KEHUA TECH

User Manual

WiseEnergy

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Foreword

Summaries

Thank you for choosing the ***WiseEnergy*** software!

This document gives a description of installation and usage of ***WiseEnergy***.

Please save the manual after reading, in order to consult in the future.

NOTE

The figures in this manual are just for reference, for details please see the actual product.

Change History

Changes between document issues are cumulative. The latest document issue contains all the changes made in earlier issues.

Issue 001 (2018-11-19)

First issue.

Contents

1 Overview

1.1 System Summary

WiseEnergy achieves the following functions, such as communication with inverter, data monitoring, real-time alarm, comprehensive analysis, report statistics, parameter setting, upgrade, etc.

1.2 Software Application

WiseEnergy performs centralized management to the energy storage inverter. It can add device, delete device, get real-time running data of device, real-time monitor device alarm, record running data of device and have strong report statistics tool to provide reference for data analysis and management decision.

The detailed functions are as follows.

- Monitor the real-time running status of each inverter.
- Perform device comprehensive analysis and data monitoring, and set device parameters.
- Provide report to perform statistic analysis for running data and alarm event.
- Provide data query and log to enhance the safety of operation and maintenance of system.
- Set system configuration to meet requirements from different customers.
- Support TCP/Modbus protocol.

1.3 Software List

The attached CD includes user manual and installation package of ***WiseEnergy***.

2 Configuration

2.1 Login WiseEnergy at the First Time

Install ***WiseEnergy***, and enter the user name and password in the login page to login. System user includes factory, service and user. The default account and password of user are user, user respectively.

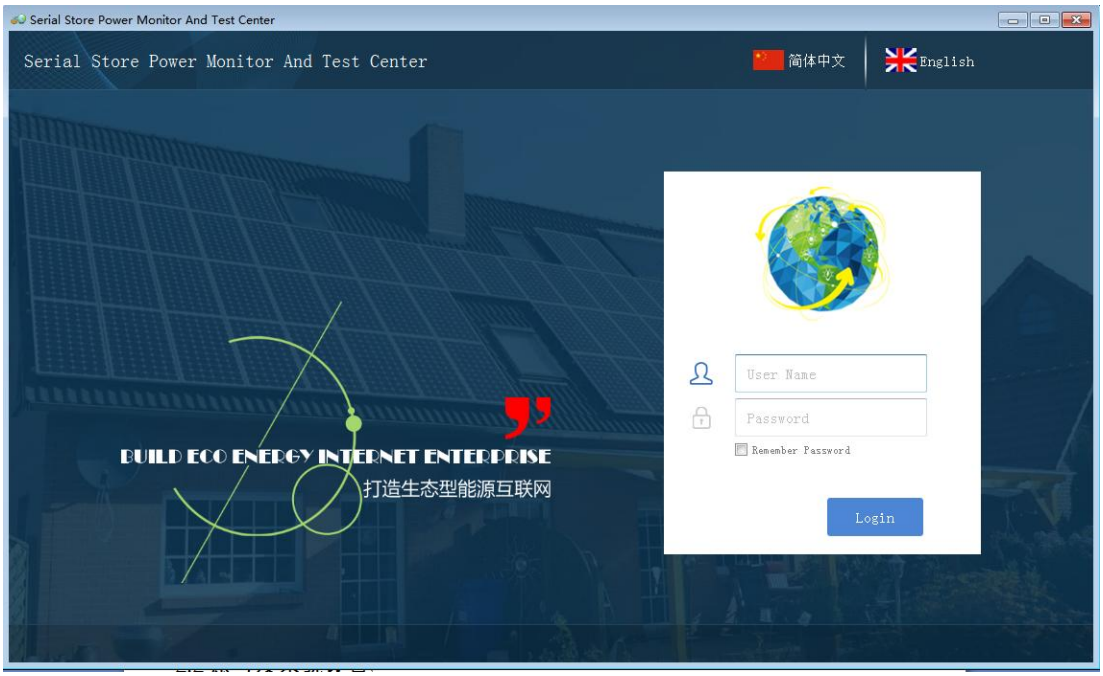

Figure2-1 Login page

2.2 Account and System Setting

After login, it can modify password and set system monitor settings in the ***Monitor Configure*** page.

Figure2-2 Monitor Configure

2.2.2 Monitor Setting

- Import/export translation file

It can set field name in the English system by importing translation file: Click ***Export Translation*** button, enter the English name in the English column of exported file, click the ***Import Translation*** button to import the translation file and transfer system language to English. After login, it will show the translated English filed name in the system.

- Poll interval: Set the poll interval for data collected by PV from the device.
- History data persist interval: Set the persist interval for history data collected by PC
- Real-time timeout: Set the timeout period for data collected by PC from the device.
- Auto synchronize device time: After checking the box, the device time will synchronize with the PC time.
- Run when system start: After checking the box, this software will start automatically when PC starts.
- Special frame judge communication only: Use the first frame of poll frame to judge whether there has communication error and protocol error.

2.2.3 Login Password

In the login password menu, enter the old password, new password and confirm password, and then click ***Modify*** button to modify login password(The new password should be consistent with confirm password).

For safety consideration, modify administrator password immediately when login at the first time.

3 Use Guide

3.1 Device Manage

Device manage includes all devices, assign address, search net and monitor configure.

3.1.1 All Devices

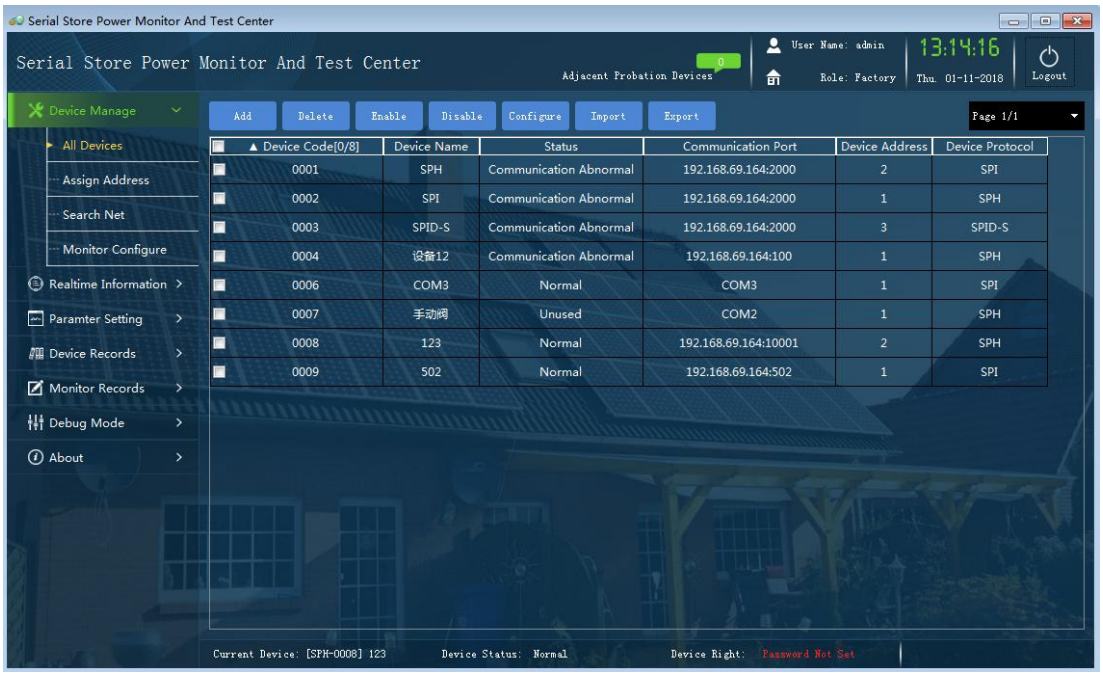

Figure3-1 All devices

- Profile

In the all devices page, it shows the device information and communication status of each connected energy storage inverter. Device information includes device code, device name, communication status, communication port, device address and device protocol.

- Communication status

The communication status includes unused, normal, device abnormal and communication abnormal.

1. Unused: PC has not started data collection of this device, check the box of this device and click ***Enable*** button to start data collection. Besides, it also can check the box of the collecting device and click ***Disable*** button to stop data collection.
2. Device abnormal: This device has an fault. It can view the fault information in the ***Real-time Information-Alarm Information***.
3. Communication abnormal: PC can't collect data of this device. It's necessary to find anomaly reason further.

- Device sort

Click the device name in the table to sort devices by device name.

- Add device

1. Click ***Add*** button to enter the add page.
2. In the add page, it can set the communication method, configuration port and device address. After finish setting, check the box of ***Enable*** and click ***OK*** button. The added device will enable automatically.

- Set/modify device information

1. Select a device and click ***Configure*** button, or double click the device to enter the device information page.
2. In the device information page, it can modify device name, device code, device address, timeout period, reconnecting time. If the device connected by serial port server/TCP, you should enter IP address and port number for device communication setting, else you can also modify serial port, check bit, baud rate, data bit and stop bit when the device connected by serial port.

- Delete device

It can check the box of device and click ***Delete*** button to delete this device.

- Import and export function

Except adding device manually, it also can add devices in batch by ***Import*** button or export the added devices by ***Export*** button in Excel format.

- Shortcuts

Batch operation for devices by using right mouse button to click device list, such as select device, cancel selecting device, select multi devices, cancel selecting multi devices, view device.

3.1.2 Assign Address(Factory)

Select communication mode, check the box of device according to device address, enter device serial number and click ***Assign*** button, which realizes to batch assign device address for the same serial port or multi devices in the same port.

User can set the timeout period and reconnecting times. When the assign time is beyond the timeout period, disconnect it and reconnect. When the connecting times is beyond reconnecting times, it will show ***Fail*** in the assign state bar or it will show ***Success*** to batch assign device address.

Figure3-2 Assign address

3.1.3 Search Net

In the search net page, it can search all operating devices and devices connected with host in the segment and set net. It can set the search timeout period, repeat times and configuration timeout period. In the search result, click a item, it will show the detail information of this device in the bottom of search net page, including software version, hardware version, system name, administrator, and location. Double click ***Device Information*** button to enter network configuration page. In the network configuration page, it can set a static IP for device or get IP through DCCP method. Besides, it also can batch configure or get the device network setting in the segment by ***Export Network*** or ***Import Network*** button.

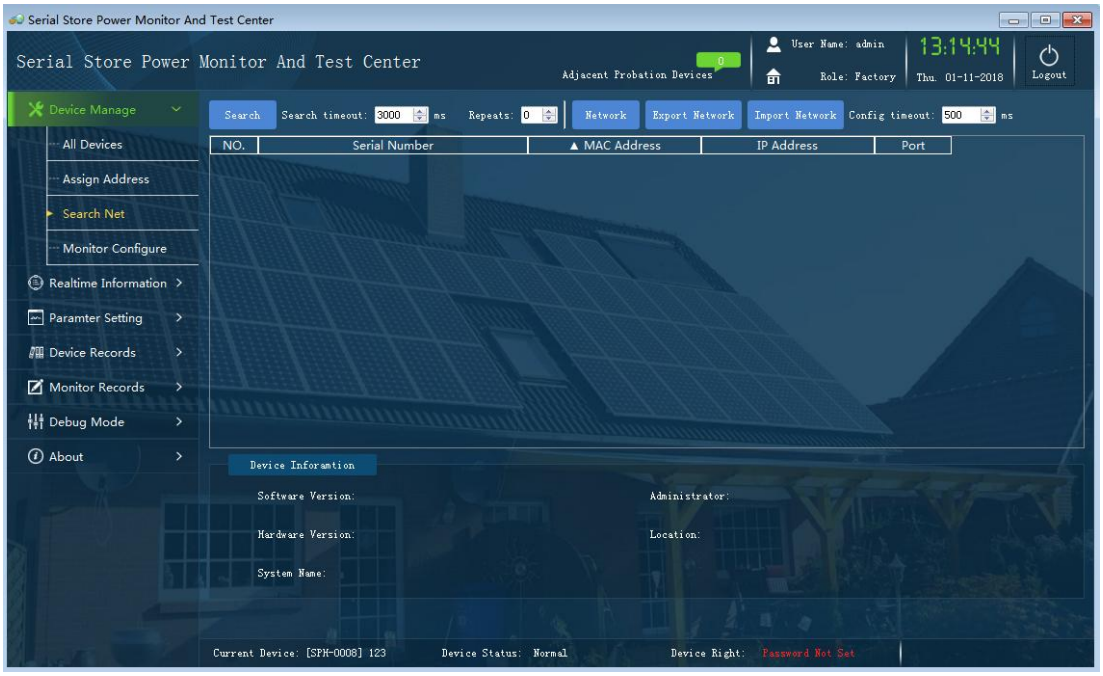

Figure3-3 Search net page

3.2 Real-time Information

Real-time information includes running information, alarm information, device information and communication information.

3.2.1 Running Information

In the running information page, it can view the running status and running parameters of chosen device.

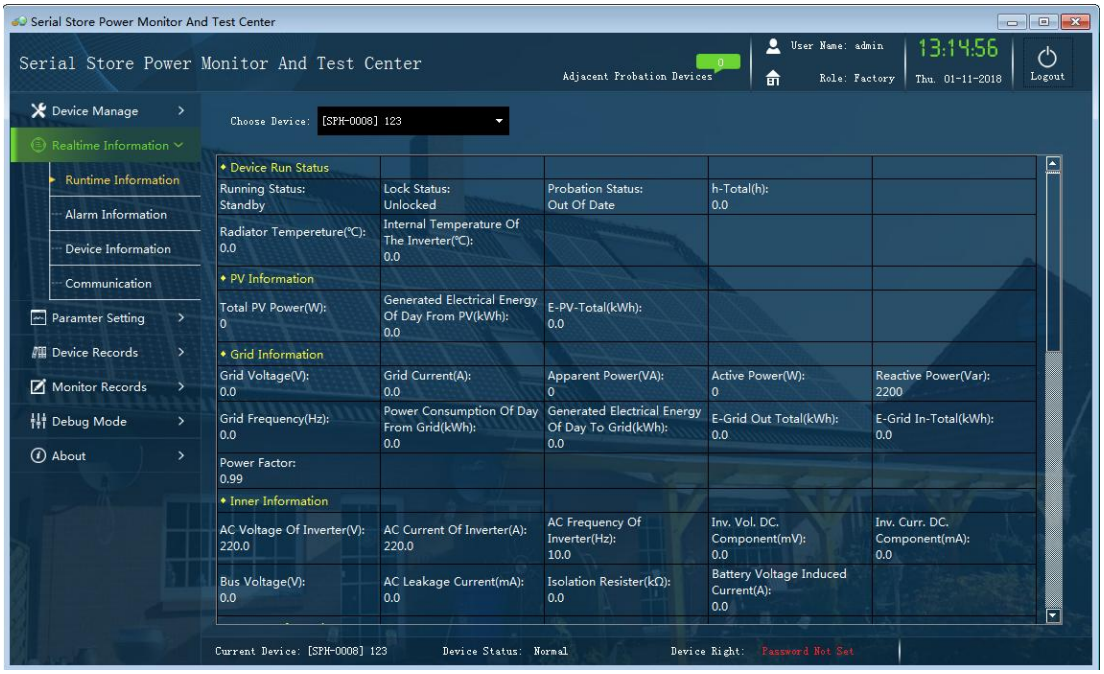

Figure3-4 Running information

3.2.2 Alarm Information

In the alarm information page, it can view the status value of chosen device. Green means normal, red means fault.

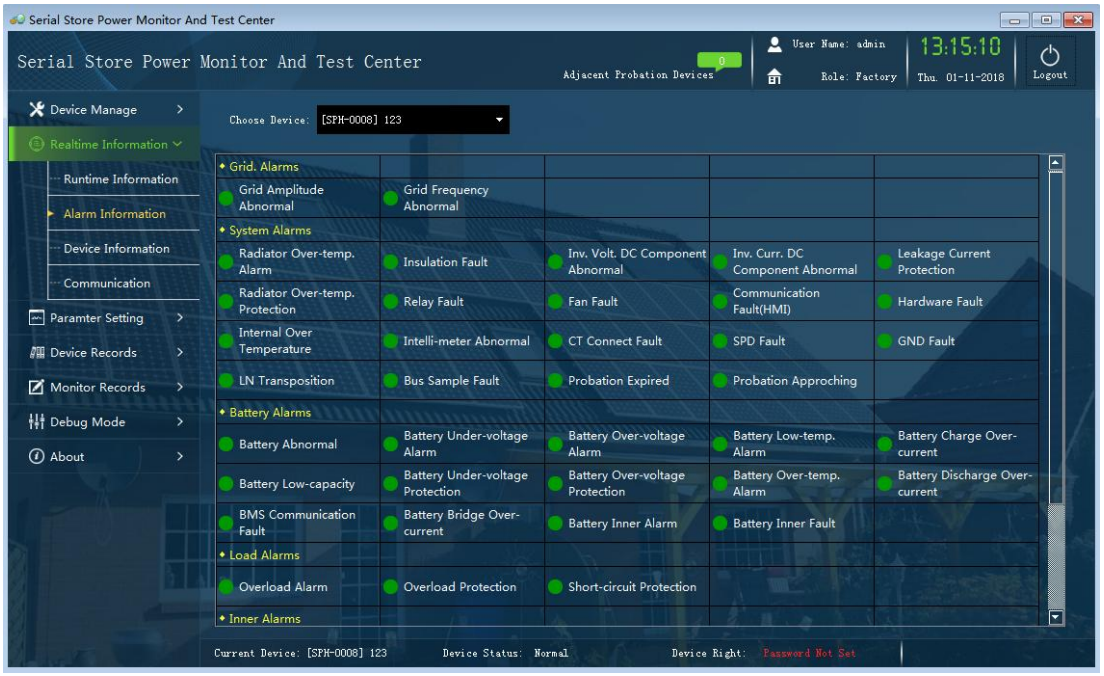

Figure3-5 Alarm information

3.2.3 Device Informaiton

In the device information page, it can view information of chosen device, including inverter model, device type, manufacture information, protocol type, remaining probation time, etc.

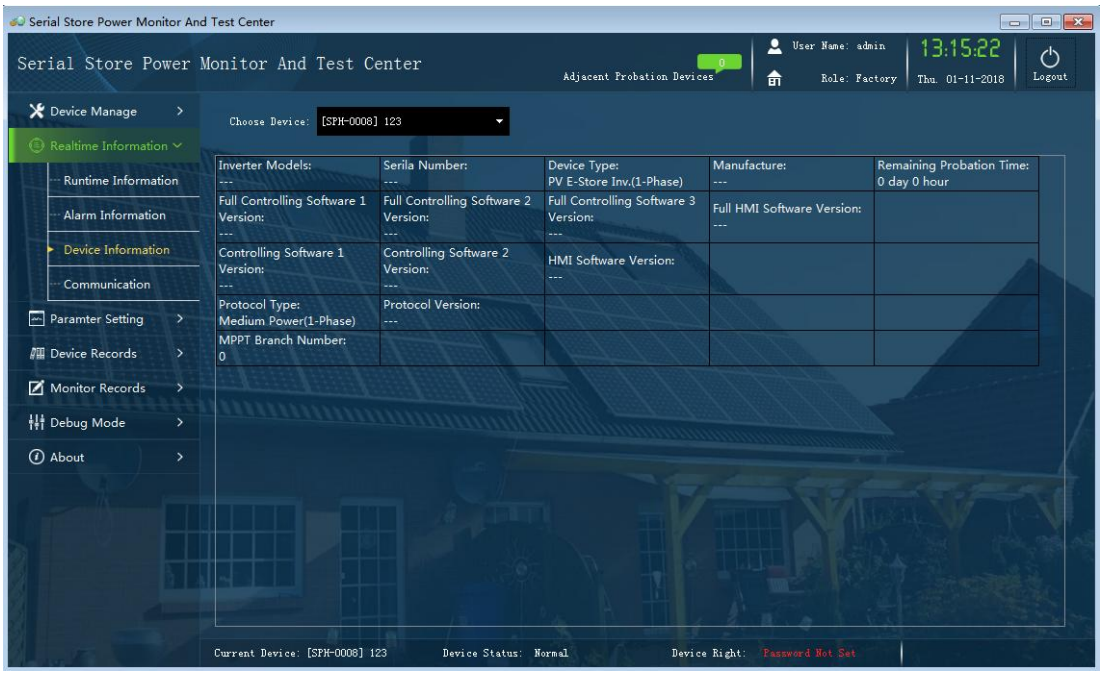

Figure3-6 Device information

3.2.4 Communication Information

In the communication information page, it can view the communication information of chosen device, including device host communication lost, device host communication error and device host protocol error. When the device communication is normal, the status indicators are green. When the device communication anomaly, the corresponding status indicator will be red and it can diagnose the communication anomaly reason. The communication anomaly reason is as below.

- Device host communication lost: Fail to open serial port or connect network.
- Device host communication error: Success to open serial port or connect network, but fail to communicate with device, such as communication timeout.
- Device host protocol error: The device protocol does not meet the standard Modbus protocol.

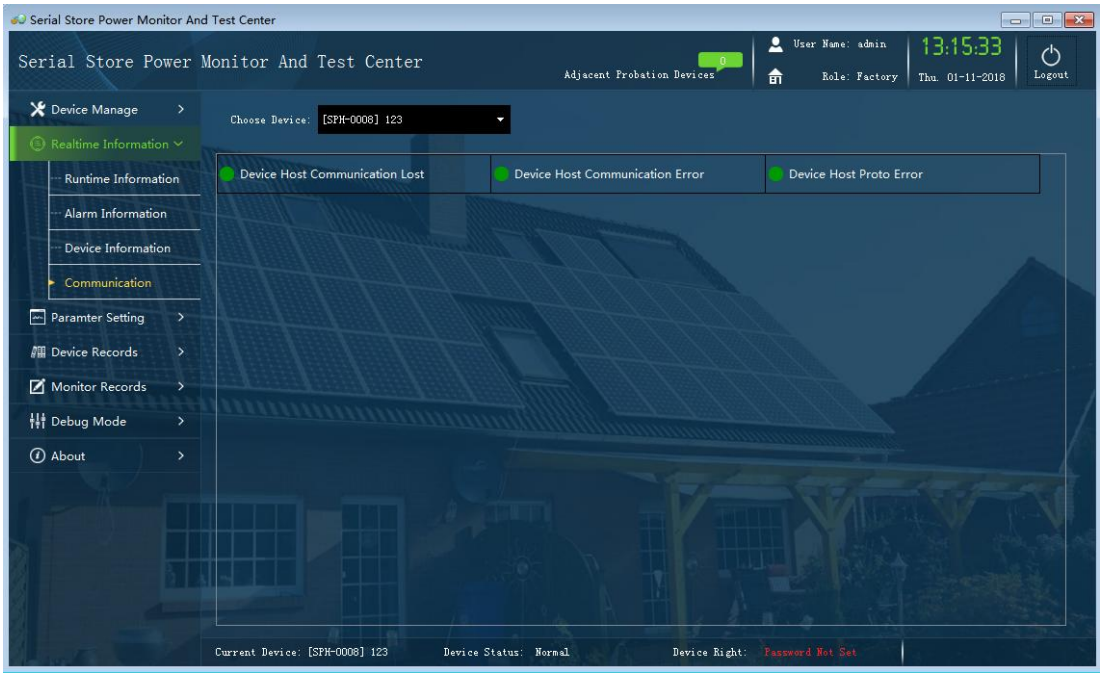

Figure3-7 Communication information

3.3 Parameter Setting

Parameter setting includes basic parameter, protection function, system setting, parameter calibration, parameter debug, other function and upgrade. In the parameter setting, it can set parameters in batch. Besides, it also can batch import and export parameters of chosen device. The import and export template are in Excel format.

3.3.1 Basic Parameter

In the basic parameter page, it can set basic parameter of chosen device.

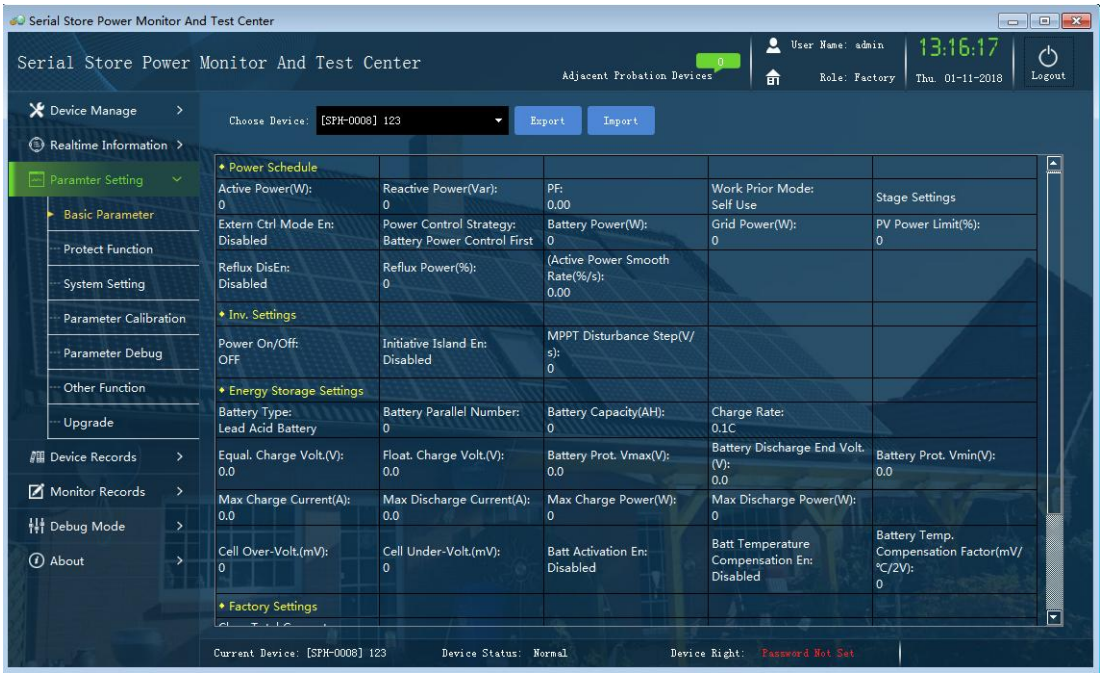

Figure3-8 Basic parameter

3.3.2 Protect Function(Factory)

The protect function page only available for factory. In the protect function page, factory can set the protection parameters of chosen device(exclude SPID-S).

Figure3-9 Protect function

3.3.3 System Setting(Factory)

The system setting page only available for factory. In the system setting page, factory can set system parameters of chosen device(exclude SPID-S).

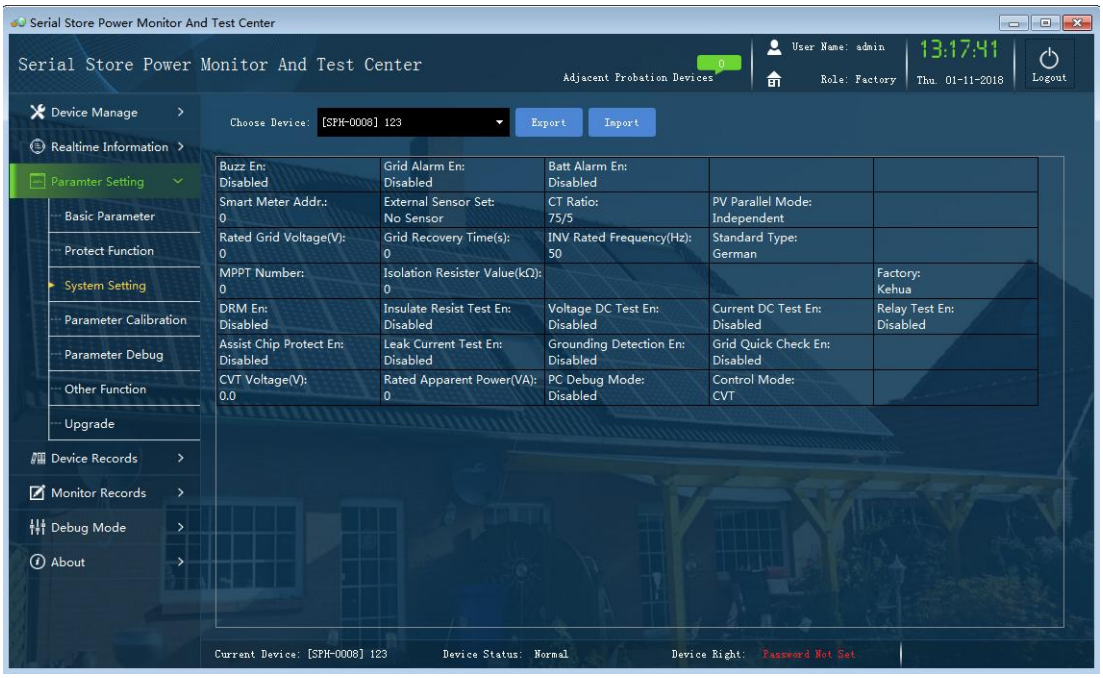

Figure3-10 System setting

3.3.4 Parameter Calibration(Factory)

The parameter calibration page only available for factory. In the parameter calibration page, factory can set the debug parameter and measured value of chosen device.

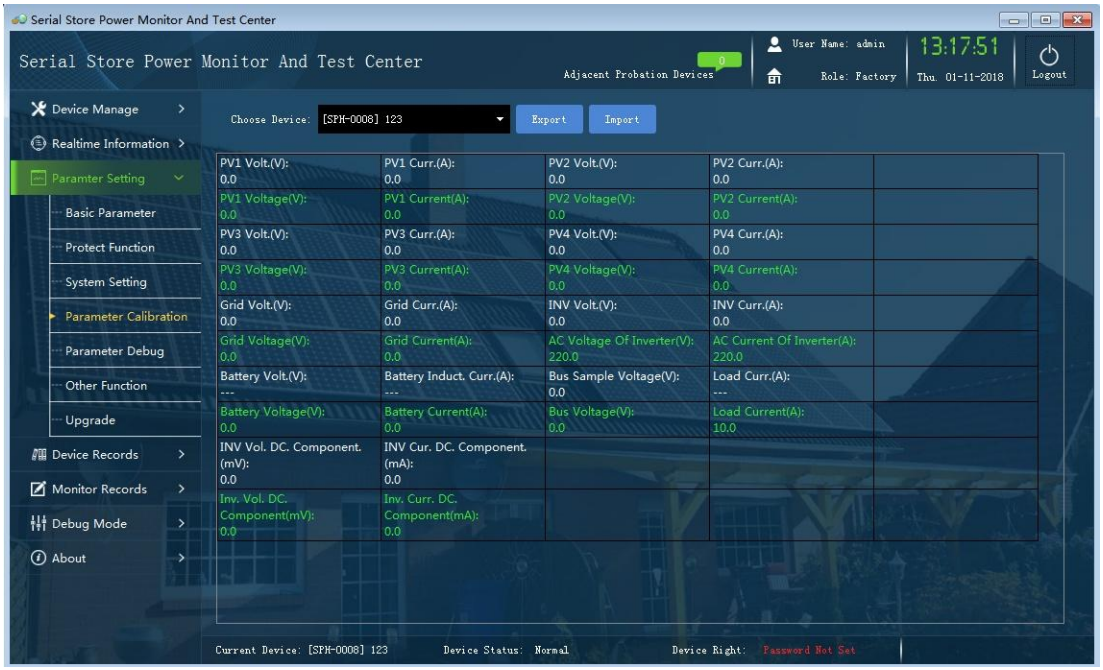

Figure3-11 Parameter calibration

3.3.5 Parameter Debug(Factory)

The parameter debug page only available for factory. In the parameter debug page, factory can debug the parameters of chosen device.

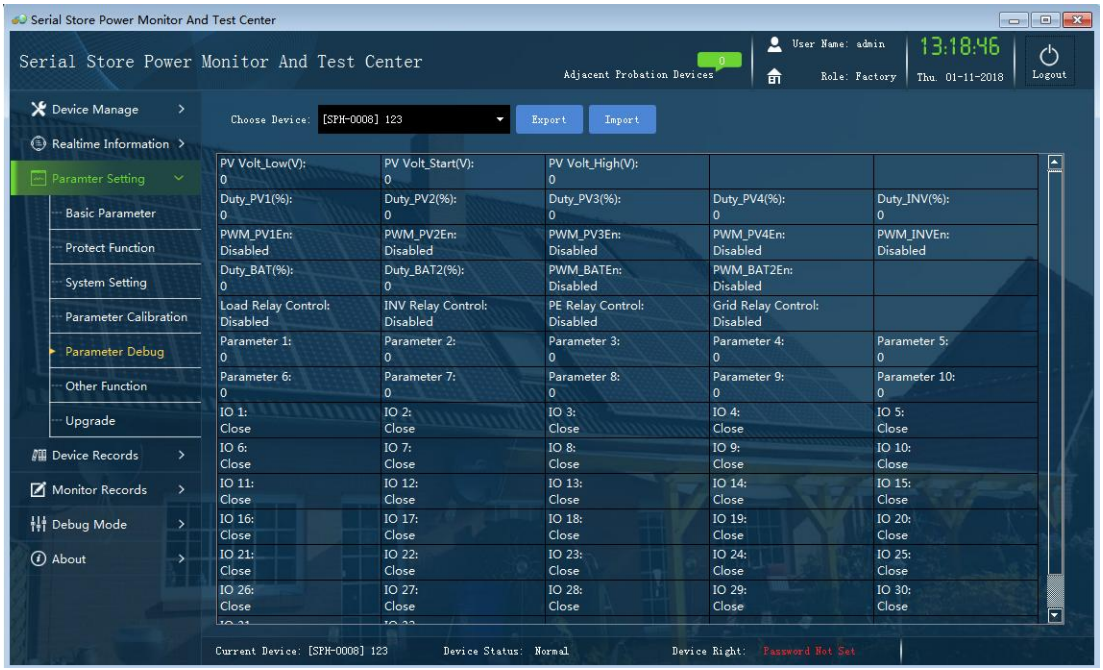

Figure3-12 Parameter debug

3.3.6 Other Function

In the other function page, user can set the system time, user password, power-on password, probation password, MAC address, inverter model, SN relate setting, etc. of chosen device.

User can set multi devices(They must be the same type) simultaneously. Select ***Multi devices*** in the drop-down box, check the boxes of devices with the same type and click ***Back*** button.

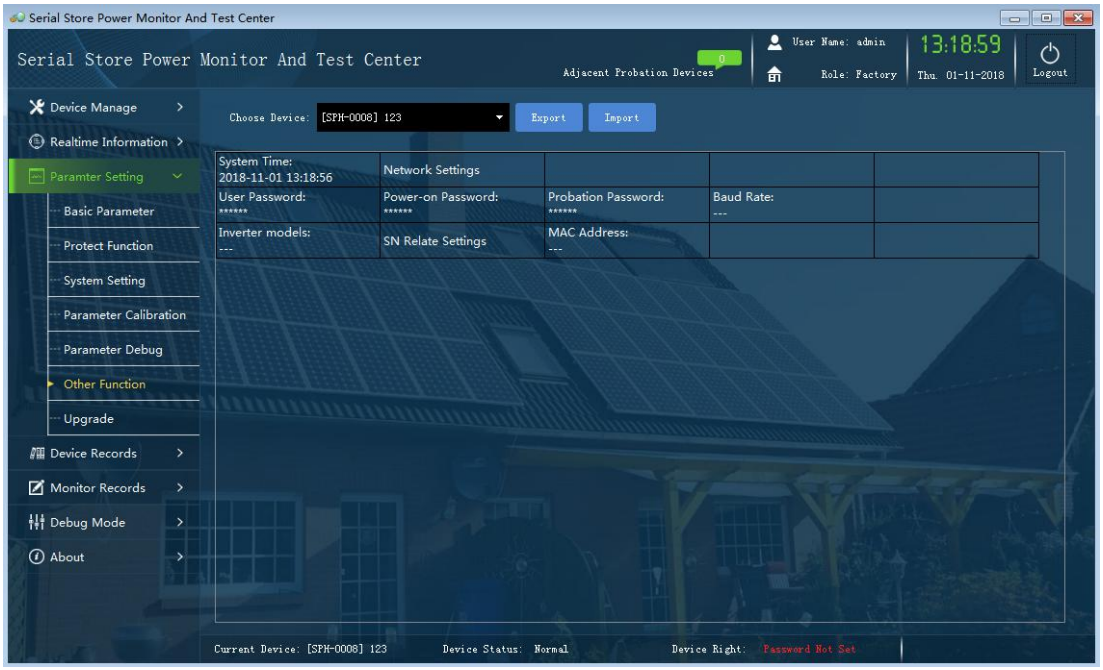

Figure3-13 Other function

3.3.7 Upgrade(Factory)

The upgrade page only available for factory. In the upgrade page, factory can upgrade the chosen device(exclude SPID). Click the ***Browse*** button to select the upgrade package and then click ***Upgrade*** button to upgrade device.

User can upgrade multi devices(It must be the same type) simultaneously. Select ***Multi devices*** in the drop-down box, check the boxes of devices with the same type and click ***Back*** button.

In the upgrade page, it can set the fail repeat time. During upgrade, if the device communicates abnormally for external causes, it will reconnect automatically. When the reconnecting time is beyond the set value, it will show ***Fail*** in the upgrade status bar.

In the upgrade page, it can set the upgrade frame interval for reading upgrade package.

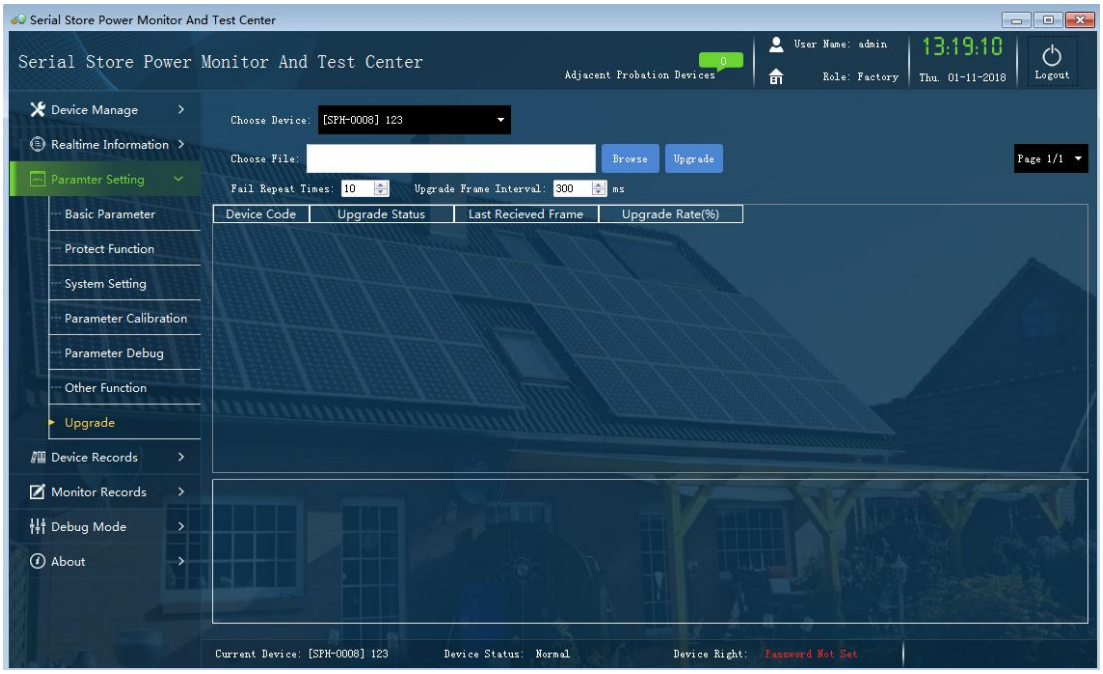

Figure3-14 Upgrade

3.4 Device Records(Factory)

Device records only available for factory. Device records includes grid in/out records, history alarms, user log, power dispatch log, IV curve scan and fault wave records. In the device records, it supports import/ export code template. User can set the meaning and language of fields in the code template.

Device records is not available for SPID-S device.

3.4.1 Grid In/Out Records

In the grid in/out records page, it can query and export the grid in/out records of chosen device.

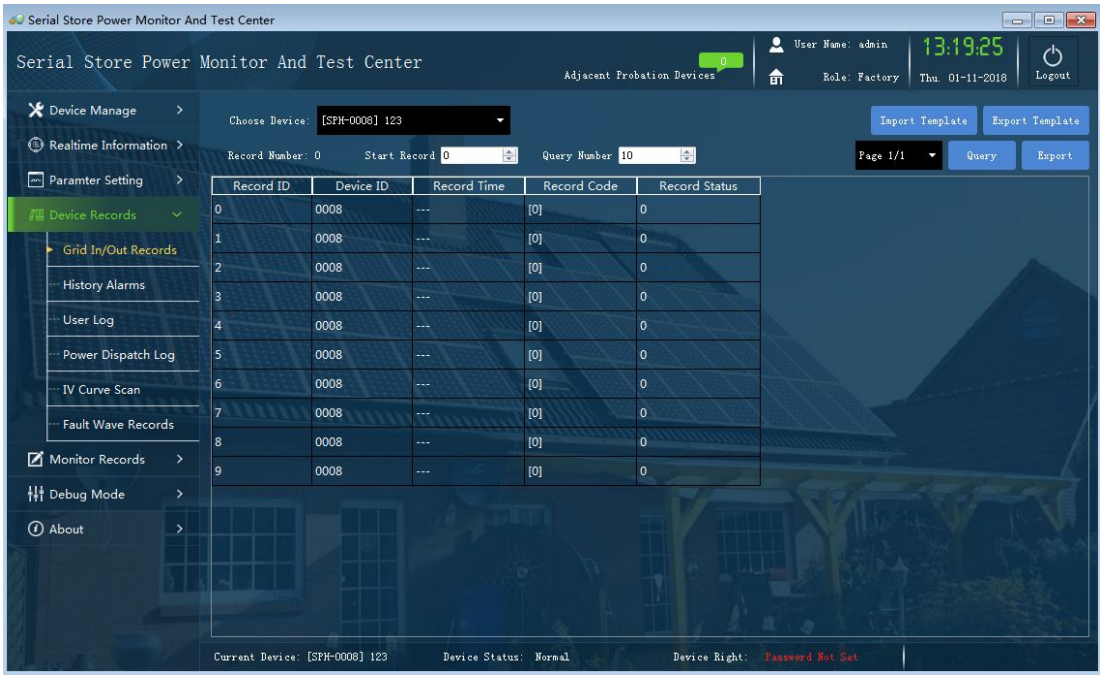

Figure3-15 Grid in/out records

3.4.2 History Alarms

In the history alarms page, it can query and export the history alarms records of chosen device.

Figure3-16 History alarms

3.4.3 User Log

In the user log page, it can query and export the user log of chosen device.

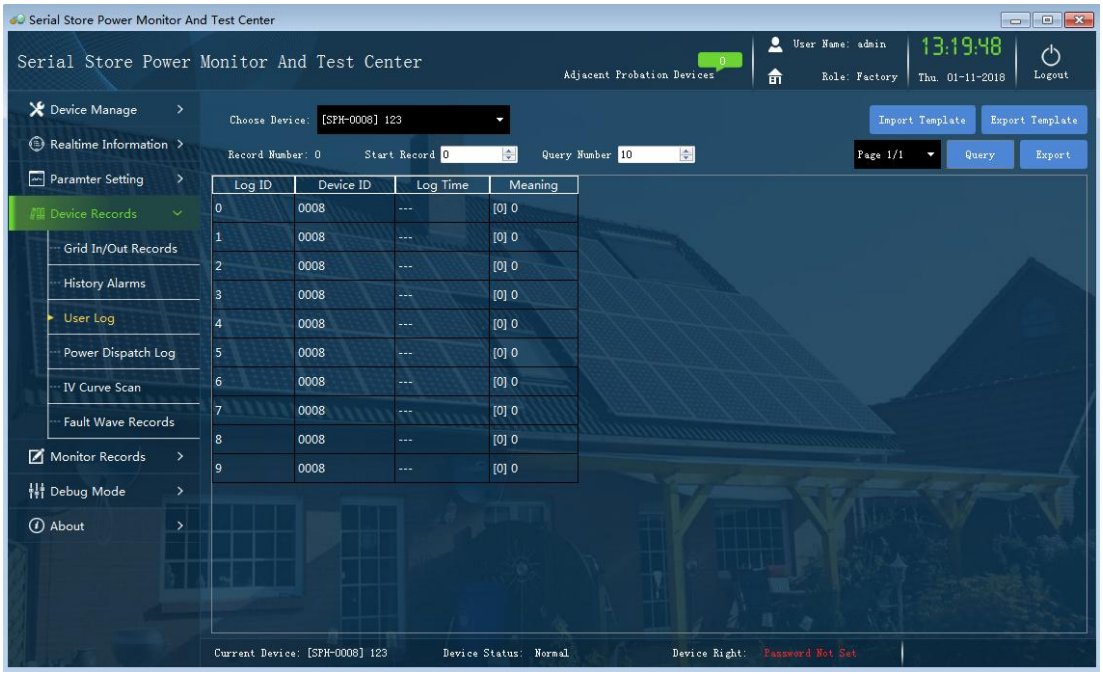

Figure3-17 User log

3.4.4 Power Dispatch Log

In the power dispatch log page, it can query and export the power dispatch log of chosen device.

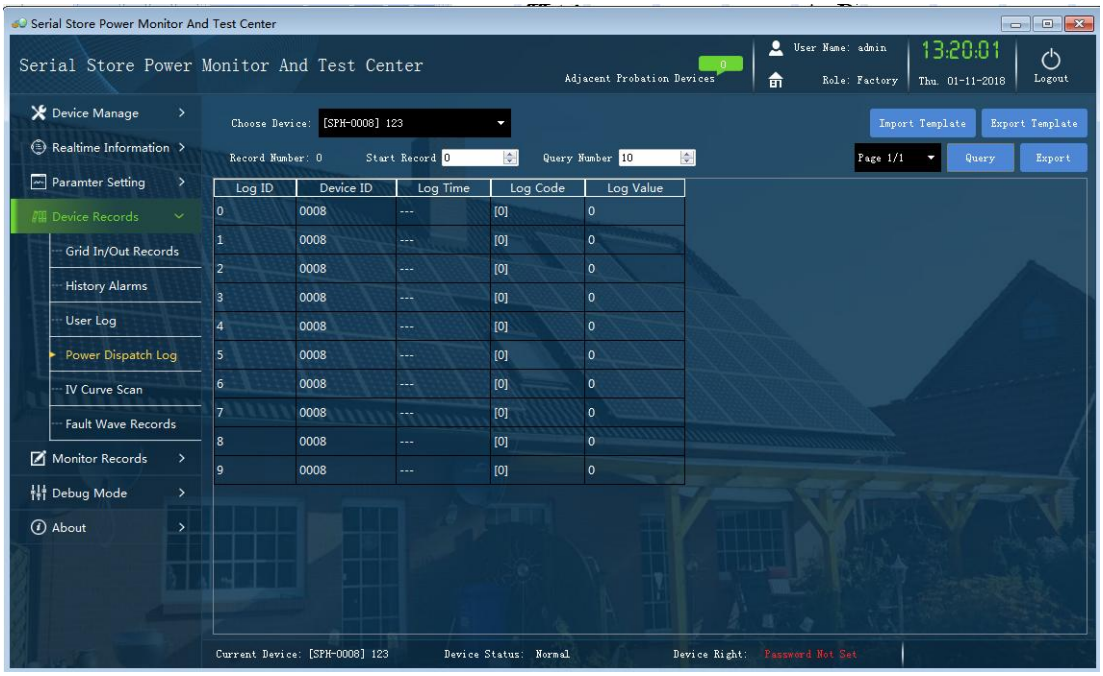

Figure3-18 Power dispatch log

3.4.5 IV Curve Scan

In the IV curve scan page, it can view the IV curve of each branch of each MPPT of SPI/SPH series device. Select device in the left top corner, click ***Start Sampling*** button on the right, and it will show the IV curve of each branch of the chosen MPPT of the chosen device.

The action bar on the right can control the IV curve style, such as move up and down or left and right, zoom in and zoom out, undo, hide or show the coordinate value in the curve of each MPPT, set the curve color and page theme, etc.

In the IV curve scan page, it can export data. Click ***Export Data*** button to export the data of shown IV curve in Excel format.

Figure3-19 IV curve scan

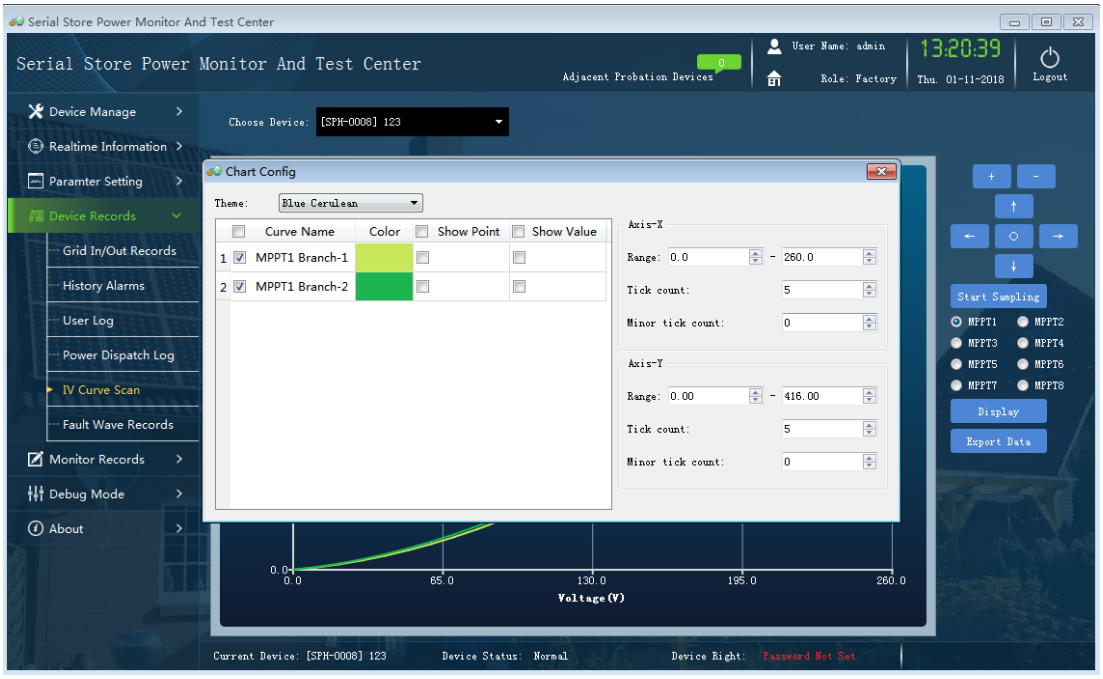

Figure3-20 Chart configuration

3.4.6 Fault Wave Records

In the fault wave records page, it can view the fault records of each moment of SPI/SPH series device. Select device in the left top corner, double click a moment, and it will show the fault wave records of each channel of the chosen device.

Figure3-21 Fault wave records

The action bar on the right can control the fault wave records style, such as move up and down or left and right, zoom in and zoom out, undo, hide or show the coordinate value in the curve of each channel, set the fault wave records color and page theme, etc.

In the fault wave records page, it can export data. Click ***Export Data*** button to export the data of shown fault wave records in Excel format.

In the fault wave records page, it supports import and export code template(only available for factory). In the code template, it can set the vertical axis, channel name, the unit of vertical axis and assign permission for each role. The factory role can view all channel information, the service role can view the channel information of customer service permission and user permission. The user role only can view channel information of the user permission.

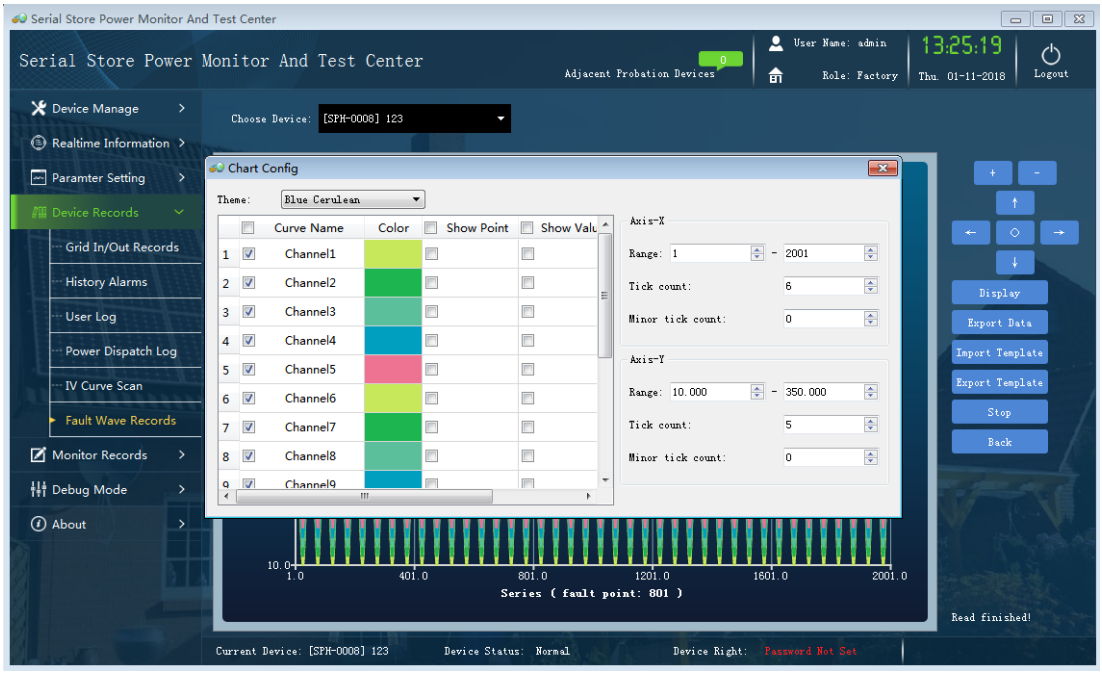

Figure3-22 Chart configuration

NOTE

In the same channel, the English code imported in the code template should be same to the Chinese code, as shown in Figure3-23.

A	B	C	D	E	F	G
通道	含义	符号(0无符号，1有符	单位	精度(0-1,1-0.1,2-0.01,	权限(0-客户,1-运维人	语言(ZH/EN)
1	测试1	0	a	1	0	ZH
2	测试2	0	b	1	0	ZH
3	测试3	0	c	1	1	ZH
4	测试4	0	d	1	1	ZH
5	测试5	0	e	1	2	ZH
6	测试6	0	f	1	2	ZH
7	测试7	0	g	1	2	ZH
8	测试8	0	h	1	2	ZH
9	测试9	0	i	1	2	ZH
10	测试10	0	j	1	2	ZH
11	测试11	0	k	1	2	ZH
12	测试12	0	l	1	2	ZH
1	test1	0	a	1	0	EN
2	test2	0	b	1	2	EN
3	test3	0	c	1	2	EN
4	test4	0	d	1	2	EN
5	test5	0	e	1	0	EN
6	test6	0	f	1	1	EN
7	test7	0	g	1	1	EN
8	test8	0	h	1	2	EN
9	test9	0	i	1	2	EN
10	test10	0	j	1	2	EN
11	test11	0	k	1	2	EN
12	test12	0	l	1	2	EN

Figure3-23 Channel information template

3.5 Monitor Records

3.5.1 History Data

In the history data page, it can check and export the history data of chosen device. It can set the collect cycle of history data in the ***Device Manage-Monitor Configure***.

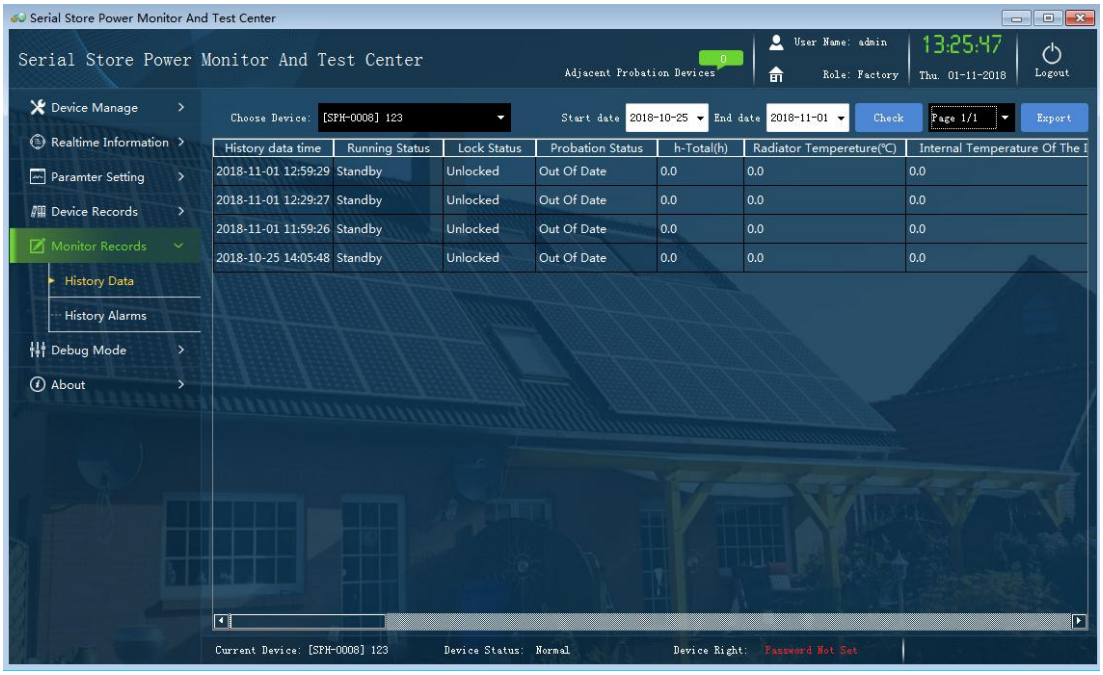

Figure3-24 History data

3.5.2 History alarms

In the history alarms page, it can check and export the history alarms.

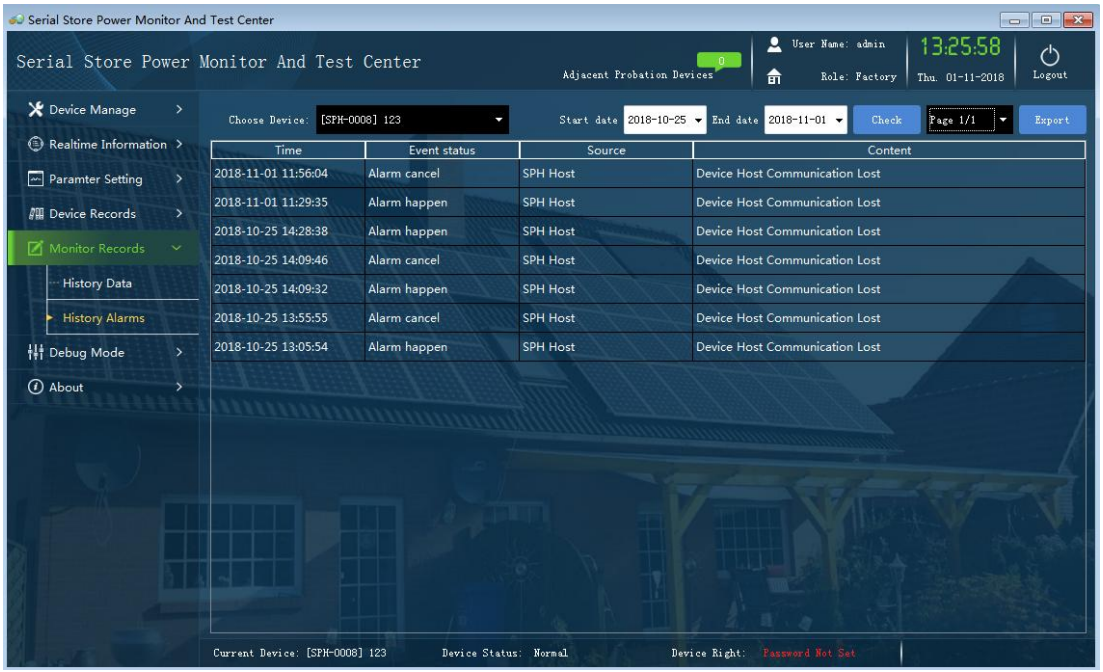

Figure3-25 History alarms

3.6 Debug Mode(Factory)

The debug mode only available for factory. The debug mode includes monitor log and serial port debug.

3.6.1 Monitor Log

In the monitor log page, it can view the monitor log.

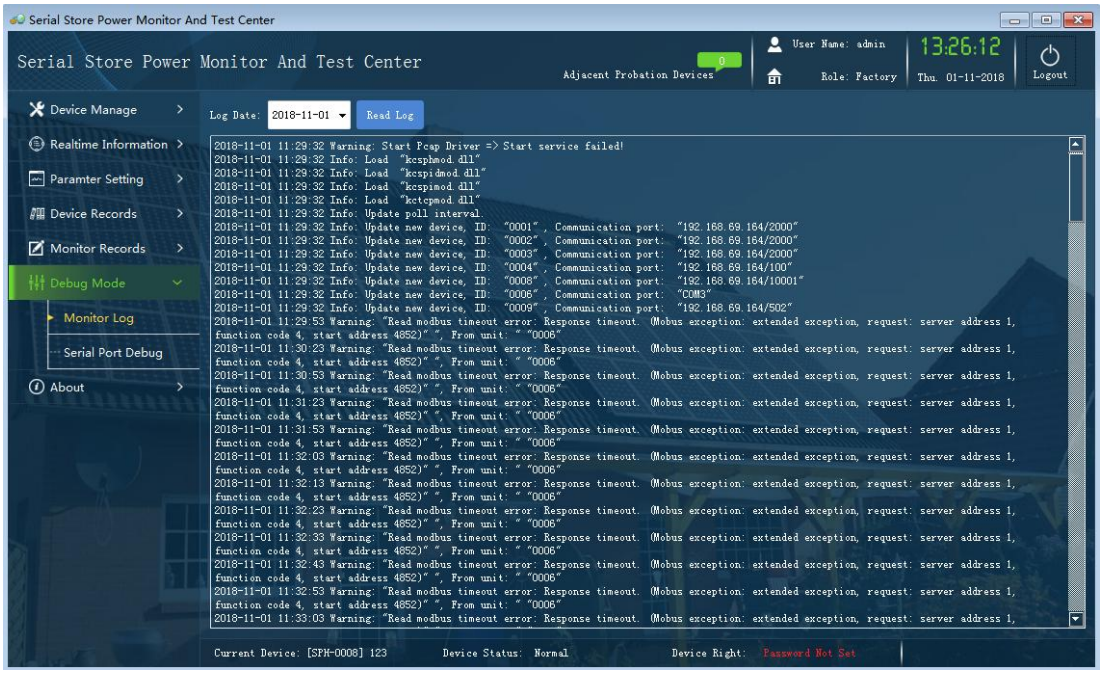

Figure3-26 Monitor log

3.6.2 Serial Port Debug

In the serial port debug page, it can debug serial port. Click ***Stop Monitor*** button, set the serial port, baud rate, check bit, stop bit, data bit(It must be consistent with the device). Click ***Start Debug*** button, enter the send order and check code, it will return the received value in the bottom of serial port debug page.

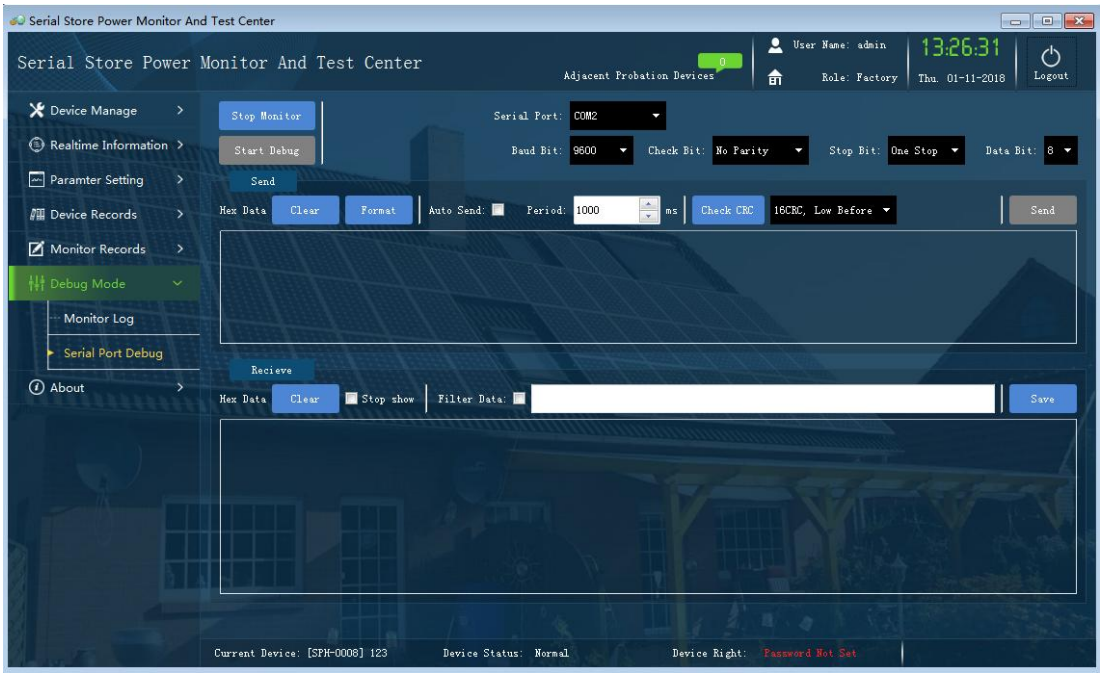

Figure3-27 Serial port debug

3.7 About

In the about page, it can view the version information and help information.

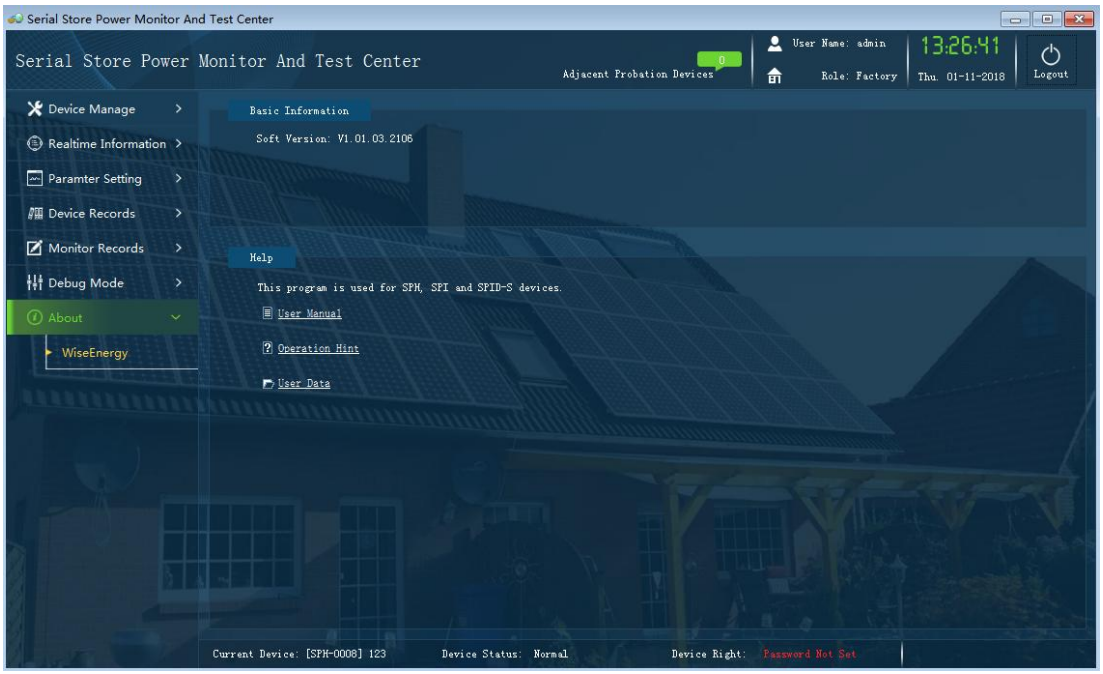

Figure3-28 About