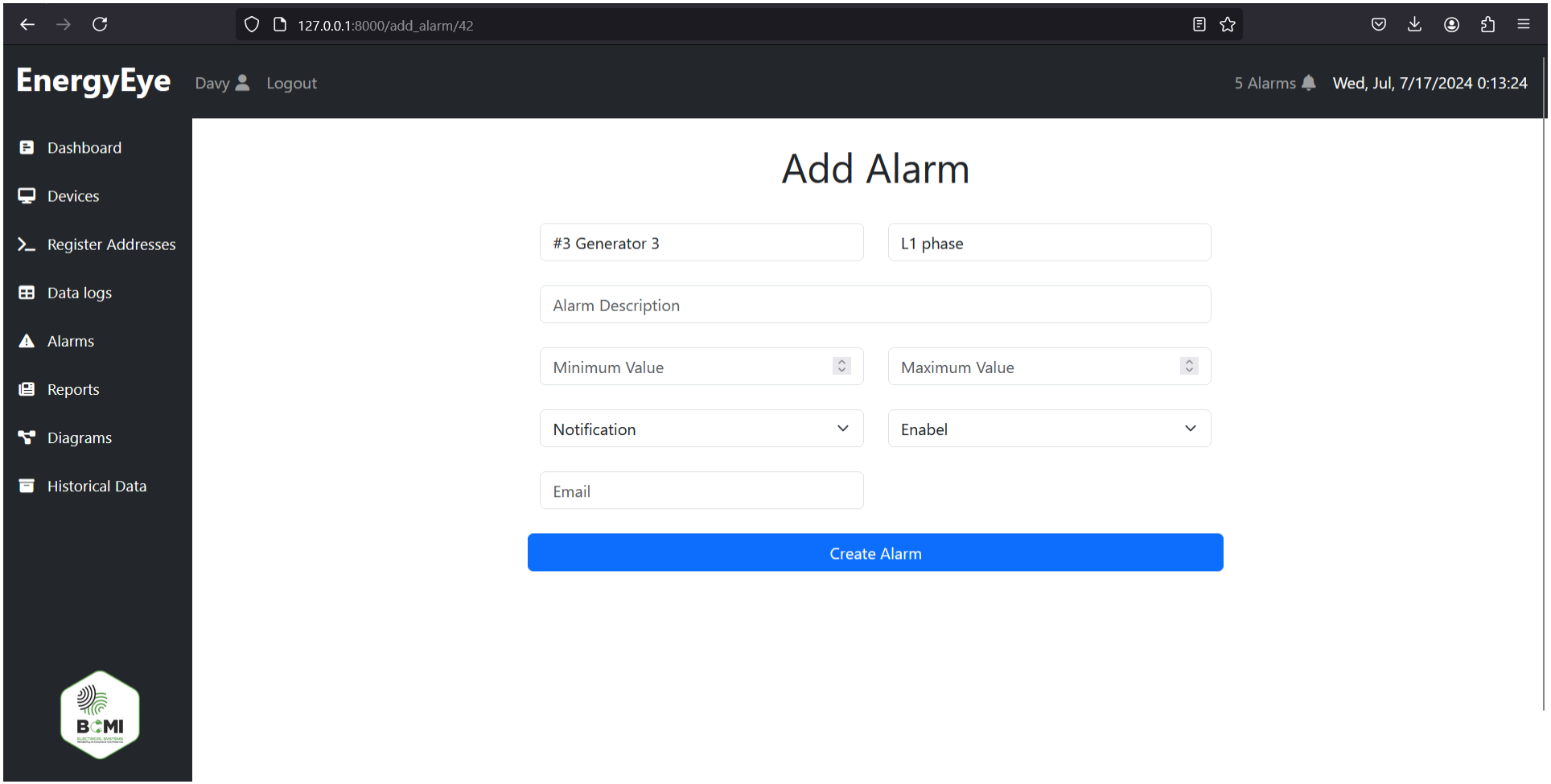


8.1 Create Alarm

Alarms can be created by clicking the white plus button in the top left corner. Clicking this button will redirect you to a page where devices are displayed in a note card pattern.



Clicking on the device requiring an alarm will redirect you to a new page where you can enter the alarm settings.



Alarm setting fields:

1. Device name: This field indicates the device name
2. Measure: A dropdown menu where you can select the desired measure to be monitored
3. Alarm Description: Type down the alarm description
4. Minimum Value: Enter that minimum value the measure can reach before triggering the alarm
5. Maximum Value: Enter that maximum value the measure can reach before triggering the alarm
6. Notification type: There are two notification types
    - Notification: which simply create a notification alarm at the top corner of the screen
    - Email: sends an email to the master email and the typed email

7. Activation: You can enable or disable the alarm using the activation function
8. Email: type the email you want to receive notifications on

When adding an alarm, you will be redirected to the main alarm page once again.

!!!Take in mind that the division factor in register addition takes a place in terms of minimum and maximum values

8.2 Update Alarm

If you want to update an alarm, click on the Configure Alarm button next to the alarm itself.

It will display a page similar to creating an alarm, allowing you to update the required fields.

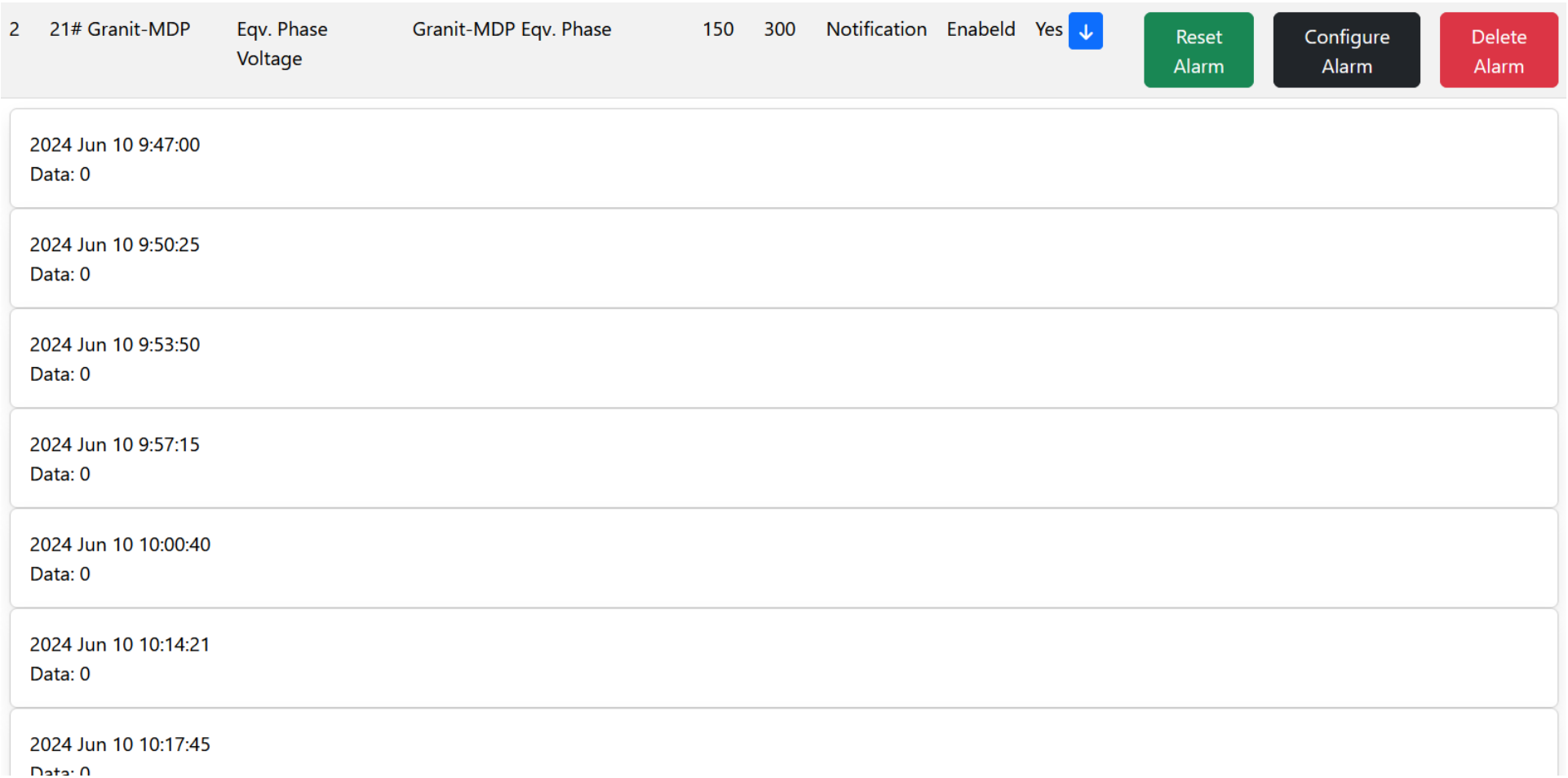
8.3 Reset Alarm

Any triggered alarm can be reset by pressing the green Reset Alarm button

8.4 Delete alarm

You can delete any alarm by clicking the red Delete Alarm button

8.5 Alarm Trigger Function

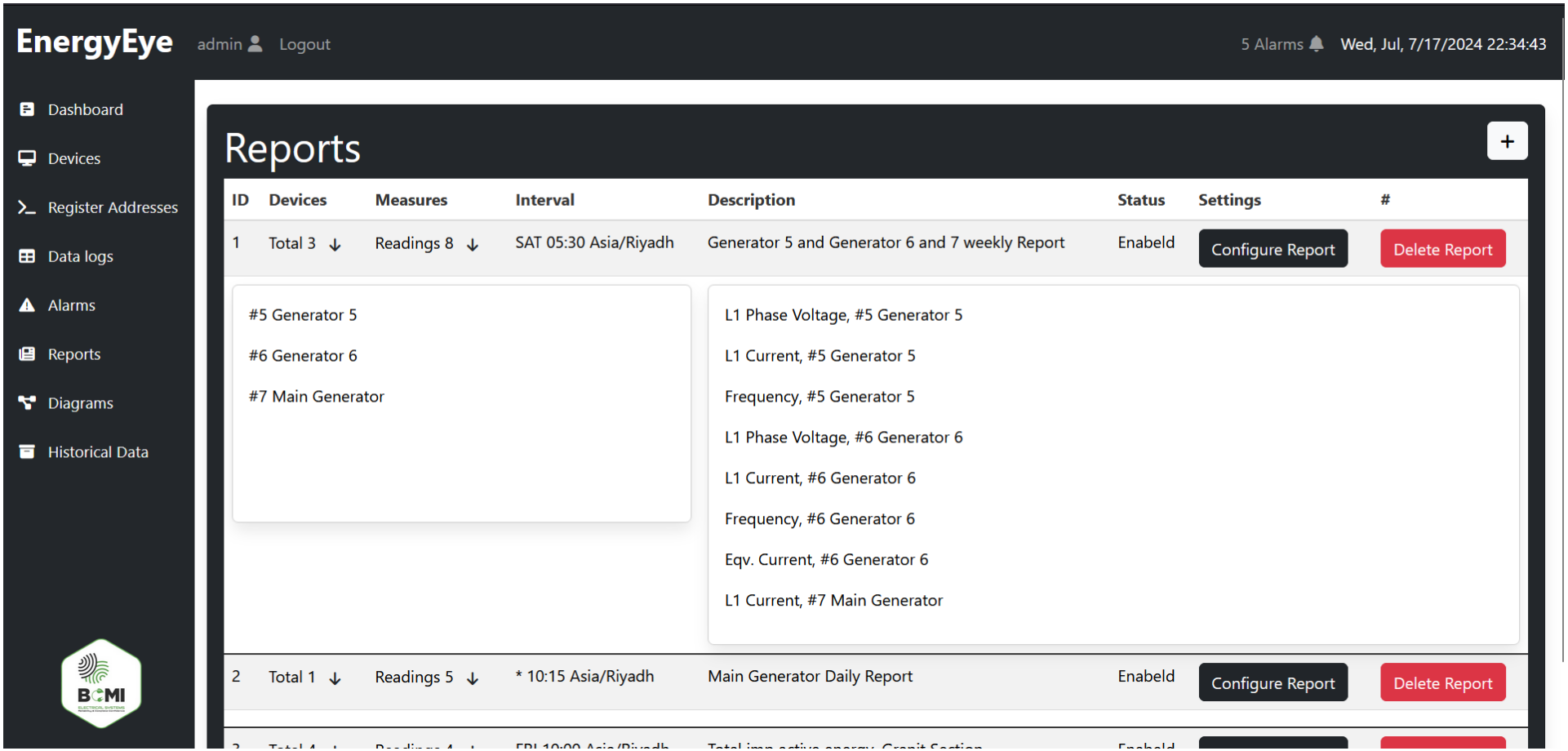


When an alarm is triggered, it begins saving data at 15-second intervals for the triggered measure until one of two conditions is met:

1. An administrator manually stops the alarm.
2. The alarm measures return to normal within the specified minimum and maximum values.

All the alarm data from this period is saved and can be viewed by clicking the blue arrow.

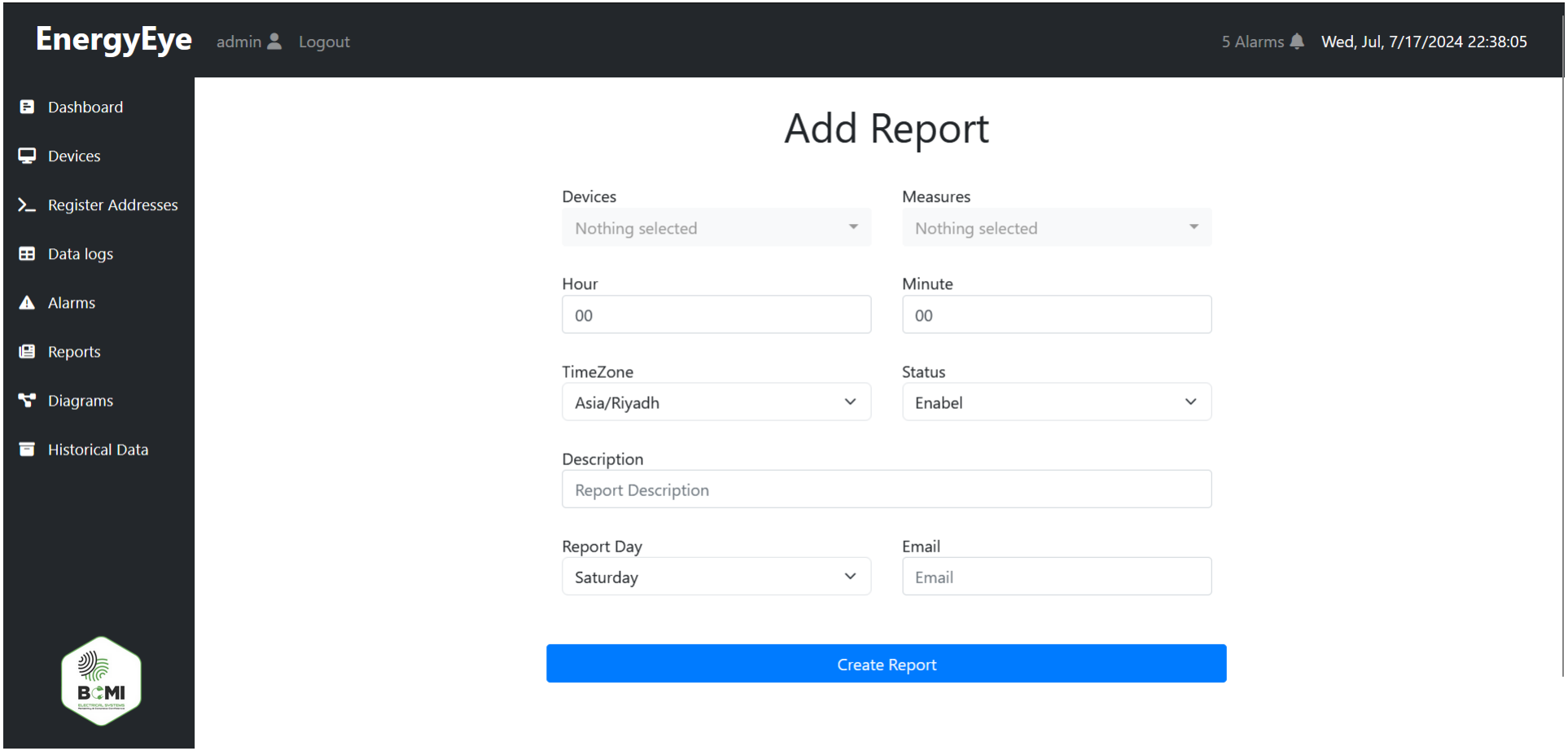
9. Reports



The main reports page provides a clear visualization of the created reports, also you can click on the Total devices, and total reading which will expand them for more details.

9.1 Create Report

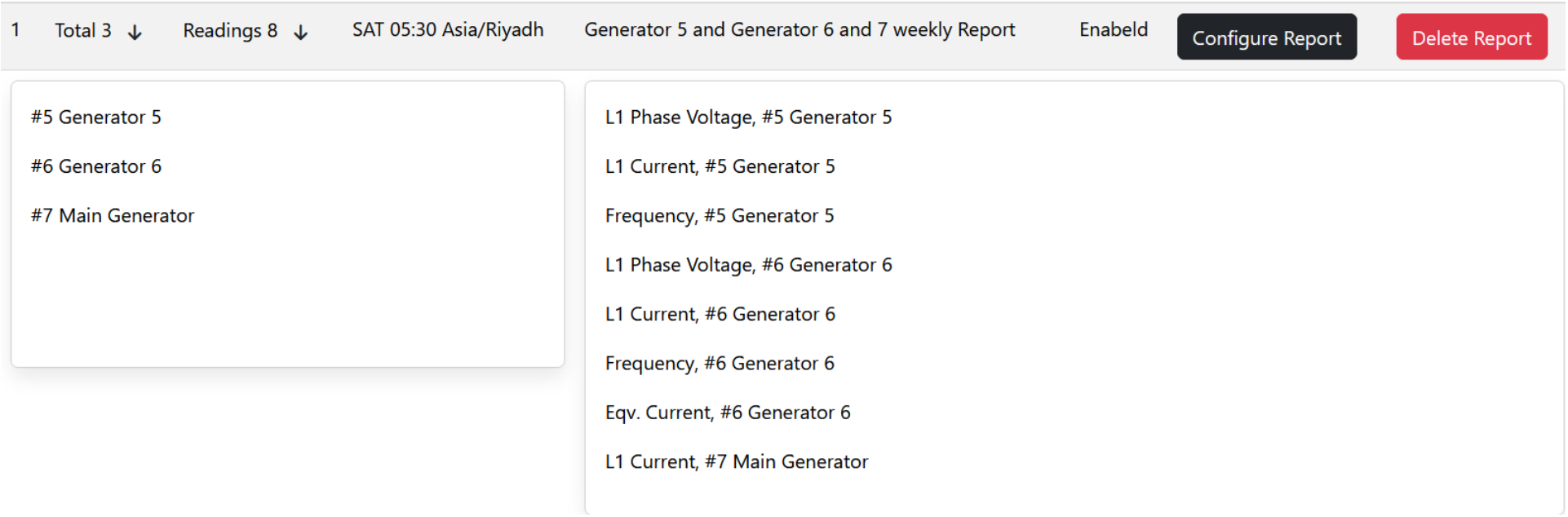
To create reports, click the white plus sign button located at the top-left corner of the screen. This will navigate you to the add report page.



Add report fields:

- Devices: It is a drop-down list where you can select multiple devices, it also comes with a search function for easier devices navigation.
- Measures: It is a drop-down list like the devices. Only the selected devices will be displayed on the measures list.
- Hour: Enter the report hour
- Minute: Enter the report minute
- TimeZone: Enter your time zone
- Status: select the status of the report, whether you want to enable or disable it.
- Description: Enter your report description
- Report Day: Select a report day from the drop-down list
- Email: Enter the email you want to receive the report on

Once all fields are filled out and the report is created, you will be automatically redirected to the main report page.



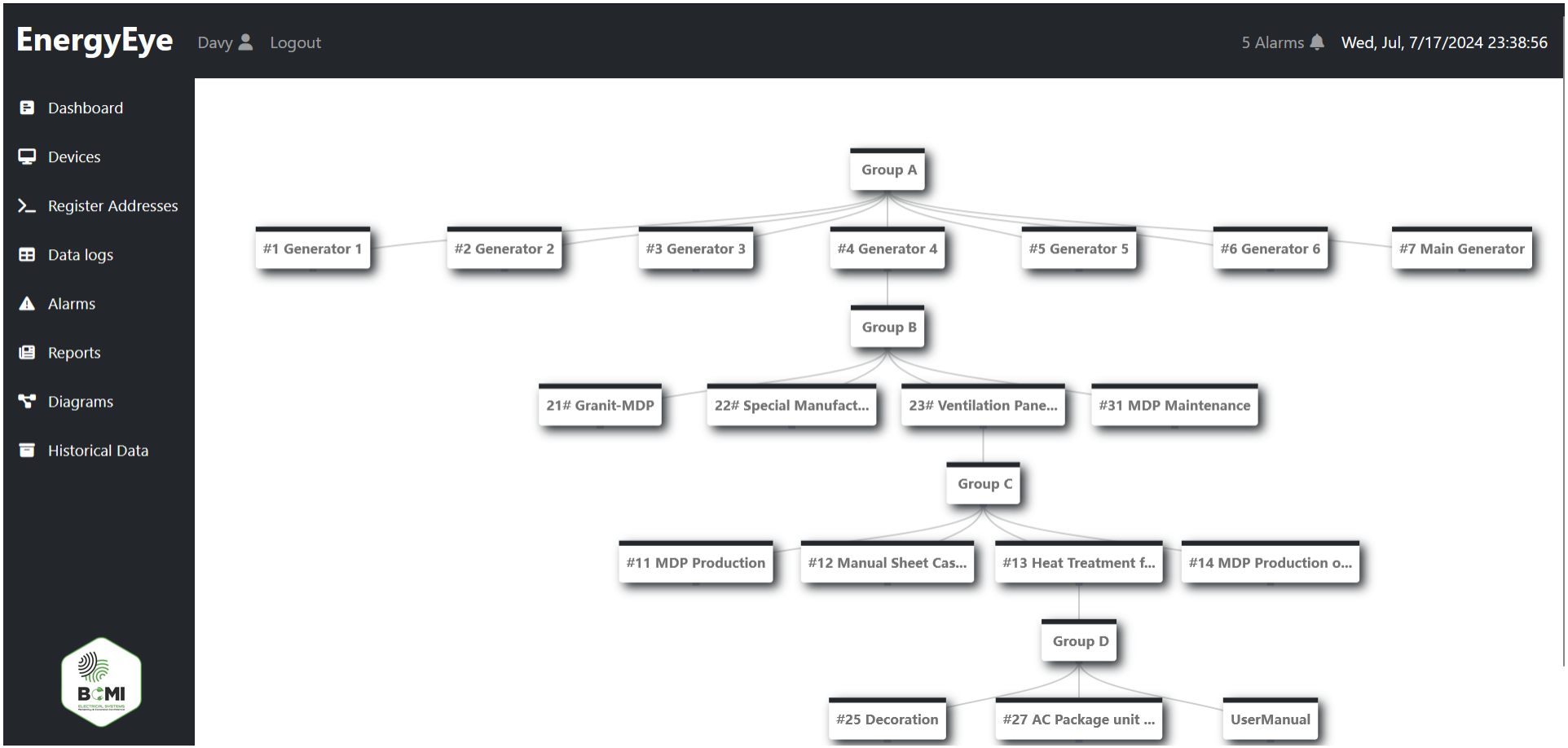
9.2 Update Report

To update a report, click the Configure Report button. This will take you to the update report page, which is similar to creating a new device. Simply update the fields as necessary.

9.3 Delete Report

If you want to delete a report, just press the Delete Report button

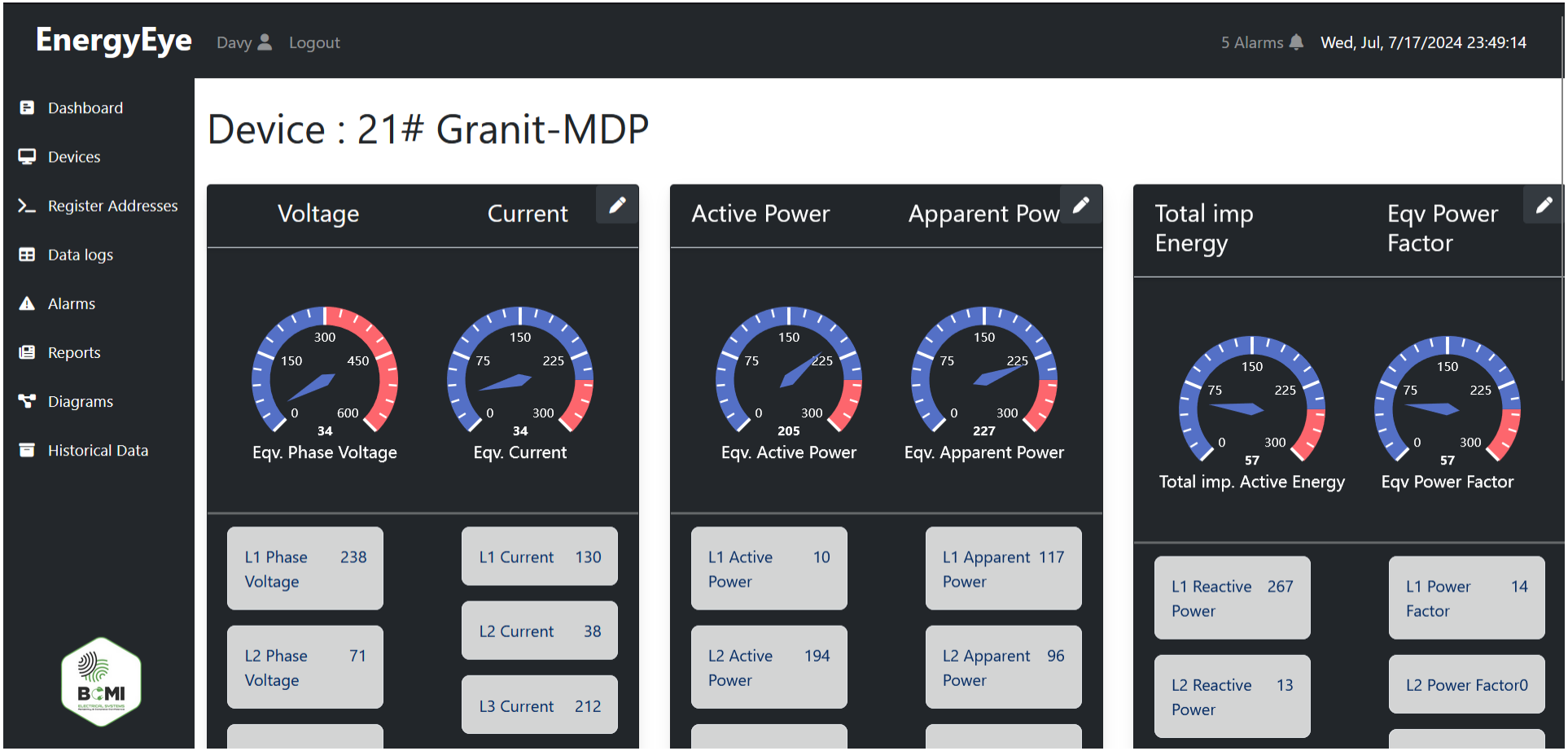
10. Diagrams



The diagrams provide a clear visualization of devices grouped accordingly. When you hover over an item, a small card displays where live data can be viewed (This live data is obtained from inside the device saved diagram layout).

To view live data for a device, click on the device card, and you will be redirected to the device diagram page.

10.1 Device Diagram

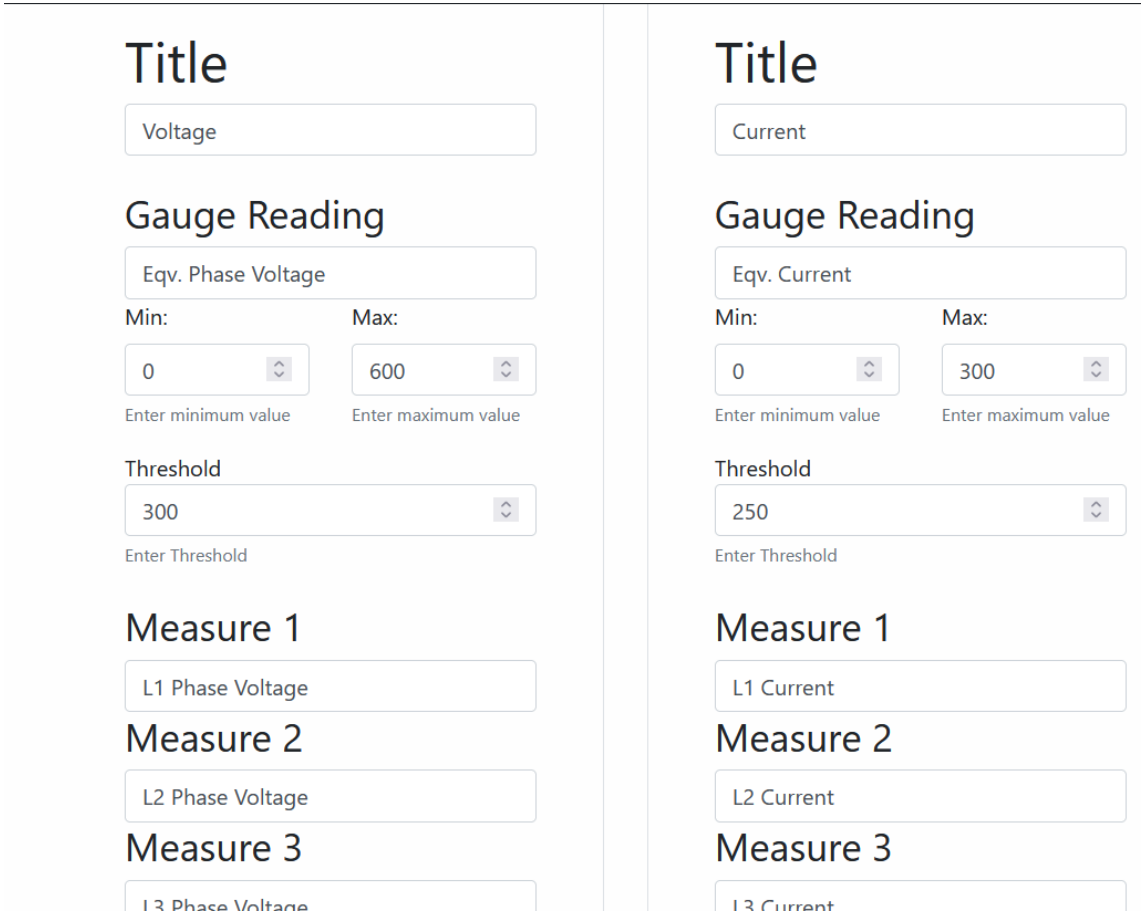


The device diagram page offers live data updates for the selected device. Initially, all readings will display as NaN until they are registered.

To register readings, click on the pencil icon located at the top of each card.

1. Part one
   - Title: Enter the Gauge meter title
   - Gauge Reading: select the measure to be displayed on the gauge
   - Min: Enter the minimum value of the gauge
   - Max: Enter the maximum value of the gauge
   - Threshold: Enter the threshold of the gauge

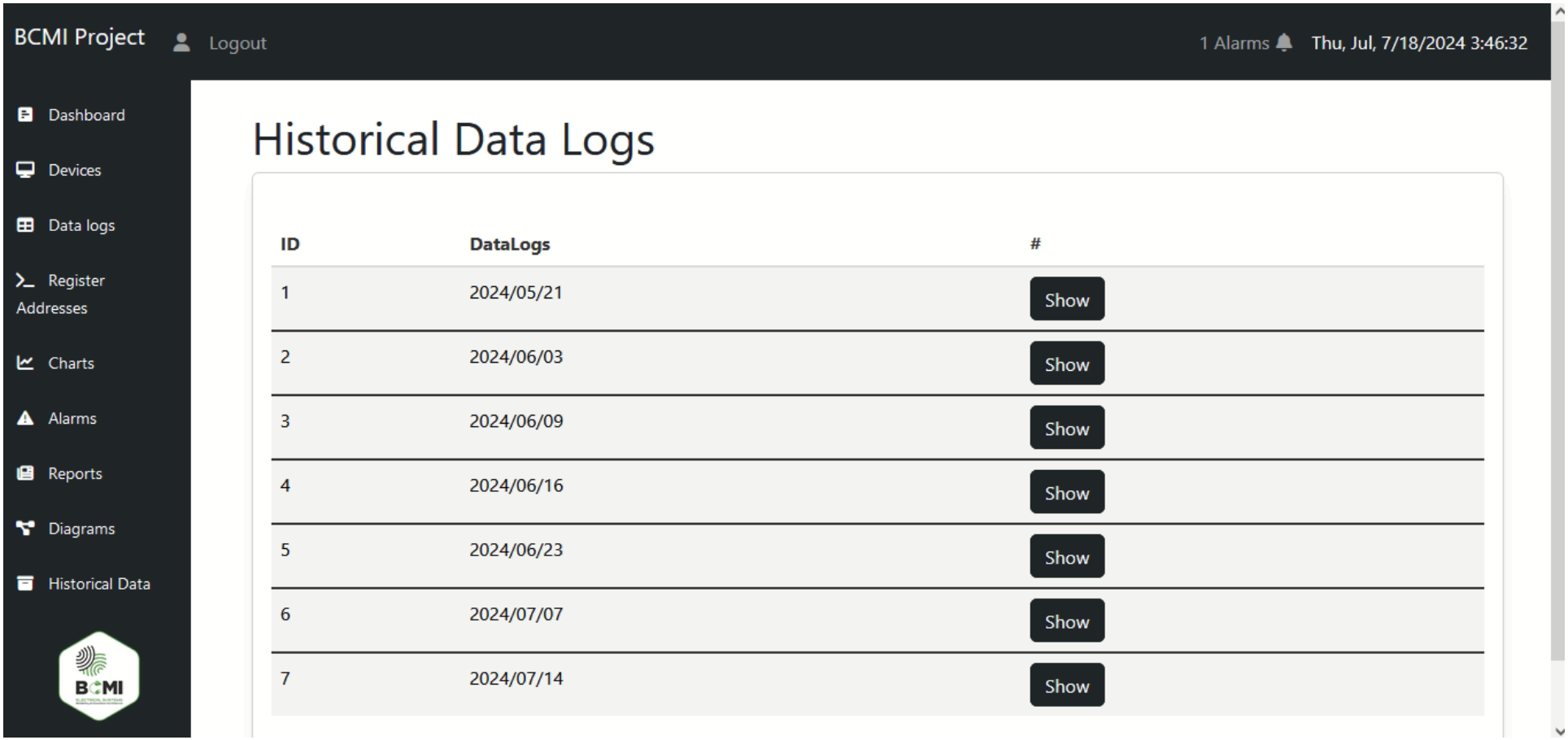
2. Part two
   - Measure 1: First Measure reading
   - Measure 2: Second Measure reading
   - Measure 3: Third Measure reading
   - Measure 4: Fourth Measure reading



Note: you will see 3 cards. Each card holds 2 rows. And each card needs to be edited individually.

Also, there are multiple graphs as you scroll down the page, they all can configured the same way as the measure configuration process

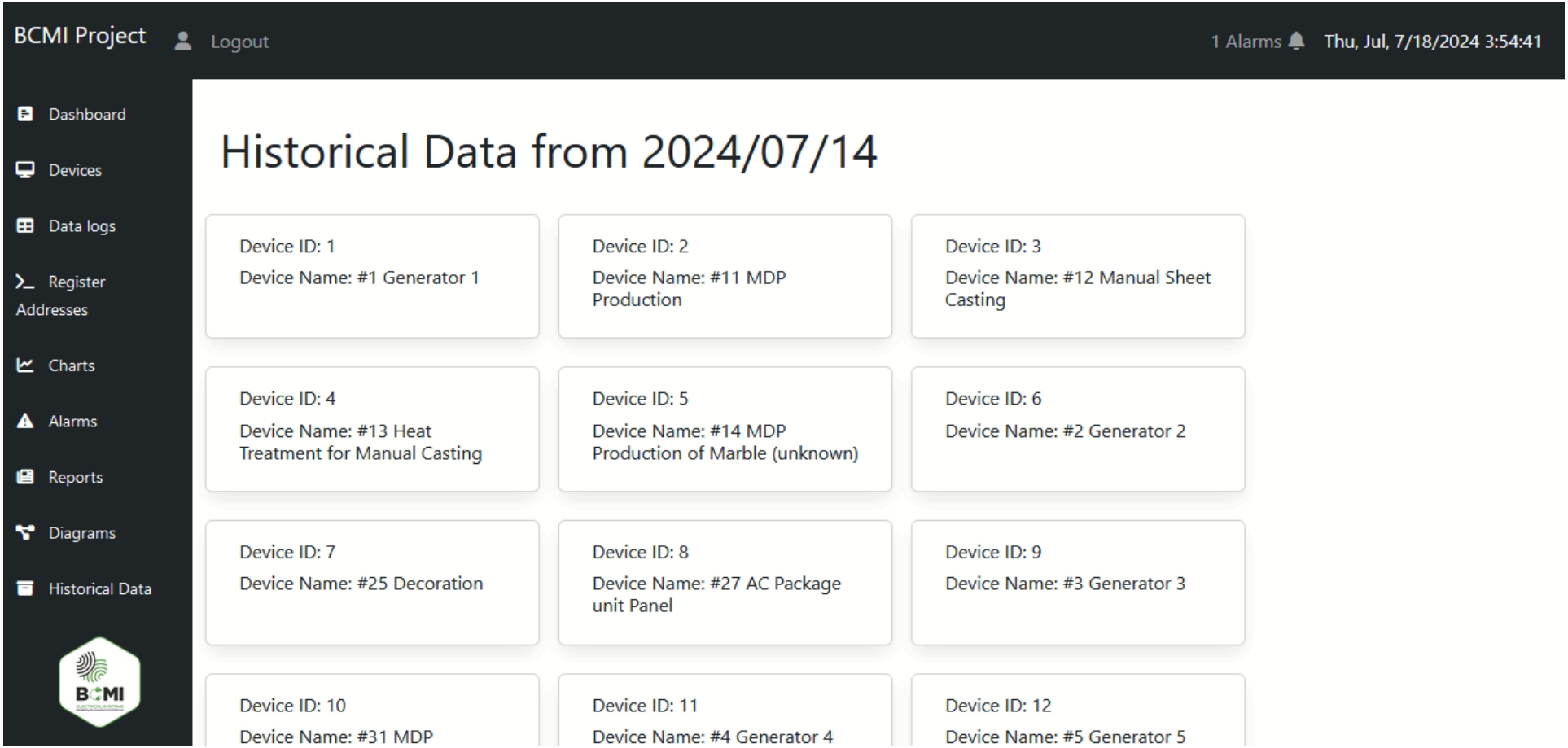
11. Historical Data



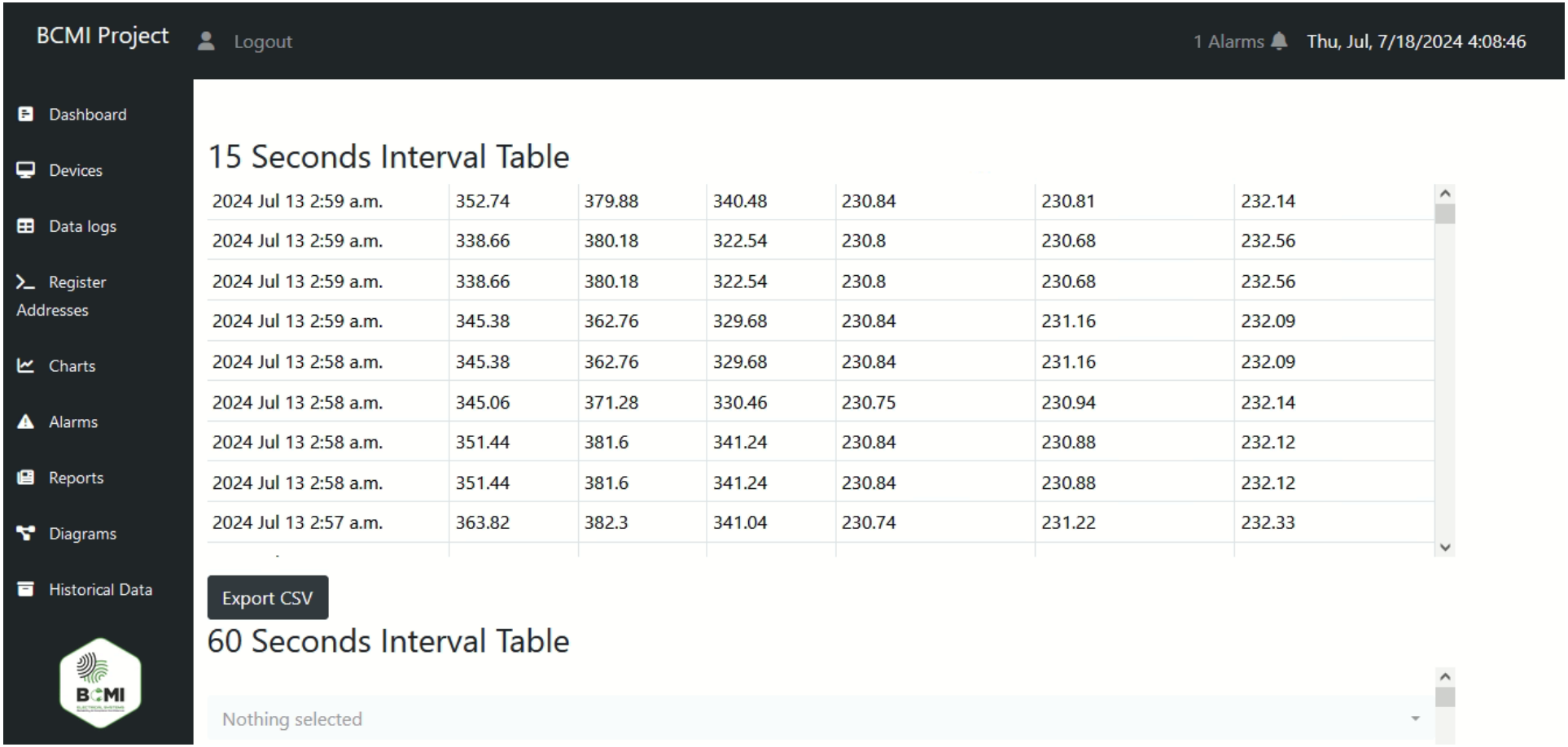
Historical data serves as a repository for older information, backed up periodically.

Choose the period you wish to view, and upon pressing the "show" button, you will be redirected to a page displaying the devices for that selected period.

11.1 View Historical Data



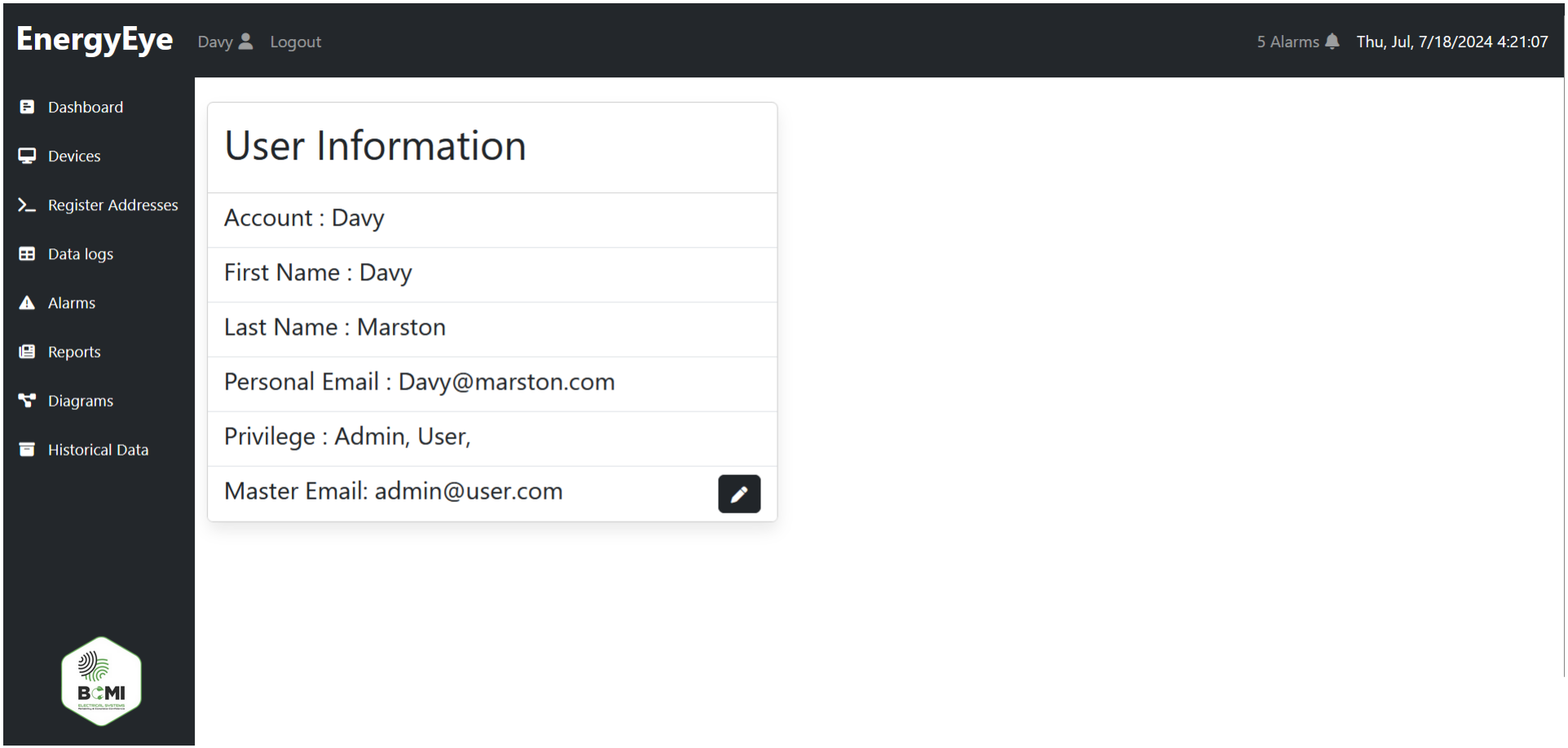
All the registered devices will be displayed in a note card style, clicking on a card will redirect you to that device recorded history data.



This page displays saved historical data from devices, showing only a limited number of rows. To obtain the complete dataset, simply click "Export CSV" to download the entire data in CSV file format.

12 User Information

To get to the User Information tab, you need to press the icon next to the logout button



The user information tab provides a base user information page, where the user can view his credentials.

1. Account: User display name
2. First Name: User first name
3. Last Name: User last name

4. Personal Email: User personal email
5. Privilege: Display the user privilege level
6. Master Email: Display the master email