

User Manual-CSI CloudPro Web (Full Version)

V1.0.0

1. Product Introduction

1.1 About CSI CloudPro

Target users of CSI CloudPro are businessmen who provide various services in the life cycle of plants and generates business value based on these services.

(e.g. The manufacturer provides physical hardware sales and after-sales services. The installer provides services such as project development, project construction and O&M of plants.)

We provide different business segments for different service contents to meet the complex business scenarios and requirements of businesses.

1.2 Definition

User

Users are who invest PV power plants. They wish to have full-day surveillance of the running status of PV power plants, which aims to guarantee the safety of their own properties.

Business

Businesses are manufactures, distributors, and who provide services like power plant developing&constructing, construction supervision, O&M and etc,. There are two types of businesses. One is enterprise type. Another is individual type. Both of them can provide the same services,

but their authentication methods are different.

Subject

Every user and business are independent subjects in the system.

Business Sector

System has two independent sectors. One is O&M sector. Another is device sector. Both of two sectors are called "Business Sector".

Group/Member

A group is a collection of members inside a company. Usually, a group is a department or a sub-company. System supports up to five levels of group.

A member is an employee inside a company.

Role

Role: To control data permissions and function permissions of members.

Data Permission&Function Permission

Data Permission: To control what kind of data and how much data a member(subject) can access to. (Data refers to plant data.)

Function Permission: To control what kind of function a member(subject) can have.

External Relationship

External relationship refers to the relationship between subjects. A subject can authorize data permissions and function permissions to other subjects.

External Role

External Role: To control function permissions of other subjects to the authorized objects.

Founder

Founders are who create the objects. Only the founder has the right to decide which subjects have access to the objects he creates. Subject

who receives an object can decide whether he wants to have access to the object and can authorize the object to internal members.

Authorization

Action that the object is viewed to an independent subject and internal member is called "Authorization".

2. How to Obtain a CSI CloudPro Account

Step 1 Register

- Please log in to CSI CloudPro website. [Register a new business](#)
- If you already have a CSI CloudPro account. [Login CSI CloudPro](#)

Step 2 Organization

Go to "*Organization*"- "*Member/Role*" to manage internal members efficiently.

- Business Name: Superior group-where current business is.
- Group: System supports up to five levels of group (Superior group included). It is recommended to name after department name.
- See 5.2.2.1 (Add a New Group) for more details.

Step 3 Add a CSI Cloud Member Account

Go to "*Management*"- "*Group/Member*" to maintain members.

·Pay attention to the following information when adding a new member:

 -Group Belonged to: Influence data permissions of current member.

 -Role: To control the viewing scope of objects (e.g. plant) and the functions they can use.

·Create an independent business account for your partner. See 5.3.1.1

(Add a New Business) for more details.

·Create an independent user account for your client. See 5.3.1.2 (Add a New User) for more details.

3. O&M Sector

3.1 Homepage

Check the data of all plants that current account has access to, including plant running status from multiple dimensions. Moreover, it simplifies plant O&M.

Filter Options

•Filtered by Administrative Area

-Support all country/region globally.

-Adapt to the characteristics of local administrative areas. Support 5 levels administrative area at Max..

•Filtered by Tags

-Support customized tags.

Preset

•Communication Status

-Check "*Total Plants*", "*No Devices*", "*All Devices Offline*", "*Partial Devices Offline*", "*Normal*" on this page. Click "*More*" to go to "*Plant List*".

-Total Plants: No. of total plants that current account has access to.

-No Devices: No. of plants with no devices. Go to "*Plant List*" to check "*No Devices*".

-All Devices Offline: No. of plants with all devices offline. Go to "*Plant List*" to check "*All Devices Offline*".

-Partial Devices Offline: No. of plants with partial devices offline. Go to "*Plant List*" to check "*Partial Devices Offline*".

(Partial: At least one device is offline in the plant. But it does not refer to all devices.)

-Normal: No. of plants with all devices online. Go to "*Plant List*" to check "*Normal*".

•Alert Status

-Check "*Alerting*", "*No Alerts*" on this page. Click "*More*" to go to "*Plant List*".

-Alerting: No. of plants with alerts (Received within 10 mins of the plant updated time). Go to "*Plant List*" to check "*Alerting*".

-No Alerts: No. of plants with no alerts. Go to "*Plant List*" to check "*No Alerts*".

•Peak Hour Ranking

-Check date and ranking list on this page. Click "*More*" to go to "*Plant List*".

Check your ranking list here.

-Click the list to check "*Plant Details*".

-Only data up to the previous day is used.

-Limit to 10.

•My Watchlist

-Click "*More*" to go to "*Plant List*". You can check power plants you followed here.

-Click the list to check "*Plant Details*".

-Limit to 10.

•Production Overview

-Check "*Total Power*", "*Installed Capacity*", "*Daily Production*", "*Monthly Production*", "*Yearly Production*", "*Total Production*" on this page.

-Total Power: Total production power of all plants current account has access to.

-Installed Capacity: Total installed capacity of all plants current account has access to.

-Daily Production: Sum of daily production of all plants current account has access to.

-Monthly Production: Sum of monthly production of all plants current account has access to.

-Yearly Production: Sum of yearly production of all plants current account has access to.

-Total Production: Sum of total production of all plants current account has access to.

•**Production History**

-Check date, time, production bar chart, statistical data on this page.

-Summation of all plants data.

3.2 Plant

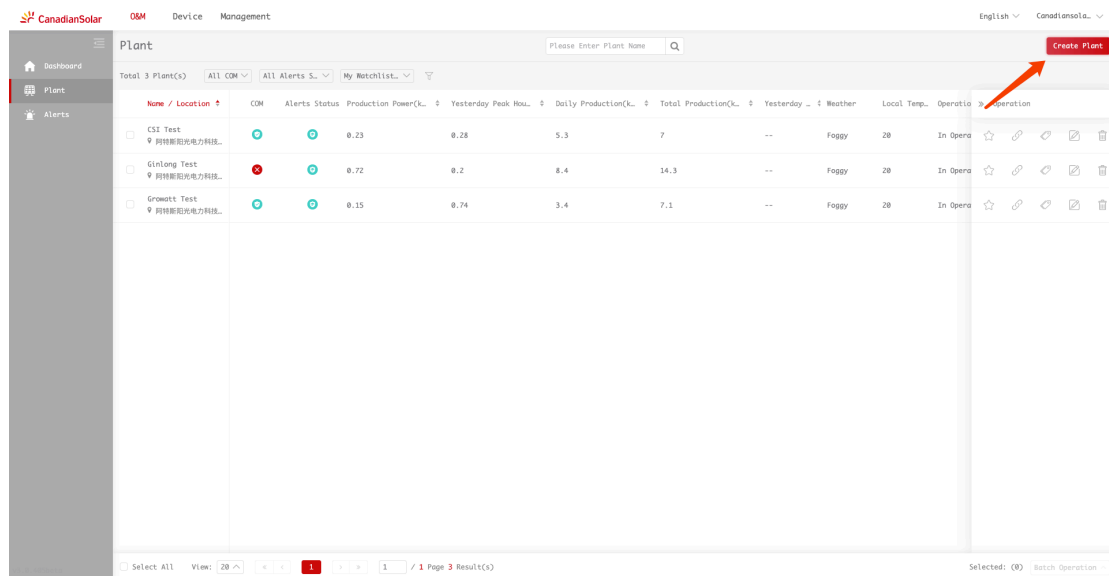
Check all plants current account has access to, which is designed by listing. You can create plants, filter plants and search plants here.

3.2.1 Create a Plant

Create a plant at Web/APP.

•**Web(CSI CloudPro) :**

-Go to "*Plant*" page, and click "*Create a Plant*" in the upper-right corner.



Process-Create a Plant

Step 1: Enter plant information.

Step 2: More operations.

•Enter Plant Information:

-Include basic information, system information, revenue information and owner information.

-Please notice:

1. Region: please select the administrative area where the plant is, which makes weather information more accurate.
2. Time Zone: Default time zone will be determined based on the country/region where the plant is located. Please confirm if default time zone is accurate.
3. Grid Type: Different preset content will be displayed on "*Plant Details*" page depending on the grid type. See 3.2.3 (Plant Details) for more detailed information.

-Click "*Save*" if you have filled out all these information. And you can go to "*More*" page.

•More Operations

-Include "*Add a new gateway/logger*", "*Authorize to a user*",

"Authorize to a business", "Authorize to another member", "Select tag", "Add a new sub-system". See 3.2.3.7 (Operation) for more details.

3.2.2 Plant List

Filter Options

•Filtered by Communication Status

-No Devices: No. of plants with no devices.

-All Devices Offline: No. of plants with all devices offline.

-Partial Devices Offline: No. of plants with partial devices offline.

(Partial: At least one device is offline in the plant. But it does not refer to all devices.)

-Normal: No. of plants with all devices online.

•Filtered by Alert Status

-Alerting: No. of plants with alerts.

-No Alerts: No. of plants with no alerts.

•Filtered by Following Status

-Followed: plants you have followed.

-Unfollowed: plants you have not followed.

•Filtered by Administrative Area

-Support all country/region globally.

-Adapt to the characteristics of local administrative areas.

Support 5 levels administrative area at Max..

•Filtered by Plant Type

-Single selection. Include "Residential Rooftop", "Commercial Rooftop", "Industrial Rooftop", "Ground Mounted".

•Filtered by Grid Type

-Single selection. Include "All", "All on Grid", "Self-consumption".

•**Filtered by Installed Capacity**

-Support customized min. capacity and max. capacity. And filter the power plant by installed capacity between the min. capacity and max. capacity.

•**Filtered by Operation Status**

-Single selection. Include "All", "In Operation", "Not in Operation". If current date reaches the entered date, it means "In Operation".

•**Filtered by Member**

-Plants authorized by the member can be filtered.
-Multiple selections.

•**Filtered by User**

-Plants authorized by the user can be filtered.
-Multiple selections.

•**Filtered by Business**

-Plants authorized by the business can be filtered.
-Multiple selections.

•**Filtered by Tag**

-Support customized tag.

Preset

•**Loc/Name**

-Display plant location and plant name.
-Sort: A ~ Z.
-Click to jump to "*Plant Details*".

•Communication Status

-Include *"Total Plants"*, *"No Devices"*, *"All Devices Offline"*, *"Partial Devices Offline"*, *"Normal"* .

-If *"No Devices"* status shows. Go to *"Plant Details"* - *" Sub-system/Device"*.

-If *"All Devices Offline"* status shows. Go to *"Plant Details"* - *" Sub-system/Device"*. Check offline devices.

-If *"Partial Devices Offline"* status shows. Go to *"Plant Details"* - *" Sub-system/Device"*. Check offline devices.

-If *"Normal"* status shows. Go to *"Plant Details"* - *" Sub-system/Device"*.

•Alert Status

-Include *"Alerting"*, *"No Alerts"* .

-If *"Alerting"* status shows. Click to jump to *"Plant Details"* - *"Alert"*.

-If *"No Alerts"* status shows. Click to jump to *"Plant Details"* - *"Alert"*.

•Production Power

-Display production power. (Unit: kW)

-Support ascending or descending order. Default: Ascending order.

•Peak Hours Yesterday

-Display peak hours yesterday. (Unit: h)

-Support ascending or descending order. Default: Ascending order.

•Daily Production

-Display daily production. (Unit: kWh)

-Support ascending or descending order. Default: Ascending order.

•Total Production

- Display total production. (Unit: kWh)
- Support ascending or descending order. Default: Ascending order.

- PR Yesterday**

- Display PR yesterday. (Unit: %)
- Support ascending or descending order. Default: Ascending order.

- Weather**

- Display current weather information.

- Temperature**

- Display current temperature information.

- Operation Status**

- Include "In Operation", "Not in Operation". If current date reaches the entered date, it means "In Operation".

- Plant Type**

- Include "Residential Rooftop", "Commercial Rooftop", "Industrial Rooftop", "Ground Mounted".

- Grid Type**

- Include "All on Grid", "Self-consumption".

- Installed Capacity**

- Display plant installed capacity information.

- Tag**

- Display plant related tag information.

- Updated Time**

- Display plant updated time.
- Sort: Time. (Default: From now to past.)

Operation

For Single Plant

•Follow

- Solid star: Followed
 - Empty star: Unfollowed.
- Click to switch following status.

•Authorize

- Include "Authorized Members", "Authorized Users" and "Authorized Businesses".
- Authorized Member: Plant can be authorized to the internal member, no matter who created the plant.
- Authorized User: Only the plant created by the current business can be authorized to the user. (Notice: One plant can only be authorized to one user.)
- Authorized Business: Only the plant created by the current business can be authorized to other business. (Notice: One plant can be authorized to several businesses.)

•Tag

- Tag the plant. Create a new tag or select the existing tag here.

•Edit

- Click "*Edit*" to edit a plant.

•Delete

- Click "*Delete*" to delete a plant.
- If you are the founder. The plant will be deleted completely.
- If you are not the founder. The plant will be deleted from the current business, internal members cannot check the plant any more. But others can still check the plant.

For Several Plants

•**Follow in Batch**

- Click "*Follow in Batch*" to follow several plants.
- Please select plants first.

•**Unfollow in Batch**

- Click "*Unfollow in Batch*" to unfollow several plants.
- Please select plants first.

•**Authorize in Batch**

- Click "*Authorize in Batch*" to authorize several plants to members, users, and businesses.
- Please select plants first.

•**Tag in Batch**

- Click "*Tag in Batch*" to tag several plants. You can create a new tag or select the existing tag.
- Please select plants first.

3.2.3 Plant Details

3.2.3.1 Homepage

Check plant status, statistical data, weather information and etc, here.

•**Overview**

- System will display device type, No. of all devices, No. of offline devices and No. of alerts here(Received within 10 mins).
- No. of alerts is fixed. Other items will be determined by device type. (Supported device type: Inverter, meter, module, weather station and logger)

•Production History

- Production history is filtered by day, month, year and total.
- Check production power, local temperature, weather and irradiance from daily chart.
- Check daily production, daily peak hours, local temperature, weather, daily irradiance and daily PR from monthly chart.
- Check monthly production, monthly peak hours, monthly irradiance and monthly PR from yearly chart.
- Check yearly production, yearly peak hours, yearly irradiance and yearly PR from total chart.

•Real-time Production

- Production Power: Latest production power(Absolute Value).
- Daily Peak Hours=Daily Production/Installed Capacity
- Daily Production: Latest daily production.
- Monthly Production: Sum of daily production.
- Yearly Production: Sum of daily production.
- Total Production: Latest total production. Support accumulated production through device uploaded.

•Environmental Benefits & Revenue

- Display environmental benefits & revenue corresponding to accumulated production.

•Real-time Consumption

- Consumption Power: Latest consumption power(Absolute Value).
- Daily Consumption: Latest daily consumption.
- Monthly Consumption: Sum of daily consumption.
- Yearly Consumption: Sum of daily consumption.
- Total Consumption: Latest total consumption. Support accumulated production through device uploaded.
- Only "Self-consumption" plant can check real-time consumption.

•Real-time Flow Chart

- Display the connection of production, grid and consumption.
- Only "Self-consumption" plant can check real-time flow chart.

•Real-time Grid

-Grid Status: "Static", "Grid-connected", "Electricity Purchasing", "Unknown".

-Grid Power: Latest grid power(Absolute Value).

-Daily Grid Feed-in: Latest daily grid feed-in.

-Monthly Grid Feed-in: Sum of daily grid feed-in.

-Yearly Grid Feed-in: Sum of daily grid feed-in.

-Total Grid Feed-in: Latest total grid feed-in. Support accumulated production through device uploaded.

-Daily Electricity Purchasing: Sum of daily electricity purchasing.

-Monthly Electricity Purchasing: Sum of daily electricity purchasing.

-Yearly Electricity Purchasing: Sum of daily electricity purchasing.

-Total Electricity Purchasing: Latest total electricity purchasing. Support accumulated production through device uploaded.

•Self-used History

-Self-used history is filtered by day, month, year and total.

-Check production power,consumption power, grid-connected power, electricity purchasing power and time-sharing self-used consumption from daily chart.

-Check daily production, daily consumption, daily grid feed-in, daily electricity purchasing and daily time-sharing self-used consumption from monthly chart.

-Check monthly production, monthly consumption, monthly grid feed-in, monthly electricity purchasing and monthly time-sharing self-used consumption from yearly chart.

-Check yearly production, yearly consumption, yearly grid feed-in, yearly electricity purchasing and yearly time-sharing self-used consumption from total chart.

- Weather**

- Display the weather condition where the plant is. Include daily weather and weather in three days.

- Summary**

- Display some part of plant information.
 - Jump to "*Plant Info*".

3.2.3.2 Sub-system/Device

Check all sub-system/device information here. Users can add/edit/delete a sub-system/device.

- Sub-system**

- Sub-system is to provide a more flexible grouping for devices in the plant. You can create different sub-system according to actual situation. (e.g. grid-connected point, rooftop, factory and etc.)

- Add a sub-system: Go to "*Sub-system/Device*" and click "*Add a sub-system*" in the upper-right corner. There are two kinds of sub-systems. One is for consumption. Another is for production.

The screenshot shows the 'CSI Test' interface. At the top, there are navigation tabs: 'Details', 'Sub-system / Device', 'Alerts', 'About Plant', and 'Authorize Information'. Below these, there are dropdown menus for 'All COM' and 'All Alerts S...', a search bar 'Please Enter Device Name /SI', and a button 'Add New Gateway/Logger'. On the left, a sidebar shows a tree view with 'CSI Test(2Device)'. The main content area is titled 'CSI Test' and has a sub-tab 'Inverter' selected. Below the sub-tab is a table with columns: 'Name / SN', 'COM', 'Alerts Status', 'Connected System', 'Total AC output', 'Daily Production', and 'Operation'. The table contains one row with the following data:

Name / SN	COM	Alerts Status	Connected System	Total AC output	Daily Production	Operation
CSI 6KW A6C118260036F000			CSI Test	0.25	5.4	

 A red arrow points to the 'Add Sub-system' button located at the top right of the main content area.

-Add a device to sub-system: When sub-system is created, click "Edit" and select the target sub-system. Then click "Save". Sub-system will add up data independently.

This screenshot is identical to the one above, showing the 'CSI Test' interface with the 'Inverter' sub-tab selected. The table data remains the same. A red arrow now points to the 'Edit' icon (represented by a pencil) in the 'Operation' column of the table row.

-If a device is added to a sub-system, it will not effect the statistical data of the main system.

-Check the data of sub-system: Go to "Plant Details", and click plant name in the upper-left corner. Select sub-system in the drop-

down menu.

The screenshot shows a web interface for a system named 'CSI Test'. At the top, there is a dropdown menu labeled 'CSI Test' with a downward arrow. Below it, there are several tabs: 'Details', 'Sub-system / Device', 'Alerts', 'About Plant', and 'Authorize Information'. The 'Sub-system / Device' tab is active. Below the tabs, there are two dropdown menus: 'All COM' and 'All Alerts S...'. To the right of these is a search bar with the placeholder text 'Please Enter Device Name /S' and a magnifying glass icon. Further right is a button labeled 'Add New Gateway/Logger'. Below the search bar, there is a table with the following columns: 'Name / SN', 'COM', 'Alerts Status', 'Connected System', 'Total AC output', 'Daily Production...', and 'Operation'. The table contains one row with the following data: 'CSI 6KW', 'AGC118260036F000', a green status icon, 'CSI Test', '0.25', '5.4', and an 'Operation' icon. The interface also shows a sidebar on the left with a tree view containing 'CSI Test(2Device)' and 'factory 1(0Device)'.

•Device

-Check all devices here. Support: inverter, meter, module, weather station and logger.

-See 4.1.7 (Device Details) for more information.

3.2.3.3 Alert

Filter Options

•Filtered by Updated Time

-In 10 mins: Alerts updated in 10 mins.

-Today: Today's alerts.

-In 3 Days: Alerts updated in 3 days. (Today's alerts included.)

-In 7 Days: Alerts updated in 7 days. (Today's alerts included.)

-This Month: Select a natural month. You can check alerts in target month.

•Filtered by Alert Type

-Protocol Alert: Alerts defined in device protocol.

-Customized Alert: Alerts customized by the current account.

•Filtered by Alert Grade

-Failure: Damage to the function of the system caused by component failure.

-Warning: Might cause damage to the function of the system.

-Notice: No damage to the function of the system.

•Filtered by Influence

-Influence Production: Influence power generation performance of PV system.

-Influence Safety: Cause security risks of PV system.

-Influence Production&Safety: Influence power generation performance&cause security risks of PV system.

-No Production or Safety Influence: No influence& risk of PV system.

•Filtered by Device

-Select device to check alerts of target device.

-See 3.3.2 (Alert Details) for more information.

3.2.3.4 About Plant

3.2.3.4.1 Plant Information

•Basic Information

-Display plant name, plant address and etc.,

•System Information

-Display plant type, grid type and etc.,

•Revenue Information

-Display currency, feed-in tariff and etc.,

•Owner Information

-Display owner name, owner number and etc.,

- **Founder Information**

- Display founder information.

- If the plant is created on User Version, user information will be displayed.

- If the plant is created on Pro Version, business information will be displayed.

3.2.3.5 Authorization Info

- **Authorized Businesses**

- Display authorized businesses of current plant.

- **Authorized Users**

- Display authorized users of current plant.

- **Authorized Internal Members**

- Display authorized internal members of current plant.

- Notice: Different businesses have access to different internal members. Only authorized internal members will be displayed.

- **Authorization**

- Authorize to business, user, internal member.

- Authorize to business: Only the founder can authorize a plant to other business. Three ways to authorize to business: Select Businesses who have Built Relationships, Search for System-wide Businesses, Create a New Business.

- Select Businesses who have Built Relationships: Select business in the existing external business list.

- Search for System-wide Businesses: Search business and add to external business list.

- Create a New Business: Create a new business and add to external business list.

-Authorize to user: Only the founder can authorize a plant to other user. Three ways to authorize to user: Select Users who have Built Relationships, Search for System-wide Users, Create a New User.

-Select Users who have Built Relationships: Select user in the existing external user list.

-Search for System-wide Users: Search user and add to external user list.

-Create a New User: Create a new user and add to external user list.

-Authorize to internal member: Select an internal member and authorize.

3.2.3.6 Tag Belonged to

•Correlated Tag

-Display correlated tags of the plant.

•Edit Tags Belonged to

-Click "*Edit Tags Belonged to*".

-Select a tag for the plant.

-Create a new tag for the plant.

3.2.3.7 Operation

•Follow

-Solid star: Followed

-Empty star: Unfollowed.

Click to switch following status.


•Add

-Add a gateway/logger, a sub-device and authorization information.

·Add a gateway/logger

-Enter/scan SN to add a gateway/logger.

-If current plant has a gateway/logger, system will popup dialog- "*Purpose*". If you wish to replace a gateway/logger, you can select "*Replace existing gateway/logger*".



The screenshot shows a dialog box titled "Add a New Gateway/Logger". It contains a "Purpose" section with two radio button options: "Add a new device directly" (which is selected) and "Replace existing gateway/logger" (which is highlighted with a red rectangular box). Below the radio buttons is a label "SN:" followed by an empty text input field. At the bottom right of the dialog, there are two buttons: "Cancel" and "Add".

-After entering/scanning SN, you can operate the following steps:

·Sub-device Adding: Auto-adding, Manual-adding.

-Auto-adding: Default setup.

System will check the connection between gateway/logger and sub-device, then add sub-devices to the plant automatically.

-Manual-adding: This method applies to micro-inverter and other special scenes. (e.g. A gateway/logger is used to several plants.)

·Add a sub-device

-Only sub-device which is added via manual-adding can be added again.

·Add authorization information

-Authorize to business, user, internal member.

-Authorize to internal member: Plant can be authorized to the internal member, no matter who created the plant.

See 3.2.3.5 (Authorization Information) for more details.

-Authorize to user: Only plant created by the current business can be authorized to the user. (Notice: One plant can only be authorized to one user.)

See 3.2.3.5 (Authorization Information) for more details.

-Authorize to business: Only plant created by the current business can be authorized to other business. (Notice: One plant can be authorized to several businesses.) See 3.2.3.5 (Authorization Information) for more details.

•Edit

-Click "*Edit*" to edit a plant.

•More

-Plant Settings&Plant Deletion.

·Plant Settings

-Click "*Plant Settings*" to set data source.

-Default: Intelligence Selection.

·Plant Deletion

-Click "*Delete*" to delete a plant.

-If you are the founder. The plant will be deleted completely.

-If you are not the founder. The plant will be deleted from the current business, internal members cannot check the plant any more. But others can still check the plant.

3.3 Alert

3.3.1 Alert List

Filter Options

•Filtered by Updated Time

- In 10 mins: Alerts updated in 10 mins.
- Today: Today's alerts.
- In 3 Days: Alerts updated in 3 days. (Today's alerts included.)
- In 7 Days: Alerts updated in 7 days. (Today's alerts included.)
- This Month: Select a natural month. You can check alerts in target month.

•Filtered by Alert Type

- Protocol Alert: Alerts defined in device protocol.
- Customized Alert: Alerts customized by the current account.

•Filtered by Alert Grade

- Failure: Damage to the function of the system caused by component failure.
- Warning: Might cause damage to the function of the system.
- Notice: No damage to the function of the system.

•Filtered by Influence

- Influence Production: Influence power generation performance of PV system.
- Influence Safety: Cause security risks of PV system.
- Influence Production&Safety: Influence power generation performance&cause security risks of PV system.
- No Production or Safety Influence: No influence& risk of PV system.

•Filtered by Plant

- Select plant to check alerts of target plant.

•Filtered by Device

- Select device to check alerts of target device.
- See 3.3.2 (Alert Details) for more information.

3.3.2 Alert Details

Check alert basic information, distribution, problem description, reasons&solutions, trigger condition here.

- Alert Basic Information:**

- Type: Protocol Alert/Customized Alert.
- Grade: Intensity of alert.
- Influence: Factors affect the safety in production.
- Plant: Alerting plant.
- Device: Alerting device.
- Last Trigger Time: Last trigger time of alert.

- Distribution:**

- Display the trigger condition of the alert.

- Problem Description:**

- Problem description usually provided by manufacturers.

- Reasons&Solutions:**

- Reasons&solutions usually provided by manufacturers.

- Trigger Condition:**

- If it is a customized alert, there will be a trigger condition.

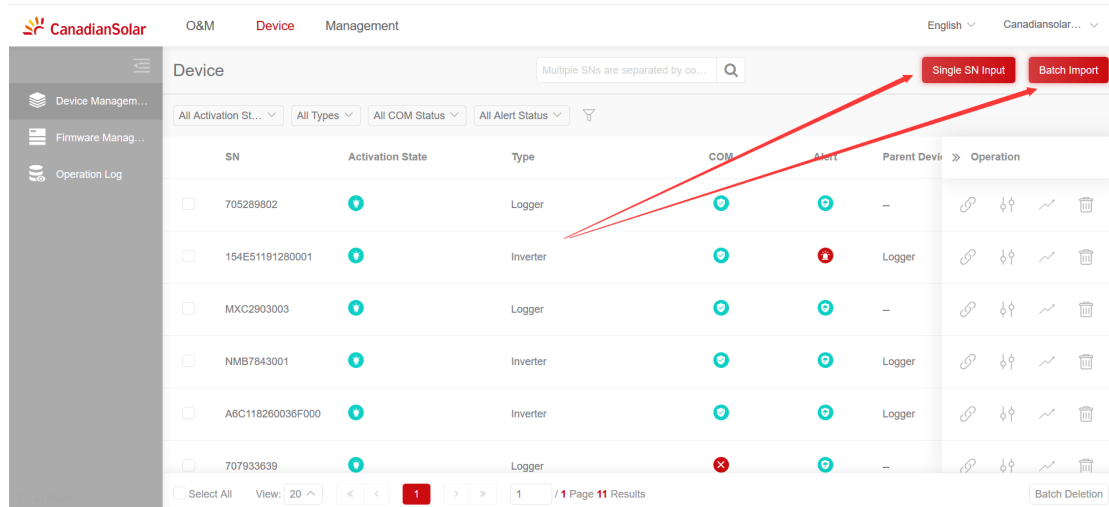
4. Features of Device Sector

4.1 Device Management

List all devices current account has access to. Users can import, filter, search devices here.

4.1.1 Device Importing

•Web(CSI CloudPro) :



The screenshot shows the CanadianSolar O&M Device Management interface. At the top, there are navigation tabs for 'O&M', 'Device', and 'Management'. The 'Device' tab is active. Below the navigation, there are filters for 'All Activation St...', 'All Types', 'All COM Status', and 'All Alert Status'. A search bar contains the text 'Multiple SNs are separated by co...'. Two red arrows point from the 'Single SN Input' and 'Batch Import' buttons to the 'Alert' column of the device table. The table has columns for 'SN', 'Activation State', 'Type', 'COM', 'Alert', 'Parent Devi...', and 'Operation'. The 'Alert' column contains status icons: a green circle with a checkmark for most devices, and a red circle with an 'x' for the device with SN 707933639. The 'Operation' column contains icons for link, refresh, and delete. At the bottom, there is a pagination bar showing '1 / 1 Page 11 Results' and a 'Batch Deletion' button.

Single SN Input: Please enter logger SN to import.

Single SN Input

Device Type:

Device SN:

Notice: If the gateway/logger you selected has sub-devices, these sub-devices will be imported synchronously.

Batch Import: Upload Excel file (size limit to 2M). Please place SNs in column A of Excel.

Batch Import

Device Type

Device SN*

SNs cannot be imported repeatedly. Or system will consider the importing as a failure. Devices connected to logger(e.g. inverter) will be displayed in the list.

4.1.2 Device List

Search Options

SN: Support searching single SN or several SNs. (SNs need to be separated by commas in English format.)

Brand: Search brand.

Filter Options

- Filtered by Activation Status**

- Activated: At least one data uploading record.

- Unactivated: No data uploading records.

- Filtered by Device Type**

- Inverter, logger, meter and etc,.

- Filtered by Communication Status**

- Online: Data uploaded in 15 mins.

-Offline: No data uploading records in 15 mins.

- Filtered by Alert Status**

- Normal: No alert records in 10 mins.

- Alert: No data uploading records in 15 mins.

- Filtered by Product Name**

- Select all products that current business created.

Preset

- SN**

- Display SN information.

- Click to jump to *"Device Details"*.

- Activation Status**

- Display activation status, include "Activated", "Unactivated".

- Product Name**

- Display product name device belonged to. Product name is determined by protocol.

- Brand**

- Display device brand information, which is defined when product access to the platform.

- Type**

- Display device type, which is defined when product access to the platform.

- Communication Status**

- Display device communication status. Unactivated: "- -". If the data uploaded in 15 mins after the device is activated, which means "Online". Otherwise, it means "Offline".

- Alert Status**

- Display device alert status. Unactivated: "- -". If data triggered the alert in 10 mins after the device is activated, which means "Alert". Otherwise, it means "Normal".

- Parent Device Type**

- Parent Device: Gateway devices that upload device data to the platform.

- Display parent device type. If there is no parent device, it will display "- -".

- Parent Device SN**

- Display parent device SN. If there is no parent device, it will display "- -".

- Parent Device Communication Status**

- Display parent device communication status. If there is no parent device, it will display "- -".

- Parent Device Alert Status**

- Display parent device alert status. If there is no parent device, it will display "- -".

- Updated Time**

- Display latest updated time. (Device time zone is used.)

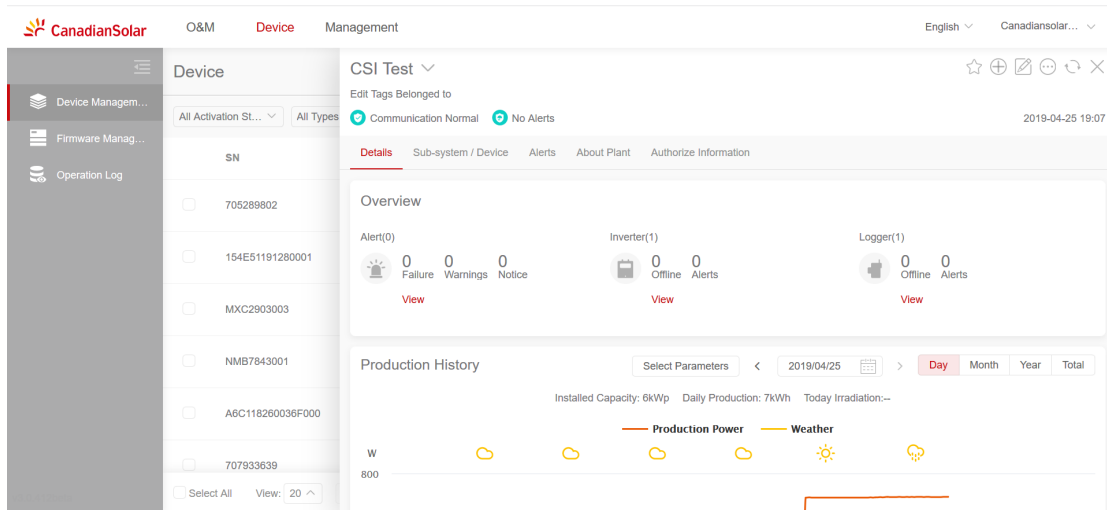
Operation

4.1.3 Check System Belonged to

- If device has not been added to any plant, click "*Check System Belonged to*". It will display "No system belonged to is available".

- If device has been added to several plants, click "*Check System Belonged to*". It will display "Plant Name", and select a plant.

-If device has been added to a plant, click "*Check System Belonged to*" and jump to "Plant Details" page.



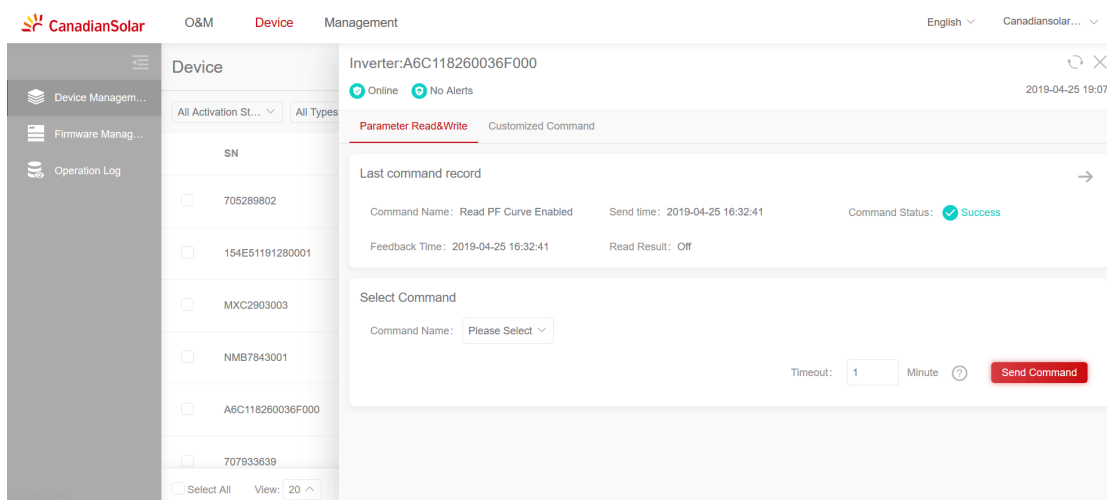
4.1.4 Device Control

Operate parameter Read&Write and setup here.

-If device is unactivated, it will display "Device not activated. Device control cannot be operated~".

-If device is activated, but no instruction is available, it will display "Device control function is not available".

-If device is activated, and instruction is available, click "*Control*" and jump to "Device Control" page.



•Parameter Read&Write

-Check latest command and status.

-Select command: Include all instructions visible to the business.

Timeout: 1 min (Default), which can be customized. (Range: 1-10 mins)

If you wish to set command, please enter "Inputs" and "Incoming Parameters".

•Customized Command

Send customized command for device.

4.1.5 Firmware Upgrade

-If device is activated, and firmware is available, click "*Upgrade*" and jump to "Firmware Upgrade" page.

-If device is unactivated, it will display "Device not activated. Firmware upgrade cannot be operated~".

-If device is activated, but no firmware is available, it will display "Firmware upgrade function is not available".

4.1.6 Delete Device

•Delete a Single Device

Check the page below. Delete a single device here.

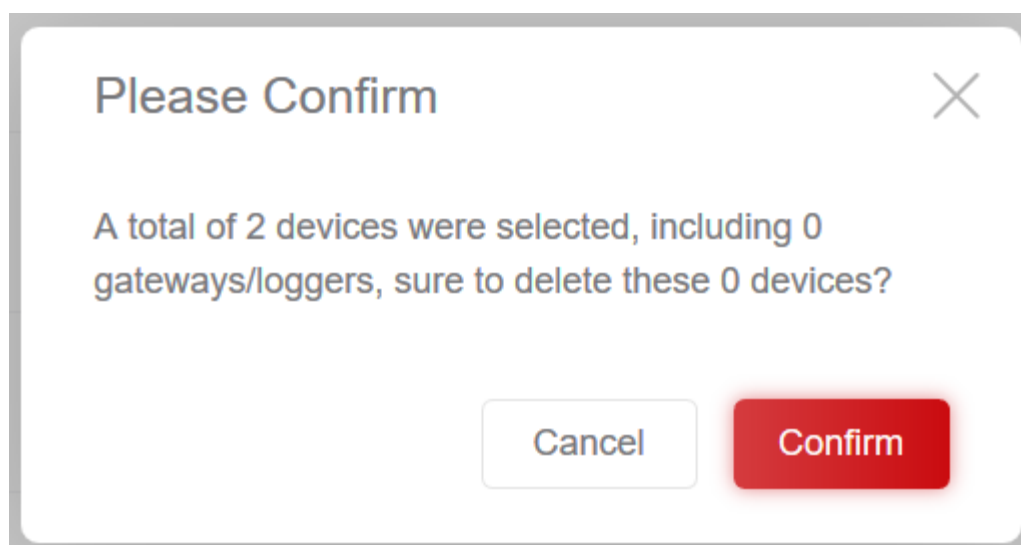
-If a gateway/logger is selected, logger and its sub-devices will not be displayed in the list after the deletion.

-If other devices are selected, it will display "Deletion of non-gateway/logger is not supported."

•Batch Deletion

Check the page below. Delete devices in batch here.

-Select several devices and click "*Batch Deletion*". Then a pop-up notification will come up:



-Upload Excel file to operate batch deletion.

Batch Deletion ✕

Device Type

Device SN*

4.1.7 Device Details

Display real-time data (latest data) and historical data on homepage.

Alert Information

Display alert information here.

Filtered by alert time (In 10 mins/Today/In 3 Days/In 7 Days/This Month).

Linkage Information

Display sub-devices and parent devices information here. (Include sub-device/parent device SN, device type, communication status, updated time)

Operation Log

Display control log&upgrade log to internal members.

•Control Log

- Command Sent Time
- Command Name
- Command Type: Read&Setup.
- Inputs/Incoming Parameters: Set input information of command.
- Return: Result of command read.
- Command Status: Sending, send successfully, failure.
- Operator: Account that executes the command.

•Upgrade Log

- Upgrade Start Time
- Firmware Name
- Target Version: Upgraded version.
- Correlated Version Info: Firmware type.
- Upgrade Status: Upgrading, upgrade successfully, failure.
- Operator: Account that executes the upgrade
- Feedback Time: Time of upgrade status feedback.

4.2 Firmware Management

4.2.1 Upload Firmware

•Check the page below to upload firmware

•Upload Firmware

-Firmware Name

-Firmware Version

-Firmware Package: Support bin、 mot、 img、 hex、 srec、 raw、 upg format.

-Applicable Products: All products that current business created.

-Correlated Version Info: Parameter fields corresponding to the firmware. System will determine the upgrade result based on whether the selected version changed or not.

-Applicable Model: Device type that supports firmware package upgrade. Only for information entry, system will not verify.

-Upgradable Firmware Version: Version that supports target firmware upgrade. Only for information entry, system will not verify.

-Upgradable Hardware Version: Hardware version that supports target firmware upgrade. Only for information entry, system will not verify.

4.2.2 Firmware List

Search Options

Firmware Name: Search Firmware Name.

Preset

- **Firmware Name**

- Display firmware name.

- **Firmware Version**

- Display firmware package version.

- **Applicable Product**

- Display product name that firmware applicable to.

- **Version Information**

- Display version information when package uploaded.

- **Updated User**

- Display the account that update the firmware package lately.

- **Updated Time**

- Display the latest time of updating the firmware.

Operation

4.2.3 Edit Firmware Package

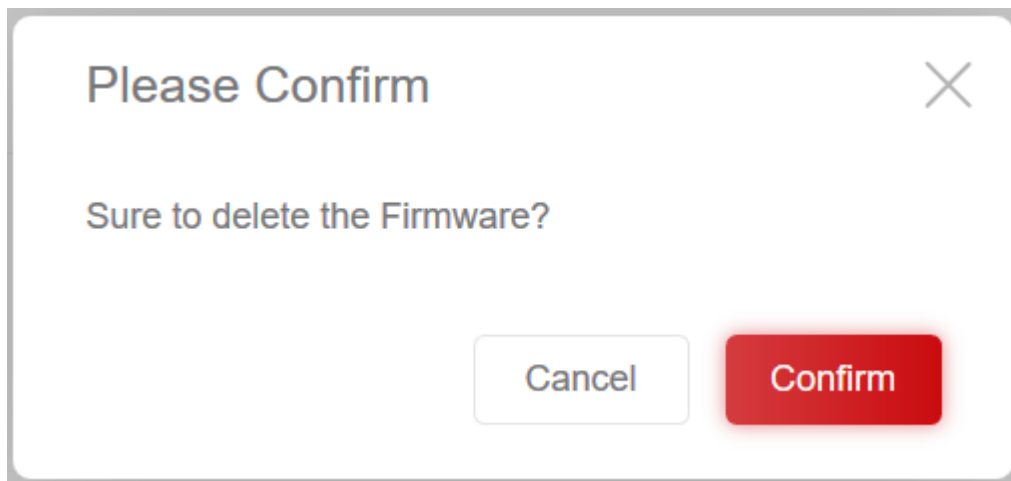
Edit firmware information here. Version No. and firmware package cannot be edited.

4.2.4 Delete Firmware

- Delete a Single Firmware

Check the page below. You can delete a single firmware here.

A pop-up notification will come up, when you click "*Delete*".



- **Batch Deletion**

Check the page below. You can delete firmware in batch here.

A pop-up notification will come up, when you click "*Batch Deletion*".

4.3 Operation Log

Device Operation Log

Display device control and firmware upgrade records executed by all members.

Search Options

SN : Search SN

Filter Options

- **Filtered by Device Type**
 - Inverter, logger, meter and etc,.
- **Filtered by Operation Type**
 - Remote control, firmware upgrade.
- **Filtered by Operation Status**
 - Sending, send successfully, failure.

Preset

- **Device SN**
 - Display device SN
- **Device Type**
 - Display device type
- **Operation Type**
 - Display operation type, include read command, set command, customized command, firmware upgrade and etc,.
- **Operation Status**
 - Display operation status, include sending, send successfully, failure.
- **Operator**
 - Display account who executed the operation.
- **Operation Time**
 - Display start time of the operation.
 - Sort by time.
- **Feedback Time**

- Display feedback time of the operation.
- Sort by time.

5. Management

5.1 About Business

Check registration information&contact information here.

- Registration Information:**

- Information entered during the registration, include business type, business name, business area and selected business sector.

- Selected business sector is to control visible business sector to the business. Two types of business sectors are supported. One is O&M Sector. Another is Device Sector.

- Contact Information:**

- Personal information of super admin. Modification is not supported.

5.2 Member/Role

"Member/Role" is to maintain the organization and control the permissions of every member.

5.2.1 Group/Member

"Group" is to build multilevel groups for the organization.

"Member" is to create an account for the colleague.

5.2.1.1 Add a New Group

- Web(CSI CloudPro) :**

-Go to "*Group/Member*" and click "... " in the right of superior group.

-Or click "*Add a Downstream Group*" above the member list.

-After a downstream group is added, you can continue to add a downstream group or a parallel group if you wish to.

(Go to "*Group/Member*" and click "... " in the right of downstream group. Or click "*Add a Downstream Group*"/"*Add a Parallel Group*" above the member list.

-System supports up to five levels of group. (Superior group included).

-It is recommended to name after department name.

5.2.1.2 Add a New Member

•Web(CSI CloudPro) :

-Go to "*Group/Member*" page, and click "*Add a New Member*" in the upper-right corner.

·Please notice the following field when you fill out member information:

-Group Belonged to: Influence the data permission of the member.

-Role: To control the viewing scope of objects (e.g. plant) and the functions they can use.

5.2.2 Role

Role is used to control the viewing scope of objects (e.g. plant) and the functions they can use.

5.2.2.1 Add a New Role

•**Web(CSI CloudPro) :**

-Go to "Role" page, and click "Add a New Role" in the upper-right corner.

Process-Add a New Role

•Enter Role Information:

-Include role name, role description, visible scope and specific function/data permission.

Please Notice:

1. Visible scope: Control the tab number of L1 which is visible to the role, include O&M, device and management.
2. Specific function/data permission: Control the No. of objects which is visible to the role, control the operations to visible objects.

-Data permission is generally divided into four levels. Take power plant as an example, which can be divided into "*My Plant*", "*Plants of My Group*", "*Plants of My Group&Downstream Groups*", "*All Plants*".

-My Plant: Applies to front-line personals. Only can check plants authorized to him. See 3.2.3 (Plant Details) for more information.

-Plants of My Group: Applies to junior managers. Since an account is authorized, the group will automatically inherit the power plant.

-Plants of My Group&Downstream Groups: Applies to middle-level managers.

- All Plants: Applies to senior managers, general manager and etc.,
- When setup is done, members can assign role in *"Create a New Member"* - *"Edit -Group/Member"*.

5.3 External Relationship&Roles

Business can maintain permissions to external businesses and users here.

5.3.1 Business/User

Business can check associated businesses and users, which enables add a new business and user. Moreover, permissions to associated businesses and users can be modified here.

5.3.1.1 Add a New Business

- Web(CSI CloudPro) :**

- Go to *"External Role-Business"* page, and click *"Add a New Business"* in the upper-right corner. There are two options from drop-down menu. One is *"Search for System-wide Businesses"*. Another is *"Create a New Business"*.

-Search for System-wide Businesses: Search business name who registered at CSI CloudPro, then add it.

-Create a New Business: Create a business account that not registered at CSI CloudPro yet.

Process-Add a New Business

·Notice: Processes of "Search for System-wide Businesses" and "Create a New Business" are different. Pay attention to following information.

-Authorize to External Roles: External role is to control function permissions that external business has on the object after current business authorizes the object to external business. See 3.2.3 (Plant Details) for more information.

5.3.1.2 Add a New User

•Web(CSI CloudPro) :

-Go to "External Role-User" page, and click "Add a New User" in the upper-right corner. There are two options from drop-down menu. One is "Search for System-wide Users". Another is "Create a New User".

- Search for System-wide Users: Search user name/phone number/E-mail who registered at CSI CloudPro, then add it.
- Create a New User: Create an account that not registered at CSI CloudPro yet.

Process-Add a New User

·Notice: Processes of "Search for System-wide Users" and "Create a New User" are different. Pay attention to following information.

-Authorize to External Roles: External role is to control function permissions that external user has on the object after current user authorizes the object to external user. See 3.2.3 (Plant Details) for more information.

5.3.2 External Role

External role aims to control function permissions of current business's objects (e.g. plants) under other business party or users.

5.3.2.1 Add a New External Role

•**Web(CSI CloudPro) :**

-Go to "External Role" page, and click "Add a New External Role"

in the upper-right corner.

Process-Add a New External Role

•Enter External Role Information:

-Enter external role name, external role description, applicable subject, function permission to authorized object.

Please Notice:

1. Applicable Subject: There are two options here. One is business. Another is user , If you select "Business", you can operate "Authorize External Role to Business". If you select "User", you can operate "Authorize External Role to User".
2. Function Permission to Authorized Object: To control function permissions of current business's objects (e.g. plants) under other business party or users.

5.4 Tag Management

Tag aims to facilitate user-defined objects (e.g. plants) and flexible screening.

5.4.1 Add a New Tag

- **Web(CSI CloudPro) :**

- Go to "*Tag*" page, and click "*Add a New Tag*" in the upper-right corner.

- Go to "*Plant*" page, and click "*Tag*". See 3.2.2 (Plant List) for more information.

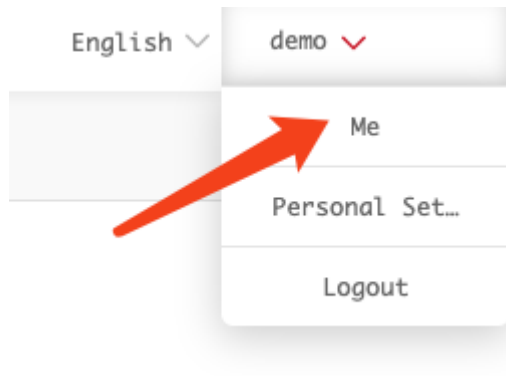
- Go to "*Plant Details*" page, and click "*Tag*". See 3.2.3 (Plant Details) for more information.

6. Functions

6.1 Me

Check your personal information and authorized plants here.

Move mouse to *"Name"* and click *"Me"* to check your personal information.



6.2 Personal Settings

You can modify name, E-mail address, phone number, password and username here.