

# SIRIUS VIEW MONITORING AND CONFIGURATION PLATFORM

User Manual

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## Acronyms:

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<b>IOT</b>	Internet of Things
<b>UI</b>	User Interface
<b>SOH</b>	State of Health
<b>OTP</b>	One Time Password
<b>RTC</b>	Real Time Counter
<b>NMS</b>	Network Monitoring Software
<b>IP</b>	Internet Protocol

---

## **Introduction**

SIRIUS VIEW offers a comprehensive, protective, monitoring and control functions for Sirius Capacitor Module. Thanks to Sirius VIEW, Sirius Capacitor Module is not only an energy storage unit but also an IOT device with online monitoring and control capabilities.

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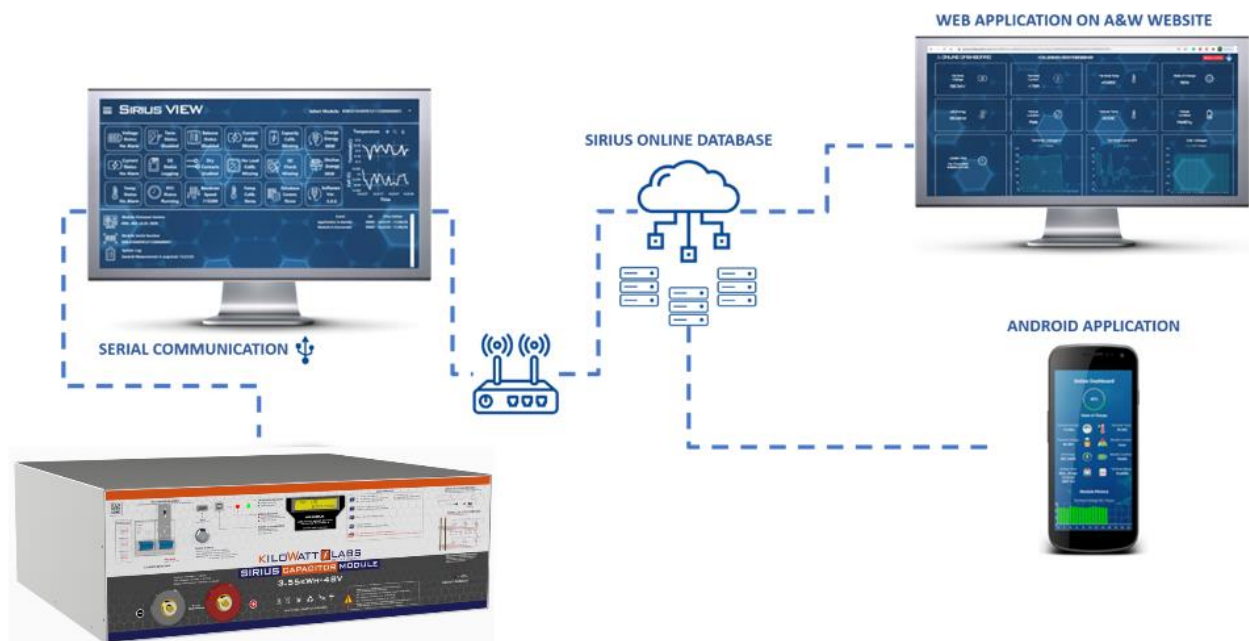
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## 1. Sirius VIEW Ver.5 Features:

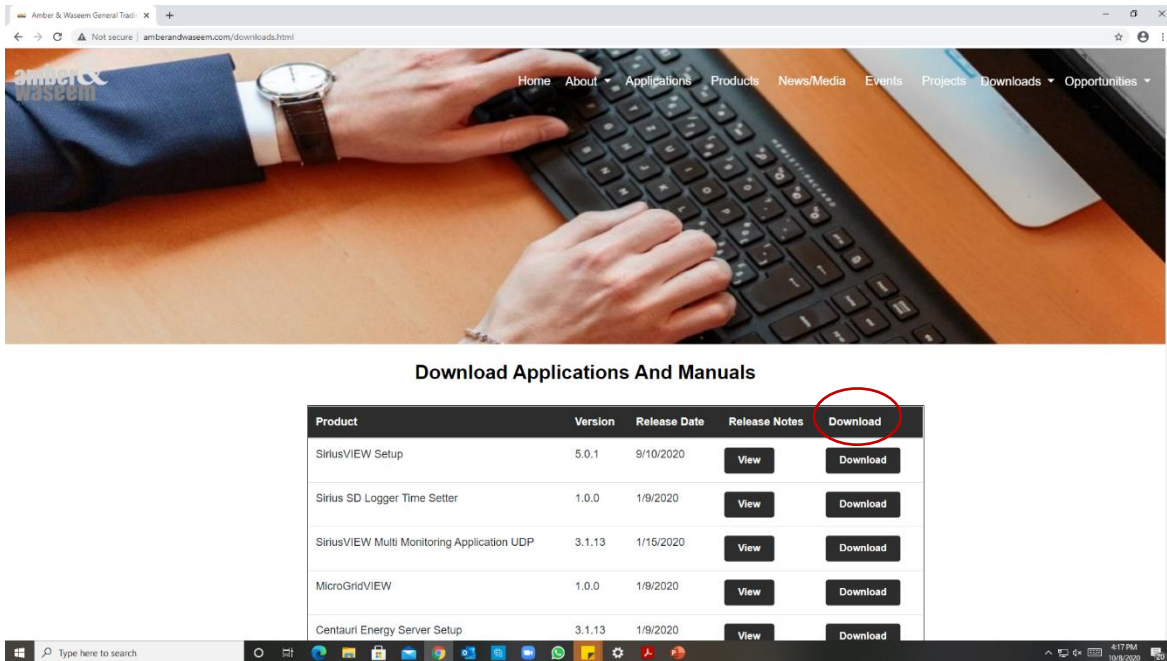
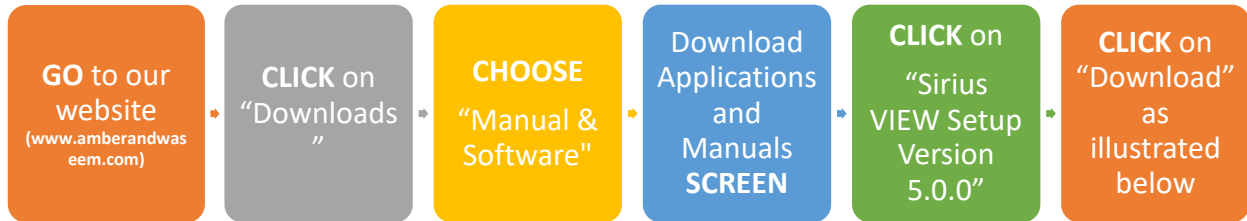
Sirius VIEW is a desktop application which allows user(s) to monitor, configure and calibrate Sirius Capacitor Modules. Sirius VIEW has the following features:

1. Enables Online Cloud Monitoring for Sirius Module through our website [amberandwaseem.com](http://amberandwaseem.com).
2. Enables high detailed hourly and daily data logging in .csv format.
3. Logging alarms, events and important user(s) interaction in .csv format.
4. Sending E-mail to user(s) in case of any alarm with Event logs file as attachment.
5. Clean and simple UI to easily understand Module conditions.
6. Creates network web service to enable other PCs to monitor Sirius Module in same network.
7. Highly secured account management for calibration and configuration.
8. Android and Web applications compatibility.
9. Firmware update seamlessly.



## 2. How to Install Sirius VIEW?

Follow the steps below to install Sirius VIEW:



Link of Our Website: *“Amber & Waseem General Trading LLC”*.



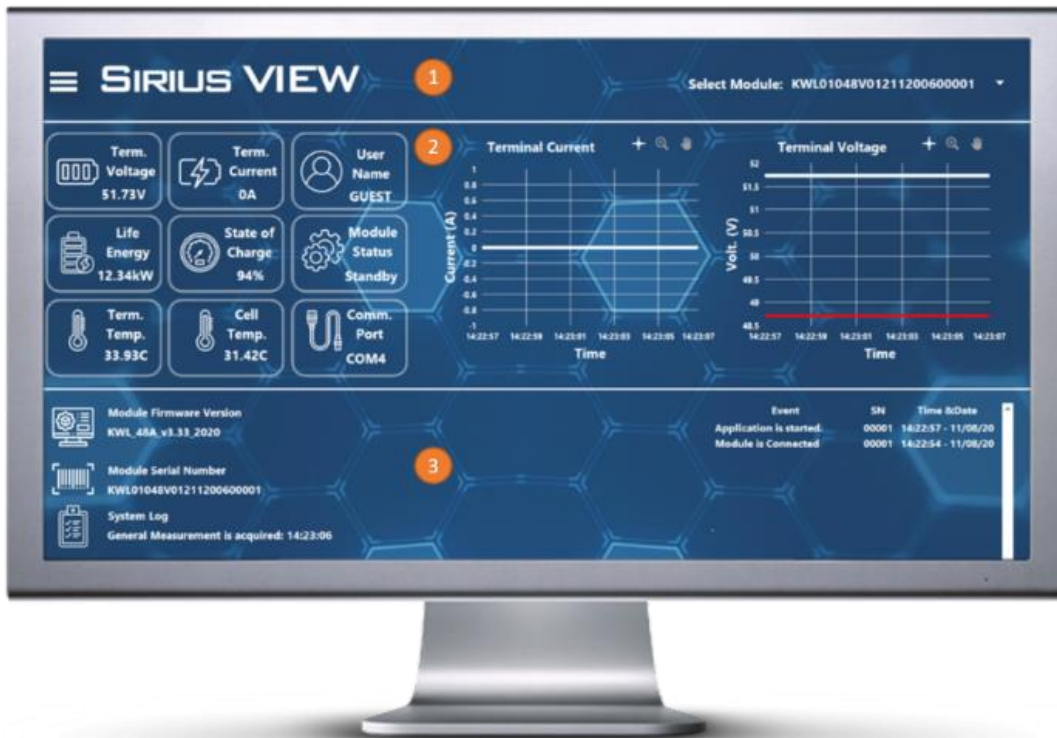
### 3. Getting Started...

Double click on Sirius VIEW Monitoring Application to execute it.

#### 3.1 Sirius VIEW User(s) Interface:

Sirius VIEW user(s) interface has 3 main parts:

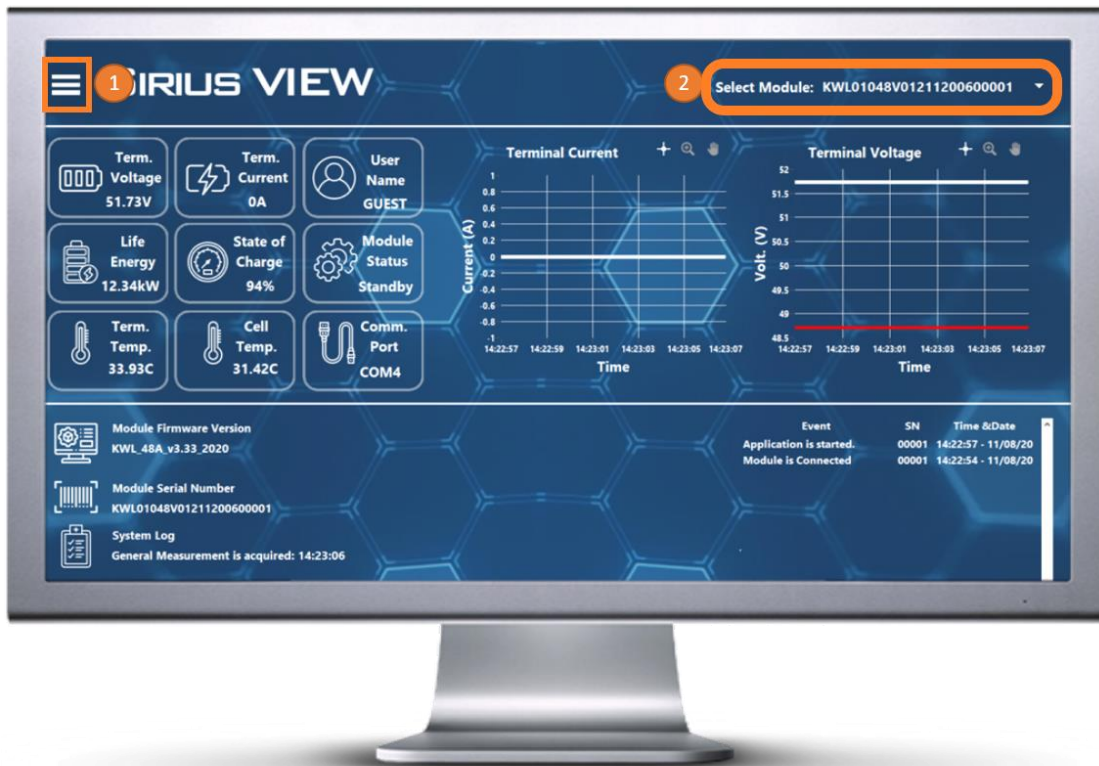
1. Application Banner
2. Sirius VIEW Monitoring Banner
3. Bottom Banner




### 3.1.1 Application Banner:

Sirius VIEW application banner has two functionalities:

1. Feature Button
2. Available Sirius Modules Control



### 3.1.1.1 Feature Buttons Group:

Click on burger menu icon  to see feature buttons. Using these feature buttons, user(s) can:

- Change monitoring pages
- Configure Sirius Module
- Calibrate Sirius Module
- Analyze SD and internal logging files



#### 3.1.1.1.1 LOG IN Button:

Sirius VIEW starts as Guest account without logging in to monitor Sirius Module.

For Configuration, Calibration, SD card Reading and Firmware Upgrade features, user(s) need to login as ADMIN, ENGINEER or TECHNICIAN account with correct password. Please refer to section 4 for the details.

#### 3.1.1.1.2 Dashboard Button:

Dashboard is the first and main page of Sirius VIEW Monitoring UI. This button enables user(s) to return back to the main page if they are at any other page. Please refer to section 3.2 for the details.

#### 3.1.1.1.3 Configure #1 Button:

Configuration button is used to open configuration main panel which allow user(s) to configure and calibrate Sirius Modules. User(s) can only configure the Module if they are logged in as ADMIN, TECHNICIAN or ENGINEER. Each account has its own features which are explained in Section 4.

#### 3.1.1.1.4 Cell Voltages Button:

This feature is only available for Modules that have individual cell monitoring. The voltage range of supercapacitor cell is 2.2V to 2.7V. This page shows the individual cell voltage level of 20 cells along with amplitude vs time graphs. The number of cells may vary depending on the model of the Sirius Modules. This page helps the user(s) to know about the unbalancing and under/over voltage of cells.

#### 3.1.1.1.5 Details Button:

The details button enables the user(s) to know the Module's technical specifications such as:

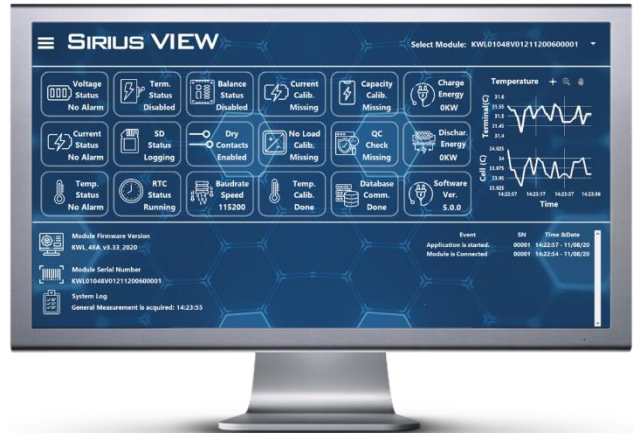
- Communication Type
- Protection Mode
- Nominal Voltage
- Production Date
- Monitoring Type
- Capacity of Module



### 3.1.1.1.6 Analysis Button:

Analysis buttons help user(s) to analyze Sirius Module easily. This page shows:

- Module SOH
- Technical Capabilities of Sirius Module
- Charge and Discharge Energies
- Temperature Graphs (Terminal and Cells)



### 3.1.1.1.7 Alarms Button:

Alarm feature shows the last alarm, and protection condition of parameters of Sirius Module. This page will display alarms of the selected Module from the scroll down menu. Each Sirius Module’s parameters have different alarm and protection conditions which are set according to their specifications.

**Note: User(s) can change the alarm limits if they are logged in as ADMIN, ENGINEER or TECHNICIAN.**



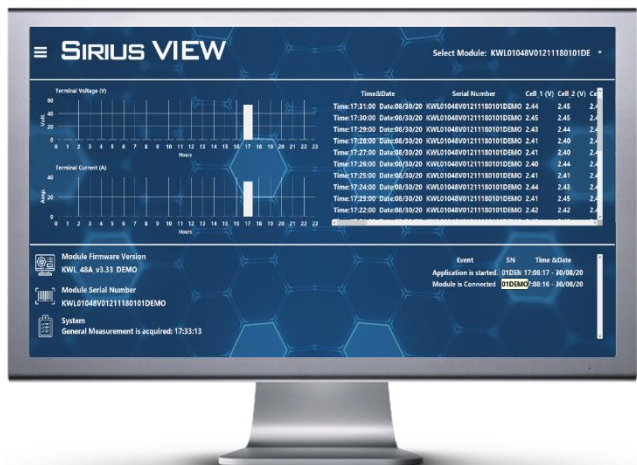
### 3.1.1.1.8 Logs Button:

Logs button feature enables user(s) to see logging data of the selected Module. This page shows logging data of:

- Daily Terminal Voltage (per hour)
- Daily Terminal Voltage (per hour)
- Daily All Module Details (per minute)

Sirius VIEW has also the following additional logs:

- Sirius Module’s Event Logging
- Internal SD Card Logging





### 3.1.1.1.9 Mobile App Button:

Sirius VIEW publishes Module data to Sirius Online Database which is secured and can only be accessed by our customers. By using this feature, user(s) can monitor their Modules anywhere in the world if they have internet access.

User(s) have two options to access the online monitoring of Sirius Module:

#### 1) Sirius VIEW Mobile application:

- Download Sirius VIEW Mobile application from **Google Play**.

**Note:** Click on **MOBILE APP** Button to access download page quickly.

#### 2) Sirius WEB application:

Click the Sirius WEB application link below to register and start monitoring.

<https://www.amberandwaseem.com/SiriusWeb/SiriusWebHome.html>

Online monitoring procedures is explained in detail section 4.

### 3.1.1.1.10 Show All Button:

Sirius VIEW has a user-friendly interface for monitoring Modules in details. However, monitoring multiple Modules may slow down the speed. In this case user(s) can generate small windows which will show LCD of each Module on the system.

By pressing SHOW ALL button, measurement window will be created of the selected Module. Please see below step by step procedure.

1. Drag and drop line for relocating measurement box.
2. Click on close button to terminate measurement box.
3. LCD screen shows individual Sirius Module measurement indicator.



#### 3.1.1.1.11 Log Out Button:

User(s) who logged in as ADMIN, ENGINEER or TECHNICIAN may use log out feature for high security.

#### 3.1.1.1.12 Resize Button:

Sirius VIEW has compatibility for multiple screen resolutions that is why the default size of the screen is in full screen mode to give clear UI and more readability. However, user(s) can resize the screen by clicking on resize button.

#### 3.1.1.1.13 Refresh Button:

Refresh feature has two functions:

1) Sirius VIEW collects all Modules measurement data over Serial communication. In case of fault conditions, Sirius VIEW will not be able to detect Sirius Modules. After maintenance, user(s) need to click on Refresh button to enable Serial Communication.

- Click on the square box to enable Serial Communication.

2) Sirius VIEW continuously record charge and discharge cycles energy. If user(s) want to refresh Energy counter, they need to click on Refresh button.

- Click on the square box to reset Energy Counter.



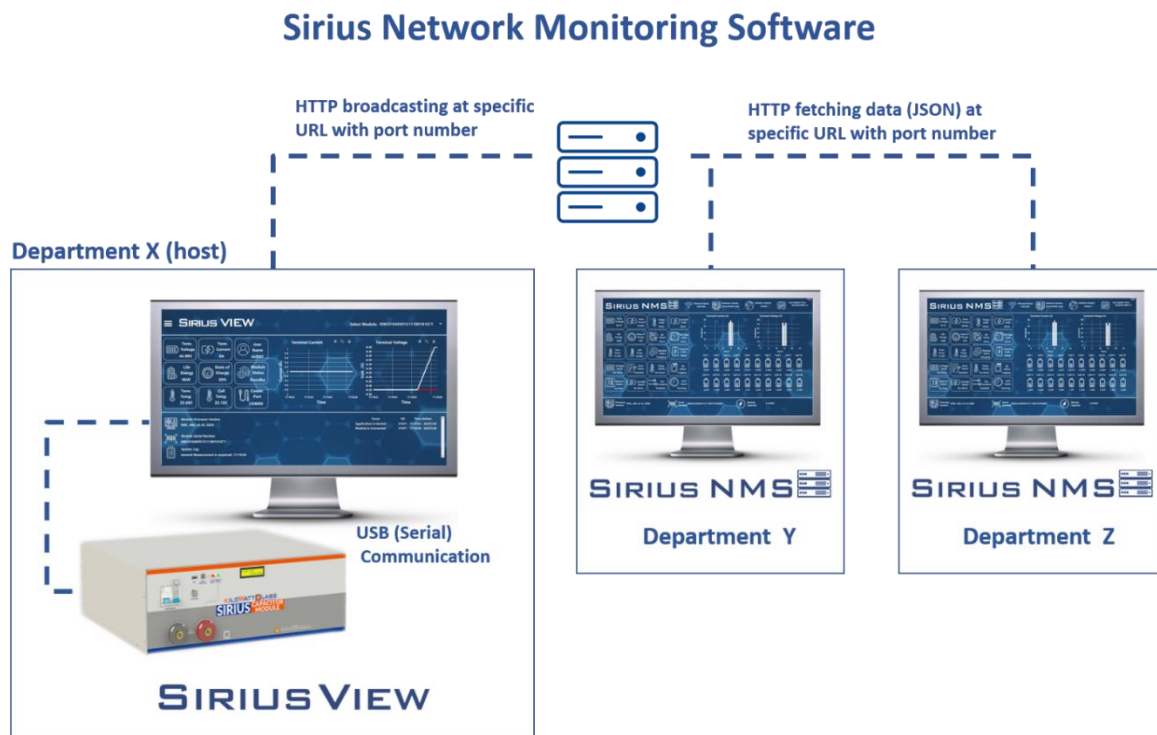
### 3.1.1.1.14 Info Button:

Sirius NMS is a software which enables the user(s) to access multiple Modules in same network without internet connection. Sirius NMS requires an IP address of the PC that is interfaced with Sirius VIEW.

- Click Info button to get the IP address of the host PC.

Click on the link below for detailed Sirius NMS Manual:

[https://www.amberandwaseem.com/upload/SiriusVIEW\\_Software\\_Manuals/Sirius%20NMS%20User%20Manual.pdf](https://www.amberandwaseem.com/upload/SiriusVIEW_Software_Manuals/Sirius%20NMS%20User%20Manual.pdf)





### 3.1.1.1.15 Design Button:

The design button feature help user(s) to customize Sirius Module. user(s) can get design possibilities of Sirius Modules by entering system voltage in the options.

User(s) can also download design software from Amber & Waseem website.



### 3.1.1.1.16 Reports Button:

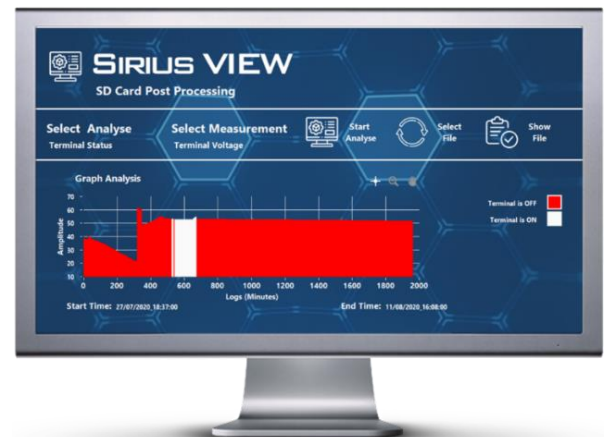
Sirius VIEW logs all details, events, actions, daily measurements, hourly measurements of data in .CSV format. All the report files will be saved in Sirius VIEW application folder.

- Click on Report button to access the folder directly.

### 3.1.1.1.17 Process SD Button:

Sirius Module has a built-in SD card which records every minute data of the measuring parameters. Sirius VIEW reads SD card data and save it in multiple .CSV files for post processing.

user(s) need to click on Process SD button for post processing of all the logged SD card measurements. Follow the steps below to read files from SD Card.



1. Select SD card reading file or multiple files (the processing time depends on the number of files selected).
2. Select the measurement you want to read from file.
3. Select the parameter status you want to analyze.
4. Click on START ANALYSE button.

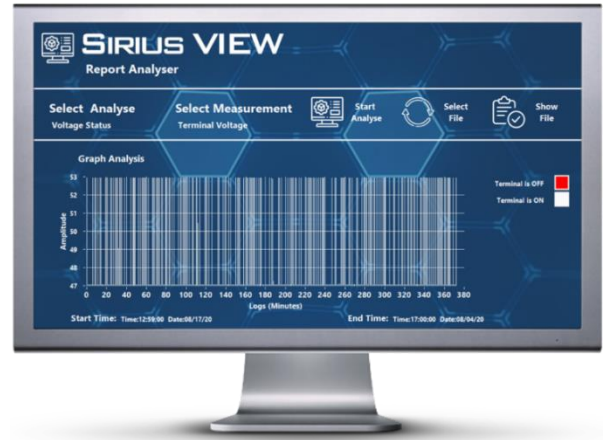
A graphical illustration will be shown based on the analysis. User(s) can change the legends of graph from the side options.

### 3.1.1.1.18 Process File Button:

Sirius VIEW logs all the Module details as hourly and daily per minutes. For post processing of each log file, click on PROCESS FILE button to open up Report analysis window.

Follow the steps below to process Sirius VIEW logs.

- Select file or multiple files (the processing time depends on the number of files selected).
- Select the measurement you want to analyze from file.
- Select the parameter status you want to analyze.
- Click on START ANALYSE button.



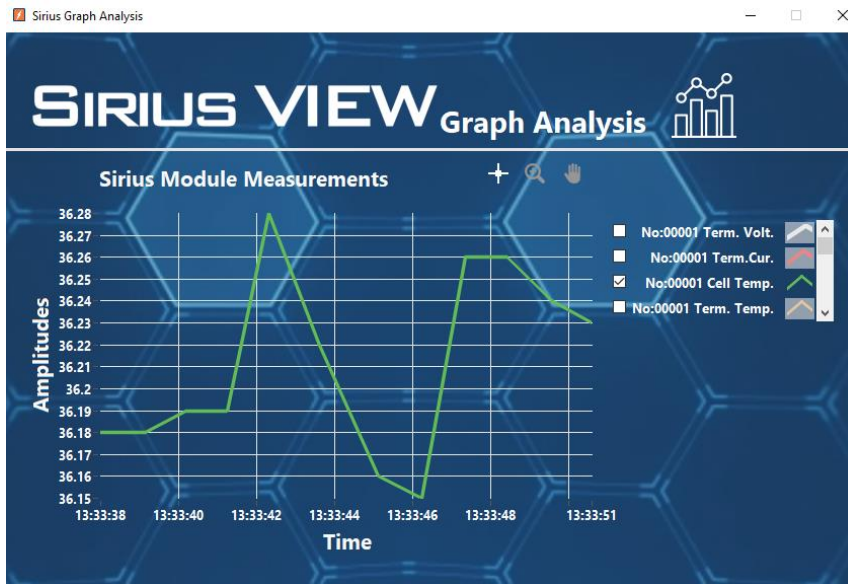
### 3.1.1.1.19 Exit Button:

Exit feature is used to terminate the application.

- Click on Exit button to terminate Sirius VIEW.

### 3.1.1.1.20 Graphs Button:

This page monitors the graphs of current, terminal voltage, individual cell voltage and temperature with respect to time. User(s) can see all Modules parameters graphs at the same time by clicking on the check box.



### 3.1.1.2 Available Sirius Modules Control:

The Sirius controller is used to choose Multiple Sirius Modules from their unique Serial numbers for monitoring. This control chooses 1<sup>st</sup> Module in array as a default. In run-time, user(s) can change the Serial number to monitor different Modules in system.

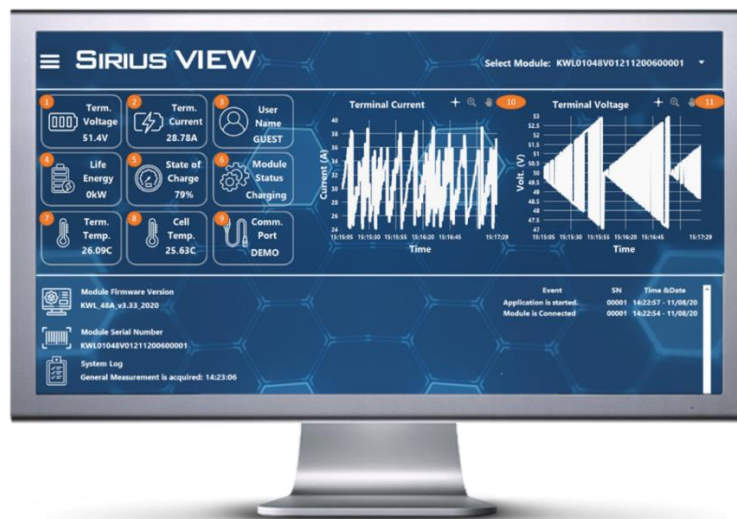
### 3.2 Detailed Monitoring Pages:

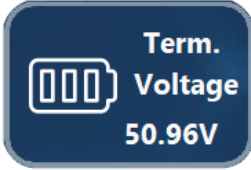
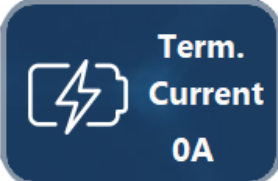
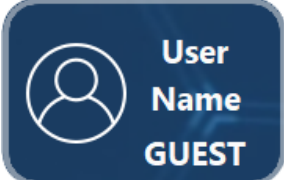

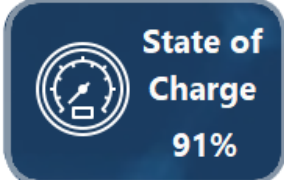
Sirius VIEW has multiple monitoring pages to provide clear and categorized information, more comprehensible measurements and analysis data of Sirius Modules. User(s) can view these pages by using feature buttons, explained in section 1.


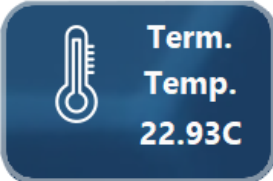
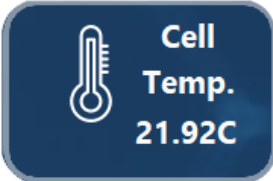

1. Module Dashboard Page
2. Module Analysis Page
3. Module Cell Voltages Page
4. Application Logs Page

#### 3.2.1 Module Dashboard Page:

Dashboard page shows the key performance indicators and graphs of the Sirius Module.



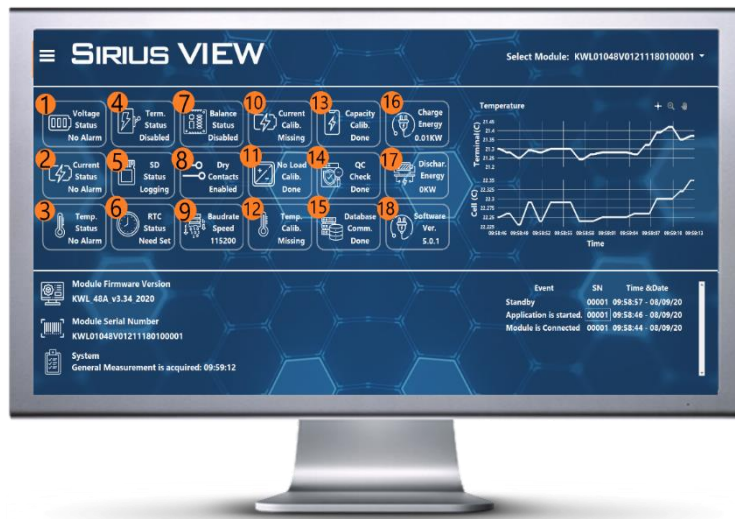
ICON	NAME	DESCRIPTION
	Terminal Voltage indicator	The Terminal Voltage icon indicates calibrated terminal voltage of the Sirius Module.
	Terminal Current indicator	The Terminal Current icon indicates calibrated terminal current of the Sirius Module.
	User (Account) Name indicator	Sirius VIEW has 4 different accounts which has different functionalities. Sirius VIEW will open as GUEST account by default. User Name icon will show the current account in use.
	Life Energy indicator	Life Energy indicates the total amount of energy consumed (in KW) from the beginning.
	State of Charge indicator	State of Charge shows the remaining capacity as a percentage of maximum capacity of Module.

	<p>Module Status indicator</p>	<p>Module status indicates the status of the Sirius Modules.</p> <ul style="list-style-type: none"> <li>• Standby: No Load condition or terminal is disabled.</li> <li>• Charging: Charger is connected to Module.</li> <li>• Discharging: Load /Discharger is connected to Sirius Module.</li> </ul>
	<p>Terminal Temperature indicator</p>	<p>Terminal Temperature represents the temperature of terminals of Sirius Module.</p>
	<p>Cell Temperature indicator</p>	<p>Cell Temperature represents the temperature of cells inside the Sirius Module.</p>
	<p>COM Port indicator</p>	<p>Sirius Modules uses USB interface to establish serial communication. COM Port indicator shows the port name of the connected Module.</p>
	<p>Terminal Current(s) Graph</p>	<p>Sirius VIEW collects measurement of Sirius Modules and generate graphs of Current vs Time. It can represent maximum 15 minutes of data at a time. This graph can show</p>


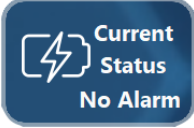
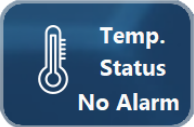
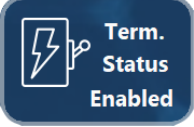
		terminal currents of multiple Modules.
	Terminal Voltage(s) Graph	Sirius VIEW collects measurement of Sirius Modules and generate graphs of Voltage vs Time. It can represent maximum 15 minutes of data at a time. This graph can show terminal Voltage of multiple Modules.

### 3.2.2 Module Analysis Page:

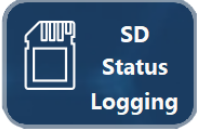


Module Analysis page shows all the status and alarm conditions of Sirius Module in detail. Additionally, it also contains Time & Temperature © graphs of Terminal and Cell temperature.



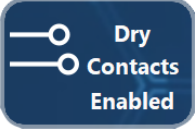

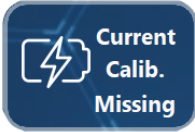
Status and alarm indicators are listed below;

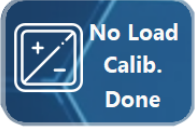
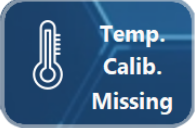
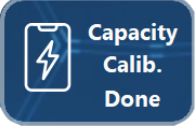
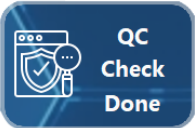
Sr.no	ICON	NAME	DESCRIPTION
1		Voltage Status Indicator	<p>Voltage status indicates voltage alarms of Sirius Module.</p> <p>Voltage alarms are: Cell Too Low, Low Battery, Batt Full, Contact Service.</p>
2		Current Status Indicator	<p>Current status indicates current alarms of Sirius Module.</p> <p>Current alarms are: Over current, tolerate (tolerating till alarm flag rise).</p>
3		Temperature Status Indicator	<p>Temperature status indicates temperature alarms of Sirius Module.</p> <p>Temperature Alarms can be: Cell Over Temperature and Terminal Over Temperature.</p>
4		Terminal Status Indicator	<p>Terminal status indicates whether terminal is enabled or disabled.</p> <p>Terminal should be enabled for charging/discharging the Module.</p>







5		SD Card Status Indicator	<p>SD Status indicates whether internal SD Card data logging is working properly or not.</p> <p>SD Status can be:</p> <ul style="list-style-type: none"> <li>• Logging: SD Card is logging main measurements while Module is turned ON.</li> <li>• Standby: SD Card is functional but data logging is disabled.</li> <li>• Error: SD Card hardware may be damaged or RTC value needs to update time.</li> </ul>
6		RTC Status Indicator	<p>RTC Status indicates whether RTC is working properly or not.</p> <p>RTC Status can be:</p> <ul style="list-style-type: none"> <li>• Running: RTC is functional and working properly.</li> <li>• Need set: RTC is functional but needs calibration.</li> <li>• Not Running: RTC may be not functional or needs calibration.</li> </ul>
7		Balance Status Indicator	<p>This icon indicates whether cell balancing is enabled or disabled. Cells balancing can be activated if user is logged in as ADMIN or ENGINEER.</p>



8		Dry Contact Status Indicator	<p>Some Sirius Modules has Dry Contact output feature. This indicator shows whether Dry contacts are activated or not. Dry contact configuration setup can be activated by pressing “CONFIGURE” button and selecting “Terminal Configuration”.</p>
9		Baud rate Speed Indicator	<p>Sirius VIEW Baud Rate Speed Status indicator represents communication speed between PC and Sirius Module. Default speed rate is 115200 bps.</p>
10		Current Calibration Status Indicator	<p>Sirius Modules are calibrated with accurate sensors before shipment. Current Calibration has two indicators:</p> <ul style="list-style-type: none"> <li>• DONE: Module’ current is calibrated.</li> <li>• Missing: Module’ current is not calibrated.</li> </ul>

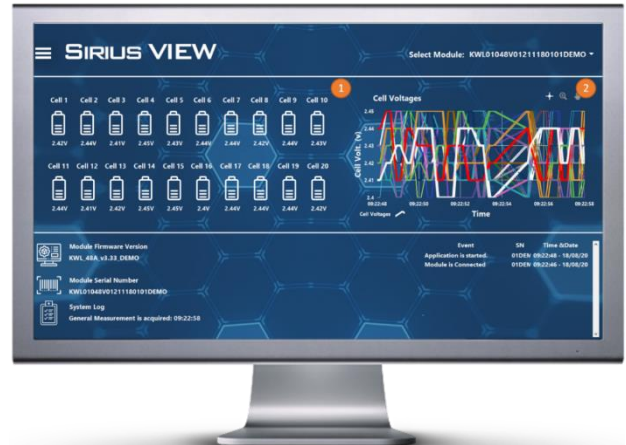
11		No Load Calibration Status Indicator	No load calibration icon indicates that there is offset current, also called ghost value on sensor. When the display shows current under No LOAD conditions, click on CONFIGURE button to make the current zero.
12		Temperature Calibration Status Indicator	<p>Sirius Modules are calibrated with accurate sensors before shipment.</p> <p>Temperature Calibration has two indicators:</p> <ul style="list-style-type: none"> <li>• DONE: Module' temperature is calibrated.</li> <li>• Missing: Module' temperature is not calibrated.</li> </ul>
13		Capacity Calibration Status Indicator	<p>Capacity of Sirius Modules is calibrated before shipment.</p> <p>Capacity Calibration has two indicators:</p> <ul style="list-style-type: none"> <li>• DONE: Capacity is calibrated.</li> <li>• Missing: Capacity is not calibrated.</li> </ul>
14		QC Check Status Indicator	Each Sirius Module is tested for quality check by professionals. If calibration memory of Sirius Module is not damaged, the QC check icon will show DONE.

15		<p>Database Communication Status Indicator</p>	<p>Sirius VIEW has online database which enables user(s) to monitor their Modules from anywhere in the world if they will have internet. Database Communication will indicate done when there will be database communication over internet on host PC.</p>
16		<p>Charge Energy Indicator</p>	<p>This indicator shows the charged energy of the Module. The charge energy will keep on calculating when Sirius VIEW application is running (no interruptions).  If you want to restart energy counter, click on REFRESH button and enable “REFRESH ENERGY” option.</p>
17		<p>Discharge Energy</p>	<p>This indicator shows the discharged energy of the Module. The discharge energy will keep on calculating when Sirius VIEW application is running (no interruptions).  If you want to restart the discharge energy counter, click on REFRESH button and enable “REFRESH ENERGY” option.</p>

18		Software Version	<p>Sirius Modules are shipped with the most updated firmware, however from time to time the company may update the firmware for more accurate measurements and improved features. This indicator shows the version of software to let user(s) know whether software is up-to-date or not.</p>
19		Terminal Temperature Graph	<p>Sirius VIEW collects measurement of Sirius Modules and generate graph of Terminal Temperature vs Time. It can represent maximum 15 minutes of data at a time. This graph shows terminal temperature of the selected Module from the control.</p>
20		Cell Temperature Graph	<p>Sirius VIEW collects measurement of Sirius Modules and generate graph of Cell Temperature vs Time. It can represent maximum 15 minutes of data at a time. This graph shows cell temperature of the selected Module from the control.</p>

### 3.2.3 Module Cell Voltage Page:

This feature is only available for Modules that have individual cell monitoring. This page helps the user(s) to know about the unbalancing and under/over voltage of cells.



This page shows:

1. Cell Voltages
2. Cell Voltages Graph

#### 1. Cell Voltages Indicator:

The voltage range of supercapacitor cell is 2.2V to 2.7V. This page shows the individual cell voltage level of 20 cells. The number of cells may vary depending on the model of the Sirius Modules.

#### 2. Cell Voltages Graph:

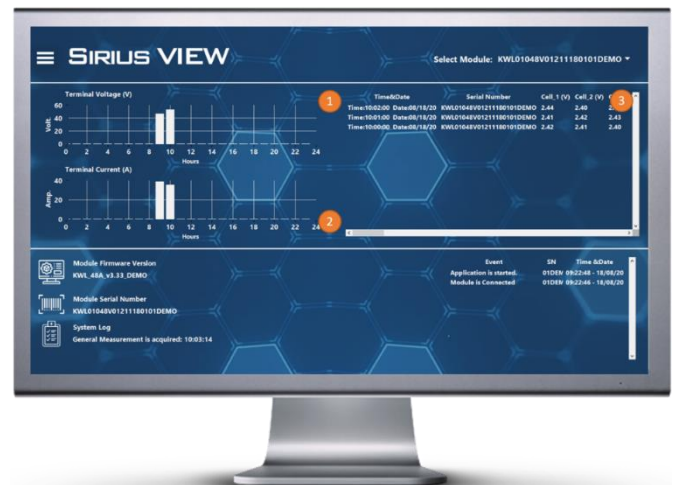
Sirius VIEW enables user(s) to get Cell Voltage vs Time graph of each cell. This graph helps user(s) to know about any failure or anomaly of the cells.

### 3.2.4 Application Logs Page:

Sirius VIEW logs data to monitor and record behavior of Sirius Modules. This page enables user(s) to examine the behavior of Module in detail.

user(s) can read:

1. Daily Terminal Voltage Graph (logged per hour)
2. Daily Terminal Current Graph (logged per hour)
3. Hourly Sirius Module Detailed Table (logged per minute)



#### 1. Daily Terminal Voltage Graph:

This graph shows Terminal Voltage vs Time (in hours) of Sirius Module. This graph enables user(s) to know the voltage behavior of Module in a day.

## 2. Daily Terminal Current Graph:

This graph shows Current vs Time (in hours) of Sirius Module. This graph enables user(s) to know the current behavior of Module in a day.

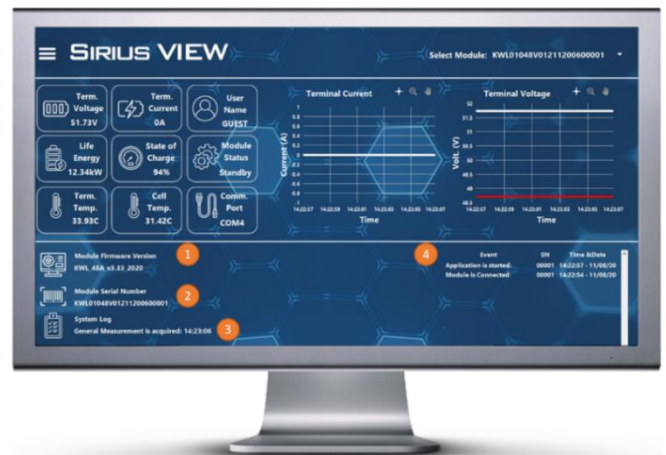
## 3. Hourly Sirius Module Detailed Table:

This table records all the Module's parameters data per minute. All the logged data in the table (daily and hourly) is saved as csv format as daily and hourly. The logged files can be post processed by using "PROCESS FILE" button.

### 3.3 Sirius VIEW Bottom Banner:

Bottom banner shows the following details:

1. Module's Firmware Version
2. Module's Serial Number
3. System Log
4. Event Log Table



#### 1. Module Firmware Version:

This indicator shows the firmware version of Sirius Module.

#### 2. Module Serial Number:

Each Sirius Module has a unique serial number to let user(s) identify the specific Module monitored by Sirius VIEW.

#### 3. System Log Indicator:

System Log indicates the software status, steps or errors to user(s).

#### 4. Event Log Table:

Event log table gives all information of the Modules with time stamp and serial number details. These events can be;

- Terminal Status
- Calibration Status
- Configuration Status
- Alarm Status

- Communication Status

#### 4. Sirius VIEW Login Procedures:

Sirius VIEW enables “qualified user(s)” to configure their Sirius Modules according to the functionality requirements. Sirius VIEW has account control for safety configurations & calibrations of Sirius Module. All configurations require login as Engineer, Technician and Admin.

Login process has two steps:

1. Local password protection
2. OTP code protection

##### 1. Local Password Protection:

Sirius VIEW has four login accounts with different functionalities and passwords. User(s) can only access “Technician” account. “Engineer” and “Admin” accounts are only accessible by qualified engineers from Amber & Waseem.

Account Name	Default Local Password	Account is allowed for
Guest	No password required	Monitoring only
Engineer	Contact with A&W support	All functions
Technician	“TECHNICIAN”	All functions except configuration and calibration
Admin	Contact with A&W support	All special functions

*Table 3: Users Account with specific functionality*

##### 2. OTP Code Protection:

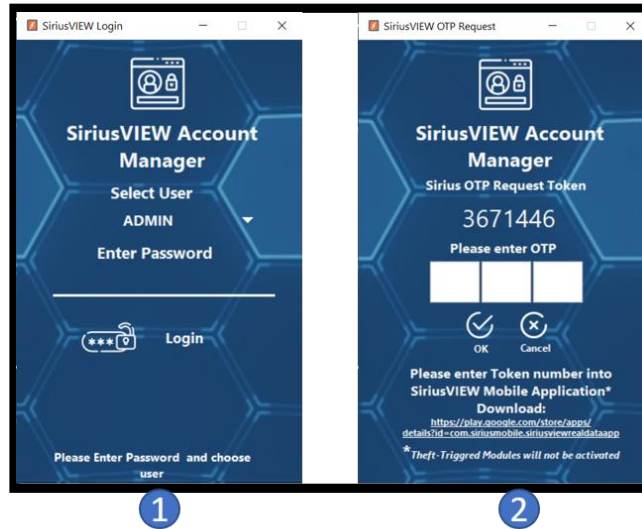
If local password is entered correctly, Sirius VIEW will generate token number for OTP code and user(s) will be asked to enter OTP code which has specifications as below:

1. Code can be used only one-time.
2. Code will be changed every hour.
3. Each Sirius Module will have a unique password.
4. Code is only generated by Sirius VIEW Android Mobile App or Sirius WEB application on Amber & Waseem website.

- In case of any suspicious conditions (ex. Module is stolen), user(s) may inform A&W support team to block the user(s).

#### 4.1 Login Procedure:

- Click on “LOGIN” button and select user(s) account name and account’s password correctly as mentioned in table 3.
- Sirius VIEW desktop app will generate TOKEN number for OTP code.



After second step, user(s) should generate OTP code regarding TOKEN. The OTP code can be generated in two ways.

- OTP Code Generation by Sirius Mobile Android Application
- OTP Code Generation by Sirius WEB Application

##### 4.1.1 OTP Generation by Sirius Mobile Android Application:

- Open Sirius Mobile Android Application.

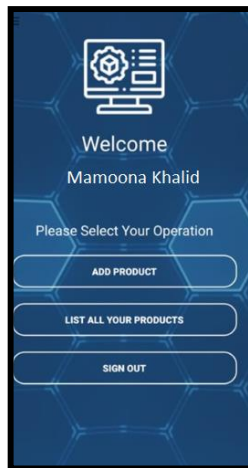




2. Sign in/up with your G-Mail Account.



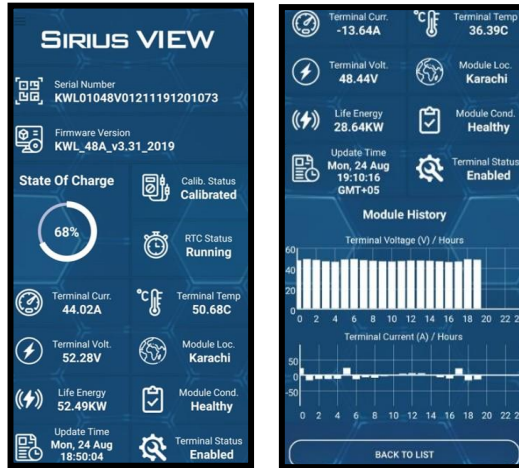
3. If you are using the application for the first time, add your Module and click on ADD PRODUCT button.



4. Enter Module's Serial number, Alias name and TECHNICIAN account password. Click on ADD product button again. If serial number and password are entered correctly, Module will be added.



5. You can now monitor the Module remotely.

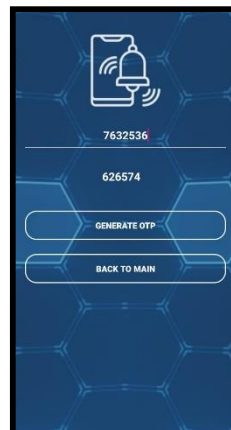


6. Click on BACK TO MAIN button and go to LIST PRODUCTS. Select the Module you want to configure and click on GENERATE OTP button.



7. Enter the TOKEN number generated by Sirius VIEW into the Token bar.

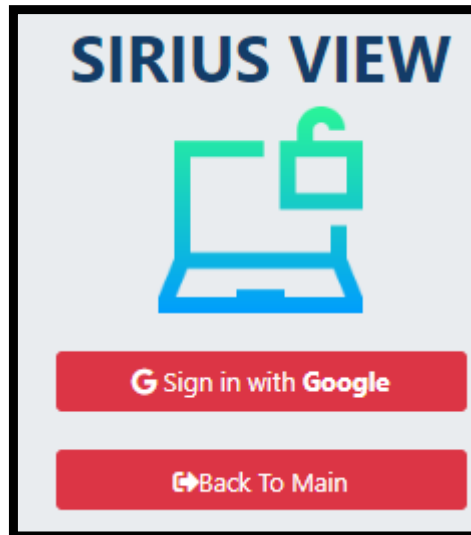
8. Click on GENERATE OTP Button, an OTP code will be generated. Enter the OTP Code in Sirius VIEW code bar.



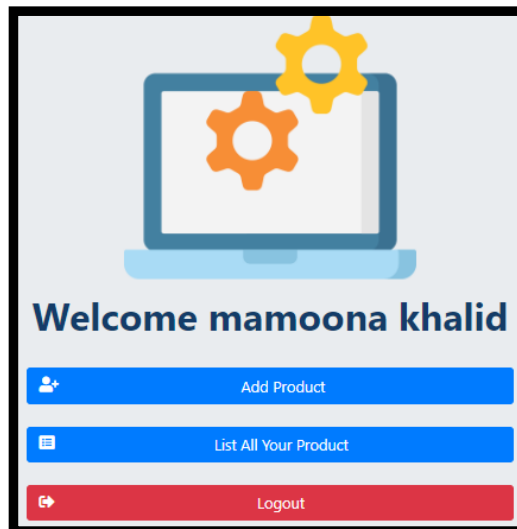
9. If all the steps are done successfully, user(s) will be enabled to login and do Sirius VIEW configurations.

#### 4.1.2 OTP Generation by Sirius WEB Application:

1. Click on the link to open Sirius Web page :  
<https://www.amberandwaseem.com/SiriusWeb/SiriusWebHome.html> or go to <https://www.amberandwaseem.com/> and select Sirius WEB option from dropdown menu.
2. Login or Sign up with your G-Mail account.



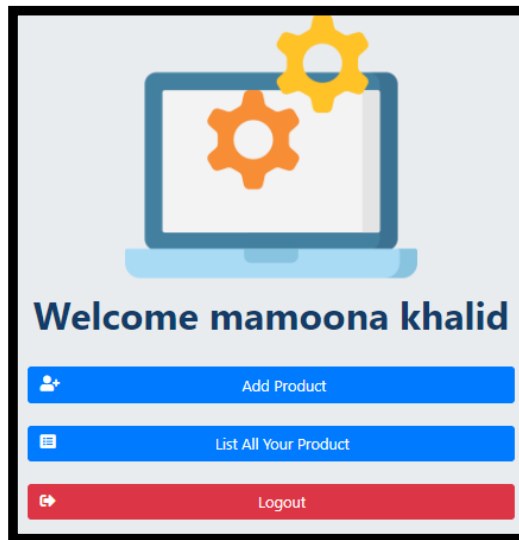
3. If you are using the application for the first time, add your Module and click on ADD PRODUCT button.



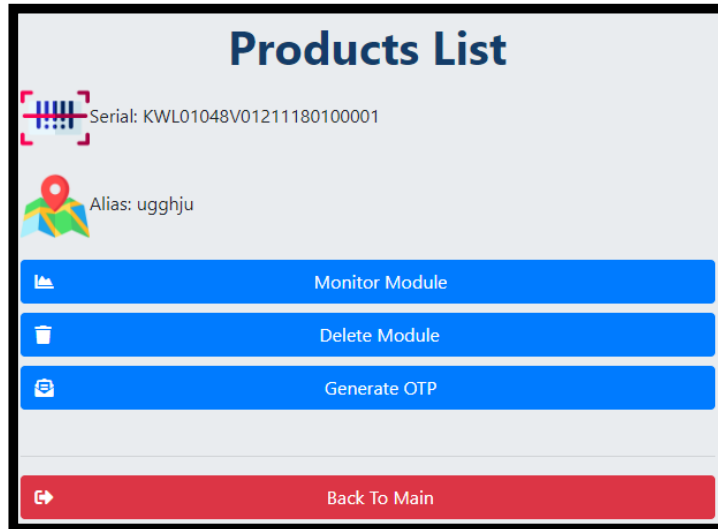
4. Enter your Module's serial number, Alias and TECHNICIAN account password and click SUBMIT.

The image shows two side-by-side screenshots of a mobile application's 'Add Product' screen. Both screens have a light gray background and a blue title bar at the top with the text 'Add Product' in white. The left screenshot shows three input fields: 'Serial' with the placeholder 'Enter Serial', 'Alias' with the placeholder 'Enter Alias', and 'Password' with the placeholder 'Enter Password'. Below the fields are two buttons: a blue 'Submit' button with a white user icon and a red 'Back To Main' button with a white arrow icon. The right screenshot shows the same form with the following values entered: 'KWL01048V01211180100001' in the Serial field, 'Sirius 1' in the Alias field, and 'TECHNICIAN' in the Password field.

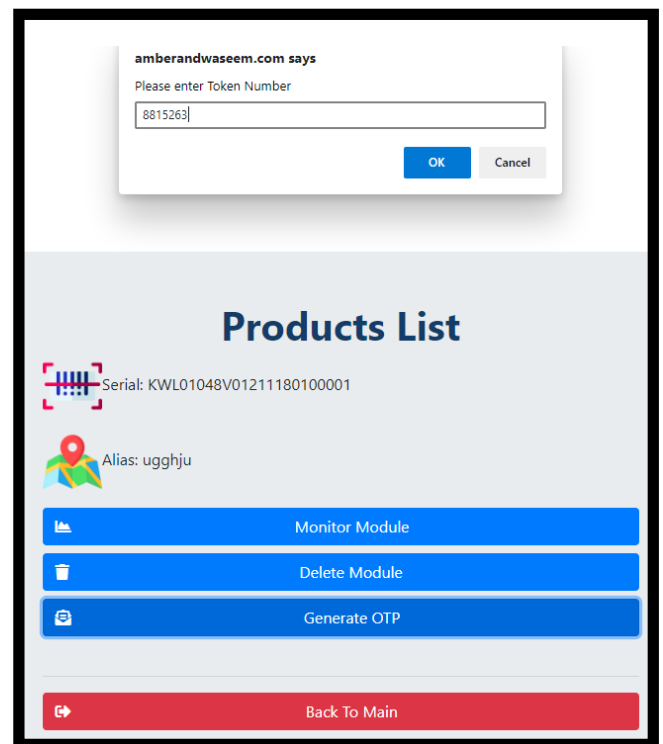
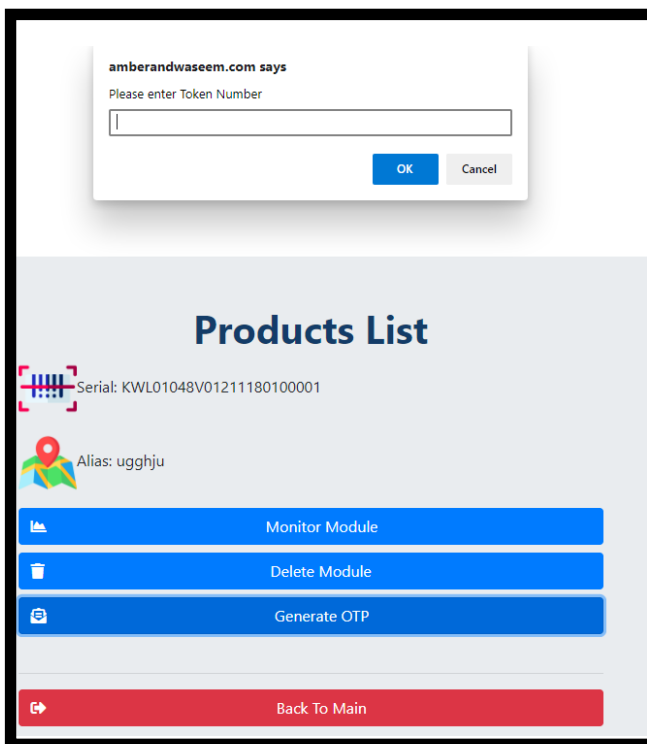
5. Click on LIST YOUR PRODUCTS button to select the Module already added.



6. In the list click on GENERATE OTP button to generate OTP code from TOKEN.



7. Copy generated OTP code and paste it on Sirius VIEW to login.



8. If all the steps are done successfully, user(s) will be enabled to login and do Sirius VIEW configurations.

## 5. Sirius VIEW Configuration & Calibration:

User(s) can only do the configuration only if they are logged in as Qualified account.

user(s) can do the following configurations:

### 5.1 SD Card Settings:

Internal logged data can be easily extracted over Sirius VIEW Monitoring application. SD card can keep logging 30 days of data with 1-minute speed without any interruption.

#### 5.1.1 SD Card Logging Control:

SD Card is OFF by default. To get logged data select SD card logging status and press “Update” button.

#### 5.1.2 SD Card Triggering Control:

In case of SD Card hardware failure, user(s) can restart Module by enabling SD card triggering option. Select trigger status and press “Update” button.

SD Card triggering will restart the Sirius Module to trigger SD card logging.

#### 5.1.3 SD Card Size Reading Control:

Size of internal memory is 4 Gb. This feature shows consumed memory size in bytes.

#### 5.1.4 SD Card Reading:

User(s) can extract all the logged data from internal SD card by pressing “Read” button. The following conditions should be met to read SD Card properly:

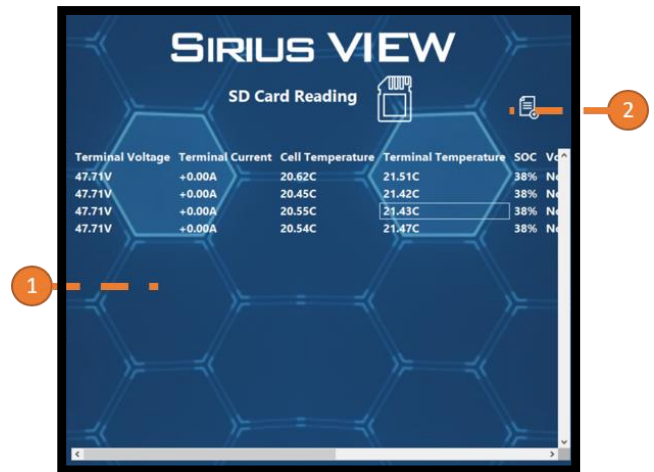
- SD Card Logging should be “Enabled”.



- There should be at least one row of data in SD card (at least 1 minute of data).
- There should not be any RTC failure.

#### 5.1.4.1 SD Card Reading Table:

SD card reading page will be opened after the reading process. This process takes about 1 to 15 minutes depending on the size of the data. SD card will record all vital measurements of Module as a minute period with time stamp. When SD card reading is done, Sirius VIEW will log all the data in an excel file report.



#### 5.1.4.2 SD Card Logging Path:

SD card logging path button is used to open the report folder of SD Card logged data.

### 5.2 Firmware Settings:

As firmware carries out the integral functions of hardware, firmware updates bring some alterations in the program, which are necessary to enable the Module to operate proficiently.

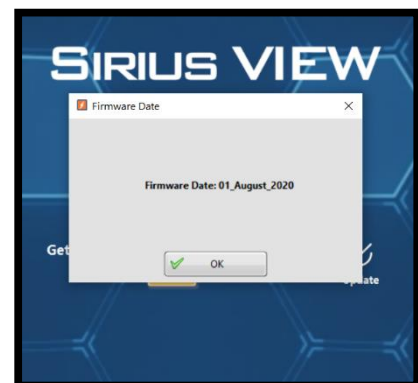


#### 5.2.1 Get Firmware Date:

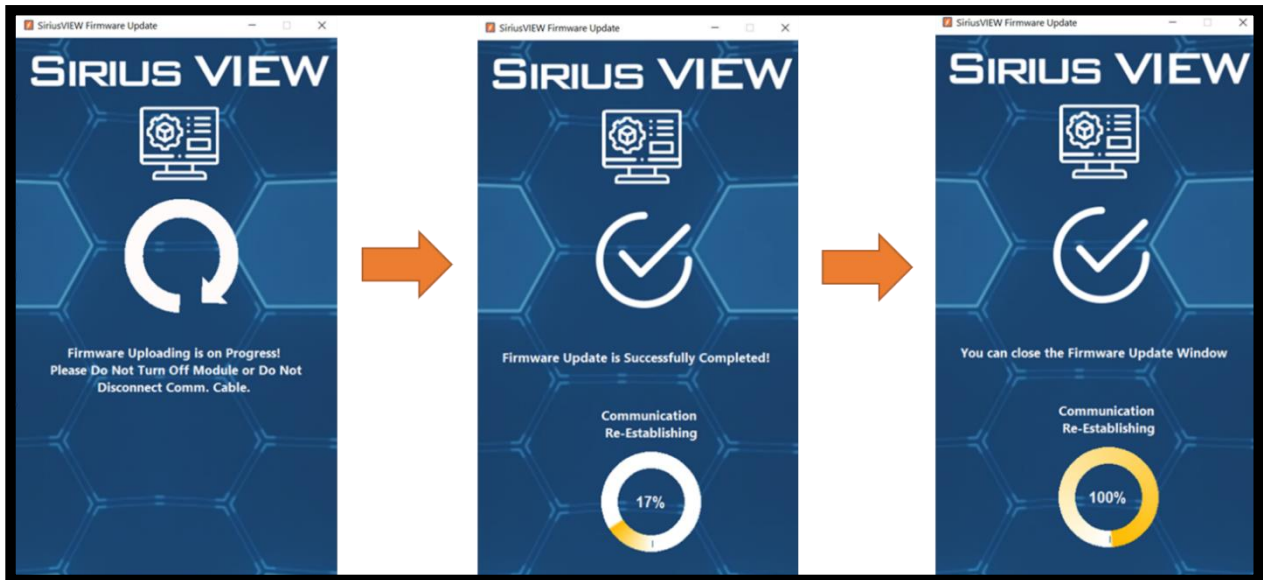
The firmware date shows the release date of the firmware.

#### 5.2.2 Firmware Update:

Firmware is updated by clicking on Firmware Update button. Module will be in sleeping mode during uploading. Do not turn off any switch or remove any communication cables. Firmware Updating may take up to 1 minute.





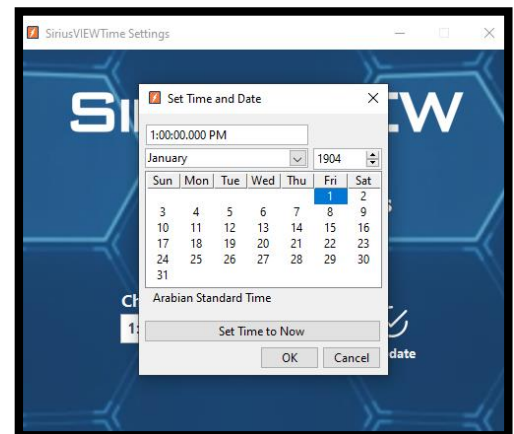
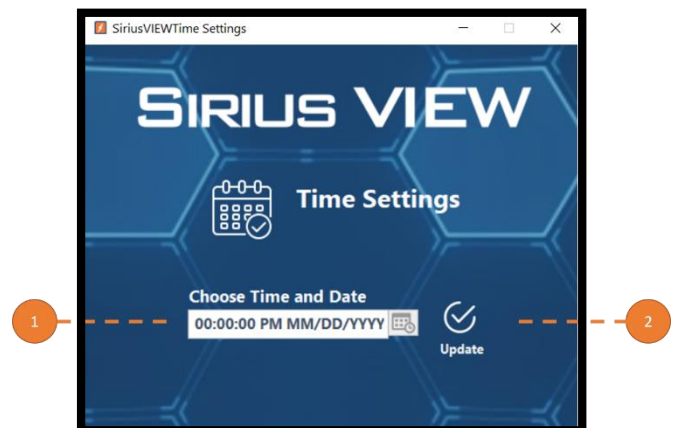


### 5.3 Time (RTC) Settings:

Each Sirius Module has internal real time clock to keep SD card logging with correct time stamp. User(s) can set time in to two ways.

1. Manually: Set time from the keyboard.
2. Date Picker Content Control: Set the time from date picker control by clicking on it as illustrated.
  - You can adjust the time from calendar or by clicking Set Time to Now. Set Time to Now will set the date and time automatically from your PC.

Click on Update button to confirm the settings.





## 5.4 Terminal Settings:

### 5.4.1 Toggle Terminal Status:

This feature is for user(s) who cannot access their Module(s) physically. Toggle Terminal Status enables user(s) to toggle remotely the terminal status.

- Select Disabled/Enabled from the options.
- Click “Update” button to confirm.

### 5.4.2 Activation Status:

Terminal Status is used to activate terminals. Activation safety is ON by default. When the Module is turned ON it will ask for activation. You can activate it by pressing fault reset button on the Module or by enabling terminal configuration from Sirius VIEW. If you disabled activation safety, terminals will be activated automatically when the Module is turned ON.

- Select Disabled/Enabled from the options.
- Click “Update” button to confirm.

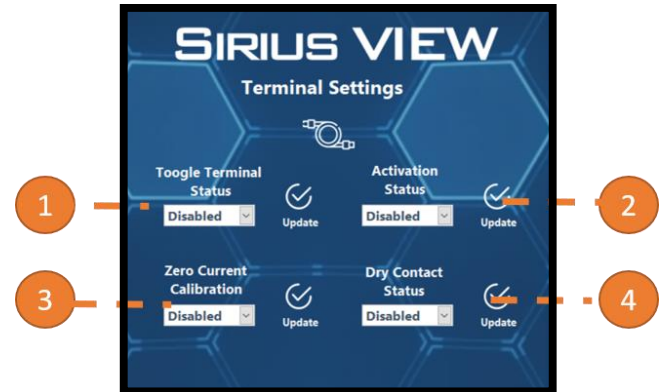
**Note: Terminals should not be activated while Module is idle to avoid hazards.**

### 5.4.3 Zero Current Calibration:

Terminal Current Sensor of Sirius Module may have small offset value due to long storage period or temperature effect. User(s) can clear offset current from the options.

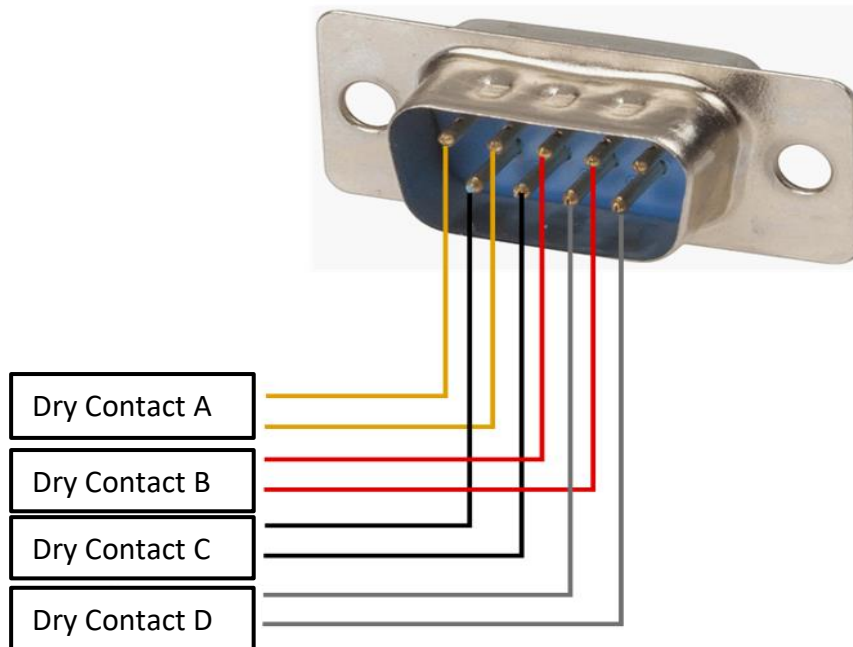
- Select Disabled/Enabled from the options.
- Click “Update” button to confirm.

Module terminal should be disabled while this calibration.



#### 5.4.4 Dry Contact Status:

DB-09 connector is used for dry-contact.



- **DB9 Pin Configuration:**

Dry Contact A – Pin 1 and Pin 2

Dry Contact B – Pin 3 and Pin 4

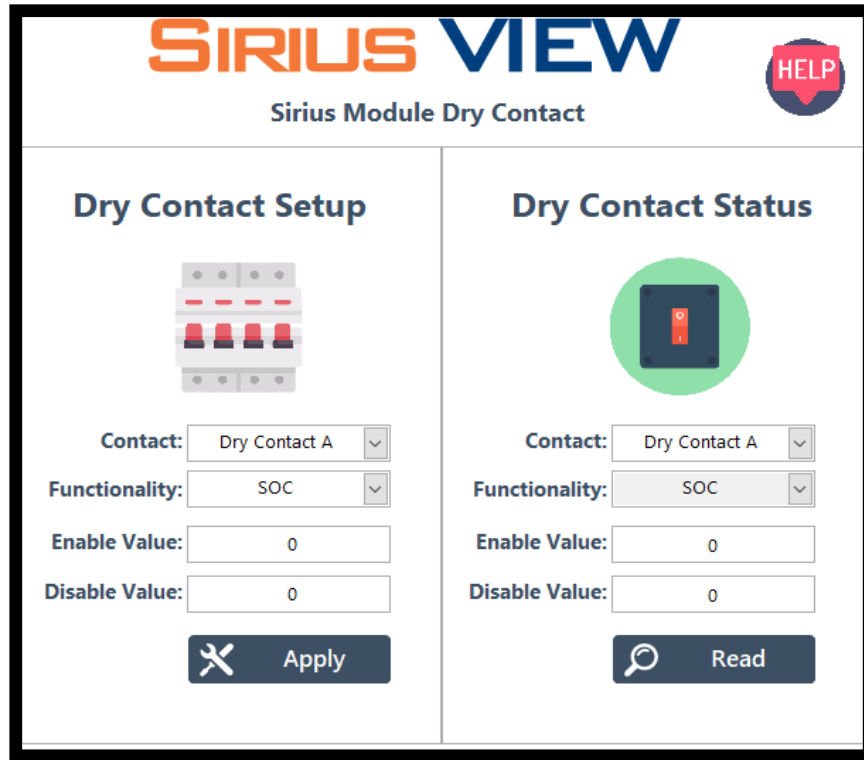
Dry Contact C – Pin 6 and Pin 7

Dry Contact D – Pin 8 and Pin 9

Some Sirius Modules has dry contact feature which enables user(s) to customized their output such as:

- Terminal Voltage Status
- SOC Percentage Status
- Terminal Temp. Status
- Terminal Status

- Select Disabled/Enabled from the options.
- Click “Update” button to confirm.



• **Low Voltage Mode:**

The Dry contact will short its respective pins when the total voltage drops lower than or equal to the turn ON value. It will open its respective pins if the total voltage is higher than the turn OFF value.

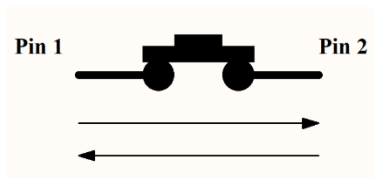


Figure 1: Total Voltage  $\leq$  Turn ON value; pin 1 and pin 2 are shorted.

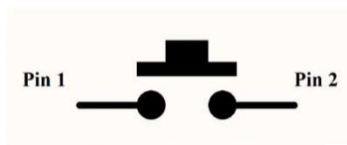


Figure 2: Total Voltage  $>$  Turn OFF value; pin 1 and pin 2 are open.

- **High Voltage Mode:**

The Dry contact will short its respective pins when the total voltage is higher than or equal to the turn ON value. It will open its respective pins if the total voltage is lower than the turn OFF value.

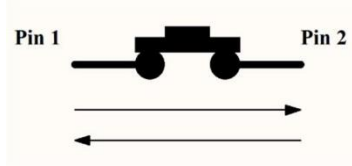


Figure 3: Total Voltage  $\geq$  Turn ON value; pin 1 and pin 2 are shorted.

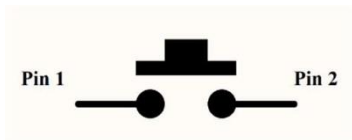


Figure 4: Total Voltage  $<$  Turn OFF value; pin 1 and pin 2 are open.

- **State of Charge (SOC) Mode:**

There are two types of SOC Mode.

**Mode 1 (Dry Contact A, B and C):**

The Dry contact pins will get short if the Module has equal or higher SOC than turn ON value. If the Module has lower SOC than turn OFF value, dry contact pins will get open.

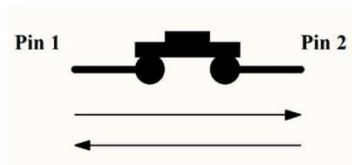


Figure 5: SOC  $\geq$  Turn ON value; pin 1 and pin 2 are shorted.

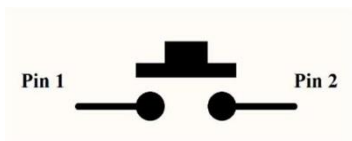


Figure 6: SOC  $<$  Turn OFF value; pin 1 and pin 2 are open.

**Mode 2 (Dry Contact D):**

This feature is available only for Dry Contact D and firmware version of 3.32 or higher. The Dry contact pins will get short if the Module has lower SOC than turn ON value. If the Module has equal or higher SOC than turn OFF value, dry contact pins will get open.

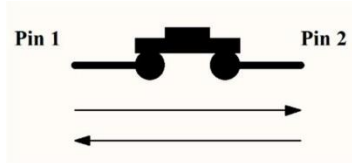


Figure 7: SOC < Turn ON value; pin 1 and pin 2 are shorted.

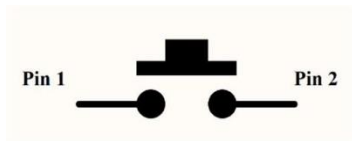


Figure 8: SOC >= Turn OFF value; pin 1 and pin 2 are open.

- **High Current Mode:**

If the Module current is equal to or greater than the turn ON value, the dry contact pins will get shorted, where as it will get open if the Module current is less than the turn OFF value. Note that the high current in dry contact is limited to a value of 250A.

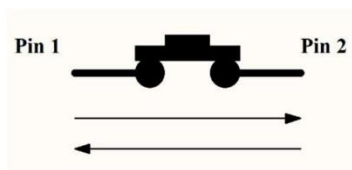


Figure 9: Current >= Turn ON value; pin 1 and pin 2 are shorted.

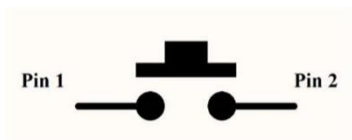


Figure 10: Current < Turn OFF value; pin 1 and pin 2 are open.

- **High Cell Temperature Mode:**

If the cells temperature (T) on LCD display is equal or greater than the turn ON value the dry contact pins will get shorted, while if it drops less than the turn OFF value the dry contact pins will get open.

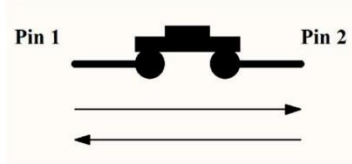


Figure 11: Cells Temperature (T)  $\geq$  Turn ON Value; pin 1 and pin 2 are shorted.

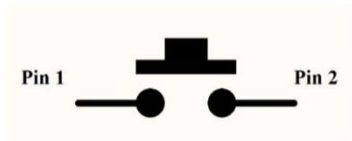


Figure 12: Cells Temperature (T)  $<$  Turn OFF Value; pin 1 and pin 2 are open.

- **Module Terminal Temperature:**

Terminal temperature (X) is the temperature of the F08 terminals.

- **Module Terminal Status:**

The Dry Contact will short its pins when the terminal status is activated and vice versa. This feature is available in firmware version 3.32 or higher.

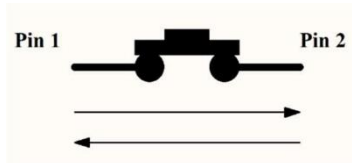


Figure 13: Module Terminal is active (Voltage output from the terminal); pin 1 and pin 2 are shorted.

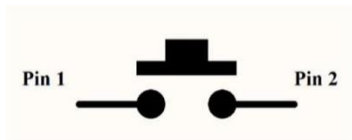


Figure 14: Module Terminal is inactive (No voltage output from the terminal); pin 1 and pin 2 are open.

## 5.5 LCD Settings:

### 5.5.1 LCD Contrast:

LCD contrast is configurable. User(s) can set LCD contrast from 1 to 100% based on lighting conditions.

### 5.5.2 Low Power Status:

Low Power status feature help user(s) to save energy by decreasing some non-vital performance of Sirius Module like communication and LED backlighting. There will be no difference at Module energy storage specs even in low power mode.

## 5.6 Balancing Settings:

Sirius Module has two types of balancing modes.

1. Generic Balancing
2. Sirius Balancing

### 5.6.1 Generic Balancing:

Generic Balancing can be activated from any voltage level when the Module is in standby state. When all the cells get balanced, the balancing will stop.

- Select Disabled/Enabled from the options.
- Click “Update” button to confirm.

### 5.6.2 Sirius Balancing:

Auto balancing is activated automatically during charging when the cells get unbalanced.

**Note! Auto balancing is activated only when the Module Voltage reaches ~52 V.**





## 5.7 Module Configuration:

Sirius Modules have 4 different alarm conditions which user(s) can enable/disable or change alarm limits if/when necessary.

All Sirius Modules have their default alarm limits based on their specifications. All these alarms are already configured and checked at Amber & Waseem’s facilities by professionals.

### 5.7.1 Alarm Limits:

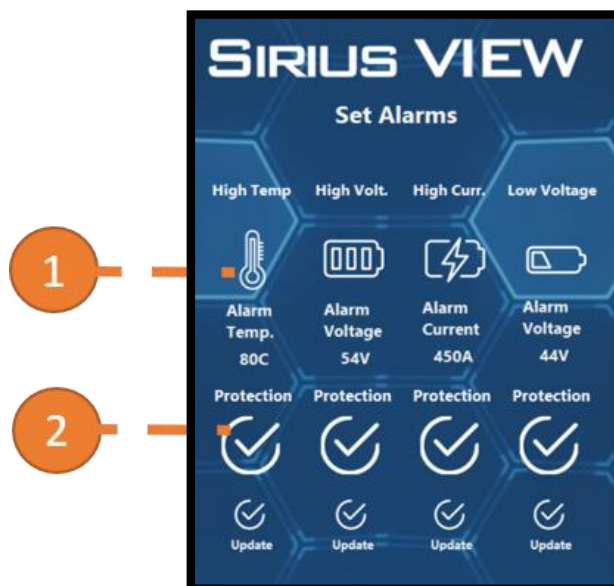
Sirius Modules have the following four different alarm configurations;

1. High Temperature
2. High Voltage
3. High Current
4. Low Voltage

user(s) can change default configuration limits manually in case of need.

### 5.7.2 Alarm Protection:

Sirius Modules have all the alarms settings with protection feature as default. In case of any alarm condition, Module terminals will be disabled automatically till the alarm condition is passed. This feature is not recommended in case of critical applications like telecom or military. In critical applications, user(s) may disable protection (auto terminal disabling) feature to keep terminals ON even in alarm condition.



Protection



Disabled

Protection



Enabled

## 5.8 Module Calibration:

Each Sirius Modules are configured and calibrated before shipment but electronic sensors can lose their calibrations by severe environmental conditions like high & low temperatures or vibration. User(s) can re-calibrate the sensor measurements of Sirius Module anytime.

### 5.8.1 Calibration monitoring:

Sirius VIEW enables user(s) to monitor Sirius Modules while calibrating on real – time. User(s) can also calibrate their system remotely.

### 5.8.2 Calibration Method:

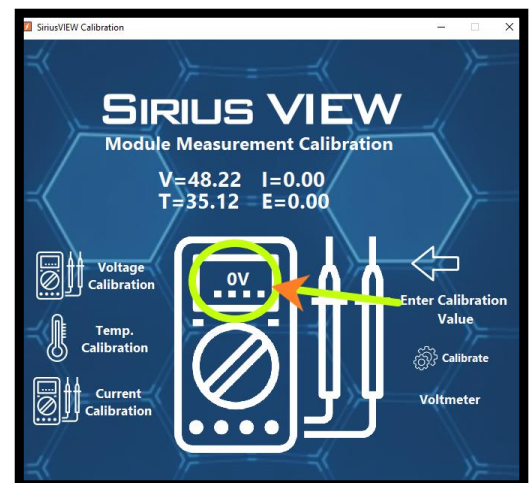
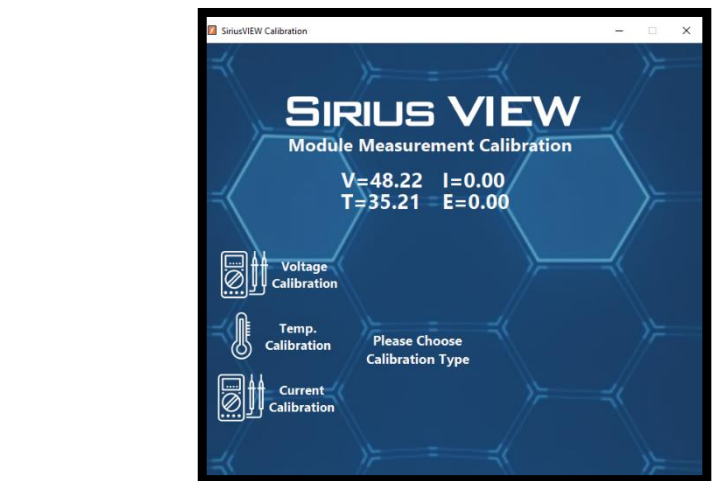
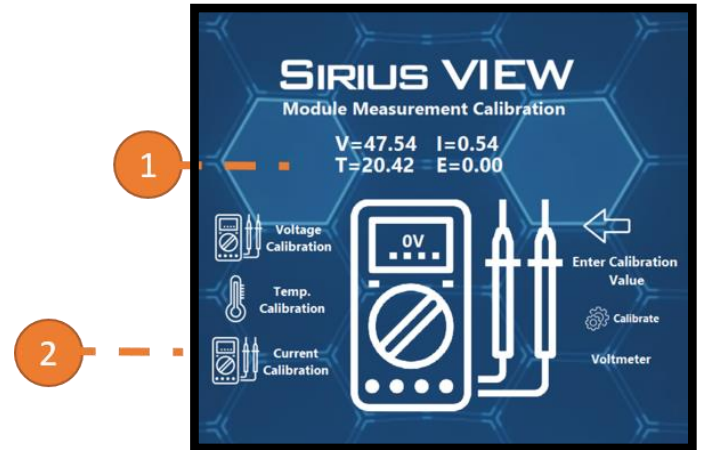
User(s) can do the following calibrations:

- Terminal Voltage
- Terminal Current
- Terminal Temperature.

#### 5.8.2.1 Terminal Voltage Calibration:

Follow the steps below to calibrate Voltage.

1. Login as Engineer or Admin Account.
2. Go to Sirius VIEW configurations.
3. Now, Go to Module Calibration.
4. Click on Voltage Calibration.
5. Module Voltage Reading gives the present voltage value displayed on LCD. Measure the voltage from the terminals using multimeter.
6. Enter the calibration value as highlighted and click on calibrate.



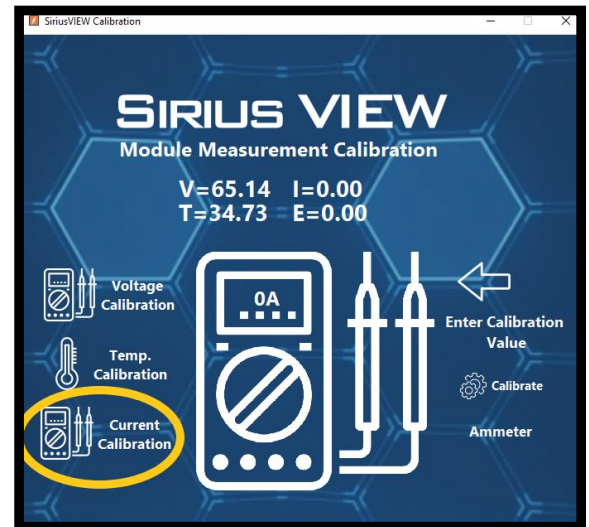
### 5.8.2.2 Current Calibration:

Follow the steps below to calibrate current.

1. Connect a discharger with the Module and start discharging it with any current for few minutes. Write the current value in the Current Calibration text box and click on Calibrate button.
2. Now disconnect the discharger and connect Charger with the Module. Start Charging the Module with the same current for few minutes. Write the Charging Current value in the Calibration Current text box and click on Calibrate Button.
3. Wait for 5 seconds, Module Current Reading will be updated.

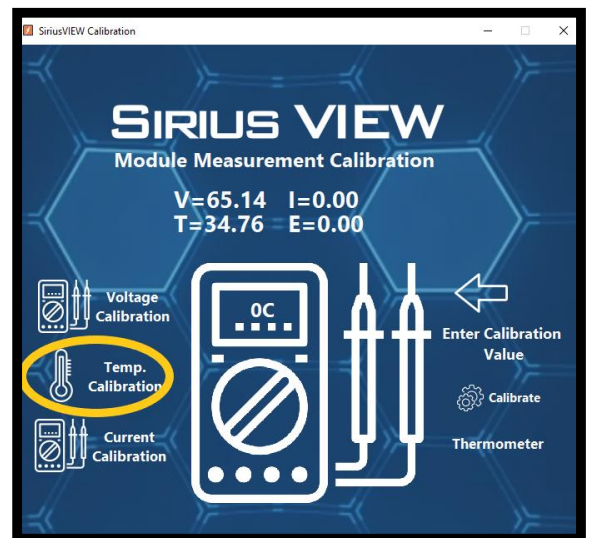
**Note: Remember! Always start with discharging the Module first.**

**Note: We recommend to use high current.**



### 5.8.2.3 Temperature Calibration:

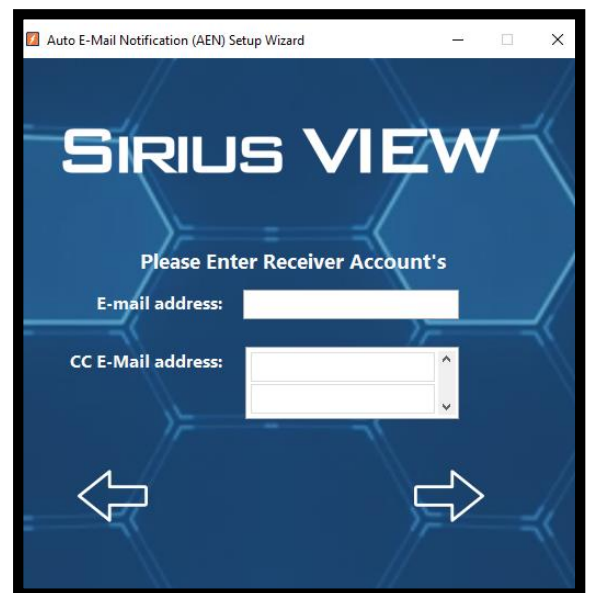
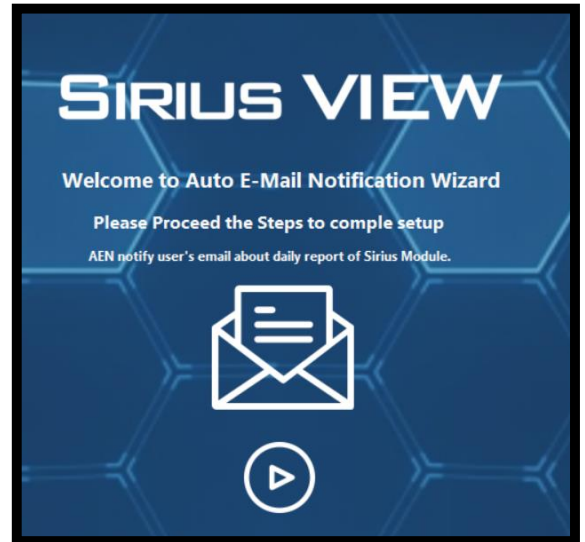
1. Take a temperature sensor and note the Temperature value. Write the value in the Calibration temperature text box and click on Calibrate.
2. Temperature value will be updated after 5 seconds.



## 5.9 E-Mail Settings:

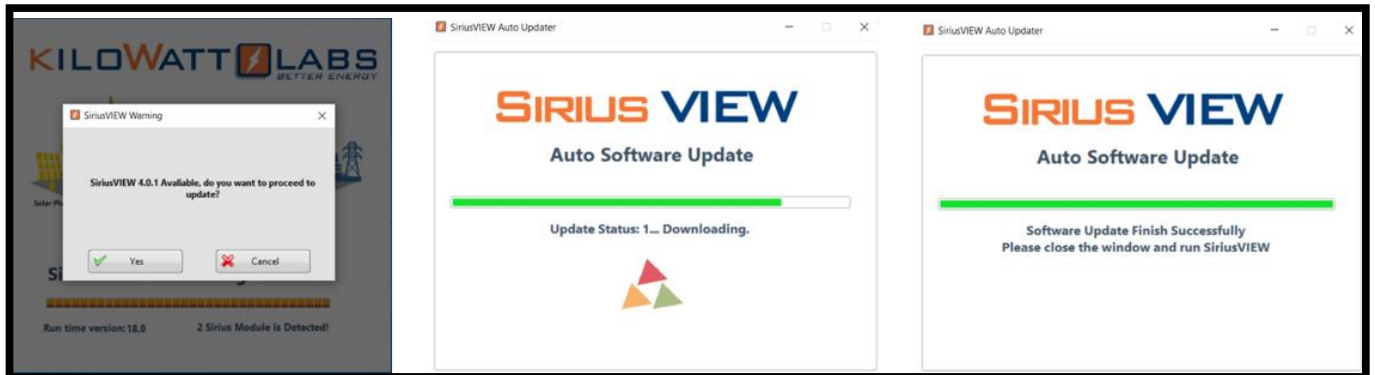
Sirius Module has auto e-mail feature that will notify user(s) about terminal status (if disabled), alarm status (Voltage, Current, Temperature) and daily report of the Module at the end of the day.

- Fill out the e-mail address and the cc email address boxes.
- Click on next arrow, it will ask for test e-mail.
- Click on send and next button, a test e-mail will be sent to your e-mail address.



## 6. Updating Sirius VIEW Automatically:

Sirius Modules are shipped with the most updated firmware. However, from time to time the company may update the firmware for more accurate measurements and improved features. A notification will be sent to the email address when a new version is released. To update the latest firmware version, click on YES to confirm.



## 7. FAQ:

**Q) Sirius Module is connected to PC and is running but the communication for Sirius VIEW does not start, what should I do?**

A) There can be many reasons for this issue:

- If system uses USB Hub, try to communicate over multiple USB ports of PC, not USB Hub.
- Use another port of PC.
- Use another USB cable for interfacing Sirius Module with PC.
- If Sirius VIEW app is already executed, press “REFRESH” button by enabling refresh communication option.

**Q) How will I know that my Sirius VIEW app is up-to-date?**

A) If PC is already connected to internet, Sirius VIEW can check most updated version and current version and give automatic notification to user(s). If update is due, user(s) will be notified.

**Q) How will I login and get password to configure system?**

A) There are multiple credentials and accounts for Sirius VIEW as shown below;

Account Name	Default Account Password	Account is allowed to
Guest	No Password required	Only Monitoring
Engineer	Contact with A&W support	All Functionality
Technician	“TECHNICIAN”	All Functionality except Configuration & Calibration
Admin	Contact with A&W support	All & Special functionalities

User(s) can only access TECHNICIAN account by default to do basic configurations. If user(s) want to access Admin or Technician account, please contact A&W support team.

**Q) Sirius VIEW Automatic update is giving “Network Error” output, what should I do?**

Sirius VIEW Auto updater works as torrent download, because of this behavior, some anti-virus apps can block the update procedure. First solution can be pausing anti-virus app. Second solution is downloading the most updated Sirius VIEW Installer from A&W website.

<https://www.amberandwaseem.com/downloads.html>

**Q) Sirius VIEW opened and communicates well but screen resolution is not fitting on my screen. What is the solution?**

Sirius VIEW provides full screen monitoring experience for better readability and details but it gives limitation of resolution. Currently Sirius VIEW supports 7 different resolution:

- 1024 x 600 px (7inch touch panel)
- 1280 x 720 px
- 1280 x 800 px
- 1366 x 768 px
- 1440 x 900 px
- 1536 x 864 px (1920x 1080 px with %125 scaling)
- 1920 x 1080 px

User(s) can apply the above resolutions to their display.

Contact A&W support team if you need resolution other than mentioned above.