Conext™ Insight

User Manual

975-0741-01-01 Revision A
July 2016

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Date and Revision

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About This manual

Purpose

The purpose of this User Manual is to provide explanations and procedures for the operation of the Internet portal Conext Insight.

Scope

The manual provides information and guidelines for registration, getting started and procedures for operating Conext Insight.

Audience

The information in this document is intended for installers and operators using Conext Insight for remotely monitoring the performance of Photovoltaic sites.

Organization

This manual is organized into the following chapters:

Chapter 1, “Introduction” provides a general overview of Conext Insight.

Chapter 2, “Getting Started” provides information and procedures on how to use Conext Insight and how to register a new site.

Chapter 3, “Operation” contains information on how to use Conext Insight for ongoing performance monitoring of the Photovoltaic sites using Conext range of devices.

Chapter 4, “Troubleshooting” describes the issues which may occur during the configuration of Conext CL / ComBox connectivity to Conext Insight and the recommended solution.

Save this manual for easy access during the installation and operation of Conext Insight.

Abbreviations and Acronyms

Term	Definition/description
HMI	Human Machine Interface
NTP	Network Time Protocol
DHCP	Dynamic Host Configuration Protocol
PV	Photovoltaic

Related Information

You can find more information about Schneider Electric- Solar, as well as its products and services, at **http://solar.schneider-electric.com**.

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Important Safety Instructions

READ AND SAVE THESE INSTRUCTIONS - DO NOT DISCARD

This document contains important safety instructions that must be followed during installation procedures (if applicable).

Read these instructions carefully and look at the equipment (if applicable) to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a **Danger** or **Warning** safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, can result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, can result in moderate or minor injury.

NOTICE

NOTICE indicates important information that you need to read carefully.

Safety Information

1. Before using this product, read all instructions and cautionary markings on the unit and all appropriate sections of this manual.
2. Use of accessories not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons.
3. The manufacturer recommends that all wiring be done by a certified technician or electrician to ensure adherence to the local and national electrical codes applicable in your jurisdiction.
4. To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that wire is not undersized. Do not operate the equipment with damaged or substandard wiring.
5. Do not operate the equipment if it has been damaged in any way.To reduce the chance of short-circuits, always use insulated tools when installing or working with this equipment. Do not leave tools inside.
6. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with electrical equipment.

⚠⚠ DANGER

ELECTRICAL SHOCK AND FIRE HAZARD

Installation including wiring must be done by qualified personnel to ensure compliance with all applicable installation and electrical codes including relevant local, regional, and national regulations.

Failure to follow these instructions will result in death or serious injury.

⚠ WARNING

HAZARD OF PHYSICAL INJURY AND UNEXPECTED OPERATION

Refer to detailed information in this guide when making any changes to settings or sending commands. Commands sent to this device may affect other components in the system. Ensure that anyone working with the system is aware of the result of your changes before sending a command.

Failure to follow these instructions can result in death or serious injury.

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1 Introduction

Chapter 1, “Introduction” provides a general overview of Conext Insight.

It contains information about:

- Description
- Compatible Products
- Features

Description

Conext Insight is a remote monitoring and asset management platform for distributed PV sites using Conext range of products. Conext Insight allows a single login access to all your distributed PV sites remotely using Internet connected devices like computers (desktops or laptops) and tablets. This means you can register yourself at Conext Insight as an installer to remotely monitor a portfolio of sites while granting access of individual sites to your customers.

The intuitive dashboard helps you get a snapshot of energy use and production. The historical charts help you to analyze the site performance over a period of time. You can easily download the charts to share them with your colleagues and customers. Conext Insight provides you with access to device status and events log for easy remote diagnostics.

Conext Insight keeps you up-to-date with information about your PV sites' performance, anywhere, anytime.

Conext Insight supports remote monitoring for two types of applications:

a) **Decentralized grid-tie applications for small commercial rooftops**: sites of up to 16 Conext CL Inverters with direct connectivity to Conext Insight.

b) **Battery based distributed PV applications**: sites with Conext ComBox and its battery based Inverters.

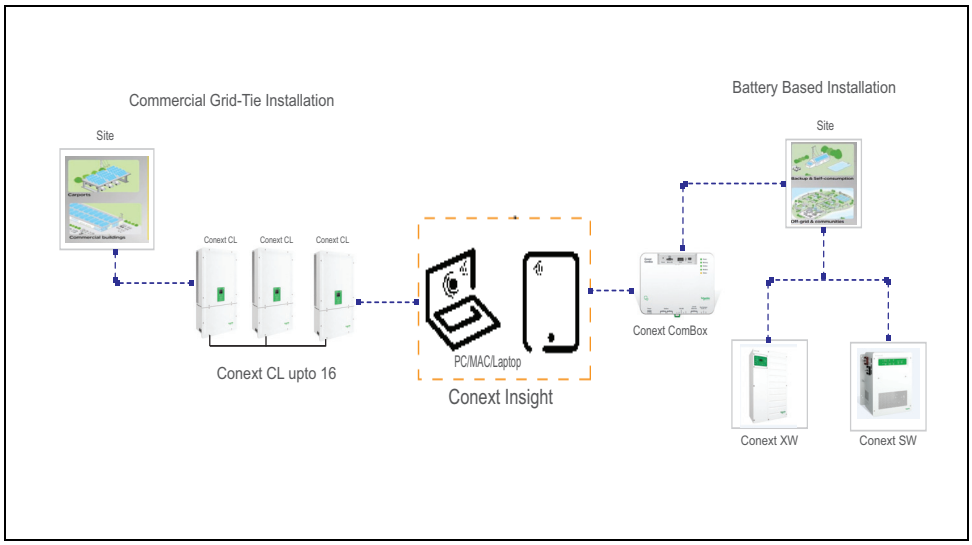

Figure 1-1 **Conext Insight**

Compatible Products

Conext Insight is compatible with Conext ComBox and Conext CL from Schneider Electric.

Ensure that **Conext ComBox** has:

- A firmware version of v3.00 or higher. You can download the latest firmware for Conext ComBox from: **http://solar.schneider-electric.com/product/conext-ComBox/**.
- An SD card installed to prevent data loss in case of loss of Internet connection.

Ensure that **Conext CL** has:

- A firmware version of v2.6.4 or higher. You can download the latest firmware for Conext CL from: **http://solar.schneider-electric.com/product/conext-cl-na-solar-inverter/ (for North America) or http://solar.schneider-electric.com/product/conext-cl/ (for the rest of the world)**.

Features

Conext Insight has the following features:

- Single login access to monitor multiple sites.
- Site performance dashboard.
- Performance charts for historical data analysis.
- Device status and events log for diagnostics.
- Site, User and Device management.
- Solar earnings and environmental contribution computation.
- Automatic reports and notifications generation.
- Site related documents upload/download.

2 Getting Started

Chapter 2, “Getting Started” provides information and procedures on how to use Conext Insight and how to register a new site.

It contains information about:

- Accessing the application
- Sites with gateway type as ComBox
- Sites with gateway type as Conext CL

Accessing the application

1. Open a web browser on your computer or tablet and type the following address: **http://conextinsight.schneider-electric.com/**

Conext Insight **Login** page appears as shown below.

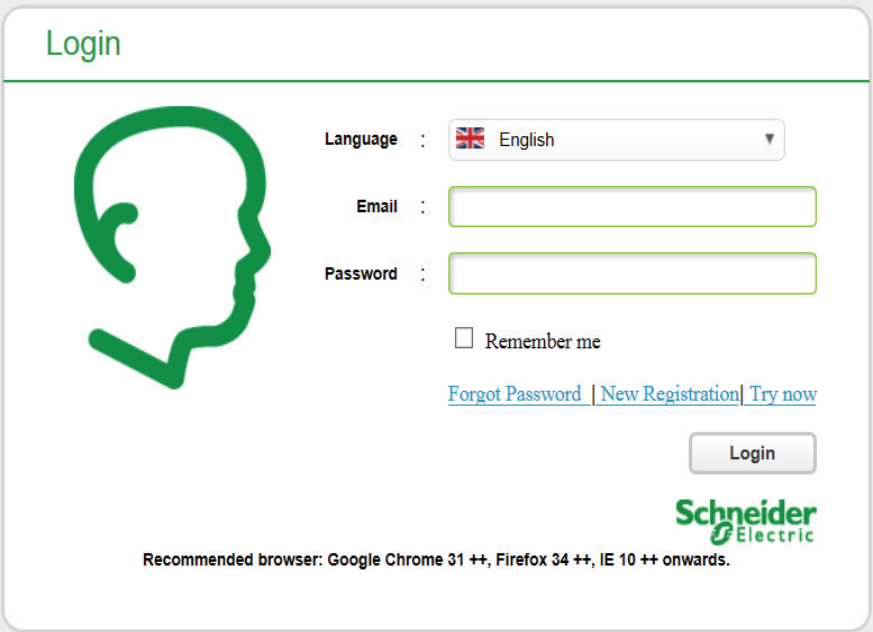

Figure 2-1 **Login** screen

2. Choose a **language**. The default is **English**.
3. You should first register as a user in this web application with a valid e-mail address and password.

This page displays the:

- Welcome message
- Login
- News

Try Now

Model sites are shown for each gateway type **Conext CL** and **ComBox.**You can log into the application as a **Guest** just to have an overview of the application. As a Guest User, limited access will be provided to the site with some features to try and experience.

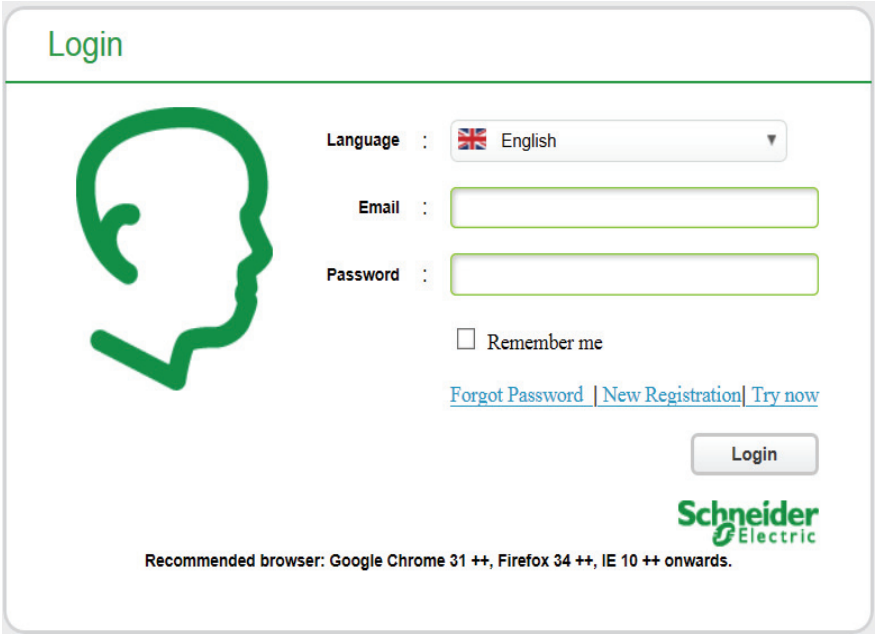

Figure 2-2 **Login** screen

Guest User Login screen appears as follow:

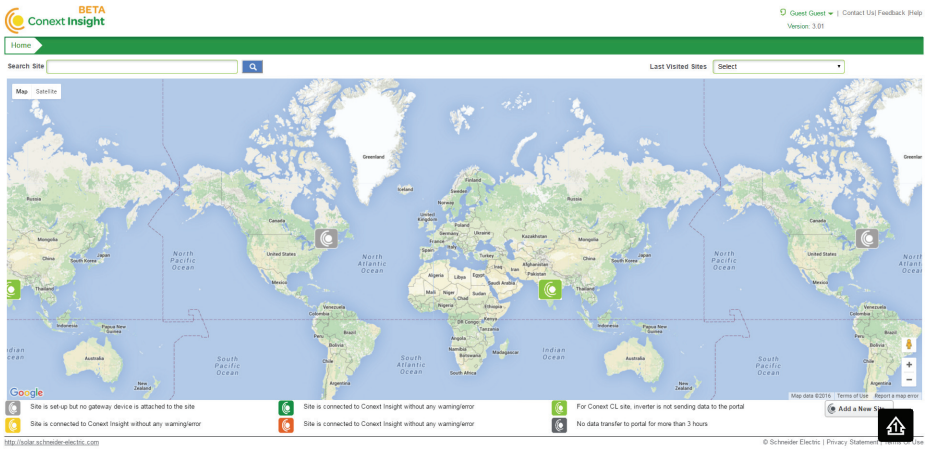

Figure 2-3 **Guest User Login** screen

Register

To register

1. In the **Login** screen, click **New Registration**.

The **New User Registration** page opens.

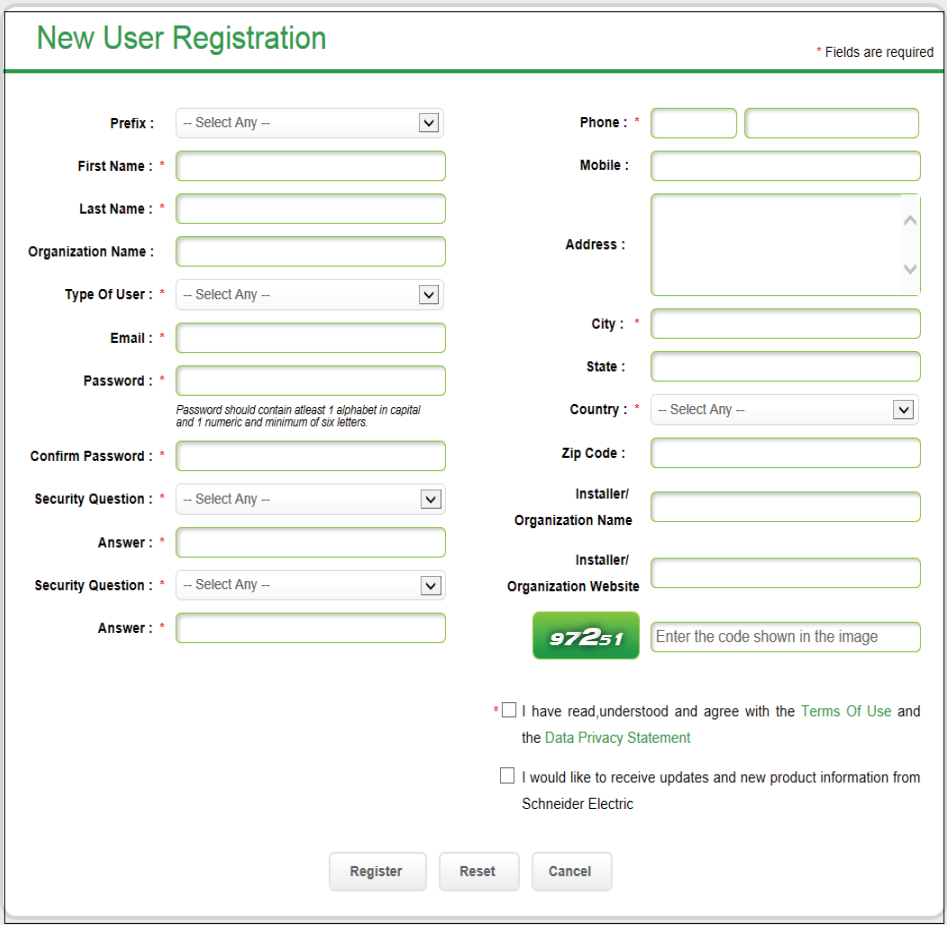

Figure 2-4 **New User Registration** screen

2. In the **New User Registration** page, enter all the required fields.

All the fields marked with * are mandatory.

3. In the **Type of User** field, select the appropriate user type from the drop-down list.
4. In the **Email** field, enter a valid e-mail address.
5. In the **Password** field, enter the password**.**

Note: The password should contain at least one letter in uppercase, one numeric character and a minimum of six characters.

6. From the **Security Question** drop-down list, select any of the **security questions**.
7. In the **Enter the code** shown field, enter the **Captcha** value.
8. Click **Register.**
   a) Click **Reset** to reset the values.
   b) Click **Cancel** to cancel the entries.

Activation

To activate your account

The application now sends an e-mail to your registered e-mail address for activating your registration.

1. To activate your account, click on the link in the e-mail. The following screen appears.

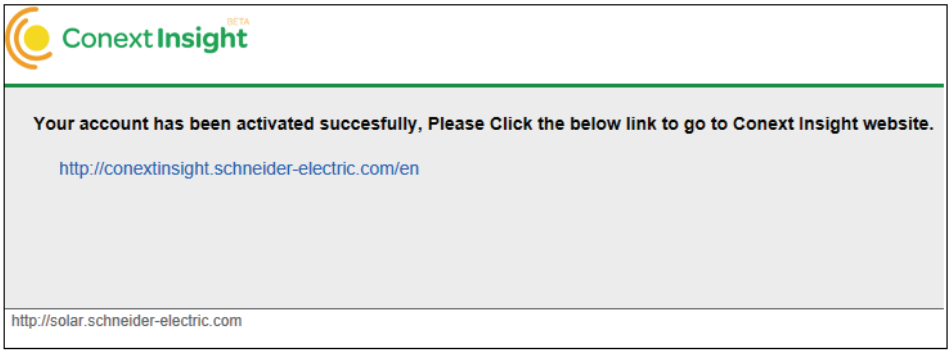

Figure 2-5 **Activation** screen

Your account is now successfully activated.

Login

To use Conext Insight, you should first register as a user in this web application with a valid e-mail address and password. If you are already a registered user, you can login using your registered e-mail address and password.

To Login

1. In the **Login** screen, select the **Language** from the drop-down list.
2. In the **Email** field, enter the e-mail address.
3. In the **Password** field, enter the password.
4. Click **Login.**
5. The **Map** screen appears, displaying the icon(s) of the site(s) assigned to you.

Forgot Password

This feature lets you generate a new password for your account.

1. In the **Login** screen, click **Forgot Password**.

The **Forgot Password** screen appears.

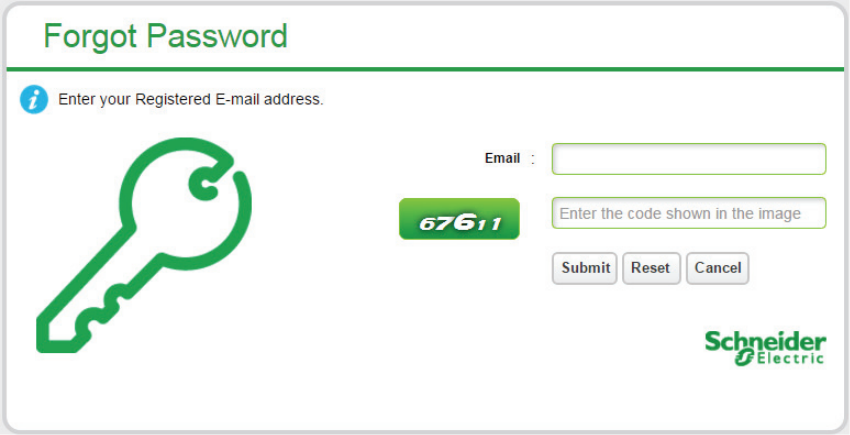

Figure 2-6 **Forgot Password** screen

2. In the **Forgot Password** screen, under the **Email** field, enter your registered e-mail address.
3. In the **Enter the code shown** field, enter the **Captcha** value.
4. Click **Submit**.
   a) Click **Reset** to reset the values.
   b) Click **Cancel** to cancel the entries.
5. In the screen that appears, enter **the answers for the security questions** you have opted for during registration.

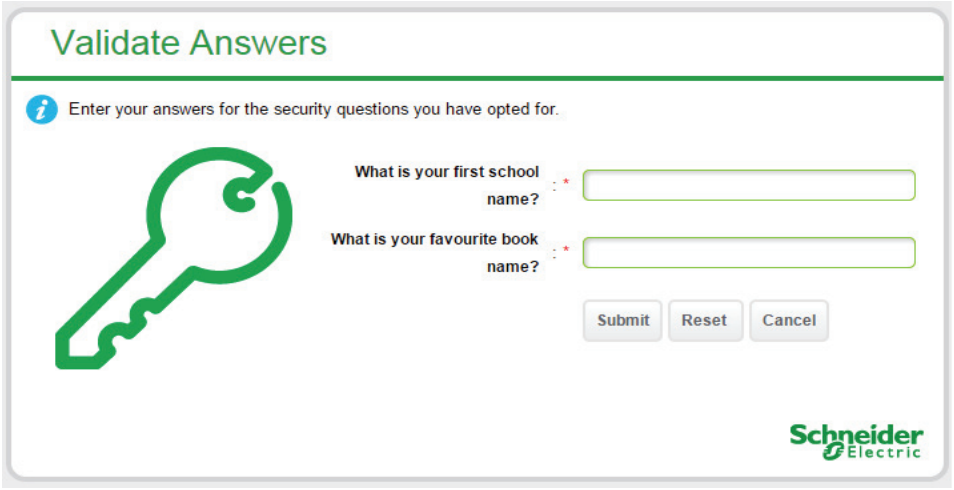

Figure 2-7 **Validation** screen

The following screen appears once you enter the appropriate answers for the security questions which you have set at the time of registration.

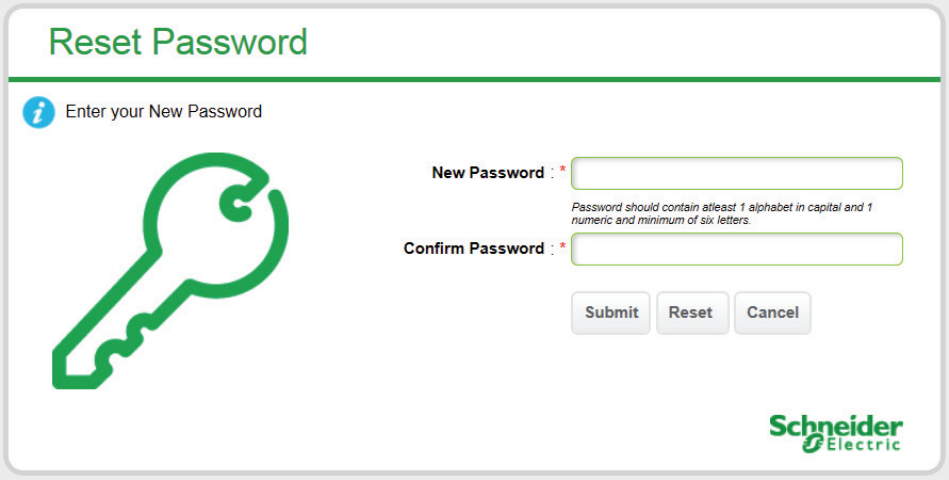

Figure 2-8 **Reset Password** screen

6. Enter the **New Password** and **Confirm** the same in the mentioned field.
7. Click **Submit.**
   a) Click **Reset** to reset the values.
   b) Click **Cancel** to cancel the entries.

You have now successfully reset the password.

Once the registration and activation is done, you can log into the application using your e-mail address and password. The **Map** screen appears.

Figure 2-9 **Map** screen

The **Map** screen allows you to:

- Search for a site, if you have multiple sites added using the **Search Site** button on the top left corner of the map.
- Select the last visited site from the drop-down list on the top right of the map.

After the first time login, add your site using the **Add a New Site** button.

Note: The **Map** screen displays the site or list of sites only after adding the sites during the first time login.

Add a New Site

The **Map** screen allows you to add a site.

To add a Site:

1. In the **Map** screen, click **Add a New Site**.

The **Add a New Site** screen appears.

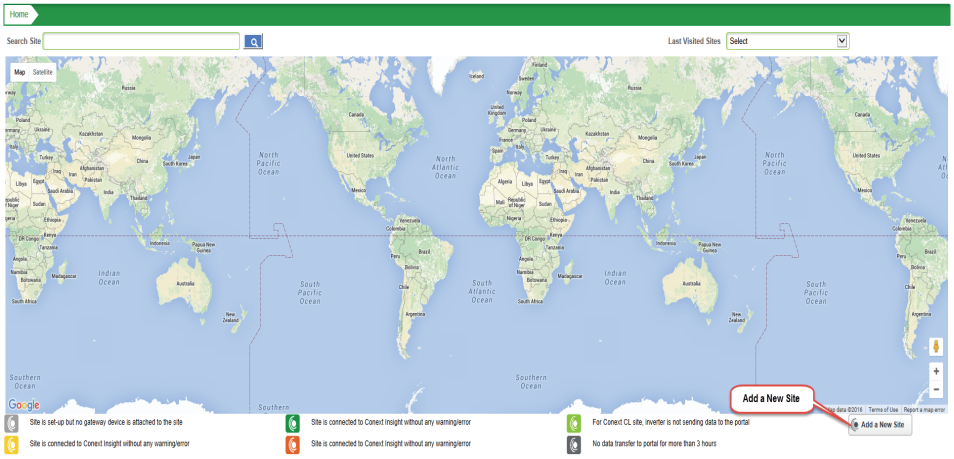

Figure 2-10 **Add a New Site** button

2. Under the **Site Details** tab, enter the details of your site in the respective fields appropriately.

All the fields marked * are mandatory.

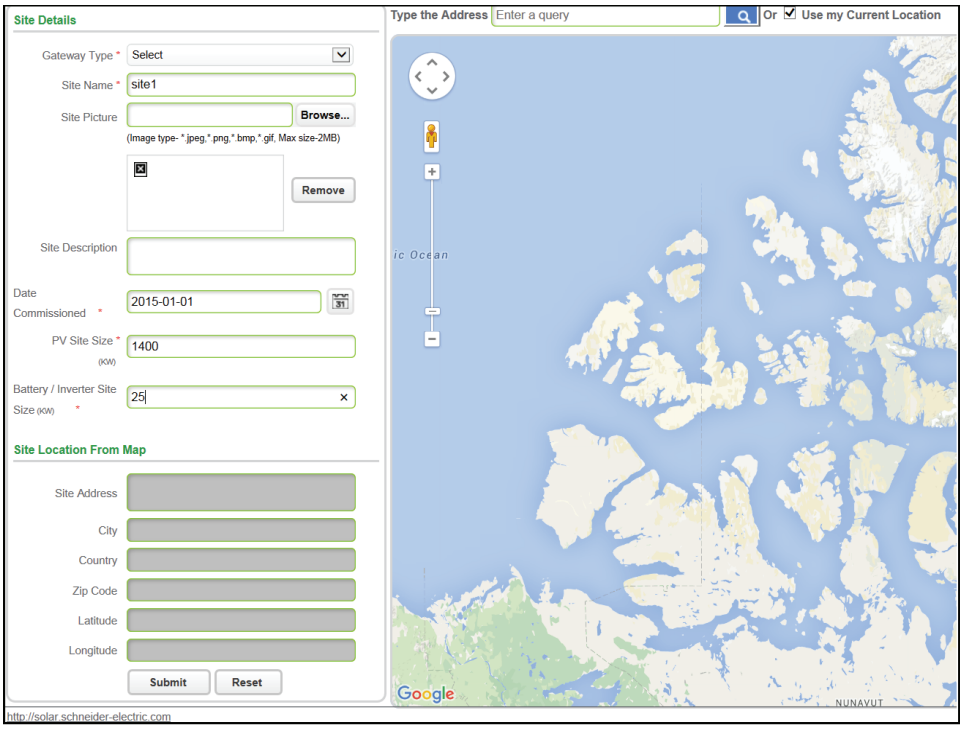

Figure 2-11 **Add a New Site** screen

3. In the **Gateway Type** field, we have two gateway types **Conext CL** and **ComBox** which describe the type of site. Select the required gateway/device from the drop-down list.
   a) **Conext CL** - For CL + Insight, which is the Cloud Connect feature of CL.
   b) **Conext ComBox** - For ComBox + Insight, which monitors battery-based installations using Conext range of products [Example: Conext XW, Conext SW etc.]

Note: Once the gateway is selected and the device is added to the site, we cannot change the gateway type later on.

4. In the **Site Name** field, enter the name of the site.
5. In the **Date Commissioned** field, select the date from the calendar.
6. In the **PV Site Size** field, enter the size of the PV site.
7. In the **Battery / Inverter Site Size** field, enter the size of the Battery / Inverter site.
8. In the **Site Address** field, enter the address of the site.

or

Check the **Use My Current Location** check box.

The Site address and other related details now get populated in the **Site Location** from the **Map** tab from the address entered, or from your current location.

9. Click **Submit**.

10. To reset the values, click **Reset.**

A confirmation message now displays that the site is now successfully added.

11. Click **OK.**

The **Home** screen of the newly added site appears.

Note: You can now see that the site is added and displayed as an icon in the **Map** screen.

Display Icons

After adding the sites, the **Map** screen displays the Icons showing the sites added. The different colors indicate the status of the associated devices added to it in a site.

- indicates that a site is added with no devices attached.
- indicates that a site is connected without any warning.
- indicates that a site is connected and has an active warning at the site.
- indicates that a site is connected and has an active error at the site.
- indicates that at least one site device is not sending any data to Conext Insight.This is applicable only for CL+Insight sites.
- indicates that there is no data transfer for past three hours or more.

Each icon in the map displays the following information:

- **Site Name**: displays the name of the site.
- **Address:** displays the address of the site.
- **Site Size:** displays the size of the site in kW.
- **Events:** displays if there are any events associated with the site.

Sites with gateway type as ComBox

Once the site is added, the user needs to add ComBox and Users (if required) to the site.

Note: Site Gateway needs to be ComBox.

My Site

Adding Site

Make sure that Conext ComBox is properly configured and connected to Conext Insight. Refer to the Quick Start Guide for more details: **http://solar.schneider-electric.com/product/conext-insight/**.

Note: This tab appears only for site administrator.

In the **Home** screen, select the **My Site** menu.

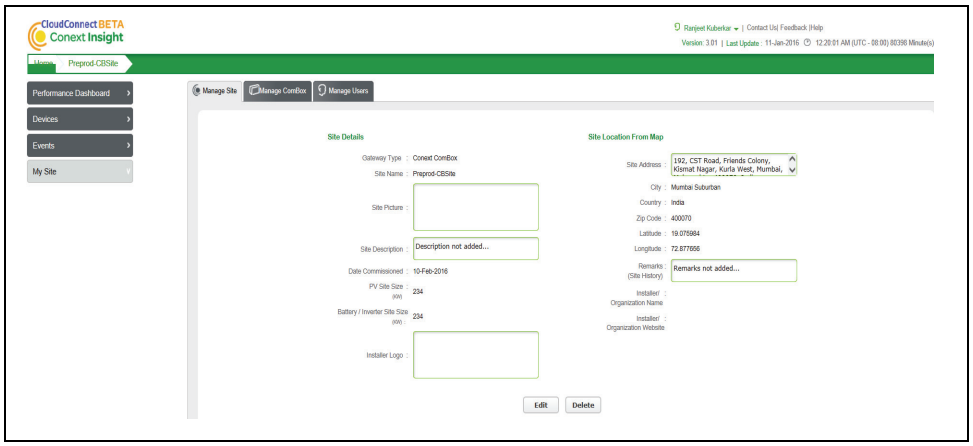

Figure 2-12 **My Site** screen

To add a ComBox

In the **My Site** menu, under the **Manage ComBox** tab, click **Add ComBox**.

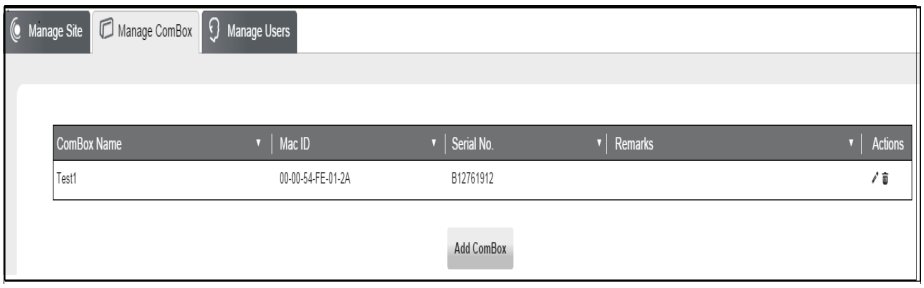

Figure 2-13 **Manage ComBox** screen

1. The following pop-up window appears.

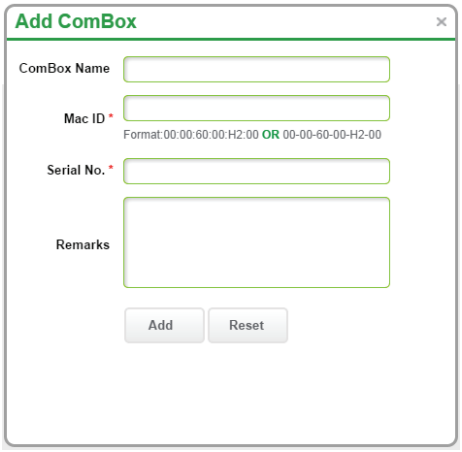

Figure 2-14 **Add ComBox** pop-up window

2. Enter the appropriate fields.

Note: The **Mac ID** and **Serial Number** are displayed on the ComBox.

3. Click **Add**. The ComBox gets added.
4. To reset the fields, click **Reset.**

Once the ComBox(es) are added, the **Devices** tab displays the details of the ComBox and the **Performance Dashboard** displays the performance details of the ComBox and the associated devices.

Note: Before adding a ComBox, ensure to enable the Conext Insight Data Push functionality in your Conext ComBox and the web portal connection test is successful. Refer to the section **Conext Insight Web Portal** in Conext™ ComBox Installation and Configuration Manual for more details.

Adding a User

Once a site is added, you are the administrator for that site.You can add users and assign various roles such as Site Administrator, Installer, or User, based on the access to your site.

Note:

- You can add a user only if you know the e-mail address of that person.
- No two users of a site can have the role of the administrator at a time.
- Before adding any user, his or her e-mail address needs to be registered to Conext Insight.

There are three types of users: Site Administrator, Installer and Site User.

- **Installer:** who installs a PV plant.
- **Site User.**
- **Site Administrator** has administration rights with the site.
- Only the administrator can add, edit, or delete a user. The administrator can also add another user and give the admin rights to that user.

Table 2-1 **User roles**

		Site User	Site Installer	Site Admin
Site management	View site details	Yes	Yes	Yes
	Edit site details	No	Yes	Yes
	Delete site	No	No	Yes
ComBox management	Add ComBox	No	Yes	Yes
	Edit details of an existing ComBox	No	Yes	Yes
	Delete ComBox	No	Yes	Yes
User management	Add other users to the site	No	No	Yes

Sites with gateway type as Conext CL

Once the site is added, you should add Conext CL(s) and Users (if required) to the site based on the gateway/device you have selected while adding your site.

Adding Conext CL

Conext CL is a three-phase string inverter with full grid support features. Conext CL has a Cloud Connect feature which enables it to connect with Conext Insight monitoring web application.

Make sure that Conext CL is properly configured and connected to Conext Insight. Refer to the Quick Start Guide for more details: **http://solar.schneider-electric.com/product/conext-insight/.**

Note: This tab appears only for site administrator.

1. In the **Home** screen, select the **My Site** menu.

From the drop-down list, select the **Inverters** tab.

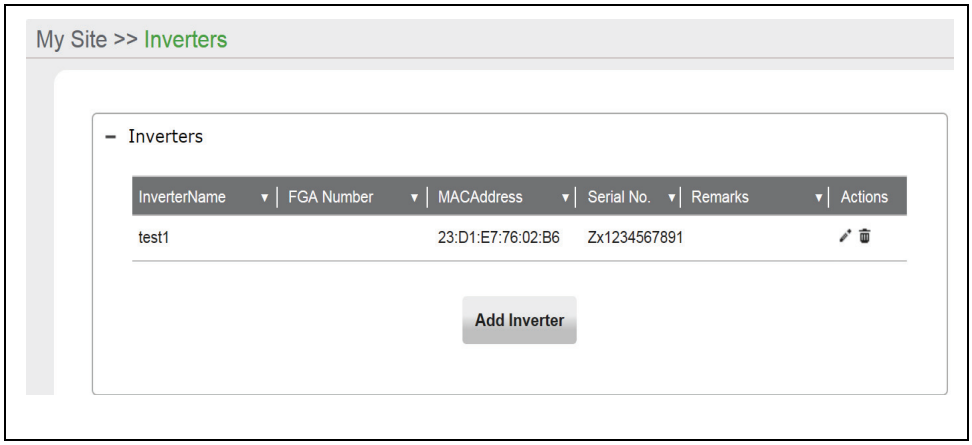

Figure 2-15 **Inverter** screen

To add an Inverter

1. Click **Add Inverter** to add an inverter, in the **Inverters** screen.

The following pop-up window appears.

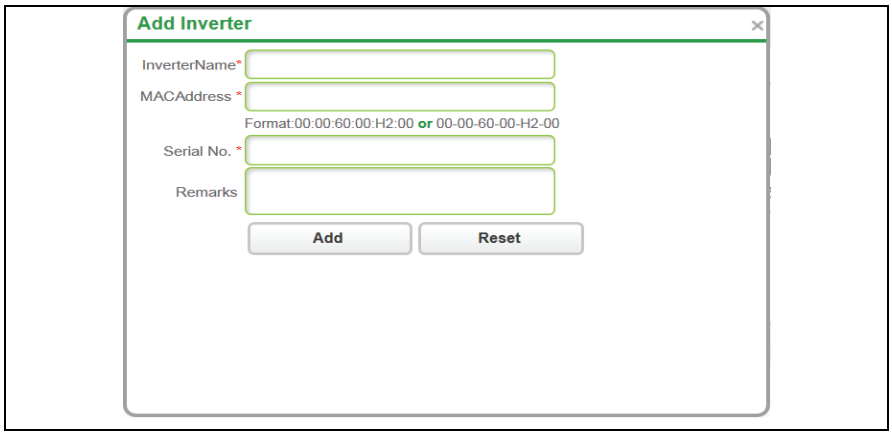

Figure 2-16 **Add Inverter** pop-up window

2. Enter the appropriate fields and click **Add**. The inverter now gets added.

Note: MAC Address and **Serial Number** are displayed on Conext CL device name plate.

Note: Once an inverter is added, it cannot used to be added to another site.

Note: Once all inverters are added, do not forget to enter the Installed AC Capacity information in the My Site >Installed AC Capacity section.

3. Once the inverter is added, the user can configure different parameters like Site, PV Module Field, Inverter Groups, Inverters, Plant Performance, Documents, Reports, Users which are explained in below section.

My Site

This menu displays the details of the site and allows you to Manage the Site, PV Module, Inverter Group, Inverters, Plant Performance, Reports generation, User Management and Documents.

This menu has the following sub-menu options:

- Site
- PV Module Field
- Inverter Group
- Inverters
- Plant Performance
- Reports
- User
- Documents

Site

This tab displays the details of the site, its location, license details and also allows you to edit the details or delete the site.

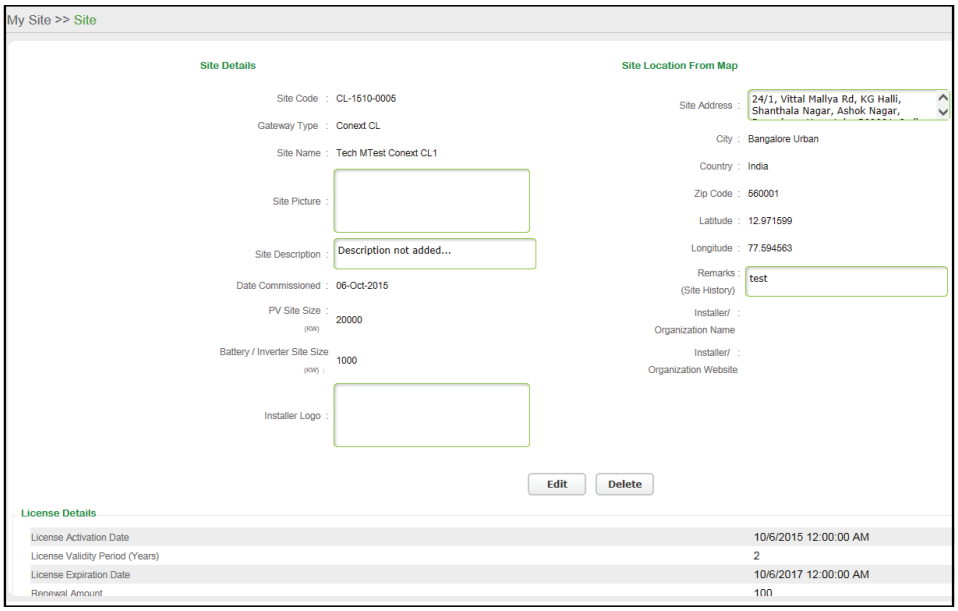

Figure 2-17 **Site Details** screen

Editing the Site

1. To edit the details of the site, click **Edit.** The **Site Details** screen now changes to the Edit mode.
2. Edit the fields which you want to change and click **Update**. The edited fields are now updated.

To delete the site, click **Delete**.

PV Module Field

Module fields help the user to logically group the PV modules installed at the user site based on parameters like module types, module manufacturer, rated power (W) etc. If all the modules within a user site are of the same type and have the same alignment, the user can define only one module field. Once the user defines the module fields, go to **My Site,** select the **Inverter Group** screen to assign the module fields to one or more groups of inverters at the site.

The user can also edit or delete PV Module Field.

Note:

a) Azimuth / Orientation : South = 0°, West = 90°, North = 180°, East = 270°

Module efficiency (STC) definition is required for **Performance Ratio (PR)** calculation.

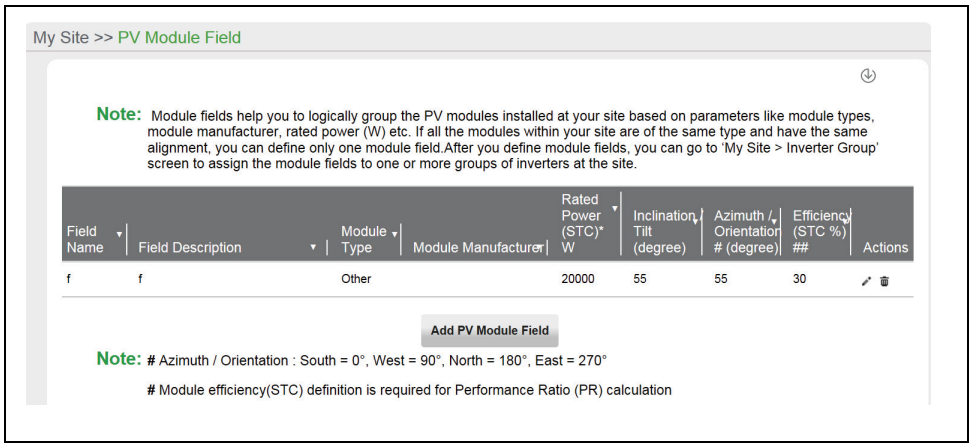

Figure 2-18 **PV Module Field** screen

Adding PV Module Field

1. To add a PV Module Field, click the **Add PV Module Field** button. **The Add PV Module Field** screen appears.

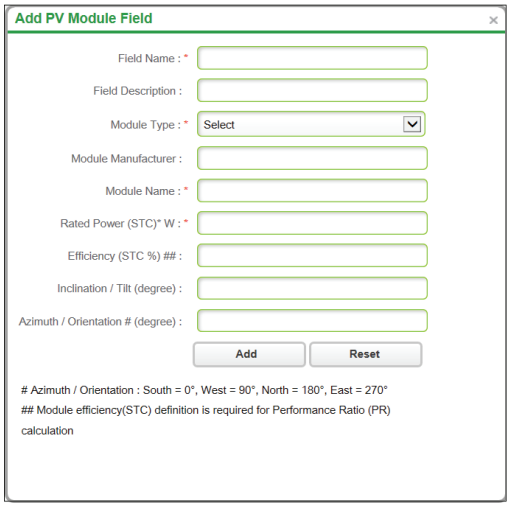

Figure 2-19 **Add PV Module Field** screen

2. Enter the appropriate fields and click **Add**. The PV Module Field now gets added.

To reset the values, click **Reset.**

Editing the PV Module Field

1. To edit the details of a **PV Module Field**, click the **Edit** icon. The **Edit PV Module Field** screen appears.

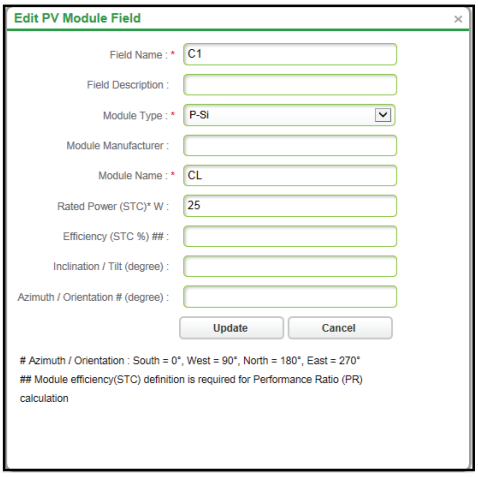

Figure 2-20 **Edit PV Module Field** screen

2. Edit the fields which you want to change and click **Update**. The edited fields are now updated.
   - To exit from the Edit mode, click **Cancel**.
   - To delete the PV Module Field, click the **Delete** button.

Inverter Group

Inverter Groups help you to logically group the PV inverters installed at your site based on whether they are installed in the site (e.g. on the shop floor roof vs. warehouse roof) or based on PV module fields connected. Once you define inverter groups, you can compare performance of one inverter group against another group by visiting below screens:

You can also edit or delete an Inverter Group.

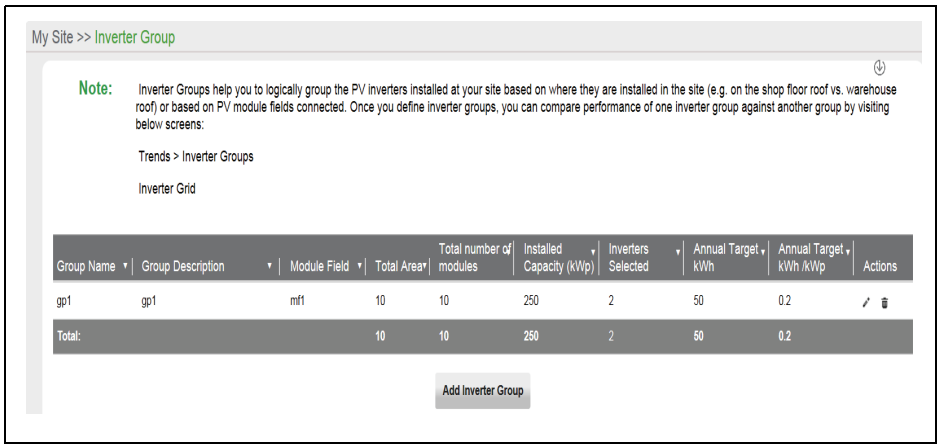

Figure 2-21 **Inverter Group** screen

Adding Inverter Group

1. To add an Inverter Group, click the **Add Inverter Group** button. The **Add Inverter Group** screen appears.

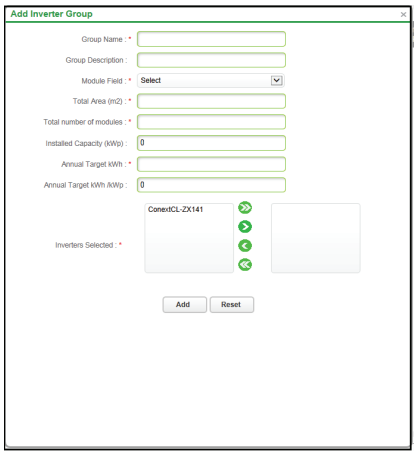

Figure 2-22 **Add Inverter Group** screen

2. Enter the appropriate fields and click **Add**. The Inverter Group now gets added.

Editing the Inverter Group

1. To edit the details of an Inverter Group, click the **Edit** icon. The **Edit Inverter Group** screen appears.

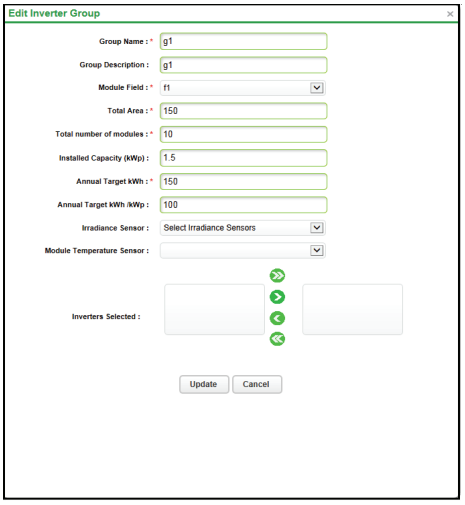

Figure 2-23 **Edit Inverter Group** screen

2. Edit the fields which you want to change and click **Update**. The edited fields are now updated.

- To exit from the Edit mode, click **Cancel.**
- To delete the Inverter Group, click the **Delete** button.

Inverters

This tab allows you to add inverters, display the details of the inverters once added and Installed AC Capacity. You can edit the details of inverters and also delete them.

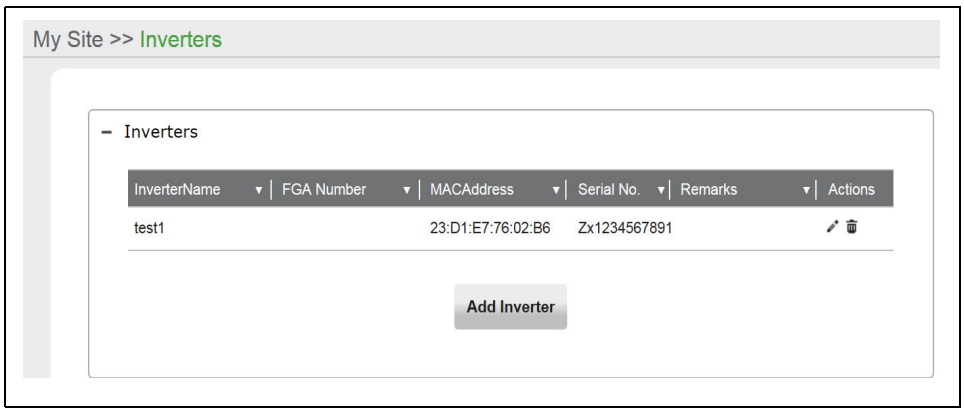

Figure 2-24 **Inverters** screen

Adding Inverter

For more details, refer to **To add an Inverter**.

Editing Inverter

1. To edit the details of an inverter, click the **Edit** icon**.** The **Edit Inverter** screen appears.

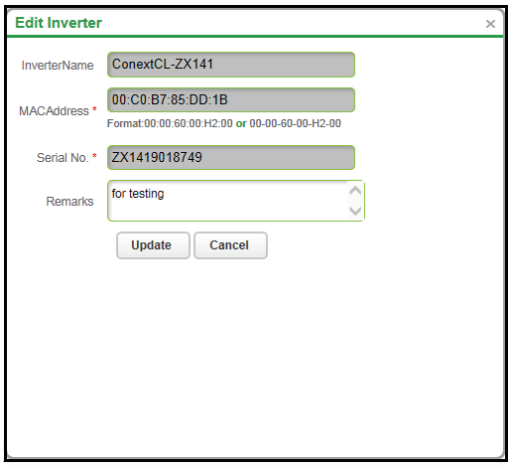

Figure 2-25 **Edit Inverter** screen

2. Edit the fields which you want to change and click **Update**. The edited fields are now updated.

- To exit from the Edit mode, click **Cancel.**
- To delete an inverter, click the **Delete** icon**.**

Installed AC Capacity

Installed AC capacity is the maximum AC power generation capacity of all Conext CL inverters at the site and is configured by the user.

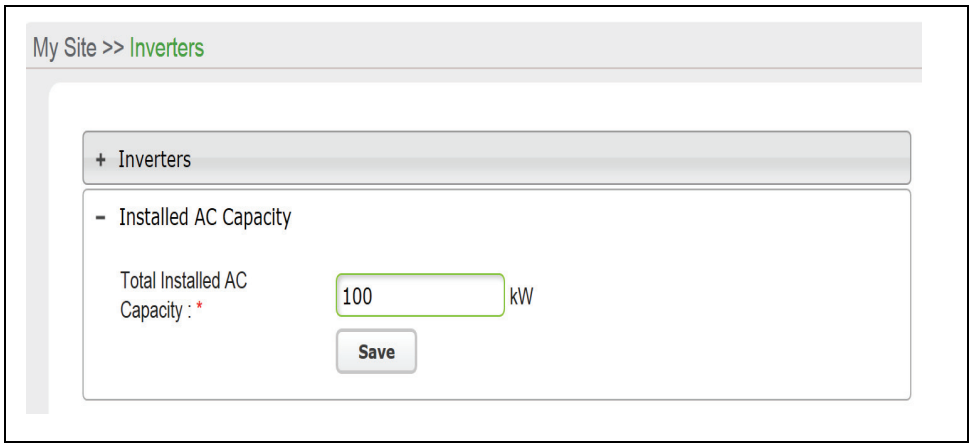

Figure 2-26 **Installed AC Capacity** screen

1. Add the appropriate inverter AC capacity configured and click the **Save** button.

Note: If multiple Conext CL inverters are present, provide the total of all inverters installed AC capacity.

Plant Performance

This tab allows you to configure the parameters for Plant Performance analysis, e.g. Environmental Impact, Plant Target Performance, Plant Remuneration, Notification.

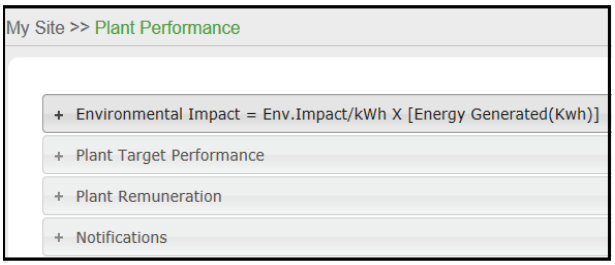

Figure 2-27 **Plant Performance** screen

Environmental Impact

By entering the values in the formula below, you can monitor the environmental impact of your PV installation.

a) **CO2 avoided**: how many kgs of CO2 were avoided by generating your energy using PV as a source as compared to conventional sources of energy.

b) **Trees planted:** how many trees you would have to plant to absorb the same amount of CO2 avoided by your PV installation.

This tab displays the parameters configured to monitor the environmental impact of your plant in terms of Parameter, Unit and Env.Impact/kWh. It also allows you to edit the Parameter and Env Impact/kWh. Data for CO2 avoided and trees planted for different days can be shown under **Trends > Environmental Contribution**.

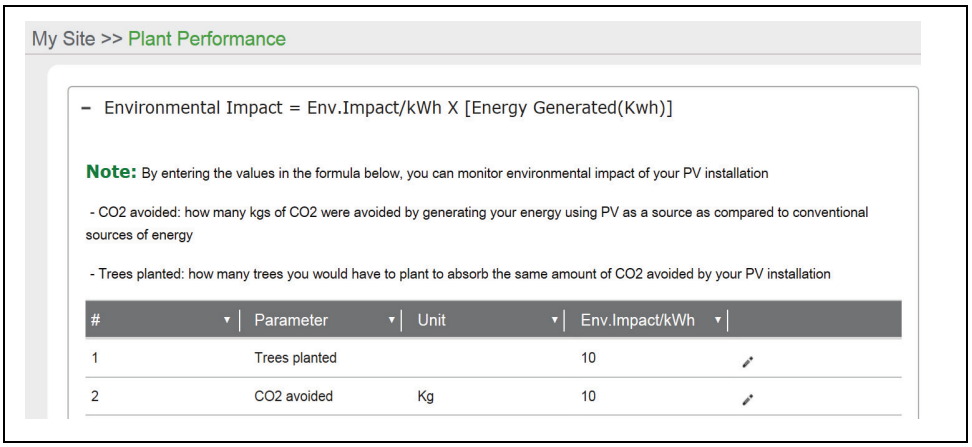

Figure 2-28 **Environmental Impact** screen

To edit the Parameter and Env Impact/kWh:

1. In the **Environmental Impact** screen, click the **Edit** icon. The **Parameter** screen appears.
2. Edit the required fields and click **Update**.
3. To reset the values, click **Reset**.

Plant Target Performance

This tab displays and also allows the user to provide the Annual Target Yield of the plant in terms of Monthly Target Parameter and months.

Annual Target Yield for the site is the sum of annual target yields for all the inverter groups as entered in the **My Site** menu under the **Inverter Group** screen.

Note: Total of Target yield as % of total yield should be 100%.

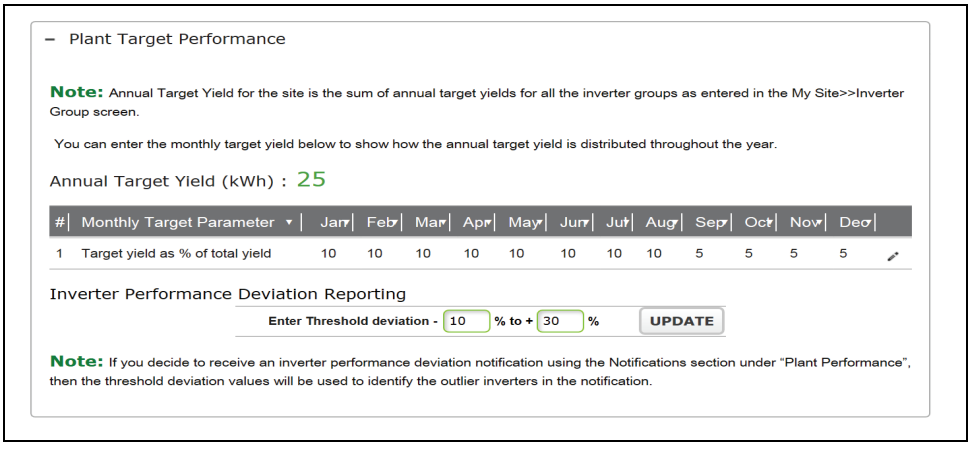

Figure 2-29 **Plant Target Performance** screen

To edit the Monthly Target Parameter:

1. In the **Plant Target Performance** screen, click the **Edit** icon. The **Monthly Target Parameter** screen appears.
2. Edit the required fields and click **Update.**

Inverter Performance Deviation Reporting:

If the user decides to receive an inverter performance deviation notification using the **Notifications** section under **Plant Performance**, then the threshold deviation values will be used to identify the outlier inverters in the notification.

Plant Remuneration

This tab displays the remuneration from your plant in terms of Currency, Date and Tariff. It also allows you to add, edit, and delete the tariff.

Please add appropriate remuneration / solar earning tariff below to compute the approximate monetary benefits of the PV installation (e.g. earnings through feed-in-tariff or money saved due to net metering, etc). Plant remuneration values for different days can be shown under **Trends > Solar Earnings.**

Schneider Electric shall not assume any responsibility for the accuracy, correctness, completeness of solar earning calculations.

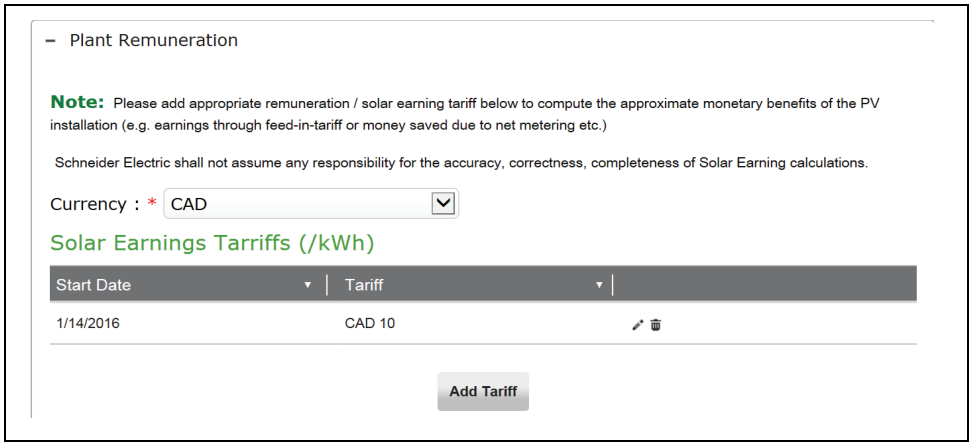

Figure 2-30 **Plant Remuneration** screen

Adding Tariff

1. In the **Plant Remuneration** screen, select the **Currency** from the drop-down list.
2. Click the **Add Tariff** button. The **Add Tariff** screen appears.

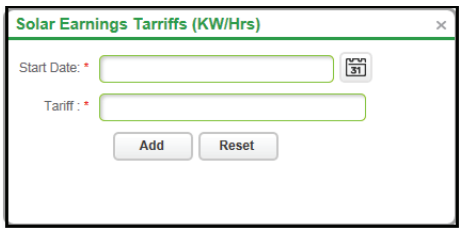

Figure 2-31 **Add Tariff**

3. From the **calendar**, select the date.
4. In the **Tariff** field, enter the tariff.
5. Click **Add**. The tariff gets added.
6. To reset the values, click **Reset**.

Editing Tariff

In the **Plant Remuneration** screen, click the **Edit** icon. The **Edit Tariff** screen appears.

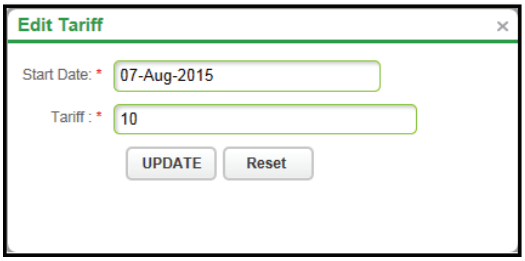

Figure 2-32 **Edit Tariff** screen

7. In the **Tariff** field, edit the tariff.
8. Click **Update**. The changed tariff gets updated.
9. To reset the values, click **Reset**.

Notifications

This tab displays a list of notifications of your plant in terms of Significant Inverter Performance Deviation and Monthly Plant Yield below target. It also allows you to edit the parameters and configure the notifications. If Significant Inverter Performance Notification is activated, you will get an e-mail notification if the daily output of any of the inverters is beyond the threshold specified by you in the **Plant Target Performance** section above.

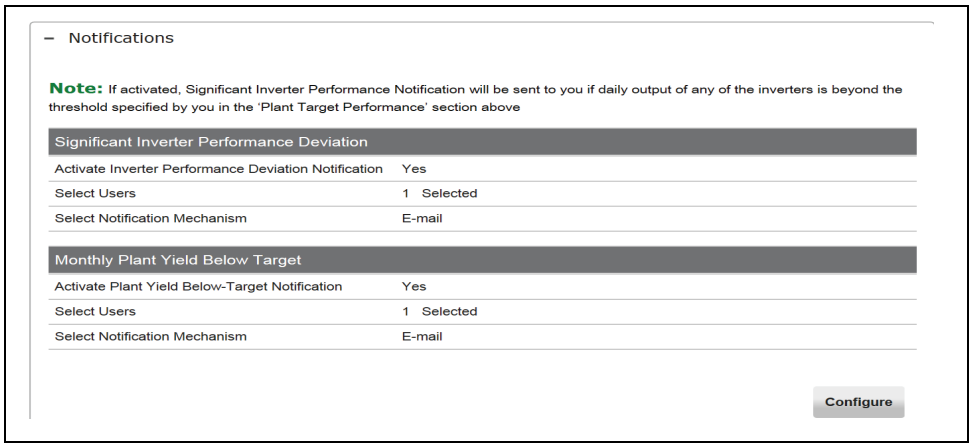

Figure 2-33 **Notification** screen

To Configure the Notifications:

1. In the **Notifications** screen, click **Configure**. The **Configure Notifications** screen appears.

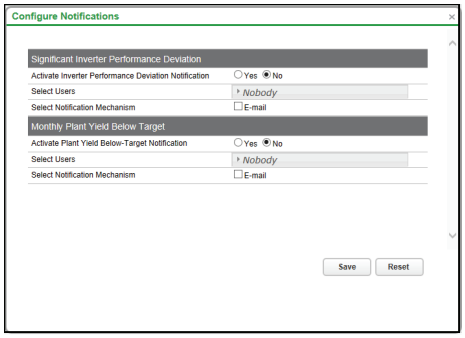

Figure 2-34 **Configure Notifications** screen

2. Edit the required fields and click **Save**.
3. To reset the values, click **Reset.**

Reports

Reports can be automatically sent via e-mail to selected users on daily, weekly, monthly and yearly basis. Reports can be generated for single and multi plants

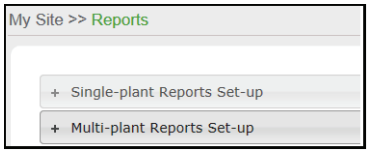

Figure 2-35 **Reports** screen

Single-plant Reports Set-up

In this section, you can configure to receive daily, weekly, monthly and yearly performance reports for a single site. This tab displays the single plant report details such as Report Name, Reports active/inactive, No. of Users, Site Name and Report Frequency.

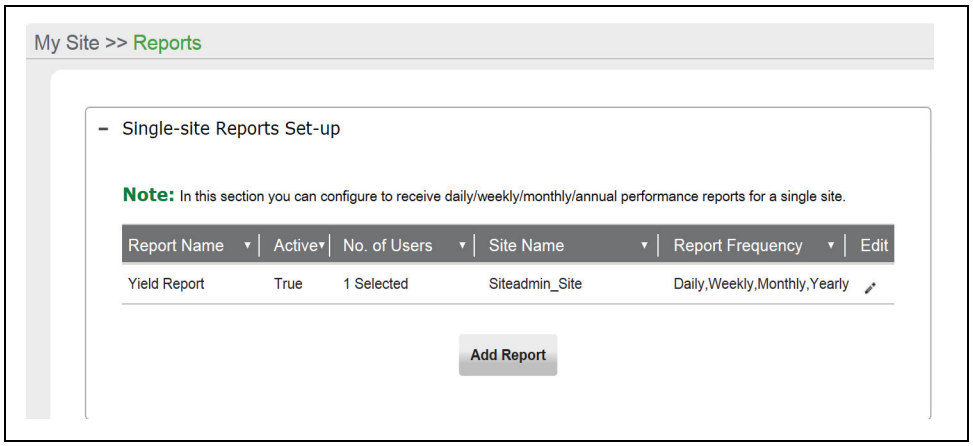

Figure 2-36 **Single Plant Report** screen

Adding Report

1. In the **Single Plant Reports** screen, click on the **Add Report** button. **The Single Plant Report Section** screen appears.

Single plant report can be generated for below:

a) Yield Report.
b) Remuneration Report.
c) Alarms Report.
d) Ticketing Report.
e) Inverter Comparison Report.
f) Consolidated Report.

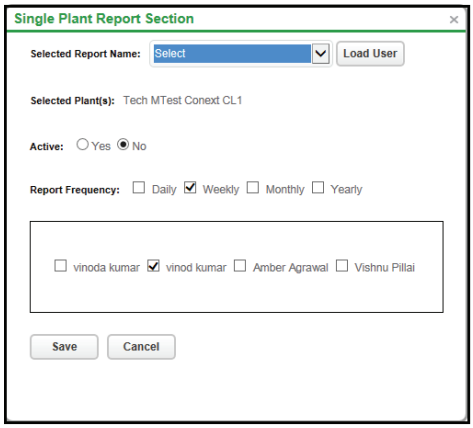

Figure 2-37 **Add Report** screen

2. Click on the **Load User** button.
3. From the **Select Report Name** drop-down list, select the **report name**.
4. In the **Report Frequency** field, check the appropriate checkbox.
5. Click **Save.**
6. To cancel the values, click **Cancel**.

To edit the report, in the **Single Plant Reports Setup** section, click the **Edit** icon.

Multi-plant Reports Set-up

In this section, you can configure to receive daily, weekly, monthly and yearly performance reports for a multi-plant site.This tab displays the multi-plant report details such as Report Name, Report Active/Inactive, No. of Users, Site Name and Report Frequency.

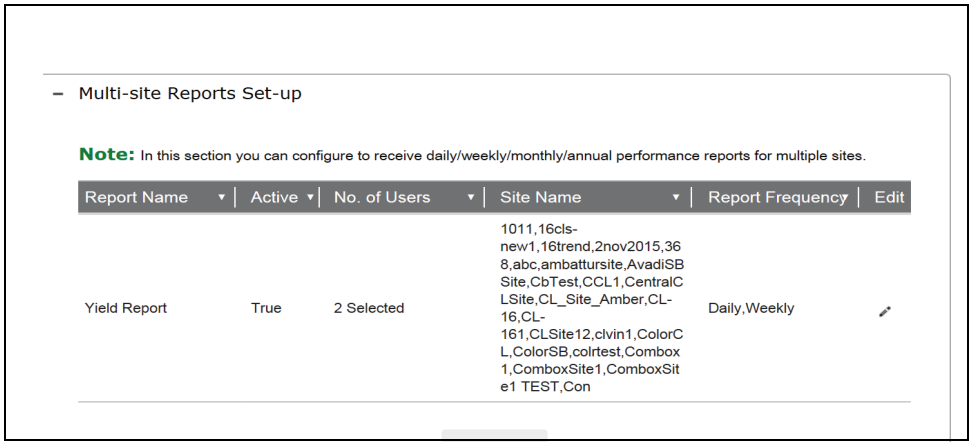

Figure 2-38 **Multi Plant Report** screen

Adding Report

1. In the **Multi- plant Reports** screen, click on the Add **Report** button. The **Multi Plant Report Section** screen appears.

Multi Plant report can be generated for below:

a) Yield Report.

b) Alarms Report.

c) Ticketing Report.

d) Consolidated Report.

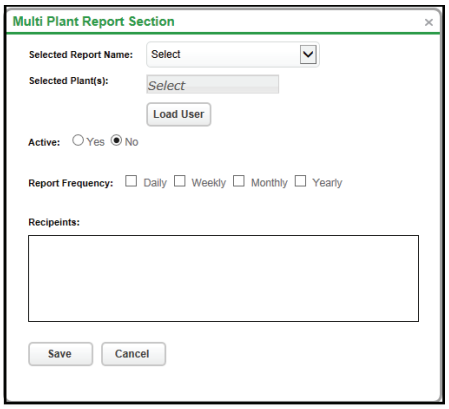

Figure 2-39 **Add Report** screen

2. Click on the **Load User** button.
3. From the Select **Report Name** drop-down list, select the **report name**.
4. In the **Report Frequency** field, check the appropriate checkbox.
5. Click **Save**.
6. To cancel the values, click **Cancel.**

To edit the report, in the **Multi Plant Reports Setup** section, click the **Edit** icon.

Documents

This tab allows you to add, edit or delete documents associated with your site.

You can upload up to 10 documents related to your site (e.g. quick start guides, data sheets, manuals, etc.) in this section. Please ensure that the size of each document does not exceed 2MB.

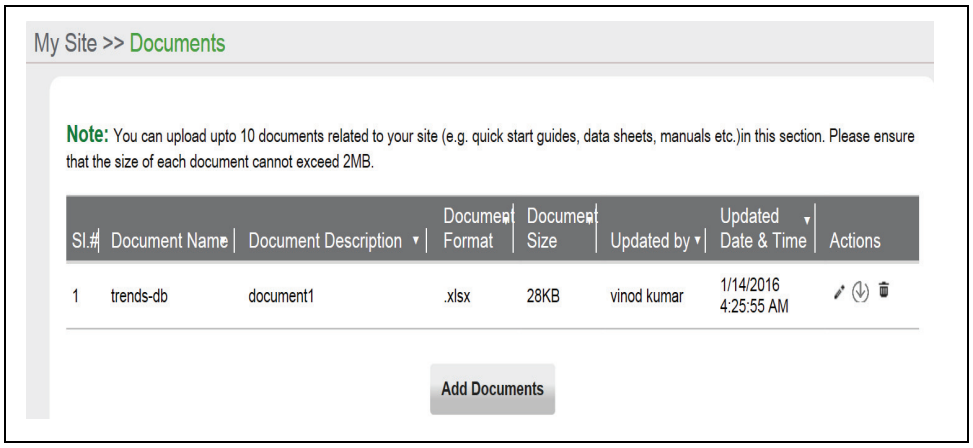

Figure 2-40 **Documents** screen

Adding Documents

1. In the **Documents** screen, click the **Add Documents** button**.** The **Add Documents** screen appears.

Figure 2-41 **Add Documents** screen

2. In the **Document Description** field, enter the description for the document.
3. To upload the document, click on the **Browse** button.
4. Select the required document and click on the **Open** button.
5. Click on the **Add** button**.**
6. To cancel adding the document, click **Cancel.**

Edit Documents

To edit the details of a Document, click the **Edit** icon adjacent to the updated date & time. The **Edit Documents** window pops up.

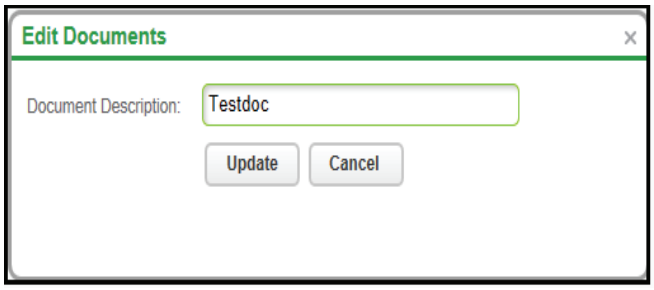

Figure 2-42 **Edit Documents** screen

1. In the **Document Description** field, edit the document description.
2. Click **Update.**

The document description gets updated.

- To cancel adding the document, click **Cancel**.
- To download the document, click the **download** icon.
- To delete a document, click the **Delete** icon adjacent to the updated date and time.

User

In the **My Site menu > Users** tab, click **Add User**. The following pop-up window appears.

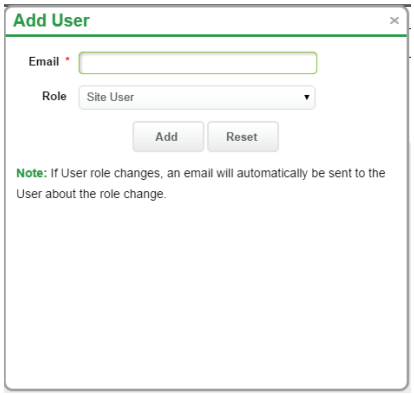

Figure 2-43 **Add User** pop-up window

3. In the **Email** field, enter the e-mail address of the person whom you want to add as a user.
4. In the **Role** field, select the user role from the drop-down list based on the role that you want to give the user.
5. Click **Add.**

A pop-up window displays that you have now successfully added the user to your site. This tab allows you to manage the users of a site.

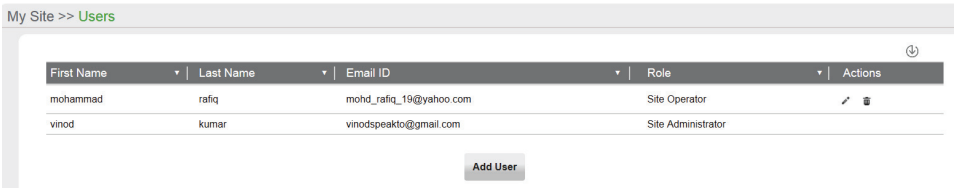

Figure 2-44 **Users** screen

Once a site is added, you are the administrator for that site. You can add users and assign various roles based on the access to your site.You can also edit or delete other users of your site.

Edit User

To edit the details of a User, click the **Edit** icon adjacent to the user role. The **Edit User** window pops up.

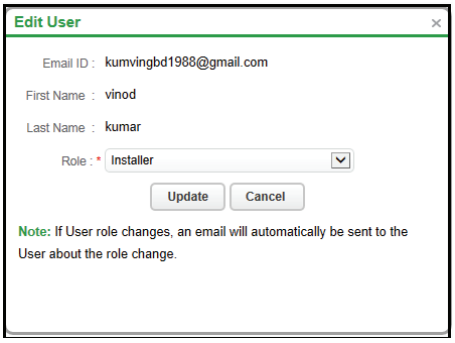

Figure 2-45 **Edit User** pop-up window

1. In the **Edit User** window, select the desired user role from the drop-down list.
2. Click **Update.**

The user role gets updated.

Delete User

1. Click the **Delete** icon adjacent to the user role.
2. Click **OK.**

The user gets deleted.

The user is now added to your site and gets access to your site based on the role that you have assigned.

There are four types of users: **Installer, Site User, Site Administrator** and **Site Operator.**

- **Installer:** who installs a PV plant.

- **Site Administrator:** has administration rights with the site. Only an administrator can add, edit, or delete a user. An administrator can also add another user and give the administrator rights to that user.
- **Site Operator:** who maintains the site.
- **Site User:** who has basic access to site like chart/report generation.

Table 2-2 **User roles**

Screen	Site User	Installer	Site Operator	Site Admin	Guest
Map Screen	Yes	Yes	Yes	Yes	Yes
Add a New Site	Yes	Yes	Yes	Yes	Yes
Performance Dashboard	Yes	Yes	Yes	Yes	Yes
Devices - Overview	Yes	Yes	Yes	Yes	No
Devices - Interview	Yes	Yes	Yes	Yes	No
Inverter Grid	Yes	Yes	Yes	Yes	No
Trends- Plant Target Performance	Yes	Yes	Yes	Yes	No
Trends-Inverter Group	Yes	Yes	Yes	Yes	No
Trends-Inverter	Yes	Yes	Yes	Yes	No
Trends- Variance	Yes	Yes	Yes	Yes	No
Trends- Environmental Contributions	Yes	Yes	Yes	Yes	No
Trends - Solar Earnings	Yes	No	No	Yes	No
Events	Yes	Yes	Yes	Yes	No
My Site-Site	Read only	Read/Add/Edit-yes Delete-No.	Read only	Read/Add/Edit-yes Delete-No.	No
My Site-PV module field	Read only	Read/Add/Edit/ Delete	Read only	Read/Add/Edit/ Delete	No
My Site-Inverter group	Read only	Read/Add/Edit/ Delete	Read only	Read/Add/Edit/ Delete	No
My Site-Inverters	Read only	Read/Add/Edit/ Delete	Read only	Read/Add/Edit/ Delete	No
My Site-plant performance	Read only	Read/Edit	Read only	Read/Edit	No

Table 2-2 **User roles**

Screen	Site User	Installer	Site Operator	Site Admin	Guest
My Site-documents	Read only	Read/Edit/Delete	Read only	Read/Edit/Delete	No
My Site-Reports	No	Read/Edit	No	Read/Edit	No
My Site- Users	No	Read only	No	Read/Edit/Delete	No

Logging Out

To Logout

In the **Map** screen, select the **Logout** button from the drop-down list on the top right hand corner above your profile as shown below.

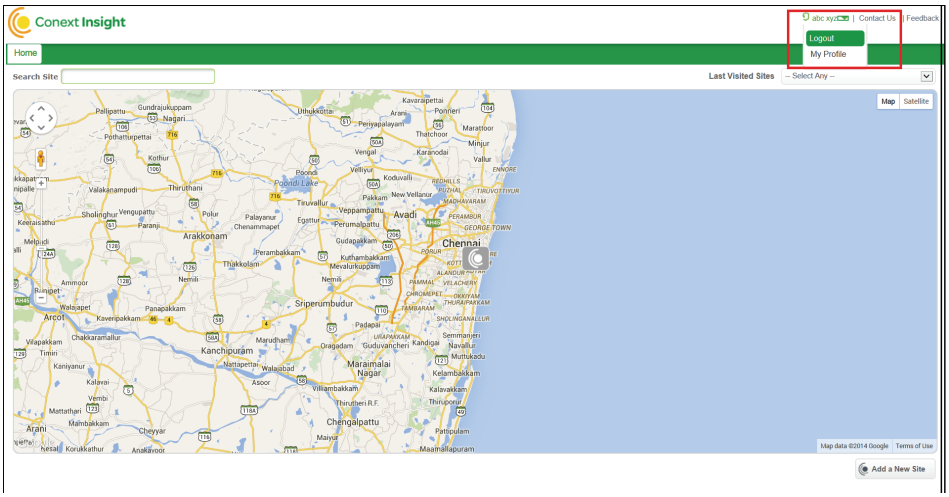

Figure 2-46 **Logout** screen

Feedback

Provide Feedback

In the **Map** screen, click **Feedback** which is on the top right hand corner above your profile as shown below. Once you click the **Feedback** button, a pop-up window appears.

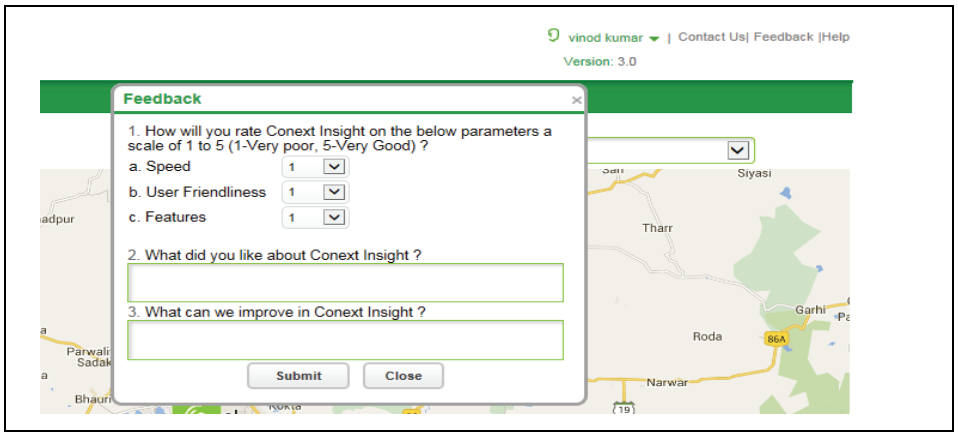

Figure 2-47 **Feedback** pop-up window

You get a different field to give ratings about the different parameters such as speed, user friendliness and features on a rating of 1 to 5, rating **1 is poor,** whereas **rating 5 is very good.**

1. Write a feedback in empty fields of asked questions like what you liked about Conext Insight and how we can improve Conext Insight.
2. Click **Submit** and **Close.**

3 Operation

Chapter 3, “Operation” contains information on how to use Conext Insight for ongoing performance monitoring of the Photovoltaic sites using Conext range of devices.

It contains information about:

- Navigating the Site
- Navigating the Site - ComBox
- Navigating the Site - Conext CL

Navigating the Site

Once a site is added, the application displays the following home page based on the gateway/device you have selected while adding your site.

Navigating the Site - ComBox

Once a site is added for ComBox, the application displays the following home page:

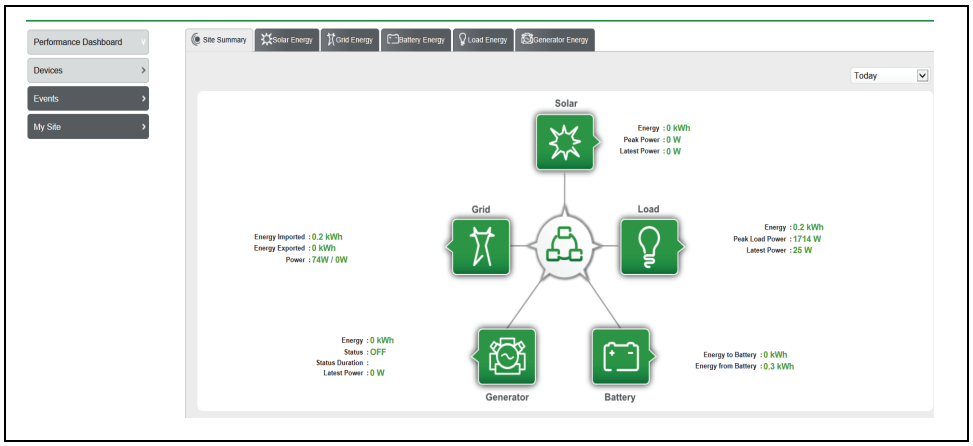

Figure 3-1 **Site Management** screen

Site Management

This screen displays the site details and has the following menus and tabs.

- Performance Dashboard
  - Site Summary
  - Solar Energy
  - Grid Energy
  - Battery Energy
  - Load Energy
  - Generator Energy
- Devices
- Events
  - Errors
  - Warnings
- My Site
  - Manage Site
  - Manage Combox
  - Manage Users

Performance Dashboard

The performance dashboard displays the site summary and other energy details of your plant. Use the dashboard and its various tabs to view the details and performance of your plant.

The Performance Dashboard has the following tabs:

- Site Summary
- Solar Energy
- Grid Energy
- Battery Energy
- Load Energy
- Generator Energy

Site Summary

This tab by default displays the snapshot of energy flows in the site for the present day. You can select different values in the drop-down list located at the top right hand corner to analyze energy flow for today, this week, this month, this year and lifetime.

Site Summary page:

In the **Performance Dashboard**, click **Site Summary**. The **Site Summary** screen appears.

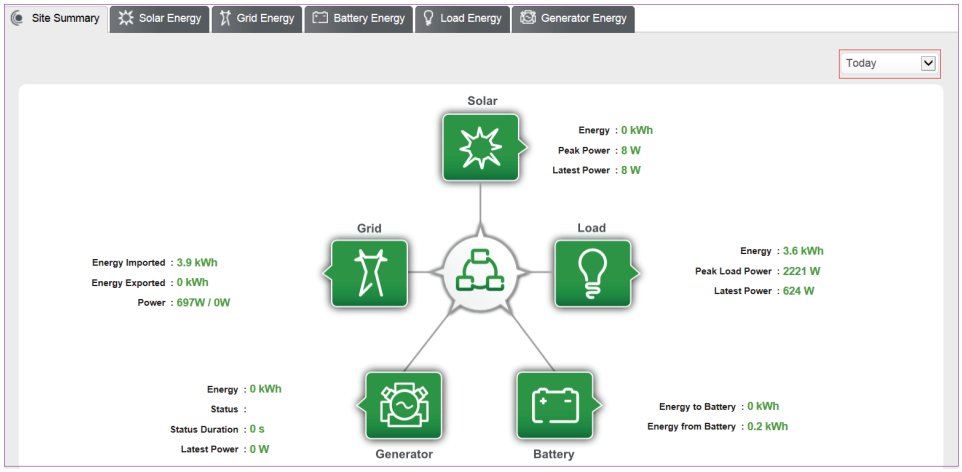

Figure 3-2 **Site Summary** screen

Solar Energy

This tab lets you analyze the solar energy harvested at an interval of hourly, daily, monthly or yearly basis.

To view the Solar Energy:

1. In the **Performance Dashboard**, click **Solar Energy**. The **Solar Energy** screen appears.

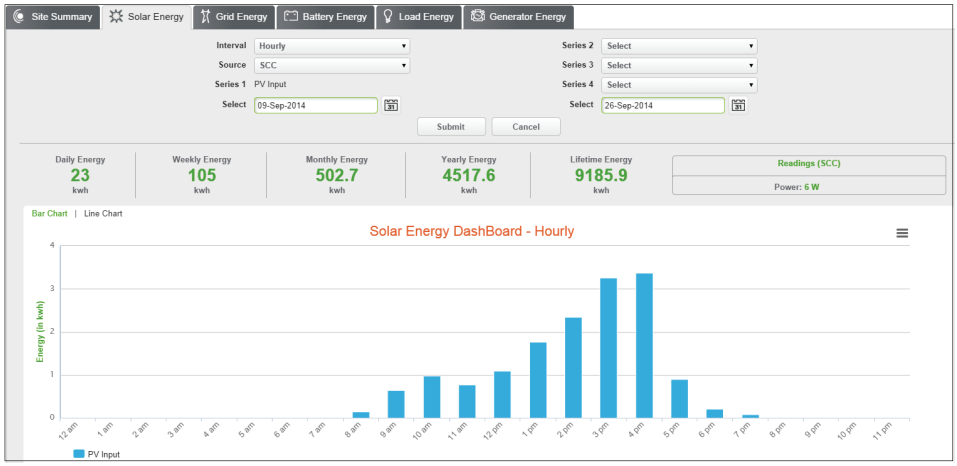

Figure 3-3 **Solar Energy** screen

2. Select the appropriate options from the drop-down list.
3. In the **Interval** field**,** select either hourly, daily, monthly or yearly from the drop-down list.
4. In the **Source** field, select the **source** from the drop-down list.
5. Select the period from the calendar for which you want to view the energy harvest.
6. Select the **Series 2, Series 3** and **Series 4** along with corresponding calendar period, if required.
7. Click **Submit**.

The **Solar Energy** graph appears.

Grid Energy

This tab lets you analyze the grid input and output at an interval of hourly, daily, monthly or yearly basis.

To view the Grid Energy:

1. In the **Performance Dashboard,** click **Grid Energy**. The following screen displays:

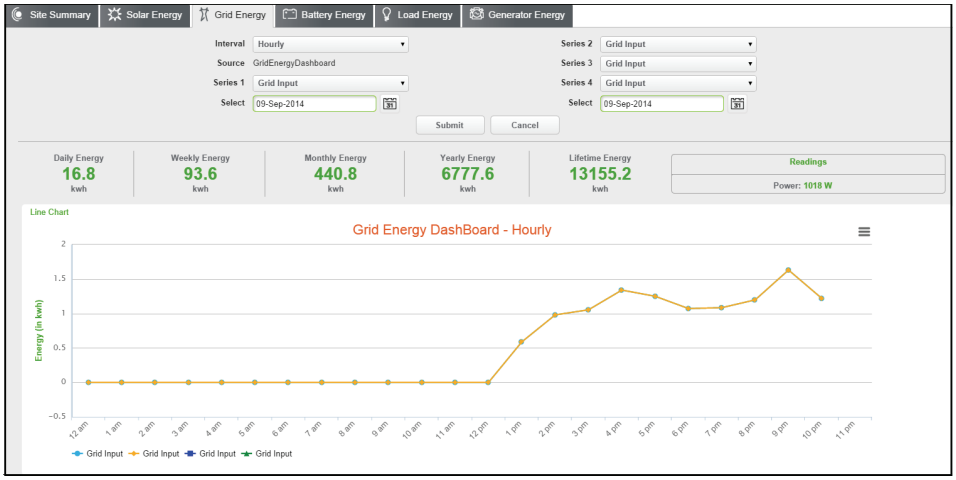

Figure 3-4 **Grid Energy** screen

2. Select the appropriate options from the drop-down list.
3. In the **Interval** field, select either hourly, daily, monthly or yearly from the drop-down list.
4. Select the **Series1** and the period from the calendar for which you want to view the energy.
5. Select the **Series 2, Series 3** and **Series 4,** along with corresponding calendar period, if required.
6. Click **Submit**.

The **Grid Energy** graph appears.

Battery Energy

This tab lets you analyze the battery charge or discharge energy at an interval of hourly, daily, monthly or yearly basis.

To view the Battery Energy:

1. In the **Performance Dashboard,** click **Battery Energy**. The following screen appears:

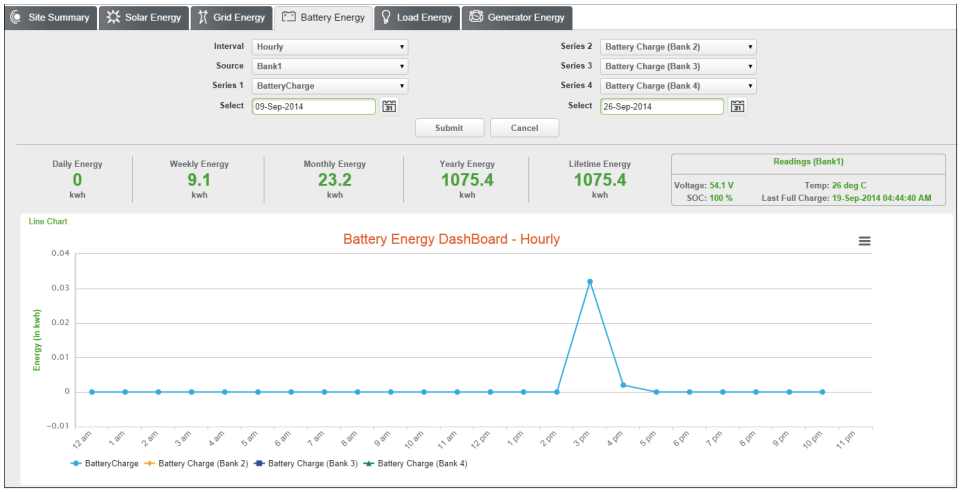

Figure 3-5 **Battery Energy** screen

2. Select the appropriate options from the drop-down list.
3. In the **Interval** field, select either hourly, daily, monthly or yearly from the drop-down list.
4. In the **Source** field, select the appropriate battery bank from the drop-down list.
5. Select the period from the calendar for which you want to view the energy.
6. Select the **Series 2, Series 3** and **Series 4,** along with corresponding calendar period, if required.
7. Click **Submit**.

The **Battery Energy** graph appears.

Load Energy

This tab lets you analyze the load energy at an interval of hourly, daily, monthly or yearly basis.

To view the Load Energy:

In the **Performance Dashboard**, click **Load Energy.** The following screen appears:

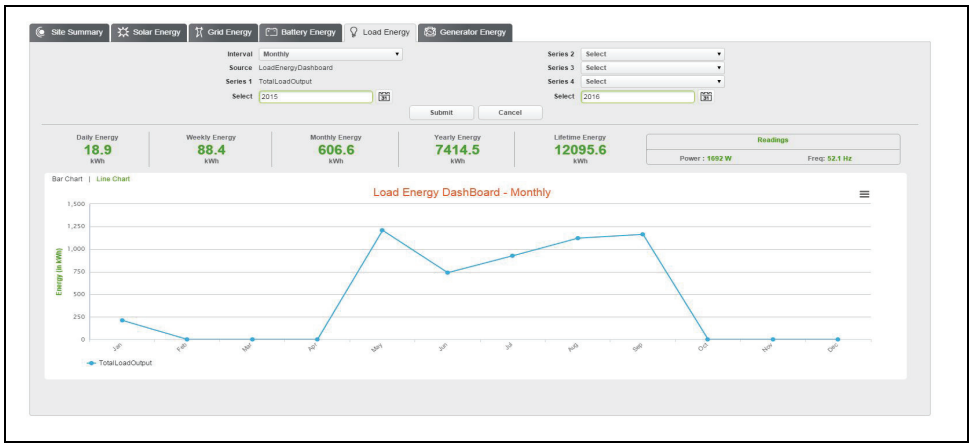

Figure 3-6 **Load Energy** screen

1. Select the appropriate options from the drop-down list.
2. In the **Interval** field, select either hourly, daily, monthly or yearly from the drop-down list.
3. Select the period from the calendar for which you want to view the energy.
4. Select the **Series 2, Series 3** and **Series 4,** along with corresponding calendar period, if required.
5. Click **Submit.**

The **Load Energy** graph appears.

Generator Energy

This tab lets you analyze the generator energy at an interval of hourly, daily, monthly or yearly basis.

To view the Generator Energy:

In the **Performance Dashboard**, click **Generator Energy**. The following screen appears:

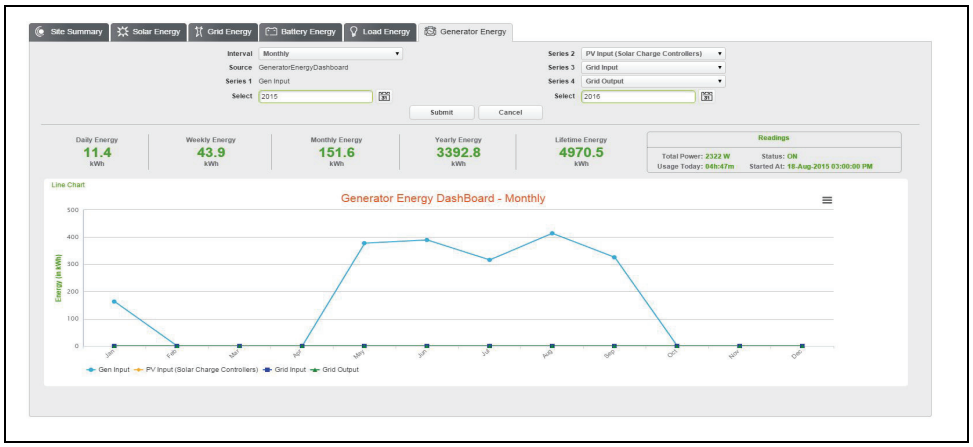

Figure 3-7 **Generator Energy** screen

1. Select the appropriate options from the drop-down list.
2. In the **Interval** field, select either hourly, daily, monthly or yearly from the drop-down list.
3. Select the period from the calendar for which you want to view the energy.
4. Select the **Series 2, Series 3** and **Series 4** along with corresponding calendar period, if required.
5. Click **Submit**.

The **Generator Energy** graph appears.

Devices

This menu displays the list of devices associated with the ComBox and their details such as FGA number, Firmware version, and Unique ID number.

Device	FGA Number	Firmware Version	Unique ID Number
XW(0)	865-6848-01	V02.01.00-0006	2031832
XW(1)	865-5548-01	V02.01.00-0006	2041709
Test1()	865-1058	Ver02.00BN0656	00-00-54-FE-01-2A
SCP(0)	865-1050-01	V02.00.00-0007	1968583
SCP(0)	865-1050-01	V02.00.00-0007	1978894
MPPT(2)	865-1030	V01.05.00-0006	1049287
HVMPPT(3)	865-1032	V01.00.00-0038	1448269
HVMPPT(1)	865-1032	V01.01.00-0001	839773
BATTMON(2)	865-1080-01	V01.00.00-0011	259579
BATTMON(1)	865-1080-01	V01.00.00-0011	259581

1 | 2 »

Figure 3-8 **Devices** screen

Viewing device details

This screen displays the status, current settings of the ComBox and the list of devices connected to this ComBox that you have now selected.

To view the device

Select the appropriate device from the list of devices in the devices details screen. The following screen appears.

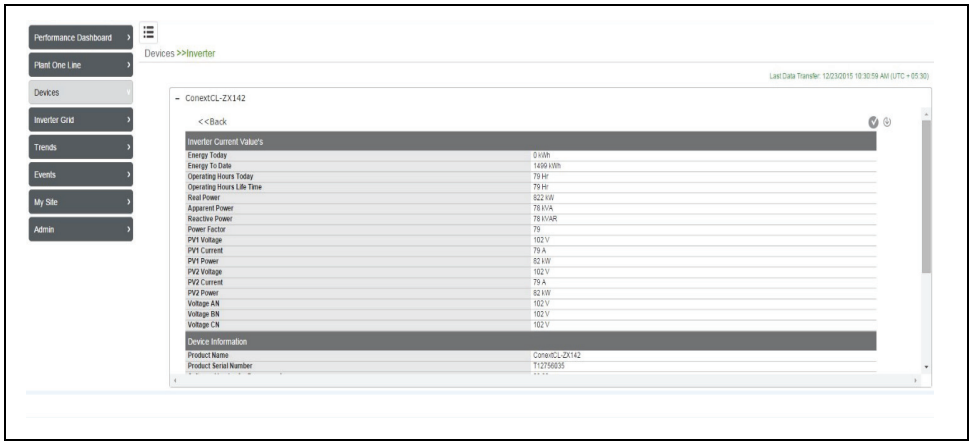

Figure 3-9 **Device details** screen

Events

This menu displays the errors and warnings associated with the site devices. The **Events** menu has the following tabs:

Errors

This tab displays the list of active and historical errors with the following details: the name of the device that has the error, the date on which the error has occurred, the time of occurrence, the FGA number of the device, error code and its description.

An Error is an indication that something went wrong in device and it needs immediate user intervention to resolve issues.

Active Error: displays the list of errors that are active.

Historical Error: displays the list of errors that occurred in the past.

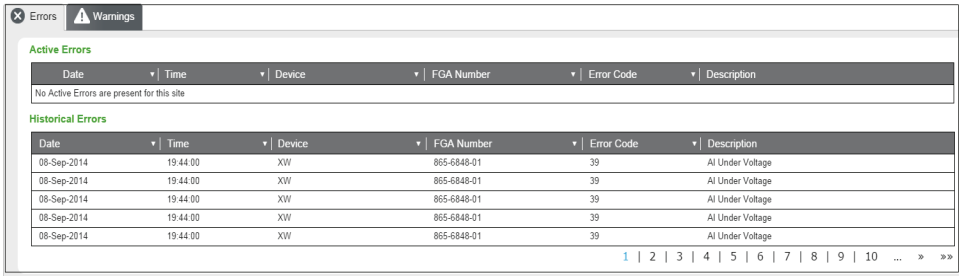

Figure 3-10 **Errors** tab

Warnings

This tab displays the list of active and historical warnings with the following details: the name of the device that has the warning, the date on which the warning has occurred, the time of occurrence, the FGA number of the device, the error code and its description.

A warning is an indication that something went wrong and its prior indication system issues which was not addressed on time may lead to fatal at the device.

Active Warnings: displays the list of warnings that are active.

Historical Warnings: displays the list of warnings that occurred in the past.

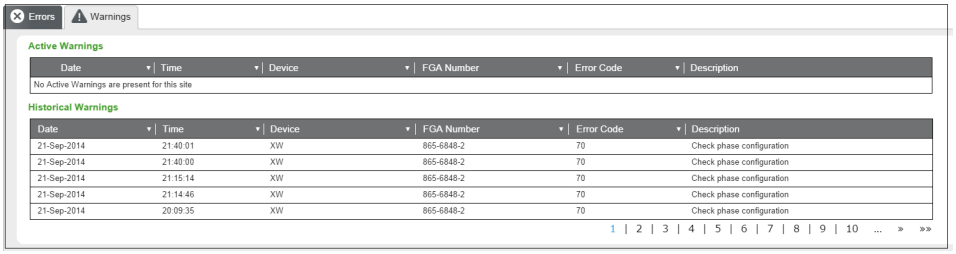

Figure 3-11 **Warnings** tab

My Site

This menu displays the details of the site and allows you to Manage the Site, ComBox and Users.

Manage Site

This tab displays the details and location of the site and also allows you to edit the details or delete the site.

Editing the site

1. To edit the details of the site, click **Edit.** The manage site screen now changes to Edit mode.
2. Edit the fields which you want to change and click **Update.** The edited fields are now updated.

- To exit from the Edit mode, click **Cancel.**
- To delete the Site, click **Delete.**

Manage ComBox

This tab allows you to add ComBox(es) and displays the details of the ComBox once added. You can also edit or delete a ComBox. For more details on adding a ComBox, refer to **To add a ComBox.**

Editing the ComBox

1. To edit the details of a ComBox, click the **Edit** icon. The **Edit ComBox** screen appears.

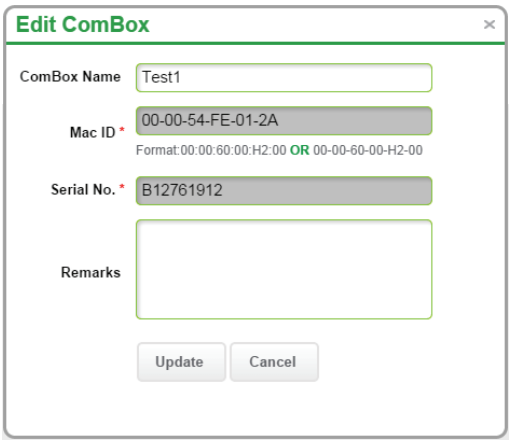

Figure 3-12 **Edit ComBox** screen

2. Edit the fields which you want to change and click **Update**. The edited fields are now updated.

- To exit from the Edit mode, click **Cancel.**
- To delete the ComBox, click the **Delete** icon**.**

Manage Users

This tab allows you to manage the users of a site. Once a site is added, you are the administrator for that site. You can add users and assign various roles based on the access to your site. For more details refer to **Adding a User.** You can also edit or delete other users of your site.

Edit User

To edit the details of a User, click the **Edit** icon adjacent to the user role. The **Edit User** window pops up.

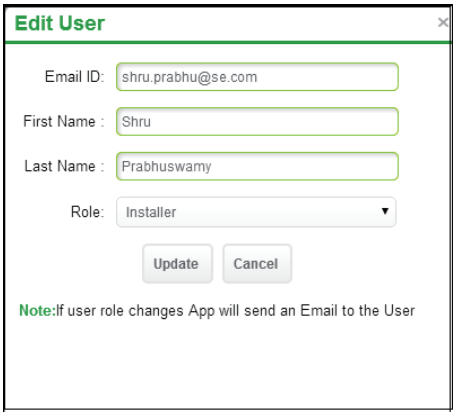

Figure 3-13 **Edit User** screen

1. In the **Edit User** window, edit the required fields.
2. Click **Update.**

The user role or the associated details are updated.

Delete User

1. Click the **Delete** icon adjacent to the user role.
2. Click **OK**.

Navigating the Site - Conext CL

Once a site is added for Conext CL, the application displays the following home page:

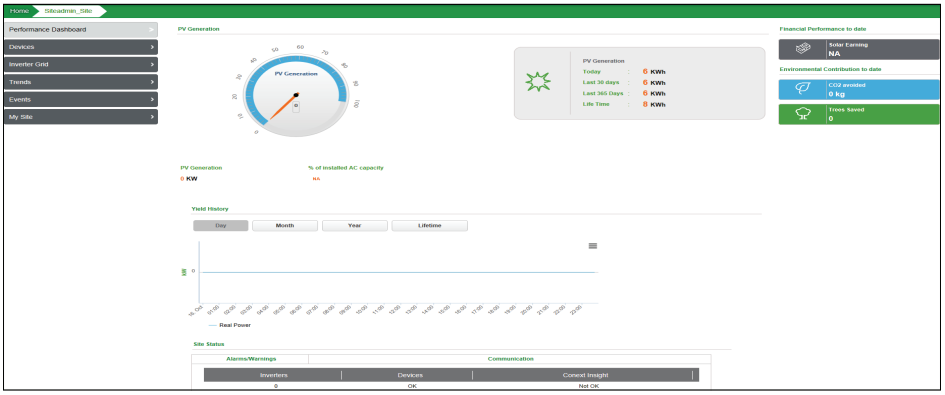

Figure 3-14 **Site Management** screen

Site Management

This screen displays the site details and has the following menus and tabs.

- Performance Dashboard
- Devices
  - Inverters
- Inverter Grid
- Trends
  - Plant Performance
  - Inverter Groups
  - Inverters
  - Variance
  - Solar Earnings
  - Environmental Contribution
- Events
  - Active Alarms
  - Historical Alarms
  - Active Warnings
  - Historical Warnings
- My Site
  - Site
  - PV Module Field
  - Inverter Group
  - Inverters

- Plant Performance
- Reports
- Users
- Documents

Performance Dashboard

The Performance Dashboard displays the PV Generation Production Summary, Financial Performance to date, Environmental Contribution to date, Yield History and Site Status of your plant.

The following screens show the details of the **Performance Dashboard** under different types of **User Login**.

This screen shows the details of **Installer Performance Dashboard.**

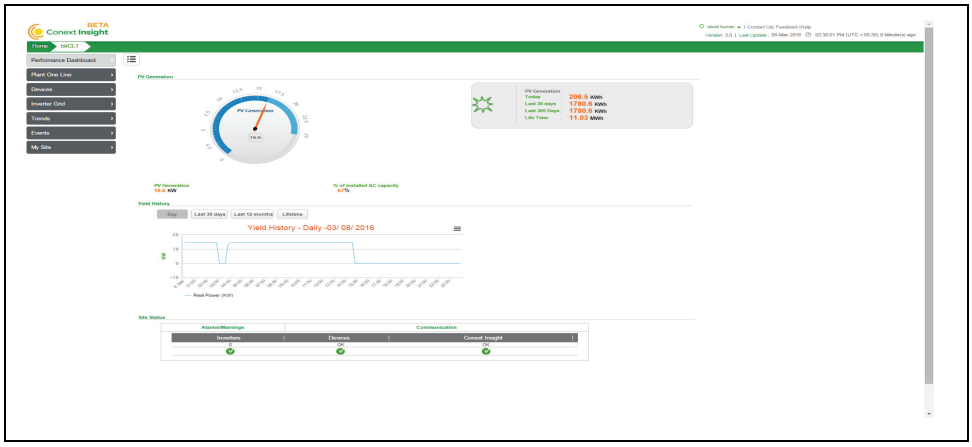

Figure 3-15 **Performance Dashboard Installer** screen

This screen shows the details of **Site Administrator Performance Dashboard.**

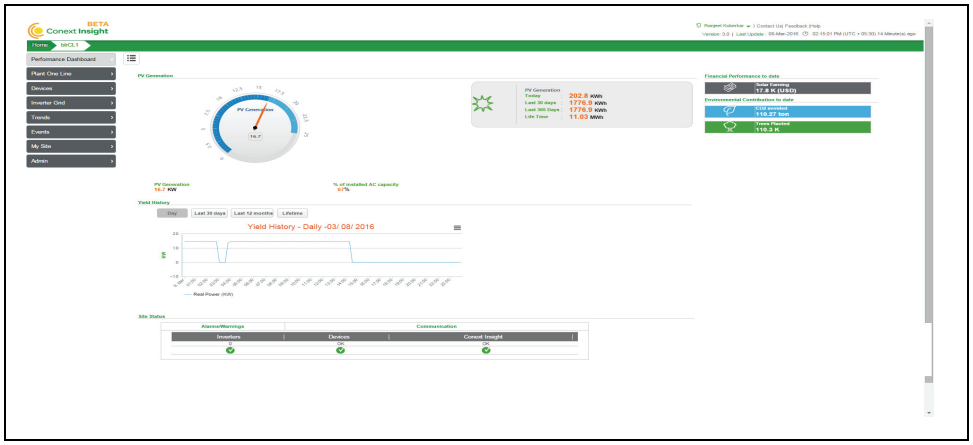

Figure 3-16 **Performance Dashboard Site Administrator** screen

This screen shows the details of **Site User Performance Dashboard.**

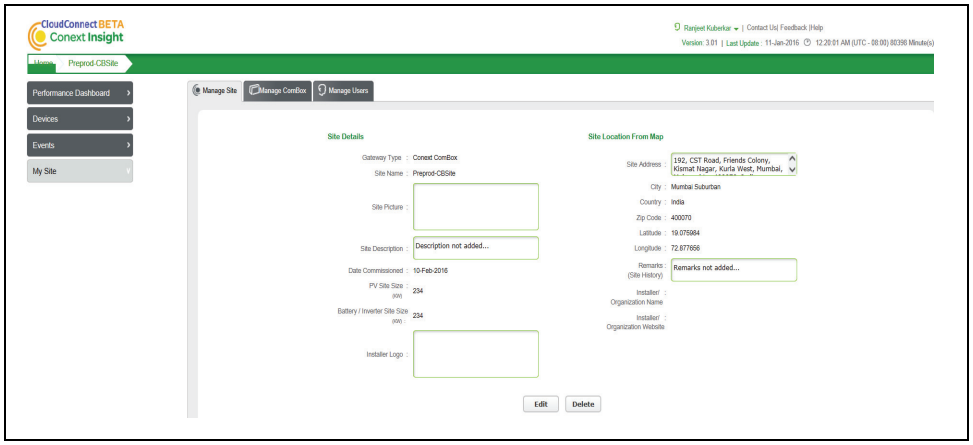

Figure 3-17 **Performance Dashboard Site User** screen

This screen shows the details of **Site Operator Performance Dashboard**.

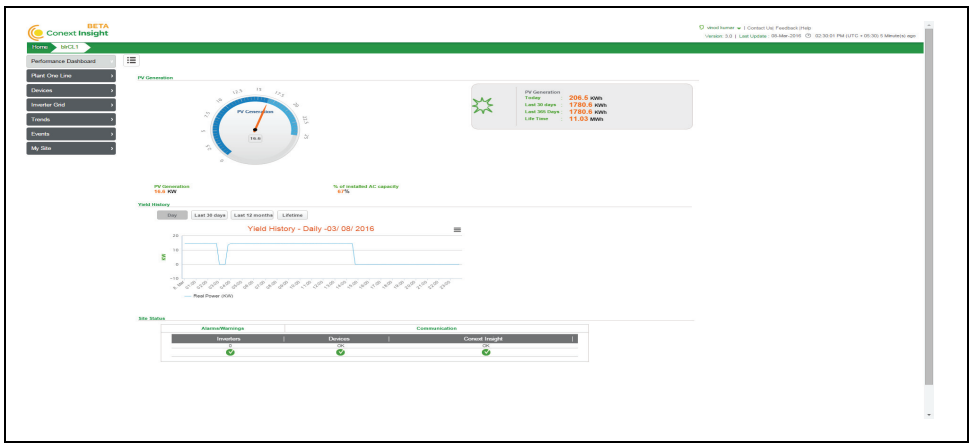

Figure 3-18 **Performance Dashboard Site Operator** screen

Devices

This menu displays the list of inverters and their details such as FGA number, Software version, Serial number, Current O/P, Energy generated, Operating hours and Operational Status.

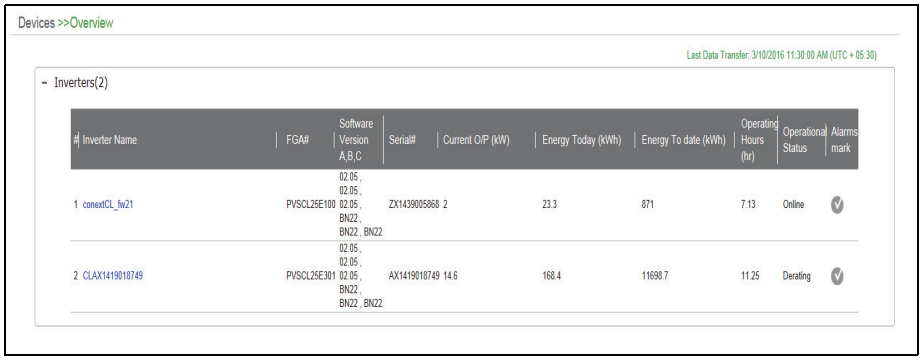

Figure 3-19 **Devices Overview** screen

Viewing device details

This screen displays the current values, device information and settings of the inverter that you have now selected.

To view the device:

Select the appropriate inverter from the list of inverters in the **Devices Overview** screen. The following screen appears.

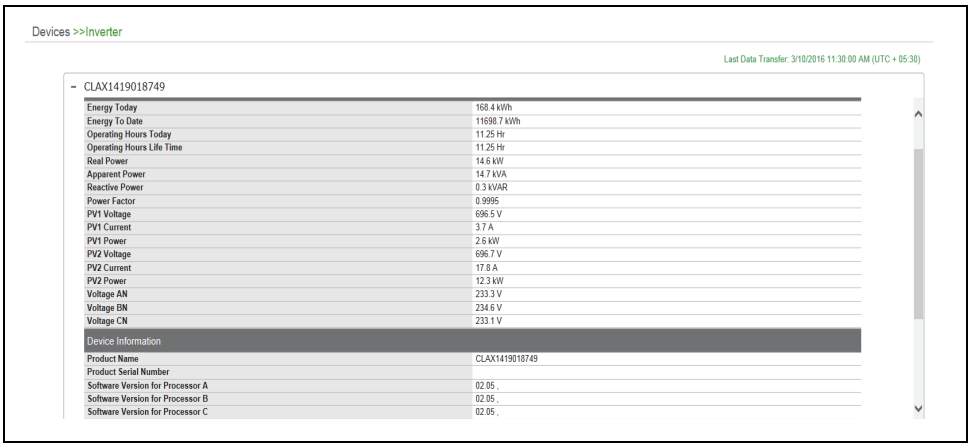

Figure 3-20 **Device Details Inverter** screen

Inverter Grid

This screen displays kilowatt output as percentage of nominal output power for all devices grouped by inverter groups.

Note: If one or more devices are not part of any inverter group, they will be shown under site group named **Plant**.

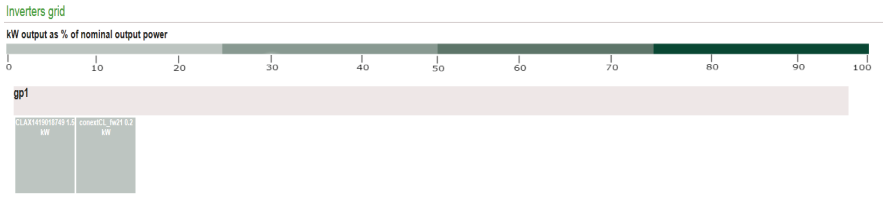

Figure 3-21 **Inverter Grid** screen

Color Coding:

- If the nominal percentage of output power is between 0-24% then it is in light gray spectrum.
- If the nominal percentage of output power is between 25-49% then it is in gray spectrum.
- If the nominal percentage of output power is between 50-74% then it is in light green spectrum.
- If the nominal percentage of output power is between 75-100% then it is in green spectrum.

Trends

This menu displays the trend of Plant Performance, Inverters, Inverter Groups, Variance, Solar Earnings, and Environmental Contribution. Charts can be plotted for Bar and Line graph.The Trends menu has the following sub menus:

Plant Performance

This sub menu displays the trend of plant performance for parameters such as PV Generation and Specific Yield. It allows you to view the plant performance based on day, week, month, year or for lifetime.

To view the plant performance:

1. In the **Plant Performance** screen, select the required button for period from the calendar.

Note: You can view the performance for a particular day, week, month, year or for lifetime.

2. From the **Select Parameters** drop-down list, select the required parameter.
3. Click **Submit.**

The below screen appears.

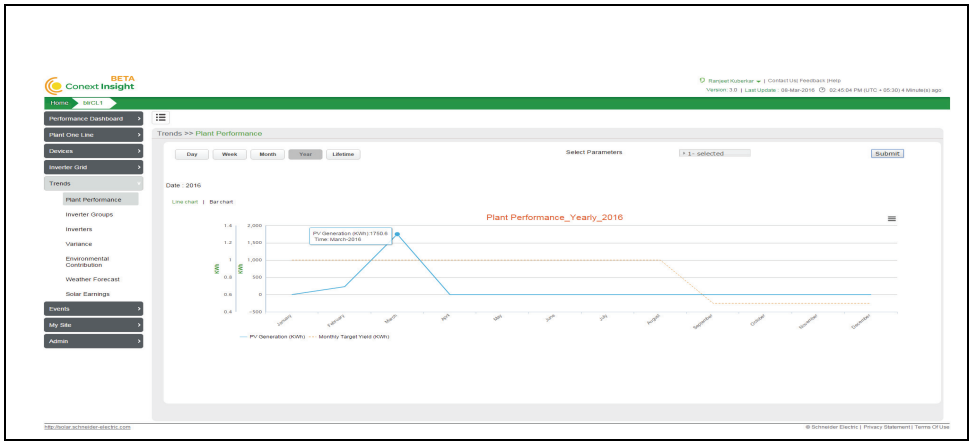

Figure 3-22 **Plant Performance** screen

Inverter Groups

This submenu displays the trend of inverter group performance for various parameters such as PV Generation and Specific Yield. It allows you to view the performance of day, week, month, year or for lifetime.

To view the Inverter group performance:

1. In the **Inverter Groups** screen, select the required button for period from the calendar.

Note: You can view the performance for a particular day, week, month, year or for lifetime.

2. From the **Inverter Group** field, select the required checkbox.
3. From the **Select Parameter** field, select the required checkbox.
4. Click **Submit**.

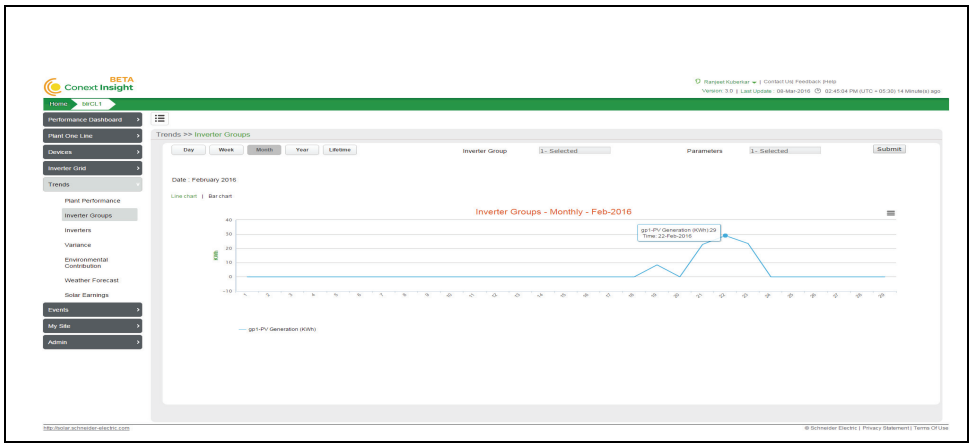

Figure 3-23 **Inverter Groups** screen

Inverters

This submenu displays the trend of inverter performance for various parameters such as Real Power, Reactive Power, Apparent Power, PV1 Power, PV1 Voltage, PV2 Power, PV2 Voltage, Voltage AN, Voltage BN, Voltage CN, AC Energy, and Operating Hours. It allows you to view the Inverter Performance based on day, week, month, year or for lifetime.

To view the Inverter Performance:

1. In the **Inverters** screen, under the **Select Frequency** section, select the required button for frequency from the calendar.

Note: You can view the performance for a particular day, week, month, year or for lifetime.

2. Under the **Select Inverter** section, from the list of inverters, select the required check box.
3. Under the **Select Parameters** section, select the required checkbox.
4. Click **Submit**.

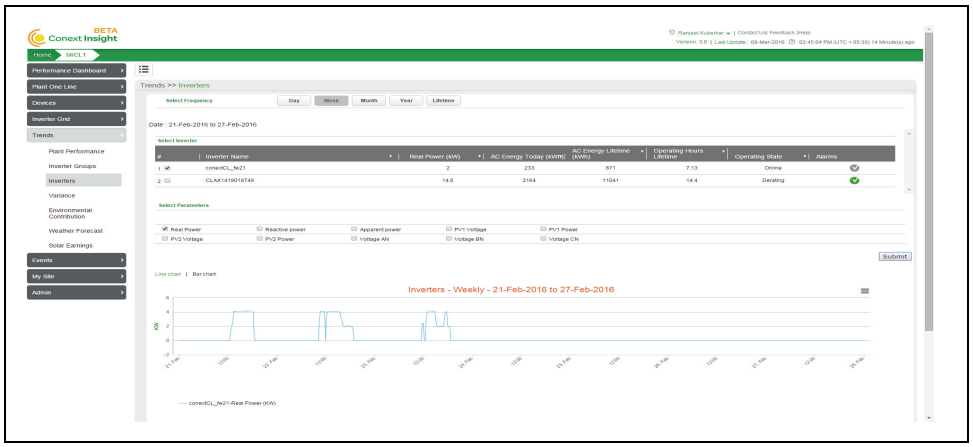

Figure 3-24 **Inverters** screen

Variance

This submenu displays the site variance for various parameters such as PV Generation and Specific Yield. It allows you to view the variance of site performance for the selected years.

To view the variance:

1. In the **Variance** screen, select the required year(s) from the drop-down list.
2. Under the **Select Parameter** section, select the required checkbox.
3. Click **Submit.**

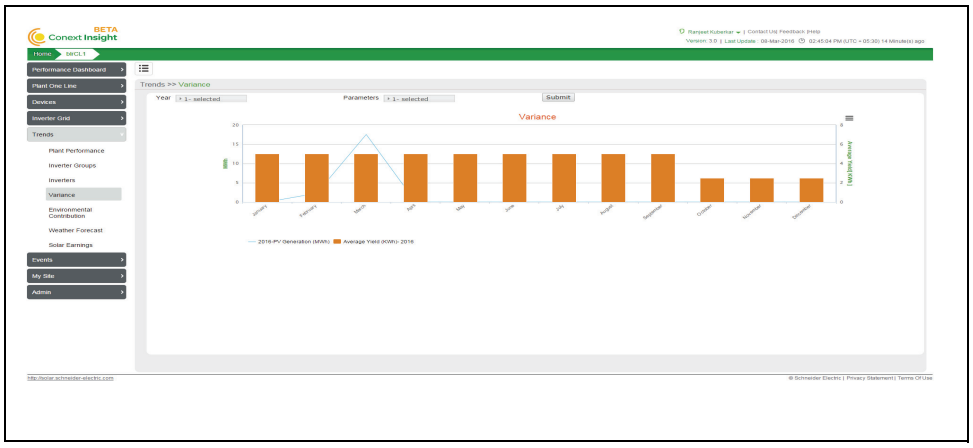

Figure 3-25 **Variance** screen

Solar Earnings

This submenu displays the solar earnings of site for particular day, month, year or for lifetime.

To view the solar earnings:

1. In the **Solar Earnings** screen, select the required button for frequency from the calendar.
2. Under the **Select Parameters** section, select the **Solar Earning** checkbox.
3. Click **Submit.**

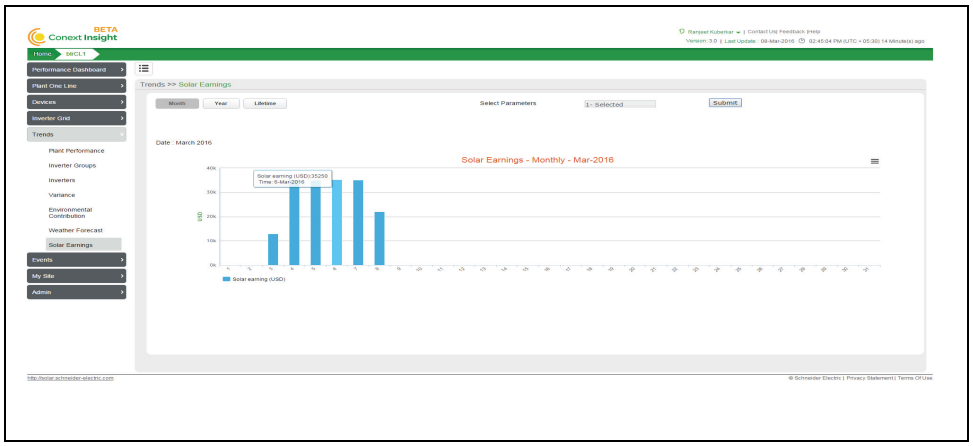

Figure 3-26 **Solar Earnings** screen

Environmental Contribution

This submenu displays the environmental contribution of your plant such as Trees Saved and CO2 Avoided for a particular day, month, year or for lifetime.

To view the environmental contribution:

1. In the **Environmental Contribution** screen, select the required button for frequency from the calendar.
2. Under the **Select Parameters** section, select the required checkbox(es).
3. Click **Submit.**

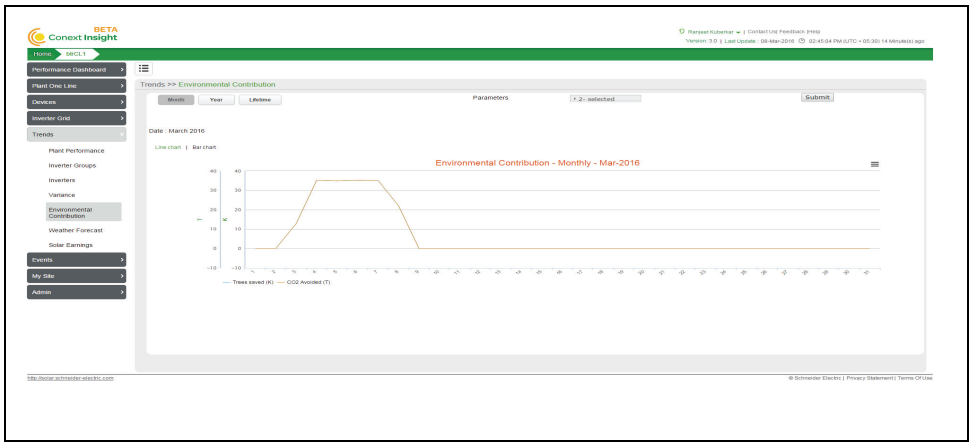

Figure 3-27 **Environmental Contribution** screen

Events

This menu displays the alarms and warnings associated with the site devices. The Event menu has the following tabs:

Note: Mouse hover on event description to know more details in each tabs.

Active Alarms

This tab displays the list of active alarms with the following details: the name of the device that has the alarm, the date on which the alarm has occurred, the time of occurrence, Inverter Group, device type, event code and its description.

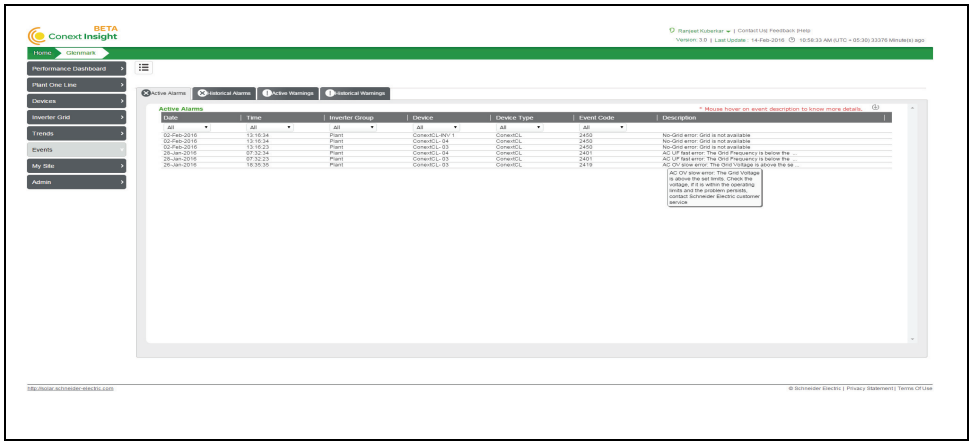

Figure 3-28 **Active Alarms** screen

Historical Alarms

This tab displays the list of historical alarms with the following details: the name of the device that has the alarm, the date on which the alarm has occurred, the time of occurrence, device type, Inverter Group, event code, description, closed date and closed time.

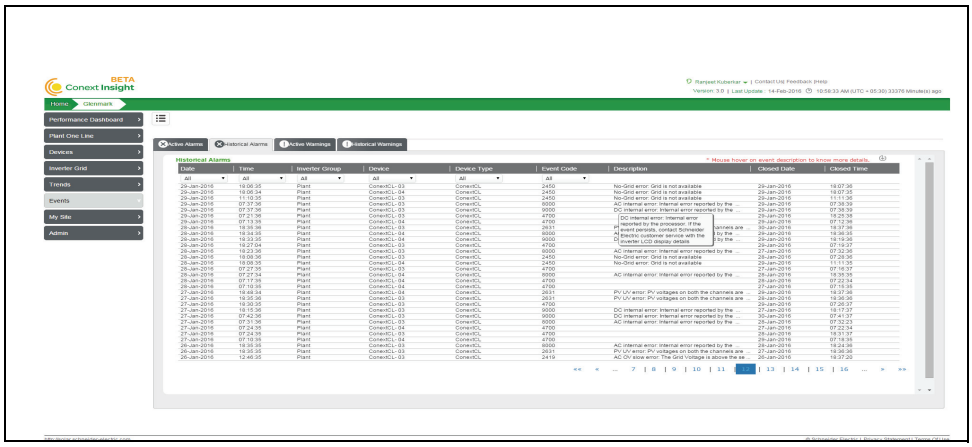

Figure 3-29 **Historical Alarms** screen

Active Warnings

This tab displays the list of active warnings with the following details: the name of the device that has the warning, Inverter Group, the date on which the warning has occurred, the time of occurrence, event code and its description.

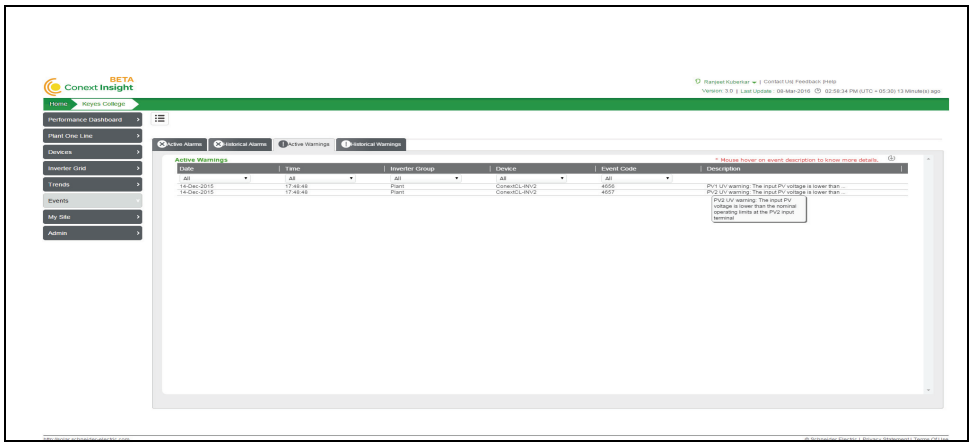

Figure 3-30 **Active Warning** screen

Historical Warnings

This tab displays the list of historical warnings with the following details: the name of the device that has the warning, the date on which the warning has occurred, the time of occurrence, Inverter Group, event code, description, closed date and closed time.

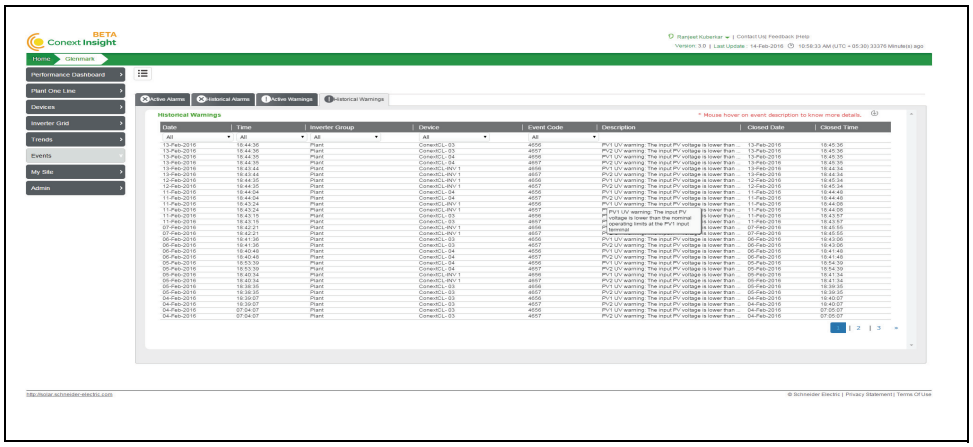

Figure 3-31 **Historical Warning** screen

My Site

This section is described under Chapter **Getting Started**. For more details, refer to **My Site on page 2-11**.

4 Troubleshooting

Chapter 4, “Troubleshooting” describes the issues which may occur during the configuration of Conext CL / ComBox connectivity to Conext Insight and the recommended solution.

It contains information about:

- Troubleshooting

Troubleshooting

Following **Table 4-1** describes the issues which may occur during the configuration of Conext CL / ComBox connectivity to Conext Insight and the recommended solution.

Table 4-1 **Error Messages and Solution**

Problem	Symptom	Solution
Date and time out of sync between device and Conext Insight.	Mismatch of date and time in between screen of Device HMI.	Check the device is properly set to the local date and time with proper time zone. It is recommended to use NTP server to sync date and time on timely basis.
Conext Insight does not show Data when there is Internet connectivity failure.	Internet connectivity lost from device.	• CL device can store up to 4 days of data. Within that time, the user needs to enable Internet connectivity so there is no data loss. • ComBox device can store months of data in SD card until Internet connectivity is enabled by the user, provided that the SD card is inserted. It is highly recommended that ComBox has an inserted SD card.
Forgot password.	Login user name and password is incorrect.	Please refer **Forgot Password on Page 2-5** for more details.
No activation mail.	User did not get any activation mail from Conext Insight.	Contact customer support team of Conext Insight.
Conext Insight does not show device data.	In Site Performance Dashboard it shows older time stamp.	• Check if device has enabled Conext Insight monitoring feature. • Check if you have accepted the disclaimer. • Check Internet connectivity for device. • Check the last successful communication with Conext Insight. • Save Configuration to Conext Insight. • Refer to **Figure 4-1 on page 4–3**.

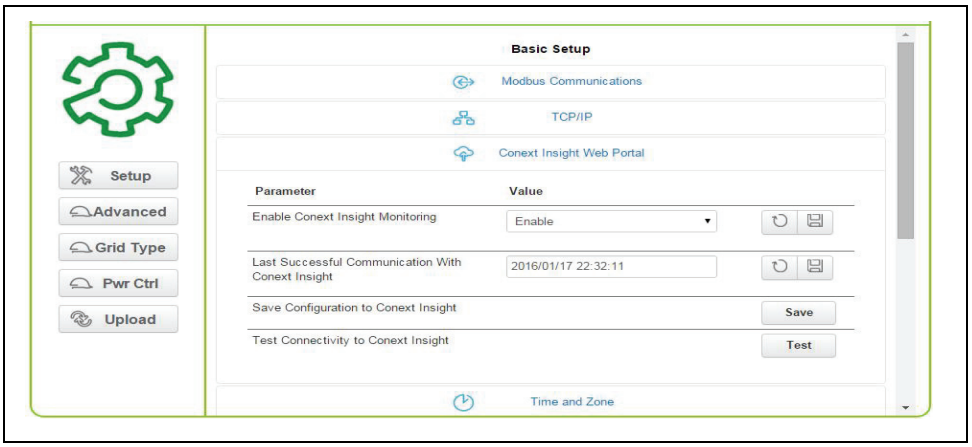

Figure 4-1 **HMI** screen

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As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

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