EG4 18K Monitor System User Interface (UI)

Introduction

Version:1.1
Date:2020-07-07

History

Version	Record of modification	Date
Initial version	Initial version	2020-04-6
1.1	Change some picture according to new design	2020-7-7

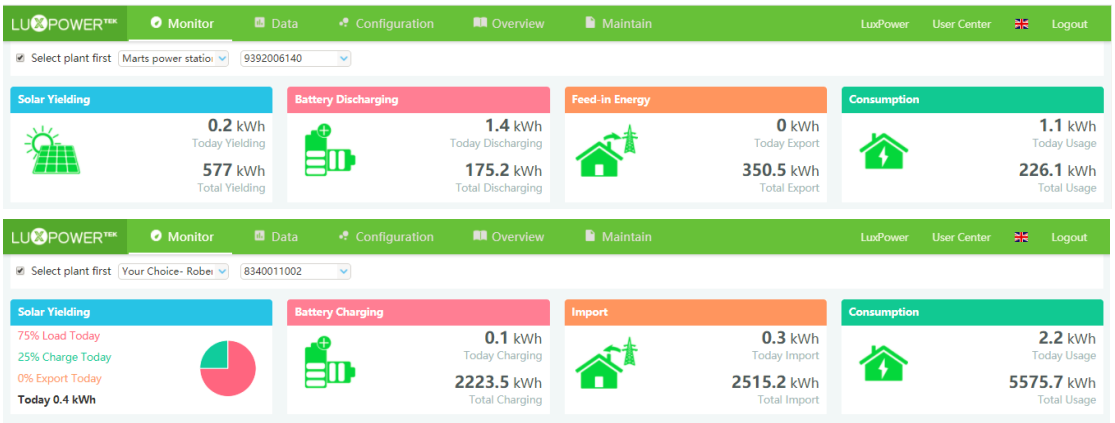
The purpose of this Document is to introduce the User Interface (UI) of the Lux Power Monitoring System to Lux Power users. The monitoring system may change due to updates, so if you find the following UI descriptions vary from the display, please contact EG4Electronics.com for assistance if you have any questions.

Content

1. Monitor

"Monitor" view is for customers (end users) to easily check real-time system information (including Battery, Photo Voltaic (PV), Emergency Power Supply (EPS) and Grid data), with both daily & total figures for solar yielding, battery charging/discharging, feed-in energy & consumption.

1.1 Dash board



Solar Yield: The data shows power generated by the solar panels. For AC coupled inverters it shows the power generated by the grid tie inverter. To be able to show the data correctly the PV CT clamp for the AC ESS inverter will have to be installed. When the picture of the solar yield is clicked or touched (on the EG4 app), it will switch to portion display of how the solar energy has been used that day and a second click or touch shows the totals since commissioning. It shows the percentage portion of load supplied, charge of battery and export to grid.

EG4 ELECTRONICS

Monitor System UI

Introduction

Battery Discharge/Battery Charge: The data shows the charge and discharge energy from the battery/batteries. When the battery picture is clicked or touched the display will switch between battery discharging and battery charging, showing totals for that day and since commissioning.

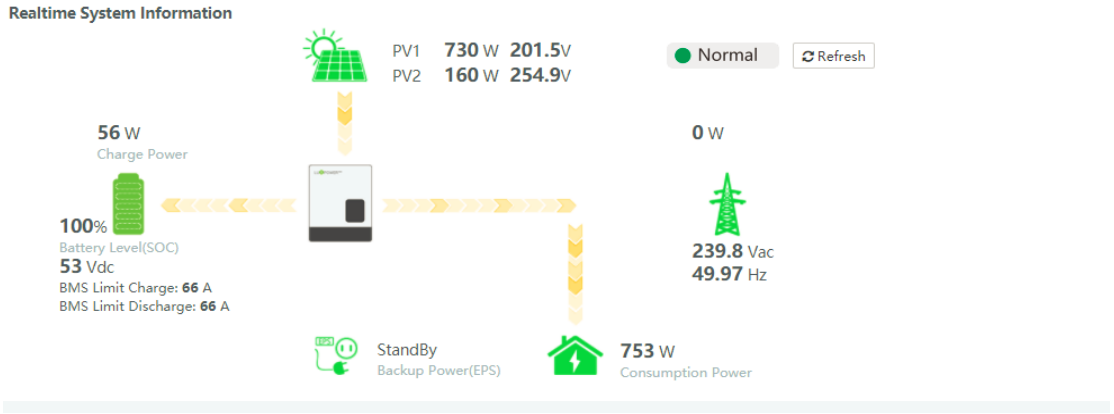
Feed-in Energy/Import: It shows energy exported to grid for that day and since commissioning. When the picture is clicked or touched it shows energy imported from the grid for that day and since commissioning.

Consumption: The data shows the total energy consumption of the property for that day and since commissioning.

Introduction

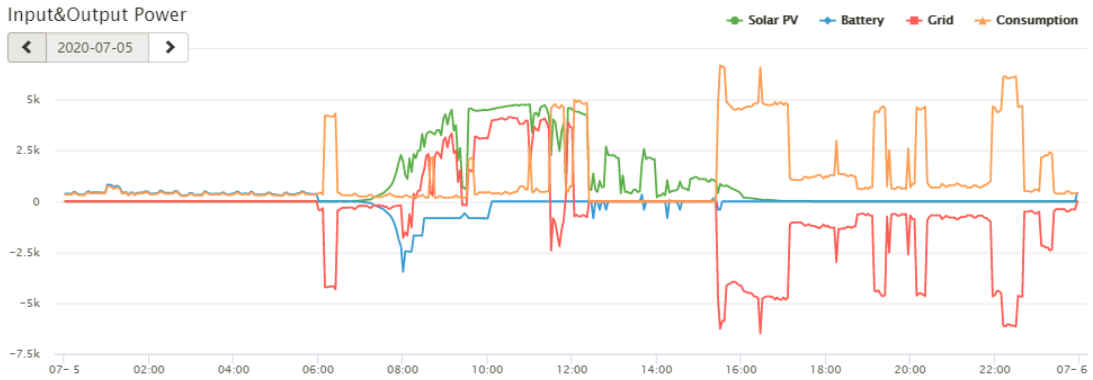
1.2 Real time System Information

The picture shows the live energy data, with dynamic flows. When the battery image is clicked it will show battery charge and discharge limitation. When the battery's color is yellow or red it means there is a warning or fault with the battery.



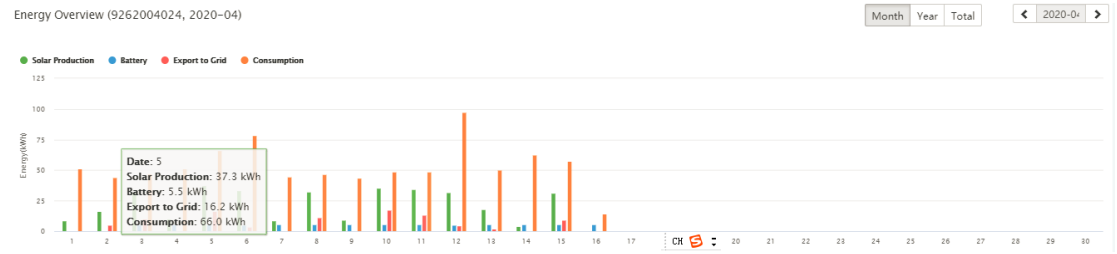
1.3 Input & Output Power (daily)

The picture shows the power curve for each day, including solar power, battery charge/discharge power and grid import/export power and consumption.



1.4 Energy Overview

With the 'Month' box highlighted the graph shows the energy statistics for each day. When the 'Year' icon is clicked or touched it will show energy for each month and when the 'Total' icon is clicked or touched it will show energy for each year.



2. Data

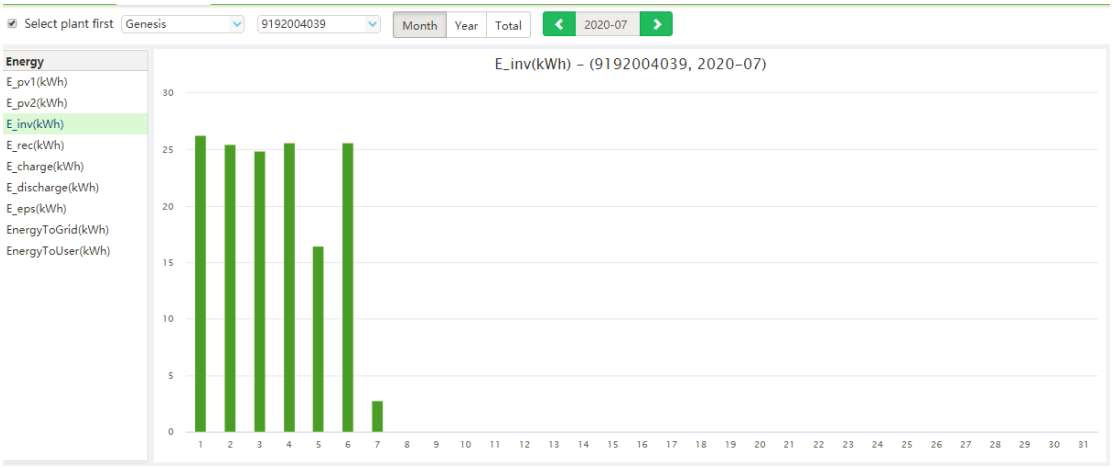
"Data" view shows more detailed running data, which helps for analysis and maintenance, including detailed technical parameters of PV, battery, grid and EPS.
"Data" view consists of five sections: "Chart", "Energy", "History data", "Local data" and "History event". Please see below for more information on each section.

2.1 Chart

Chart shows how key parameters of **"PV side", "Battery"** ,**"AC Side"** and **"EPS"**change along with time over a 24 period.

Below is the meaning of each parameter abbreviation with the 18K naming rule clarified.
Ppv: Power of solar input (first letter "P" stands for power, lower-case letter "pv" stands for PV)
SOC(%): Battery/batteries - State of charge.
Vacr: Voltage of AC output ("V" stands for voltage, "ac": AC, "r": phase R)
Qac: Reactive power of AC output ("Q" stands for reactive power)
Vepsr: Rated voltage of EPS(Emergency Power Supply)
Feps: Frequency of EPS
Peps: Out put power of EPS
Seps: apparent power of EPS (first letter "S" stands for apparent power)
pToGrid: power feed in to grid

2.2 Energy



"Energy" section: above various bar charts show how energy (y-axis) changes with time, daily, by date (x-axis) in one month.

E_pv1(kWh): Energy generated by PV string1
E_pv2(kWh): Energy generated by PV string2
E_inv(kWh): Energy output via AC output
E_rec(kWh): Energy of AC charge
E_charge(kWh): Energy used for battery charge
E_discharge(kWh): Energy output by battery discharging
E_eps(kWh): Energy output via EPS
EnergyToGrid(kWh): Feed-in energy
EnergyToUser(kWh): Energy import from grid

2.3 History Data

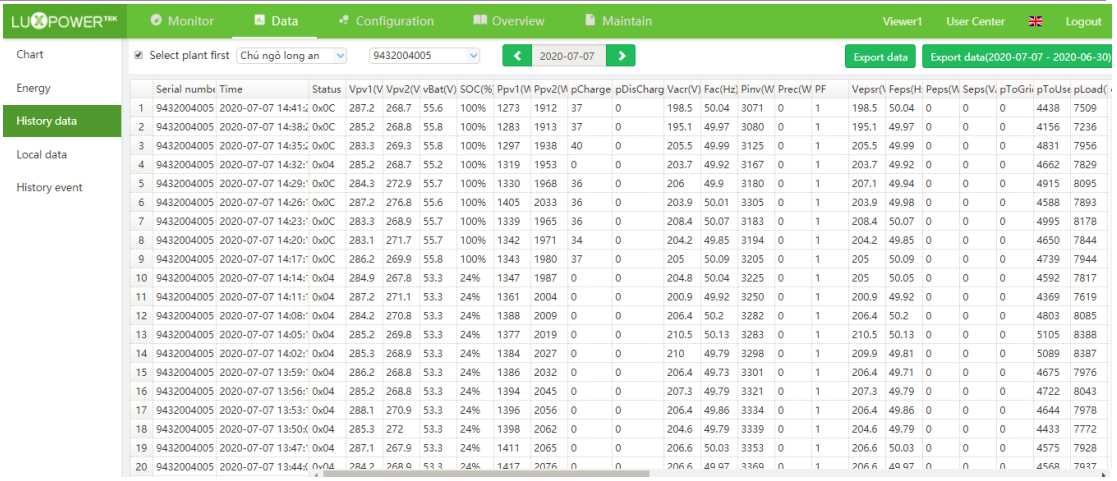
The "History data" section are the measured technical parameters of PV, battery, EPS and Grid, mainly for 18K or its distributor's analysis to quickly address problems that may have occurred.

It is considered that professional, technical knowledge is required to fully understand this table. It is suggested that end users focus on the "Monitor" view, "Chart" section and "Energy" sections only as these provide easy to understand performance data.

It is suggested that 18K distributors should focus on the key parameters below to carry out rapid troubleshooting for their end users:

1. **PtoGrid/PtoUser** (to check if CT was connected correctly)
2. **Vpv/Ppv** (to check the MPPT)
3. **Vo/Po/So** (to check load type and if there is an overload when in EPS mode)
4. **Vb/SOC** (to check current state of charge and if battery is over charged or discharged)
5. **Vac/Fac** (to evaluate Grid performance and to check if working voltage and frequency range is adjusted to comply with Grid)
6. **E-xxday** (to evaluate energy distribution), Exxall (to check if the system is working well under off grid mode)

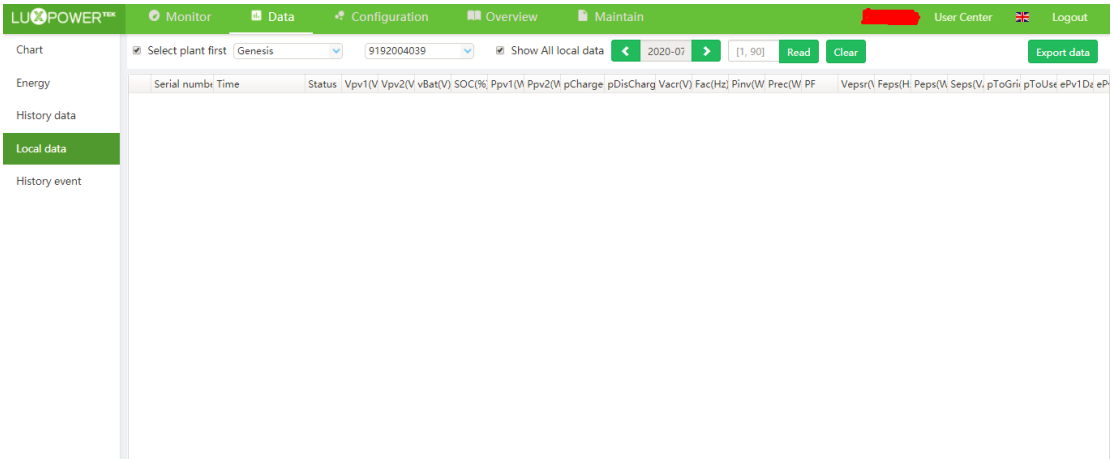
Introduction



2.4 Local Data

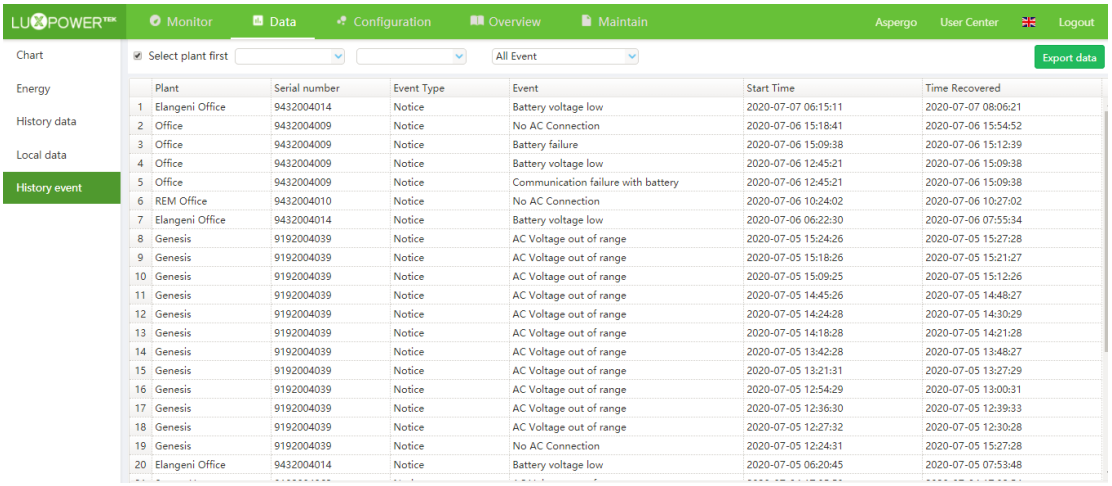
“Local data” section show the data recorded during offline period(s) (loss of Internet or Wi-Fi). It is the same as history data with only the difference being it is for offline data recording.

Note: the local data is captured every 5 minutes and would be recorded when the system is offline for more than 20 minutes. The system can record data for 90 days maximum.



2.5 History Event

"History event" section show a historical records of events. (Event types: Notice and Fault)
If there is no "history event" record it means the hybrid inverter is well connected and operating without any problem.



	Plant	Serial number	Event Type	Event	Start Time	Time Recovered
1	Elangeni Office	9432004014	Notice	Battery voltage low	2020-07-07 06:15:11	2020-07-07 08:06:21
2	Office	9432004009	Notice	No AC Connection	2020-07-06 15:18:41	2020-07-06 15:54:52
3	Office	9432004009	Notice	Battery failure	2020-07-06 15:09:38	2020-07-06 15:12:39
4	Office	9432004009	Notice	Battery voltage low	2020-07-06 12:45:21	2020-07-06 15:09:38
5	Office	9432004009	Notice	Communication failure with battery	2020-07-06 12:45:21	2020-07-06 15:09:38
6	REM Office	9432004010	Notice	No AC Connection	2020-07-06 10:24:02	2020-07-06 10:27:02
7	Elangeni Office	9432004014	Notice	Battery voltage low	2020-07-06 06:22:30	2020-07-06 07:55:34
8	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 15:24:26	2020-07-05 15:27:28
9	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 15:18:26	2020-07-05 15:21:27
10	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 15:09:25	2020-07-05 15:12:26
11	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 14:45:26	2020-07-05 14:48:27
12	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 14:24:28	2020-07-05 14:30:29
13	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 14:18:28	2020-07-05 14:21:28
14	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 13:42:28	2020-07-05 13:48:27
15	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 13:21:31	2020-07-05 13:27:29
16	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 12:54:29	2020-07-05 13:00:31
17	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 12:36:30	2020-07-05 12:39:33
18	Genesis	9192004039	Notice	AC Voltage out of range	2020-07-05 12:27:32	2020-07-05 12:30:28
19	Genesis	9192004039	Notice	No AC Connection	2020-07-05 12:24:31	2020-07-05 15:27:28
20	Elangeni Office	9432004014	Notice	Battery voltage low	2020-07-05 06:20:45	2020-07-05 07:53:48

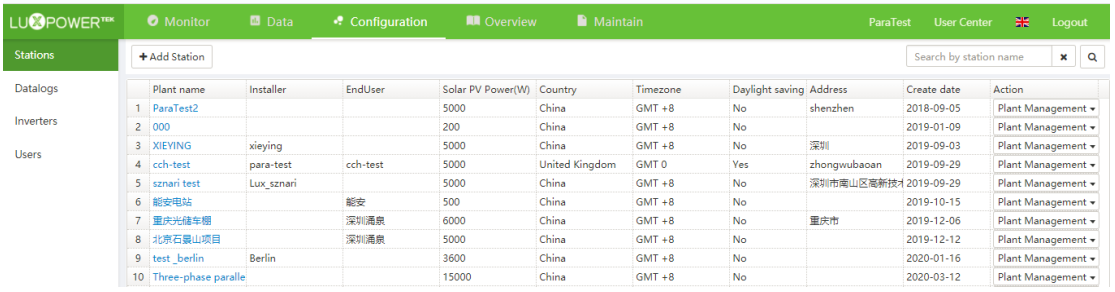
Figure 6 History event section view

3. Configuration

"Configuration" page is used for users to manage their station, datalog and user information.

3.1 Stations

It is used to create another site if you have more than one property with the system installed.

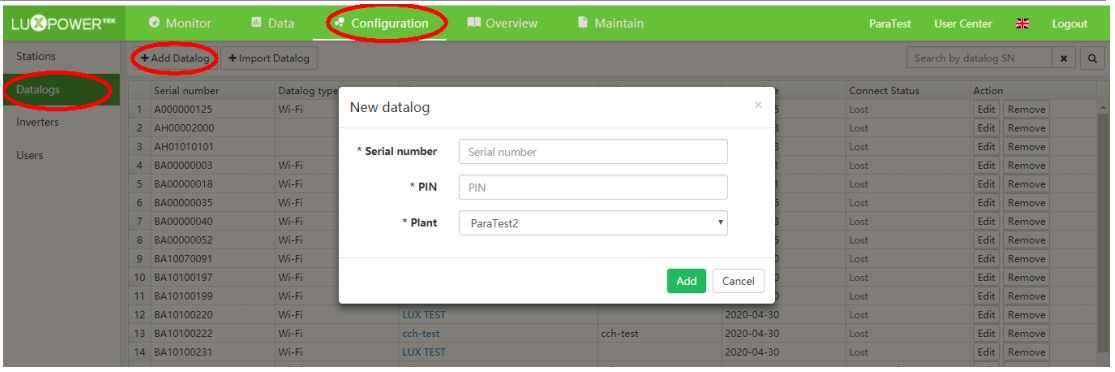


	Plant name	Installer	EndUser	Solar PV Power(W)	Country	Timezone	Daylight saving	Address	Create date	Action
1	ParaTest2			5000	China	GMT +8	No	shenzhen	2018-09-05	Plant Management
2	000			200	China	GMT +8	No		2019-01-09	Plant Management
3	XIEYING	xieying		5000	China	GMT +8	No	深圳	2019-09-03	Plant Management
4	cch-test	para-test	cch-test	5000	United Kingdom	GMT 0	Yes	zhongwubaoan	2019-09-29	Plant Management
5	sznari test	Lux_sznari		5000	China	GMT +8	No	深圳市南山区高新技术	2019-09-29	Plant Management
6	能安电站		能安	500	China	GMT +8	No		2019-10-15	Plant Management
7	重庆光储车棚		深圳涌泉	6000	China	GMT +8	No	重庆市	2019-12-06	Plant Management
8	北京石景山项目		深圳涌泉	5000	China	GMT +8	No		2019-12-12	Plant Management
9	test _berlin	Berlin		3600	China	GMT +8	No		2020-01-16	Plant Management
10	Three-phase paralle			15000	China	GMT +8	No		2020-03-12	Plant Management

3.2 Datalogs

If users have more than one datalog in the system, they can add the datalog Serial Number (SN) in the station. After adding the datalog on the system and setting the correct password for the wifi data log, the inverter will be showed on the system automatically when powered on. **Note**: Please add the datalog in the monitor system before setting the password for the wifi datalog.

Introduction

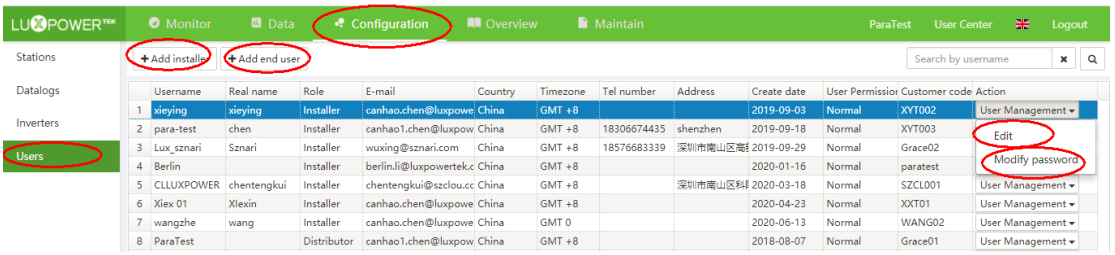


3.3 Inverters

End users can see the inverter list and check if the inverter is online.

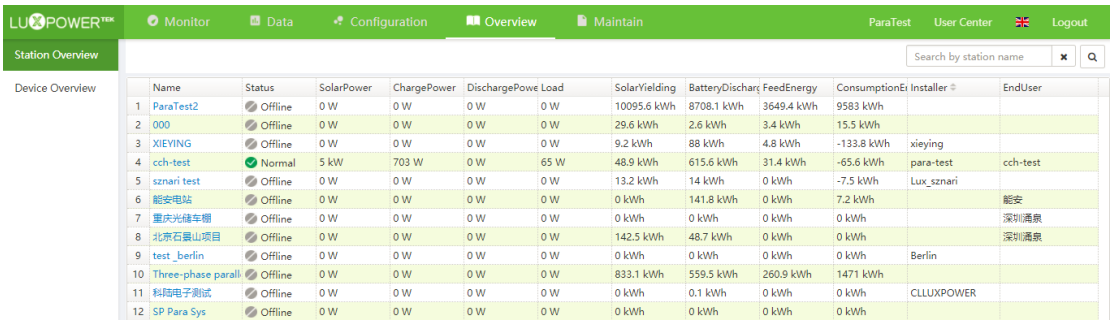
3.4 Users

End users can edit password and personal information in the user page.
Distributors can add an installer account and end user account on this page.

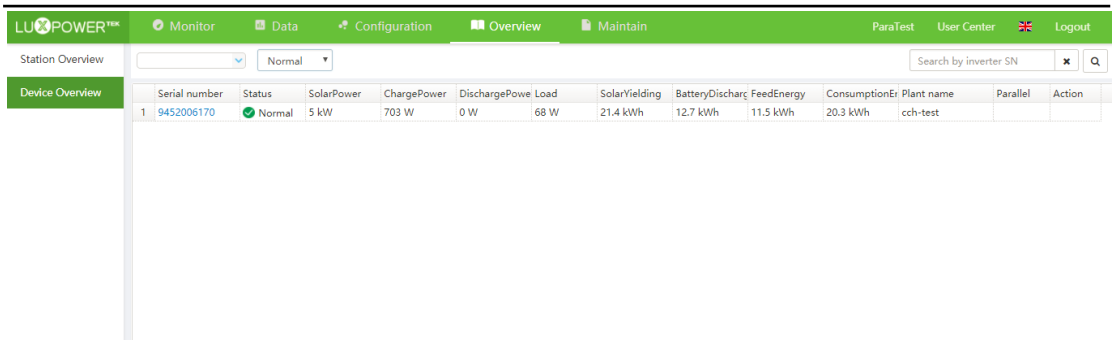


4. Overview

"Overview" is **for 18K or its distributor** to easily check overall system information for their end users, including solar yielding, battery discharging, etc.

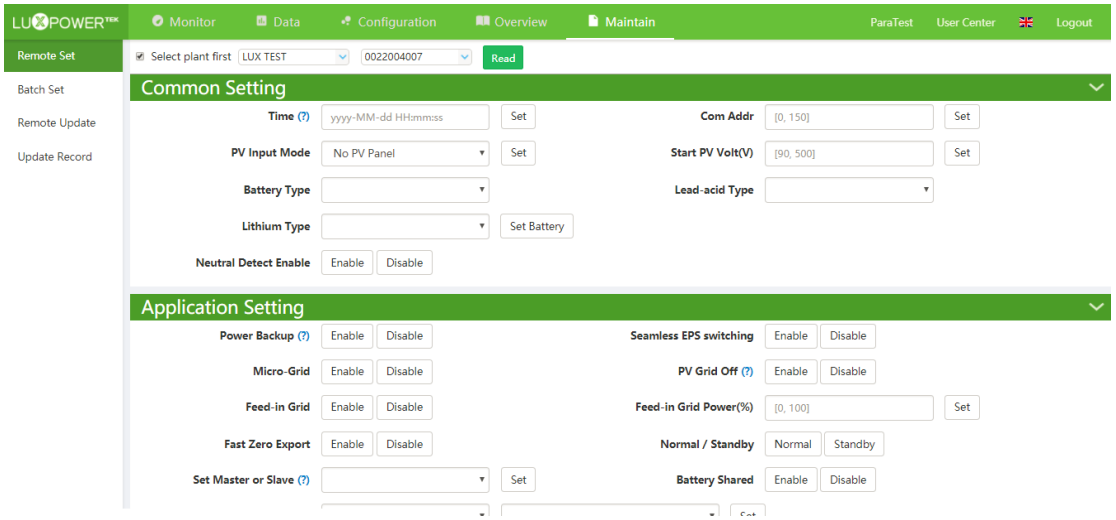


Introduction

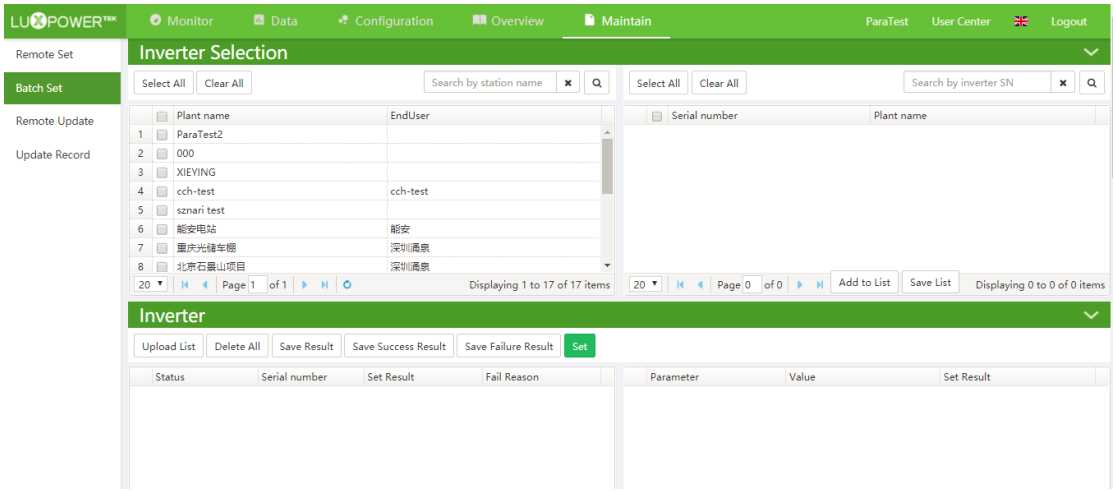


5. Maintain

"Maintain" view is for remote setting & upgrade. For more instructions about remote setting, please refer to "LXP Hybrid Inverter Website Setting Introduction".



18K monitor system also support batch setting function for distributors, so distributor can handle all settings for all inverters at one time. Please refer to "LXP Hybrid Inverter Website Setting Introduction" for batch setting function.



Introduction