目　录

About this manual

About this manual

Target Group

This manual is for distributors/installers. The distributor/installer must meet the following requirements:

- Understand the working principle and operation of inverter

- Familiar with local standards and related safety regulations of electrical systems

Symbols

> "Explanation" is the additional information in the manual, which emphasizes and supplements the content, and may also provide tips or tricks for optimizing the use of the product, which can help you solve a problem or save your time.

System Requirements

Item	Requirement
Browser	Chrome 60 or later (recommended), Safari 10 or later, Firebox 60 or later, IE11 or later
Resolution	1920 * 1080 (recommended)/1366 * 768 (supported)

Express statement

Type	Example
Select an element or menu option	Click "Dashboard"
Select multiple elements or menu options	Click "Dashboard -> Create new project"

Main content

The purpose of this manual is to provide readers with how to use iSolarDesign.

> The manual is based on the the V2.0 version of iSolarCloud. The illustration is meant for reference only, please refer to the actual

page.

Common Operations

Common operations

- Account Registration
- Login
- Logout
- Reset password

Account Registration

Account Registration

Introduce the iSolarDesign account registration process for distributors/installers.

Condition

The computer can access the network.

Steps

1. Enter the specified URL in the browser address bar https://design.isolarcloud.com。

2. Click the icon at the bottom of the page ⌄ , Switch page language.

3. Click "Register" to enter the add account page.

4. Enter your email address and click "Next".

5. Enter the verification code received in the mailbox and click "Next".

   The verification code in the mailbox is valid for 30 minutes. If the account is not activated for more than 30 minutes, you need to re-register the account.

6. Enter the password, enter the password again, and click "Next".
   The password must be no less than 8 digits long and contain at least one letter and one number.

7. Enter your first and last name and click "Next".

8. Enter the user's contact address and click "Next".

Parameter name	Description
Country	User's country
Postcode	Postal code of user address
Street	User's street
House number*	User's house number
City	User's city

Note：*It is optional.

9.(Optional) Select the page language, temperature unit and decimal point symbol.Click "Next" to

complete the account registration.

Login

Login

Introduce the steps for distributors/installers to log in to iSolarDesign.

Precondition

Successfully obtain the account and password.

The iSolarDesign platform is running normally and the computer can access the network.

Steps

```
1. Enter the specified URL in the browser address bar
https://design.isolarcloud.com。Press the "Enter" key to enter the
iSolarDesign login page.

2. Select the server address, enter the email address, and click "Next".

3. Enter the password and click "Next".
To facilitate the user to log-in again, you can select "Remember Me".
```

Logout

Logout

Introduce the steps for the distributor/installer to exit iSolarDesign.

Precondition

Successfully log in to iSolarDesign system.

Steps

Click the icon located in bottom left corner to exit the iSolarDesign system.

Reset password

Reset password

In case the login password has been forgotten, please follow the following steps to retrieve the password.

Precondition

An account has been registered.

The iSolarDesign platform is running normally and the computer can access the network. .

Steps

1. Enter the specified URL in the browser address bar https://design.isolarcloud.com。 Press the "Enter" key to enter the iSolarDesign login page.

2. Click "Reset Password" to enter the "Account and Security" page.

3. Enter the mailbox and click "Next".

4. Click "Email Verification", click "Send Verification Code". Enter the verification code received in the mailbox and click "Next".

    The verification code in the mailbox is valid for 30 minutes.

5. Enter the new password and click "Modify".
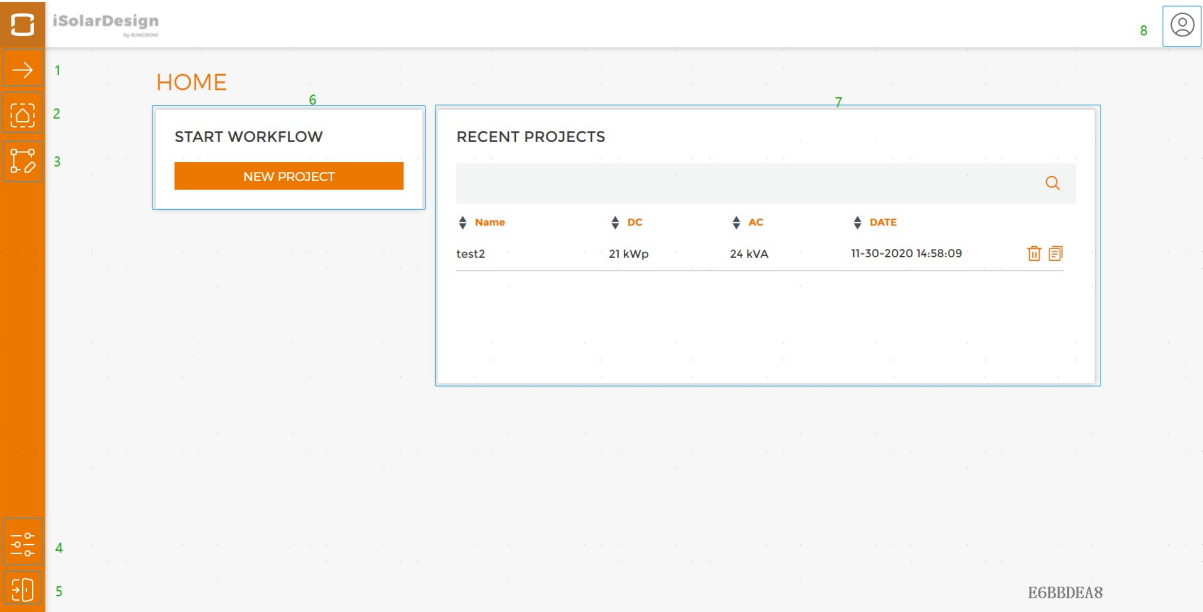
    The new password must meet the following rules:

    1.The password length cannot be less than 8 characters.

    2.The password contains at least one letter and one number.

6. Prompt the modification is complete and automatically return to the login page.

Home page

Home page

The main page after logging in to the system is shown below.

1. Navigation folding icon 2. Home page 3. New Project 4. Settings 5. Exit icon 6. Start new project 7. Project list 8. Personal center

Name	Description
Navigation collapse icon	Click on or The icon can expand or collapse the left navigation area.
Home	Main page after logging in to the system.
New project	Create new projects as needed.
Set up	You can switch the temperature unit, decimal point type and page language.
Exit icon	Click the icon to exit the system.
Start new project	Create a new project.
project list	View recently visited projects and detailed information about projects.

Personal center	You can modify basic personal information, modify email and password, etc.

Recent projects

- Query project

In the query condition area, enter the plant name, DC power or AC power, and click Icon, the project that meet the query conditions are displayed in the project list.

- View or modify project

In the project list, click the name of the project to be viewed or modified to view or modify the detailed information of the recently visited project.

- Delete project

In the project list, click the row of the project to be deleted Icon, a prompt box for confirming deletion pops up. Click "OK" to delete the project.

- Copy project

1. In the project list, click on the row of the project to be copied Icon, copy project.

2. The following operations can be performed as required.

- Click "Cancel" to return to the main page. The configuration of the copied project is exactly the same as the original project.

- Click "Next", and a pop-up prompt box for duplicate plant name will pop up, and you can modify and copy the plant configuration.

  To modify the name of the plant, click "Close" to modify the name of the plant. Click "Next" to enter the page for configuring the basic information of the project. To modify the configuration of the project, refer to the chapter "Configuring the basic information of the project~Exporting the configuration report".

  If you do not modify the name of the plant, click "OK" to enter the page for configuring the basic information of the plant. To modify the plant configuration, refer to the chapter "Configuring the basic information of the plant ~ exporting configuration report".

Dashboard

Dashboard

- Create new project
- Configure basic information of project
- Configure photovoltaic sub-array
- Configure the inverter
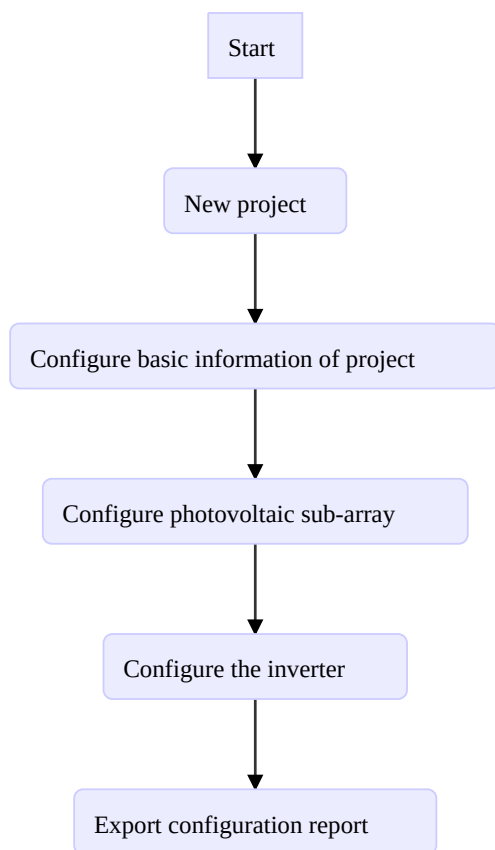- Export configuration report

New project process

New project process

Before creating a new project, you need to understand the process of creating a new project.

The process of creating a new project is shown below.

```
┌─────────────┐
│    Start    │
└─────────────┘
       │
       ▼
┌─────────────┐
│ New project │
└─────────────┘
       │
       ▼
┌─────────────────────────────────────┐
│ Configure basic information of project │
└─────────────────────────────────────┘
       │
       ▼
┌─────────────────────────────────┐
│ Configure photovoltaic sub-array │
└─────────────────────────────────┘
       │
       ▼
┌─────────────────────────┐
│  Configure the inverter  │
└─────────────────────────┘
       │
       ▼
┌─────────────────────────────┐
│ Export configuration report  │
└─────────────────────────────┘
```

New project

New project

Introduce how the distributor/installer creates a project.

Precondition

Successfully log in to iSolarDesign system.

The computer can access the network.

Steps

1. Click "New Power Plant" on "Home" or click ![icon] Icon to enter the "New Power Plant" page.

2. Enter the name of the project, click "Next", the project is created successfully.

- If you need to continue to configure the basic information of the project, see the chapter "Configuring the basic information of the project".

-If you do not need to continue to configure the basic information of the project, click "Return". The newly created project is displayed in the project list.

Basic information of project configuration

Configure basic information of project

Introduce how the distributor/installer configures the basic information of the project.

Precondition

Successfully log in to iSolarDesign system.

The computer can access the network.

Steps

1. (Optional) Fill in the basic user information.

parameter name	Description
the company	Company
First name	User's first name
Last name	User's last name
Street	The user's street
House number	House number where the user is located
City	User's City
Zip Code	Zip Code of User Address
Country	User's country

2.(Optional) Fill in the project location information.

parameter name	Description
Longitude, Latitude	Click "Longitude" or "Latitude", the map will pop up, you can automatically get the current longitude, latitude and detailed address. If the plant address is not the current location, you can enter the plant address and click 🔍 Icon to obtain the longitude and latitude of the project address, and click "OK".
Location	Address of the project

Notice: The location information is used for the system to pick out the ambient temperature range for your project. If in the pre-desgin, the location is not certain yet, it is allowed to leave it empty however it is needed to manually change the ambient temperature range. Furthermore, in the report, no location information will be contained. Please pay attention to this.

3. Fill in the project attribute information.

parameter name	Description
project type	Self-generated and self-use: the power generated by the project is given priority to the local load, and if there is a surplus, it is fed into the grid。 Full access to the grid: all the power generated by the project is directly fed into the grid.
Power Consumption [kWh]*	The average annual power consumption of local loads.

Notice: When the project type is self-generated and self-used, the electricity consumption needs to be filled in.

4.Fill in the ambient temperature information.

parameter name	Description
Minimum ambient temperature	Lowest expected ambient temperature of the power plant location.After selecting the power station location, the minimum temperature will be automatically filled out. Check the value and Click on ‹ Icon or › The icon can be modified.
Maximum ambient temperature	Highest expected ambient temperature of the power plant location.After selecting the power station location, the highest temperature will be automatically filled out. Check the value and Click on ‹ Icon or › Icon can be modified。
Irradiance factor	When the sunlight hits the bifacial module, part of the light is reflected by the surrounding environment to the back of the bifacial module. This part of the light can be absorbed by the back-side of themodule, affecting the photocurrent and efficiency of the bifacial module.In case bifacial module is detected the default values is is 1. Click on ‹ Icon or › The icon can be modified.

Notice: Irradiance factor for bifacial PV module depends much on the on-site surrounding condition. It is needed the user to calculate the factor manually in advance and fill in the result here.

5. Select the type of grid.

Click on ⌄ Icon to select the desired grid type.

6. Click "Next" to configure the basic information of the project successfully.

- If you need to continue to configure the photovoltaic sub-array, please refer to the chapter "Configuring the photovoltaic sub-array".
- If you do not need to continue to configure the PV sub-array, click "Return".

Photovoltaic sub-array configuration

Configure photovoltaic sub-array

Introduce how the distributor/installer configures the photovoltaic sub-array.

Precondition

Successfully log in to iSolarDesign system.

The computer can access the network.

Steps

1. Configure PV module information.

Parameter name	Description
Favorites	Display the PV modules favorited by users.
Manufacturer	Click ⌄ Icon to select PV module manufacturer.
Model	Click ⌄ Icon to select the PV module model. After the model is selected, the detailed information of the photovoltaic module is automatically filled in, and modification is supported.

2. (Optional) Collect PV module information.

You can modify the PV module parameter value, click ☆ Icon, click "Next" to save the current PV module information.

Click on '' ☆ Icon'', click "Next" to cancel the current favorite PV module information.

3. Configure the PV sub-array information.

Click on 'CLICK TO ADD PV ARRAY', add "photovoltaic sub-array".

parameter name	Description
Name	Name of the photovoltaic sub-array. The default is PV sub-array 1, which supports modification within 32 characters.

Module Model	Configure the PV module model selected in the PV information, which cannot be modified.
Number of PV modules	The default is 100, and the range is 1~1000000.
STC peak	
[kWp]	Maximum power under STC conditions. After entering the number of photovoltaic modules, the system automatically calculates the peak power and cannot be modified.
Installation Type	Click ⌄ Icon to select the installation type. Roof: The maximum ambient temperature plus 30 °C participates in the calculation of Min.V DC. Grounding support: the highest ambient temperature plus 20 °C to participate in the calculation of Min.V DC.
Azimuth [°]	Azimuth of the photovoltaic sub-array. The default is 0°, and the range is -180° ~ + 180°. 0° is south, +90° is west, -90° is east.
Inclination [°]	Inclination angle between the photovoltaic sub-array and the ground. The default is 30°, and the range is 0° ~ 90°. 0° is horizontal, 90° is vertical.

4. (Optional) Repeat step 3 to add multiple photovoltaic sub-arrays.
   The installation type of two or more photovoltaic sub-arrays must be the same.

5. Click the upper right corner of the photovoltaic sub-array 🗑 Icon to delete the PV sub-array information.
   Only when there are two or more photovoltaic sub-arrays can the photovoltaic sub-array be deleted.

6. Click "Next" to configure the PV module and PV sub-array information successfully.

- If you need to continue to configure the inverter, see the chapter "Configuring the inverter".

- If you do not need to continue to configure the inverter, click "Back".

Inverter configuration

Inverter configuration

Introduce how the distributor/installer configures inverter information.

Precondition

Successfully log in to iSolarDesign system.

The computer can access the network.

Steps

1. Select the inverter type.

Click on 'CLICK TO ADD INVERTER' to enter the "Select Inverter Type" page. The left side is the inverter type, and the right side is the inverter parameters. Select the inverter type, and the inverter parameter information will be displayed on the right.

I would use the same parameter name shown both in the selection of the inverter, and the inverter overview (total DC inputs, No. of MPPT inputs, Max. AC power etc.)

Parameter name	Description
The total number of maximum input photovoltaic strings	The maximum number of supported photovoltaic strings
Number of MPPT channels	The number of maximum power point tracking.

Maximum AC power	Maximum allowable output power on the AC side
Rated AC voltage	AC side rated voltage
DC input voltage	Maximum allowable input voltage on the DC side
Input voltage range	Maximum power point tracking voltage range
Photovoltaic Subarray	Click ∨ Icon, select the photovoltaic sub-array, and apply the inverter type to the selected photovoltaic sub-array.
DC/AC Ratio	The ratio of the input power on the DC side to the output power on the AC side. If the inverter capacity ratio is less than 1.2, the default is the inverter capacity ratio. If the inverter capacity ratio is greater than 1.2, the default is 1.2. click ‹ Icon or › The icon can be modified.

2.Click "Next" to configure inverter information.

- Basic parameters of inverter

INVERTER

SG110CX

		GENERAL	
		Total AC Power	110 kVA
		Total DC Power	136,62 kWp
		AC Power	110 kVA
Max. DC Voltage	1.100 V	DC Power	136,62 kWp
MPPT Voltage Range	200-1000 V	DC/AC Ratio	1,24
MPPT Voltage Range (Nominal Power)	550-850 V		

The inverter parameters cannot be modified.

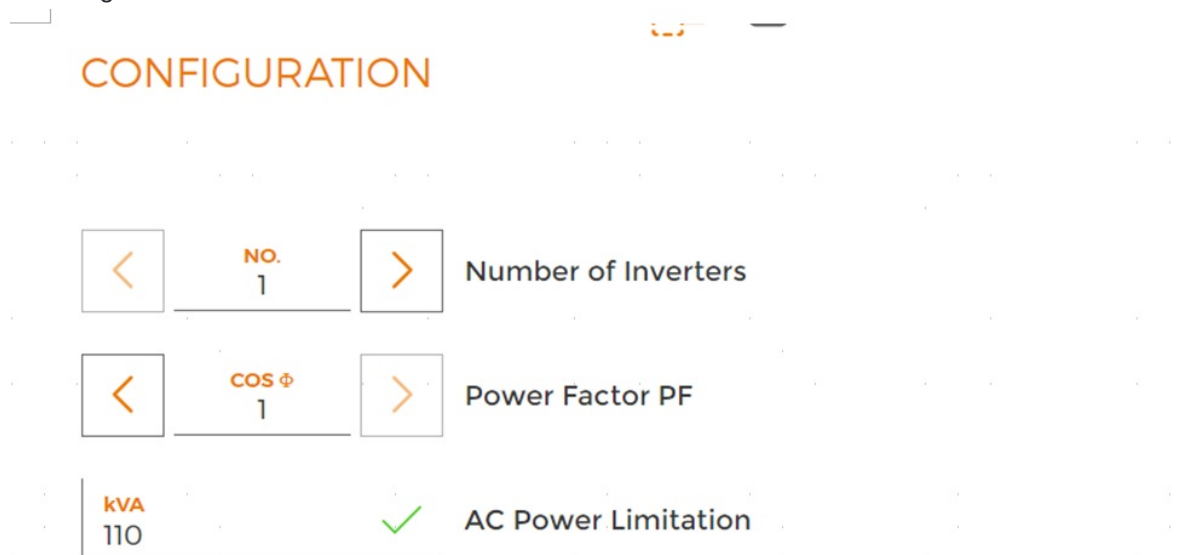| Parameter name	Description
Maximum DC input voltage	Maximum allowable input voltage on the DC side
MPPT voltage range	Maximum power point tracking voltage range

- Inverter general parameters

According to the inverter configuration and string configuration, the system automatically calculates.

Parameter name	Description
AC power of multiple inverters	AC output power of all inverters
Total DC power	DC input power of all inverters.
AC power of a single inverter	AC output power of a single inverter
Single inverter DC power	Single inverter DC input power
DC/AC Ratio	The ratio indicates the default value of Max. DC input power vs rated AC output power for the inverter.Click icon < or >, the value could be changed.

- Inverter configuration

According to the inverter parameters and string configuration, the system automatically calculates the following values

CONFIGURATION

| | | NO. 1 | | Number of Inverters |

| | | COS Φ 1 | | Power Factor PF |

| kVA 110 | | AC Power Limitation |

Parameter name	Description
Number of inverters	The default is 1 unit, and up to 500 units can be configured.
Power factor	The default is 1, and the range is 0.8~1.

AC limited power	The default is the inverter rated power, and the range is 0~the inverter rated power.

- String configuration

STRING CONFIGURATIONS

MPPT	PV Array	String Number	Module Quantity	Max. ISC	Min. V DC	Max. V DC

Configure the string as needed.

Parameter name	Description
MPPT	Number of inverter MPPT
Photovoltaic sub-array	click ∨ Icon to select the photovoltaic array.
Number of strings	The default is the maximum number of strings. If it exceeds the maximum value, the value turns red, prompting the user to reset.
Number of components	The default is the maximum number of components. If it exceeds the maximum value, the value turns red, prompting the user to reset.
Max.ISC *	Maximum short-circuit current
Min.V DC *	Minimum open circuit voltage
Max.V DC *	Maximum open circuit voltage

Note: * The parameter status identification will change the status according to the inverter configuration and string configuration.

The status icons are as follows:

✓ : Means normal.

✗ : Indicates abnormality. Prompt the user to reconfigure.

3. The following operations can be performed according to the actual situation.

- Add multiple inverter types

Repeat step 1 and step 2 to add multiple inverter types.
When adding multiple inverter types, the total number of inverters cannot exceed 500.

- Collapse/expand string configuration

When the number of MPPT exceeds 2, click Icon to collapse/expand the string configuration information.

- Delete the configured inverter information

  To delete the configured inverter information click on to delete the configured inverter information.

4. Click "Next" to configure the inverter information successfully.

- If you need to continue to review the configuration results, please refer to the "Summary " chapter.
- If you do not need to review the configuration report, click "Back".

Export configuration report
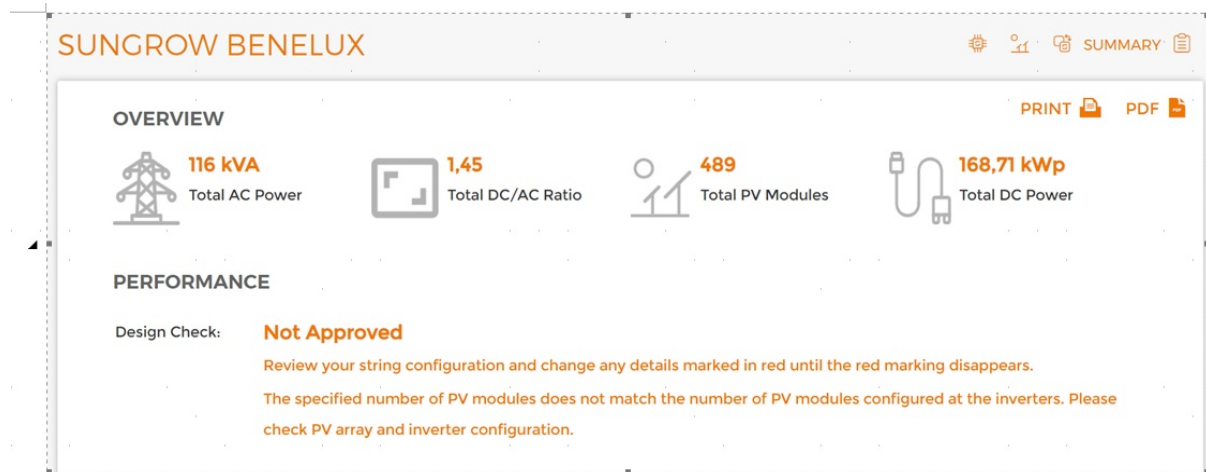
Export configuration report

Introduce how the distributor/installer can export the configuration report.

Precondition

Successfully log in to iSolarDesign system.

The computer can access the network.

Steps

1. The page displays the configuration report.

Parameter name	Description
Overview	Displays actual configuration values and theoretical values.
Performance	Display design results and tips. If the design result is "Failed", click "Return" to reconfigure the inverter information.
Configuration	Display inverter and string configuration information.

2. The following operations can be performed according to the actual situation.

-Print configuration report

Click "Print", the report details will pop up, click "Print".
The computer needs to be connected to the printer.

-Export configuration report

Click "PDF" to generate a PDF report. Click on Icon to download the configuration report.

- Purchase photovoltaic equipment

Click "How to buy" to jump to the official website of Sungrow Power Supply Co., Ltd.

3. Click "Finish" to create a complete project and jump to the homepage.

4. (Optional) Click Icon to jump to the corresponding interface.

Appendix

Appendix

- Manual description
- Contact details

Manual description

Manual description

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Contact details

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