SMU11B V500R002C50 Site Monitoring Unit

User Manual

Issue 07

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About This Document

Overview

This document describes the module, panel, and ports, web user interface (WebUI), application guide, and features.

This document describes all the functions of the SMU, including the product introduction and system maintenance.

The figures provided in this document are for reference only.

Intended Audience

This document is intended for:

- Sales engineers
- Technical support engineers
- Maintenance engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results NOTICE is used to address practices not related to personal injury.

Symbol	Description
☐ NOTE	Supplements the important information in the main text. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

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

Issue 07 (2020-08-12)

Updated **Table 1-3**.

Issue 06 (2020-02-20)

Updated **1.1 SMU11B**.

Updated **A Alarm List**.

Issue 05 (2019-12-16)

Updated **1.1 SMU11B**.

Issue 04 (2019-12-05)

Updated **4 Common Operations**.

Issue 03 (2019-09-12)

Deleted contents about the WiFi.

Added the content to modify the WiFi password.

Issue 02 (2019-03-28)

Optimized the content of the document.

Issue 01 (2019-01-21)

This is the first official release.

Contents

1 Description of Components

1.1 SMU11B

Appearance

Figure 1-1 SMU11B appearance

TM10I20150

(1) Running indicator	(2) Minor alarm indicator	(3) Major alarm indicator
(4) Wiring terminals	(5) Communications port COM	(6) Handle
(7) Position of the SN code	(8) Communications port FE	
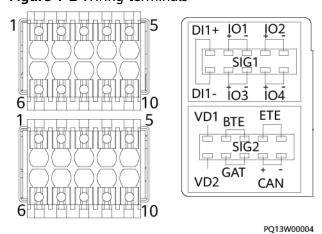
Indicators

Table 1-1 Indicator description

Name	Color	Status	Description
Running indicator	Green	Off	The SMU is faulty or has no power input.
		Blinking slowly (0.5 Hz)	The SMU is running and communicating with the host properly.
		Blinking fast (4 Hz)	The SMU is running properly but fails to communicate with the host properly.
Minor alarm indicator	Yellow	Off	No minor alarm or warning is generated.
		Steady on	A minor alarm or warning is generated.
Major alarm indicator	Red	Off	No critical or major alarm is generated.
		Steady on	A critical or major alarm is generated.

Wiring Terminals

Figure 1-2 Wiring terminals

PQ13W00004

Table 1-2 Pin definitions for SIG1 wiring terminals

Pin	Signal	Description
1	DI1+	Dry contact input

Pin	Signal	Description
6	DI1-	
2	IO1+	Dry contact input/Dry contact output (When used as a dry contact input, the alarm condition is as follows: normal when open, alarm when closed. When used as a dry contact output, the alarm action is as follows: open when normal, closed when alarm.)
3	IO1-	
4	IO2+	
5	IO2-	
7	IO3+	
8	IO3-	
9	IO4+	
10	IO4-	

Table 1-3 Pin definitions for SIG2 wiring terminals

Pin	Signal	Description
1	VD1	Battery midpoint voltage detection port 1
6	VD2	Battery midpoint voltage detection port 2
2	BTE	Battery temperature sensor port
3		
4	ETE	Ambient temperature sensor port
5		
7	GAT	Door status sensor port
8		
9	CAN+	CAN communications port
10	CAN-	

Communications Ports

Table 1-4 Communications port description

Communications Port	Communications Parameter	Communications Protocol	Function
COM	Baud rate: 9600 bit/s, 19200 bit/s, 115200 bit/s	Master/slave protocol	Manages site devices or third-party devices and provides 12 V power supply for external devices. This port is used to connect a southbound port and expand the DI/DO interface box.
FE	10M/100M autonegotiation	SMNP protocol, HTTPS protocol	Used to connect the main equipment and third-party NMS.
NOTE All these ports are protected by a security mechanism.			

Figure 1-3 Pins in the COM port
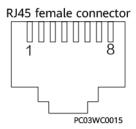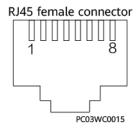
Table 1-5 Pin definitions for the COM port

Pin	Signal	Description
1	RS485+	RS485 data +
2	RS485-	RS485 data -
3	12V	Supply power
4	RS485+	RS485 data +
5	RS485-	RS485 data -
6	SCL	I^2C clock

Pin	Signal	Description
7	SDA	I^{2}C data
8	GND	Ground

Figure 1-4 Pins in the FE port

RJ45 female connector

PC03WC0015
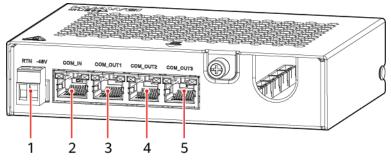
Table 1-6 Pin definitions for the FE port

Pin	Signal	Description
1	TX+	Transmits data over FE.
2	TX-	
3	RX+	Receives data over FE.
6	RX-	
4, 5, 7 and 8	NA	-

1.2 Expansion Box MUE03A

Appearance

Figure 1-5 MUE03A appearance

PQ13W00006

(1) Power input port	(2) Communications port COM_IN	(3) Communications port COM_OUT1

(4) Communications port
COM_OUT2

(5) Communications port
COM_OUT3

Power Input Port

Table 1-7 Pin definitions for the power input port

Pin	Description
RTN	Power supply +
–48V	Power supply –

Communications Ports

Table 1-8 Communications port description

Communications Port	Communications Parameter	Communications Protocol	Function
COM_IN	Baud rate: 9600 bit/s, 19200 bit/s, or 115200 bit/s	Master-slave and Modbus protocols	Connects to the monitoring module.
COM_OUT1	Baud rate: 9600 bit/s, 19200 bit/s, or 115200 bit/s	Master-slave and Modbus protocols	Connects to an intelligent device.
COM_OUT2			
COM_OUT3			
NOTE All these ports are protected by a security mechanism.			

Figure 1-6 Pins in the COM port

RJ45 female connector

1   8

PC03WC0015
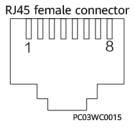
Table 1-9 Pin definitions for the COM_IN port

Pin	Signal	Description
1	RS485+	RS485 data +
2	RS485-	RS485 data -

Pin	Signal	Description
3	12 V	Power supply
4	RS485+	RS485 data +
5	RS485-	RS485 data -
6	I^{2}C_SCL	I^{2}C clock signal
7	I^{2}C_SDA	I^{2}C data signal
8	GND	Grounding (PE)

Table 1-10 Pin definitions for the COM_OUT1, COM_OUT2, and COM_OUT3 ports

Pin	Signal	Description
1	RS485+	RS485 data +
2	RS485-	RS485 data -
3	12 V	Power supply
4	RS485+	RS485 data +
5	RS485-	RS485 data -
6, 7	–	-
8	GND	Grounding (PE)

Wiring Terminals

The MUE03A provides dry contact inputs, dry contact outputs, water sensor input, smoke sensor input, and 12 V power outputs. The wiring terminals are located inside the MUE03A.

Figure 1-7 Wiring terminals (without the panel, top view)

PQ13W00005

Figure 1-8 DIN and WATER pins
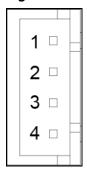
Table 1-11 DIN and WATER pin definitions

Terminal	Pin	Signal	Description
DIN6–DIN9	1	12 V	12 V output
	2	12 V	12 V output
	3	DIN N	Dry contact input
	4	GND	Grounding (PE)
WATER	1	12 V	12 V output
	2	WATER	Water sensor signal input
	3	GND	Grounding (PE)
	4	–	–

Figure 1-9 ALM and SMOKE pins
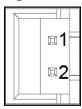
Table 1-12 ALM and SMOKE pin definitions

Terminal	Pin	Signal	Description
ALM5–ALM10	1	ALM+	Dry contact output +
	2	ALM-	Dry contact output -
SMOKE	1	SMOKE	Smoke sensor signal input
	2	12 V	12 V output

Figure 1-10 J7 pins
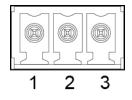
Table 1-13 J7 pin definitions

Terminal	Pin	Signal	Description
J7	1	12 V	12 V output
	2	GND	Grounding (PE)
	3	–	–
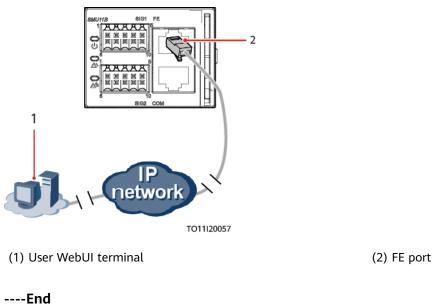
2 WebUI

2.1 Installing a Communications Cable

Procedure

Step 1 Connect the FE port on the SMU by using a network cable.

Figure 2-1 Installing a communications cable

(1) User WebUI terminal   (2) FE port

----End

2.2 Logging In to the WebUI

Enter **https://monitoring IP address** (such as https://192.168.1.10) in the address box of the browser, and then press Enter to enter the Web login page.

The initial user name is **admin**, and the initial password is **Changeme**.

Figure 2-2 Login page

2.3 Setting Parameters

Selecting a Language

The SMU11B supports English, Chinese, French, Spanish, Portuguese, Russian, Italian, German, Turkish, and Japanese.
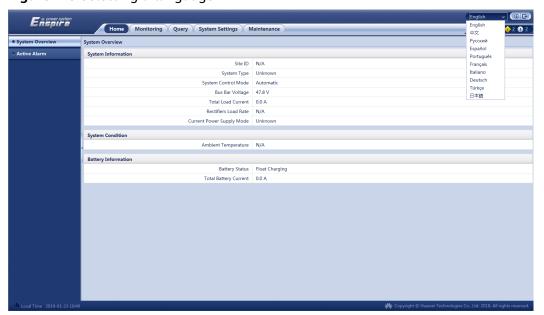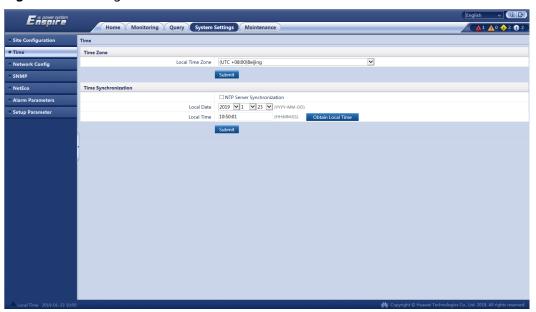
Figure 2-3 Selecting a language

Setting the Date and Time

Figure 2-4 Setting the date and time

Setting Battery Parameters

Basic battery parameters are fundamental for the SMU to manage batteries and should be set based on the actual number and capacity of battery strings connected.

> ⚠ **CAUTION**
>
> Incorrectly setting basic battery parameters affects the battery charge and discharge management and reduces the battery lifespan.

1. Set the battery identification mode.

   Path: **Real-Time Monitoring** > **Power System** > **Running Parameter** > **Basic Parameters**

2. (Optional) Set lead-acid battery parameters.

   Path: **Real-time Monitoring** > **Monitoring** > **Acid Battery Group** > **Running Parameter** > **Basic Parameters**

3. (Optional) Set lithium battery parameters.

   Path: **Real-time Monitoring** > **Monitoring** > **Lithium Battery Group** > **Running Parameter** > **Basic Parameters**

Configuring IO Ports
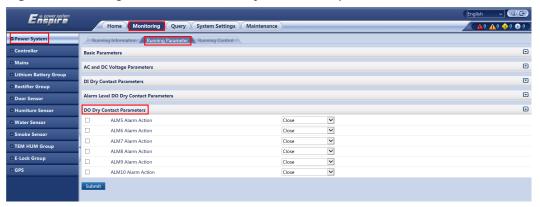
You can set the IO ports on the SMU panel to dry contact inputs or outputs based on site requirements.

Figure 2-5 Configuring IO ports

Setting Alarm Actions for Dry Contact Outputs

You can set alarm actions for dry contact outputs based on site requirements. The initial status is as follows: When an alarm is generated, dry contacts are closed; when no alarm is generated, dry contacts are open.

Figure 2-6 Setting alarm actions for dry contact outputs

Setting Alarm Conditions for Dry Contact Inputs

You can change alarm actions for dry contact inputs based on site requirements. For example, if DIN1 Alarm Condition is set to Close, the SMU generates a DIN1 Alarm for dry contact input DIN1 when it is closed.

Figure 2-7 Setting alarm conditions for dry contact inputs

Clearing Associations Between Alarms and Dry Contacts

You can clear associations between all alarms and each dry contact output.
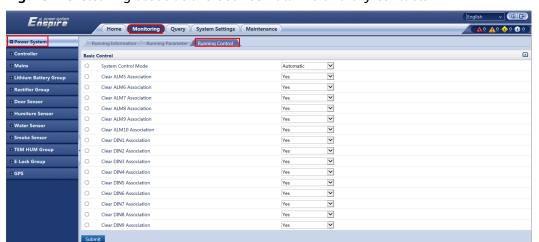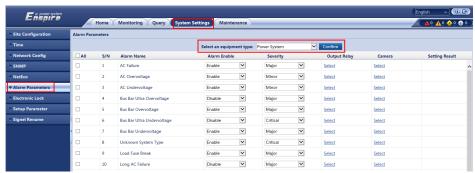
Figure 2-8 Clearing associations between alarms and dry contacts

Setting the Alarm Enable Option, Alarm Severity, and Associated Relays

- You can enable or disable each alarm, set the severity for each alarm, or associate each alarm with relays that have specific dry contact outputs based on site requirements.

- If an alarm is enabled, the SMU generates the alarm when the alarm condition is met. If an alarm is disabled, the SMU does not generate the alarm.

- Alarm severities are classified into critical, major, minor, and warning.

  a. Access the **Alarm Parameters** menu.

     Path: **System Settings** > **Alarm Parameters**

  b. Select a device type and set alarm parameters.

Figure 2-9 Setting the alarm enable option, alarm severity, and associated relays
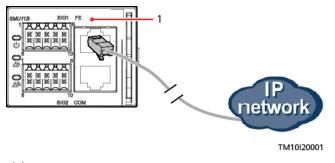
3 NMS Management

3.1 NetEco Management

3.1.1 IP Networking

Step 1 Connect a network cable to the FE port on the SMU

Figure 3-1 Connecting a communications cable

(1) FE port

Step 2 Apply to the site or equipment room network administrator for a fixed IP address.

Step 3 Set the IP type, IP address, subnet mask, and gateway address on the WebUI.

> **NOTICE**
>
> If the IP address of the SMU11B is changed on the WebUI, record the IP address for future login.

Table 3-1 IP parameters

Main Menu	Second-Level Menu	Third-Level Menu	Default Value	Setting
System Settings	Network Config	IP Type	IPv4	Set as required.
		IP Address	192.168.0.10	Set this parameter based on the address assigned by the network administrator.
		Subnet Mask	255.255.255.0	Set this parameter based on the address assigned by the network administrator.
		Default Gateway	192.168.0.1	Set this parameter based on the address assigned by the network administrator.

Step 4 Set IP addresses and port numbers for the active and standby NetEco servers on the WebUI.

Table 3-2 NetEco parameters

Main Menu	Second-Level Menu	Third-Level Menu	Default Value	Setting
System Settings	NetEco	NetEco Primary IP	192.168.0.10	Set this parameter to the IP address of the active NetEco server.
		NetEco Backup IP	192.168.0.10	Set this parameter to the IP address of the standby NetEco server.
		NetEco Port Number	31220	31220 **NOTE** Contact Huawei technical support if you need to change the port number.

----End

3.1.2 Logging In to the NetEco

Procedure

Step 1 Enter **https://NetEco IP address: port number for NetEco login** (for example, https://10.10.10.1:31943) in the address box of the browser and press Enter. The NetEco login page is displayed.

Figure 3-2 NetEco login page

Step 2 Enter the correct user name and password and click **Log In**.

NOTICE

To obtain the NetEco user name and password, contact the site or equipment room network administrator

---

----End
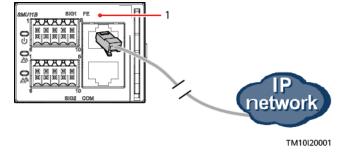
3.2 NMS Management over SNMP

3.2.1 Connecting a Communications Cable

Procedure

Step 1 Connect the FE port on the SMU by using a network cable.

Figure 3-3 Connecting a communications cable

(1) FE port

----End

3.2.2 Setting SNMP Parameters

Prerequisites

📖 **NOTE**

You can set SNMP parameters remotely or locally on the WebUI.

Before setting SNMP parameters, obtain the information listed in **Table 3-3** from the SNMP NMS.

Table 3-3 Information obtained from the NMS

Item	Description
SNMP Version	SNMP version and port number used for communication between the SMU and NMS. The SNMP version can be **SNMPv1**, **SNMPv2c**, or **SNMPv3**.
SNMP Port	
Read Community Name	If you use SNMPv1 or SNMPv2c, enter the read and write community names that comply with the NMS. Otherwise, the SMU will not connect to the NMS. The read community name must be different from the write community name.
Write Community Name	
User Name	To enhance the security, you need a user name and password for authentication if you use SNMPv3. After the authentication succeeds, the SMU can communicate with the NMS.
MD5/SHA Password	
DES/AES Password	
Trap Target Address	IP address and port number used for reporting alarm trap packets.
Trap Port	
Trap Community	If you use SNMPv1 or SNMPv2c, community name used for reporting alarm trap packets.

Procedure

Step 1 Log in to the WebUI.

📖 **NOTE**

The initial user name is **admin**, and the initial password is **Changeme**.

Step 2 Access the **System Settings** page and set **SNMP.**
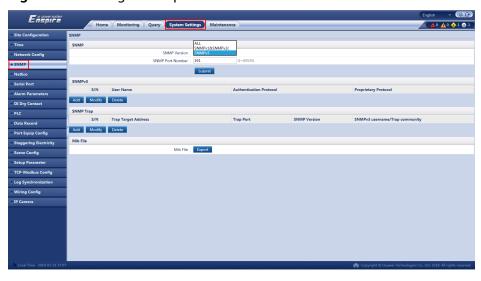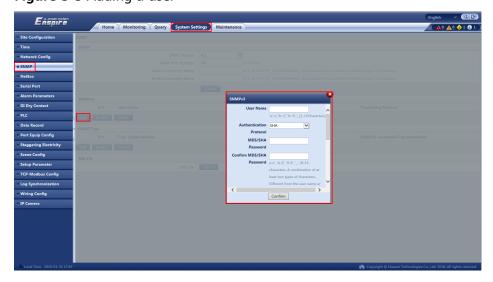
Figure 3-4 Setting SNMP parameters

- There are two or more NMSs and the SNMP versions have both SNMPv1 or SNMPv2c and SNMPv3: Set **SNMP Version** to **ALL** in **SNMP**, and set **SNMP Port Number**, **Read Community Name**, and **Write Community Name**. Then click **Add** in **SNMPv3**, and set **User Name**, **MD5/SHA Password**, and **DES/AES Password**. Then click **Confirm**.

Figure 3-5 Adding a user

- SNMPv1 or SNMPv2c: Set **SNMP Version** to **SNMPv1&SNMPv2c** in **SNMP**, and set **SNMP Port Number**, **Read Community Name**, and **Write Community Name**. Then click **Confirm**.

- SNMPv3: Set **SNMP Version** to **SNMPv3** in SNMP, click **Add** in **SNMPv3**, and set **User Name**, **MD5/SHA Password**, and **DES/AES Password**. Then click **Confirm**.

Step 3 In **SNMP Trap**, click **Add**.

- If the SNMP version is SNMPv1 or SNMPv2c, set **Trap Target Address**, **Trap Port**, and **Trap Community**.

- If the SNMP version is SNMPv3, set **Trap Target Address**, **Trap Port**, and **SNMPv3 User Name**.

☐ NOTE

The SNMP version in this place can be different from that described in **Step 2**.

Step 4 In **Mib files**, click **Export** to export the MIB file and then import it into the NMS.

☐ NOTE

If there is only one NMS, perform **Step 4** once only.

----End

3.2.3 NMS Commissioning

You can query the power system on the network management system (NMS) that is connected over the Simple Network Management Protocol (SNMP). For details, see the related documents of the NMS.

4 Common Operations

> ⚠ **WARNING**
>
> When you set parameters such as air conditioner startup/shutdown, LLVD/BLVD voltage, load connection/disconnection control, battery connection/disconnection control, PSU module startup/shutdown, and rectifier power limit on the WebUI, the site power supply may be affected.

4.1 Backing Up Current Settings

The configuration file contains all user configuration information (such as parameter values and alarm configurations) about the current system.

You can back up the configuration file for the current site, and use the configuration file to rapidly configure parameters for other sites

> ⚠ **CAUTION**
>
> When importing the backup configuration file, ensure that the system type of the exported configuration file is the same as that of the configuration file to be imported.
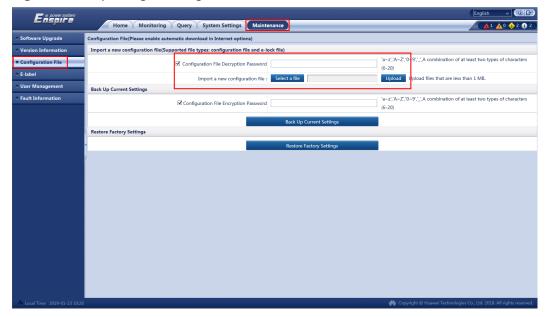
Figure 4-1 Backing up current settings

4.2 Importing a Configuration File

You can quickly configure site parameters by importing a configuration file.

Figure 4-2 Importing a configuration file

📖 **NOTE**

If an encryption password is set during the export of a configuration file, the decryption password entered during the import of the configuration file must be the same as the encryption password of the exported configuration file.

4.3 Restoring Factory Defaults

After factory defaults are restored, all parameter values change to their default factory values. You are advised to back up the current settings before restoring factory defaults.

⚠️ **CAUTION**

After factory defaults are restored, the monitoring unit restarts.

Figure 4-3 Restoring factory defaults

4.4 Upgrading Software

You can use the WebUI to upgrade software for the SMU BSP, SMU, intelligent device SO library package, and southbound devices.

⚠ **CAUTION**

- To retain pre-upgrade parameters, back up the data before upgrading software.
- The SMU will restart automatically after the software for the BSP, SMU, and intelligent device SO library package is upgraded.
- Exercise caution to choose the version rollback function during software upgrade. After version rollback, the user accounts created are deleted, and the initial user name and password are required for login.
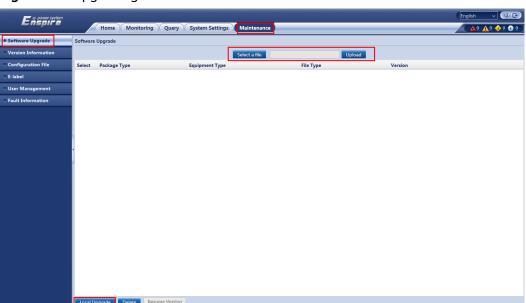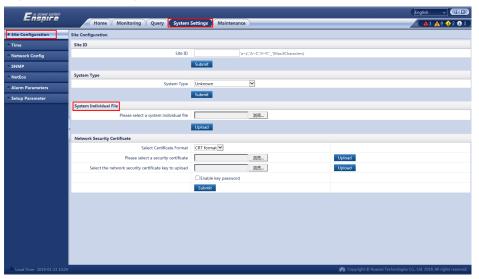
Figure 4-4 Upgrading software

4.5 Importing an Individual File

The SMU restarts after an individual file is imported.

1. Access the **System Individual File** menu.

Figure 4-5 Importing an individual file

2. Find the desired individual file based on the recorded file storage path, select and import it.

4.6 Changing a User Password

Context

For security purposes, change your password periodically.

Only the system administrator can change user passwords.

Procedure

Step 1 Log in to the WebUI and choose **Maintenance** > **User Management**. The user management page is displayed.
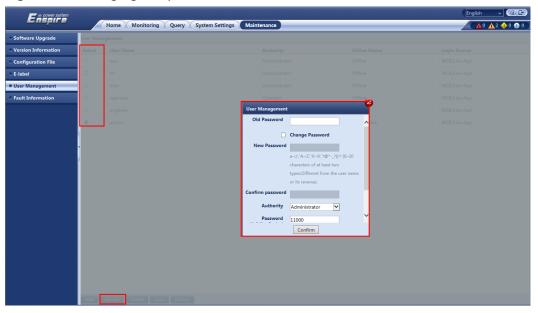
Figure 4-6 User management page

Step 2 Select the user whose password needs to be changed and click **Modify**. The dialog box for modifying user information is displayed.

Figure 4-7 Changing the password

Step 3 Select **Change Password**, set **New Password** and **Confirm Password**, and click **Confirm**. The **Recertification** dialog box is displayed.

⚠ **CAUTION**

The administrator needs to set **Old Password** only when changing the administrator's own password.

Change the password in compliance with the following rules:

- The password must contain 6 to 20 characters.
- The password must consist of at least two of the following types: digits, uppercase letters, lowercase letters, and special characters (! @ * - _ ? { } = /).
- The password must be different from the previous two passwords.
- The password must be different from the user name or its reverse.

Step 4 Set **Password of Current Login User** and click **Submit**.

----End

Changing WiFi password
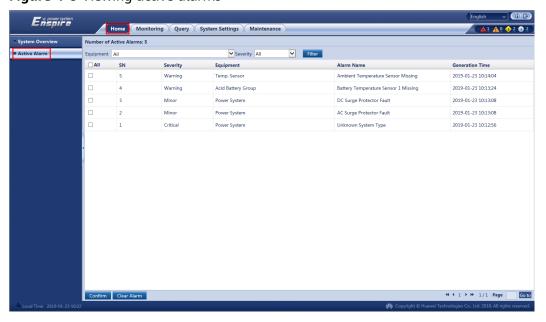
> **NOTICE**
>
> - You are advised to periodically change the WiFi password to improve account security and prevent unauthorized network attacks, such as data tampering.
> - Huawei will not be liable for any loss caused by your failure to change the password in time or to keep the new password properly.

Change the WiFi account password: choose **System Settings** > **Network Config** > **WIFI**.

4.7 Viewing Active Alarms

Figure 4-8 Viewing active alarms

4.8 Viewing Historical Alarms
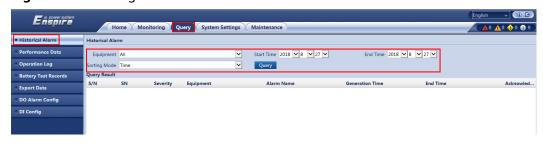
Prerequisites

Historical alarms refer to the alarms that have been generated and cleared.

Procedure
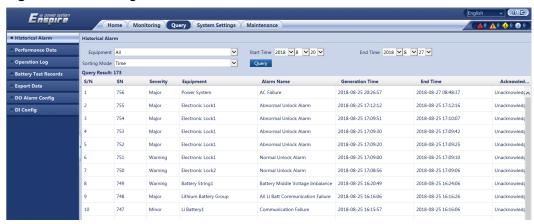
Step 1 Filter out historical alarms.

Figure 4-9 Filtering out historical alarms

Step 2 View historical alarms.

Figure 4-10 Viewing historical alarms

----End

4.9 Viewing Version Information

Querying the monitoring version number helps you locate fault causes and verify upgrades.
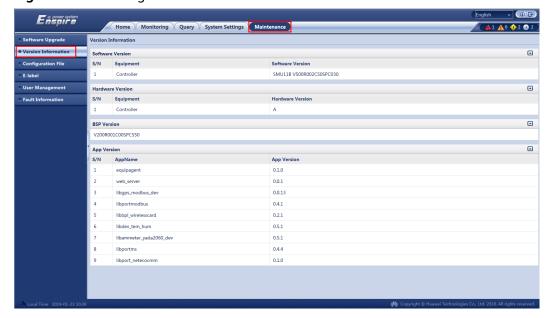
Figure 4-11 Viewing version information

4.10 Collecting Fault Information

The SMU11B collects fault information about lithium batteries and rectifiers. The fault information records the running information about the lithium battery and rectifier module for a specified period of time. The information can be used to locate faults. You can choose **Maintenance** > **Fault Information** to export the fault information file of the corresponding device only after fault information is collected.

Figure 4-12 Collecting fault information about the lithium battery
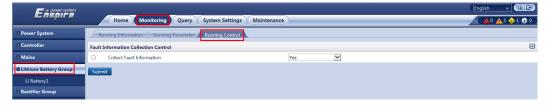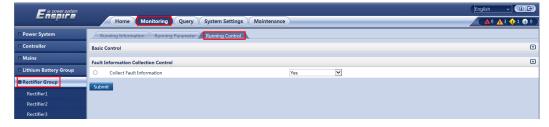
Figure 4-13 Collecting fault information about the rectifier module

4.11 Exporting Maintenance Information
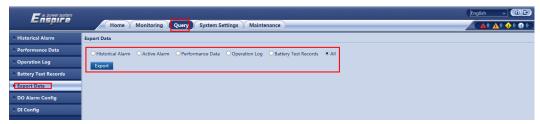
Context

- You can export historical alarms, active alarms, performance data, operation logs, and battery test records on the WebUI.

- You can view and export e-label information about the power subrack, monitoring unit, and rectifiers on the WebUI.

- You can export version information and system operating information in one-click mode on the WebUI to quickly collect information and identify system faults.

Procedure
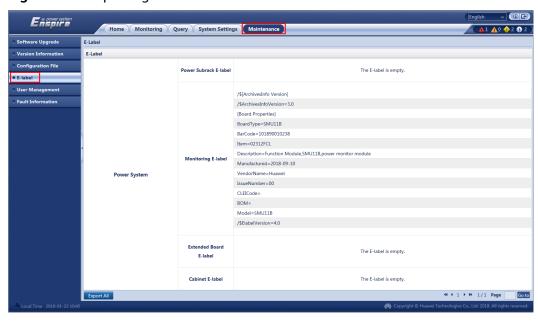
Step 1 Export historical data.

Figure 4-14 Exporting historical data
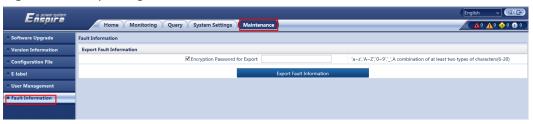
Step 2 Export e-label information.

Figure 4-15 Exporting e-label information

Step 3 Export fault information.

Figure 4-16 Exporting fault information

----End

5 Replacing the Monitoring Module

⚠ **CAUTION**

- Performing maintenance or replacing components may interrupt power to the loads if battery reserve is insufficient. Ensure that the switches for primary loads are in the ON position and do not turn off the battery switch and the AC input switch at the same time.

- Obtain prior written consent from the customer if load disconnection is required.

- Do not perform maintenance on rainy days. Otherwise, rain water can enter the system and damage devices and components.
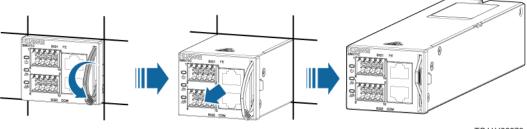
Prerequisites

- An ESD wrist strap, ESD gloves, and ESD box or bag are available.
- The new monitoring module is intact.

Procedure

Step 1 Connect the ground cable of the ESD wrist strap, and wear the ESD wrist strap and ESD gloves.

Step 2 Record the cable connection positions on the panel of the monitoring module, remove the COM communications cables, and remove the signal cable terminals.

Step 3 Pull out the handle of the monitoring module to remove it from the subrack.
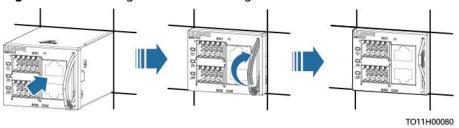
Figure 5-1 Removing the old monitoring module

TO11H00079

Step 4 Insert the new monitoring module into the corresponding slot and push it into the slot along the guide rails.

Step 5 Push the handle of the monitoring module upwards until it is in place.

Figure 5-2 Installing a new monitoring module

TO11H00080

Step 6 Connect the signal cable terminals and COM communications cables to the panel of the new monitoring module based on the recorded information.

Step 7 Disconnect the ground cable of the ESD wrist strap, and remove the ESD wrist strap and ESD gloves.

Step 8 Set the IP address of the new monitoring module to the IP address of the old one. Log in to the WebUI, import the individual file, and set parameters as required.

----End

A Alarm List

A.1 AIM Alarm Table

Table A-1 AIM Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Minor	No
Hardware Fault	Enable	Major	No
AC Failure	Enable	Minor	No
AC Phase Overvoltage	Enable	Minor	No
AC Phase Undervoltage	Enable	Minor	No
AC Phase Failure	Enable	Minor	No

A.2 Battery String Alarm Table

Table A-2 Battery String Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery Fuse Break	Enable	Critical	No
Battery Middle Voltage Imbalance	Enable	Warning	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery Missing	Enable	Major	No
SOH Low	Enable	Major	No
SOH Warning	Enable	Minor	No

A.3 Power System Alarm Table

Table A-3 Power System Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
AC Surge Protector Fault	Enable	Minor	No
DC Surge Protector Fault	Enable	Minor	No
AC Failure	Enable	Major	No
AC Overvoltage	Enable	Minor	No
AC Undervoltage	Enable	Minor	No
AC Phase L1 Overvoltage	Enable	Minor	No
AC Phase L2 Overvoltage	Enable	Minor	No
AC Phase L3 Overvoltage	Enable	Minor	No
AC Phase L1 Undervoltage	Enable	Minor	No
AC Phase L2 Undervoltage	Enable	Minor	No
AC Phase L3 Undervoltage	Enable	Minor	No
AC Phase L1 Failure	Enable	Minor	No
AC Phase L2 Failure	Enable	Minor	No
AC Phase L3 Failure	Enable	Minor	No
AC Phase L1 Failure	Enable	Major	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
AC Phase L2 Failure	Enable	Major	No
AC Phase L3 Failure	Enable	Major	No
AC L1-L2 Overvoltage	Enable	Minor	No
AC L2-L3 Overvoltage	Enable	Minor	No
AC L3-L1 Overvoltage	Enable	Minor	No
AC L1-L2 Undervoltage	Enable	Minor	No
AC L2-L3 Undervoltage	Enable	Minor	No
AC L3-L1 Undervoltage	Enable	Minor	No
Load Fuse Broken	Disable	Major	No
Unknown System Type	Enable	Critical	No
Long AC Failure	Enable	Major	No
DC Input Overvoltage	Enable	Major	No
DC Input Undervoltage	Enable	Major	No
HVDC Failure	Enable	Major	No
Bus Bar Ultra OV	Disable	Major	No
Bus Bar Overvolt.	Enable	Major	No
Bus Bar Ultra UV	Disable	Critical	No
Bus Bar Undervolt.	Enable	Major	No
SEB Comm. Failed	Enable	Major	No
DIN1 Alarm	Enable	Minor	No
DIN2 Alarm	Enable	Minor	No
DIN3 Alarm	Enable	Minor	No
DIN4 Alarm	Enable	Minor	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
DIN5 Alarm	Enable	Minor	No
DIN6 Alarm	Enable	Minor	No
DIN7 Alarm	Enable	Minor	No
DIN8 Alarm	Enable	Minor	No
DIN9 Alarm	Enable	Minor	No
System Manual Control	Enable	Warning	No
Distribution Frame Alm	Enable	Major	No

A.4 Electronic Lock Alarm Table

Table A-4 Electronic Lock Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Comm Failed	Enable	Major	No
Normal Unlock Alarm	Enable	Warning	No
Abnormal Unlock Alarm	Enable	Major	No

A.5 Controller Alarm Table

Table A-5 Controller Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
SMU Fault	Enable	Major	No
Insuff. Alm Space	Disable	Warning	No
Abn Sys. Volt. Check	Enable	Major	No
Abn Sys. Cur. Check	Enable	Major	No
All Alarms Blocked	Enable	Major	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Certs Invalid	Enable	Major	No
Certs Pre Overtime	Enable	Major	No
Certs Overtime	Enable	Major	No

A.6 Li Battery Alarm Table

Table A-6 Li Battery Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Minor	No
Board Hardware Fault	Enable	Major	No
Low Temperature Protection	Enable	Minor	No
Discharge High Temperature Protection	Enable	Minor	No
Charge High Temperature Protection	Enable	Minor	No
Overcharge Protection	Enable	Minor	No
Overdischarge Protection	Enable	Minor	No
Battery Electrochemical Cell 1 Fault	Enable	Major	No
Battery Electrochemical Cell 2 Fault	Enable	Major	No
Battery Electrochemical Cell 3 Fault	Enable	Major	No
Battery Electrochemical Cell 4 Fault	Enable	Major	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery Electrochemical Cell 5 Fault	Enable	Major	No
Battery Electrochemical Cell 6 Fault	Enable	Major	No
Battery Electrochemical Cell 7 Fault	Enable	Major	No
Battery Electrochemical Cell 8 Fault	Enable	Major	No
Battery Electrochemical Cell 9 Fault	Enable	Major	No
Battery Electrochemical Cell10 Fault	Enable	Major	No
Battery Electrochemical Cell11 Fault	Enable	Major	No
Battery Electrochemical Cell12 Fault	Enable	Major	No
Battery Electrochemical Cell13 Fault	Enable	Major	No
Battery Electrochemical Cell14 Fault	Enable	Major	No
Battery Electrochemical Cell15 Fault	Enable	Major	No
Battery Electrochemical Cell16 Fault	Enable	Major	No
Address Conflict	Enable	Minor	No
Upgrade Failed	Enable	Major	No
Battery Electrochemical Cell Abnormal	Enable	Major	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Minor	No
Low Temperature	Disable	Minor	No
Overdischarge	Enable	Warning	No
Charge Overcurrent	Enable	Warning	No
Charge Overcurrent Protection	Enable	Minor	No
Discharge Overcurrent	Enable	Warning	No
Discharge Overcurrent Protection	Enable	Minor	No
Heater Fault	Enable	Minor	No
Bus Bar Overvoltage	Enable	Major	No
Reversely Connection	Enable	Major	No
Abnormal Close	Enable	Major	No
Break Lock Failure	Enable	Major	No

A.7 Lithium Battery Group Alarm Table

Table A-7 Lithium Battery Group Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
All ESMU Communication Failure	Enable	Major	No
Battery Discharge	Enable	Warning	No
Battery Charge Overcurrent	Enable	Minor	No
High Battery Temperature	Enable	Minor	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Low Battery Temperature	Enable	Minor	No
BLVD Disconnected	Enable	Major	No
Battery Fuse Break	Enable	Critical	No
Battery Temperature Sensor 1 Missing	Enable	Warning	No
Battery Temperature Sensor 2 Missing	Enable	Warning	No
Battery Temperature Sensor 1 Fault	Enable	Major	No
Battery Temperature Sensor 2 Fault	Enable	Major	No
ESMU Missing	Enable	Major	No
End Backup Alarm	Enable	Minor	No

A.8 Door Sensor Alarm Table

Table A-8 Door Sensor Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Door Open Alarm	Enable	Major	No

A.9 Acid Battery Group Alarm Table

Table A-9 Acid Battery Group Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery High Temperature	Enable	Minor	No
Battery Low Temperature	Enable	Warning	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery Temperature Sensor 1 Missing	Enable	Warning	No
Battery Temperature Sensor 2 Missing	Enable	Warning	No
Battery Equalized Charging	Disable	Warning	No
BLVD Disconnected	Enable	Major	No
BLVD High Temperature Disconnected	Enable	Major	No
BLVD	Enable	Major	No
BLVD Low Capacity Disconnected	Enable	Major	No
Battery Boost Charging Protection	Enable	Major	No
BLVD Warning	Enable	Major	No
Battery Discharging	Enable	Warning	No
Battery Temperature Compensation Activated	Disable	Warning	No
Battery Not Detected	Enable	Warning	No
Battery Reversely Connection	Enable	Major	No
Battery Temperature Sensor 1 Fault	Enable	Major	No
Battery Very High Temperature	Disable	Major	No
Battery Very Low Temperature	Disable	Minor	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery Test Cancelled	Disable	Warning	No
Battery Testing	Disable	Warning	No
Battery Test Negative	Disable	Major	No
Battery Current Imbalance	Enable	Warning	No
Battery Temperature Sensor 2 Fault	Enable	Major	No
Battery Charge Overcurrent	Enable	Major	No
Low Battery Capacity	Enable	Warning	No
BLVD Fail	Disable	Major	No
Battery1 Middle Voltage Imbalance	Enable	Major	No
Battery2 Middle Voltage Imbalance	Enable	Major	No
Active Battery Test Failure	Disable	Warning	No
Battery Test Manually Stop	Disable	Warning	No
Battery Test Alarms Stop	Disable	Warning	No
Battery Test OK	Disable	Warning	No
Battery Config Incorrect	Enable	Minor	No

A.10 Mains Alarm Table

Table A-10 Mains Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Mains Failure	Enable	Minor	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Mains Undervoltage	Enable	Minor	No
Mains Overvoltage	Enable	Minor	No
Mains Phase L1 Overvoltage	Enable	Minor	No
Mains Phase L2 Overvoltage	Enable	Minor	No
Mains Phase L3 Overvoltage	Enable	Minor	No
Mains Phase L1 Undervoltage	Enable	Minor	No
Mains Phase L2 Undervoltage	Enable	Minor	No
Mains Phase L3 Undervoltage	Enable	Minor	No
Mains Phase L1 Failure	Enable	Major	No
Mains Phase L2 Failure	Enable	Major	No
Mains Phase L3 Failure	Enable	Major	No
Mains L1-L2 Overvoltage	Enable	Minor	No
Mains L2-L3 Overvoltage	Enable	Minor	No
Mains L3-L1 Overvoltage	Enable	Minor	No
Mains L1-L2 Undervoltage	Enable	Minor	No
Mains L2-L3 Undervoltage	Enable	Minor	No
Mains L3-L1 Undervoltage	Enable	Minor	No
Mains Over Frequency	Enable	Major	No
Mains Under Frequency	Disable	Major	No

A.11 Water Sensor Alarm Table

Table A-11 Water Sensor Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Water Alarm	Enable	Critical	No

A.12 Humiture Sensor Alarm Table

Table A-12 Humiture Sensor Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
High Ambient Temperature	Enable	Minor	No
Low Ambient Temperature	Enable	Warning	No
Very High Ambient Temperature	Disable	Major	No
Ambient Temperature Sensor Missing	Enable	Warning	No
Ambient Temperature Sensor Fault	Enable	Major	No

A.13 Tem-Hum Alarm Table

Table A-13 Tem-Hum Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Minor	No
High Ambient Temperature	Enable	Minor	No
Low Ambient Temperature	Enable	Warning	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Very High Ambient Temperature	Enable	Major	No
High Ambient Humidity	Enable	Warning	No
Low Ambient Humidity	Enable	Warning	No

A.14 Tem_hum_group Alarm Table

Table A-14 Tem_hum_group Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Disable	Minor	No

A.15 Yada2060 Ammeter Alarm Table

Table A-15 Yada2060 Ammeter Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Minor	No
AC Failure	Enable	Minor	No
AC Phase Overvoltage	Enable	Minor	No
AC Phase Undervoltage	Enable	Minor	No
AC Phase Failure	Enable	Minor	No

A.16 Rectifier Alarm Table

Table A-16 Rectifier Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Rectifier Fault	Enable	Major	No
Rectifier Protection	Enable	Minor	No
Communication Failure	Enable	Minor	No
Rectifier Power Failure	Enable	Major	No
Rectifier Overvoltage	Enable	Major	No
Rectifier Hardware Address Abnormal	Enable	Major	No

A.17 Rectifier Group Alarm Table

Table A-17 Rectifier Group Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Rectifier Missing	Enable	Major	No
Insufficient Redundant Rectifiers	Disable	Warning	No
Rectifier Fault (Redundant)	Disable	Minor	No
Rectifier Fault (Non-redundant)	Disable	Major	No
Multi-Rectifier Fault	Enable	Major	No
All Rectifiers Fail to Communicate	Enable	Major	No
Rectifier Hibernation Activated	Disable	Warning	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
High Rectifier Capacity	Disable	Minor	No
Low Rectifier Capacity	Enable	Critical	No
Rectifier Upgrade Fault	Enable	Major	No
Not Config Rectifier Addr	Enable	Major	No

A.18 DC Energy Meter Alarm Table

Table A-18 DC Energy Meter Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Minor	No

A.19 Int. AirCon Alarm Table

Table A-19 Int. AirCon Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Internal Fan Fault	Enable	Major	No
External Fan Fault	Enable	Major	No
Compressor Fault	Enable	Major	No
Cabinet Return Air Temperature Sensor Fault	Enable	Minor	No
Evaporator Frozen	Enable	Major	No
Frequent High Pressure	Enable	Major	No
Communication Failure	Enable	Major	No
Air Conditioner High Temperature	Enable	Major	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Frequent Low Pressure	Enable	Major	No
A/C Run Abnormal	Enable	Minor	No
Compressor Current Exception	Enable	Minor	No
AC Input Abnormal	Enable	Major	No
AC Failure	Enable	Major	No
AC Overvoltage	Enable	Major	No
AC Undervoltage	Enable	Major	No
Nonautomatic Mode Alarm	Enable	Major	No
Air Conditioner On	Disable	Warning	No
Air Conditioner OFF	Disable	Warning	No
Door Open Alarm	Disable	Major	No
External Fan Alarm	Disable	Major	No

B Acronyms and Abbreviations

C	
CAN	Control area network
I	
IP	Internet Protocol
S	
SNMP	Simple Network Management Protocol
SMU	Site monitoring unit
U	
UI	User interface