SMU11B Site Monitoring Unit
V500R003C00

User Manual

Issue	03
Date	2022-06-06

HUAWEI

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Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: https://e.huawei.com

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 03 (2022-06-06)

Updated **Figure 1-2**, **Table 1-4**.

Issue 02 (2020-08-12)

Updated **Table 1-3**

Issue 01 (2020-02-28)

This is the first official release.

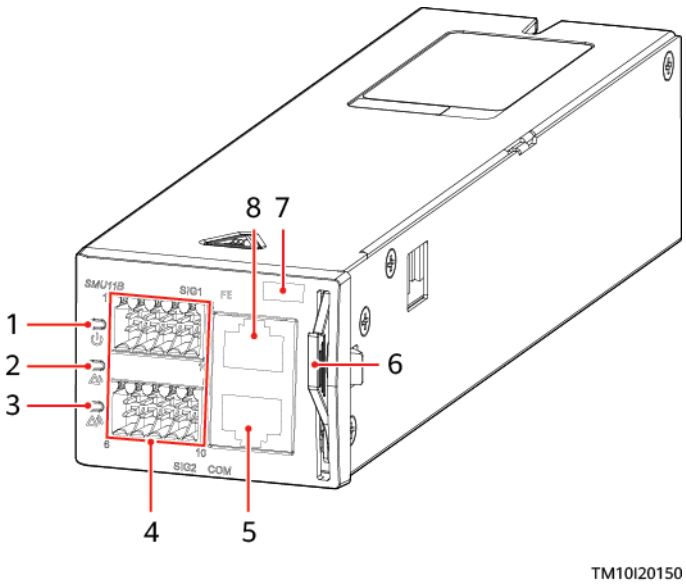
Contents

1 Description of Components

1.1 Monitoring Module SMU11B

Appearance

Figure 1-1 SMU11B appearance



(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

Indicator

Table 1-1 Indicators on the panel

Term	Color	Status	Description
Running indicator	Green	Steady off	The SMU is faulty or has no power input.
		Blinking slowly (0.5 Hz)	The SMU is running properly 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	Steady off	No minor or warning alarm is generated.
		Steady on	A minor or warning alarm is generated.
Major alarm indicator	Red	Steady off	No critical or major alarm is generated.
		Steady on	A critical or major alarm is generated.

Wiring Terminals

Figure 1-2 Wiring terminals

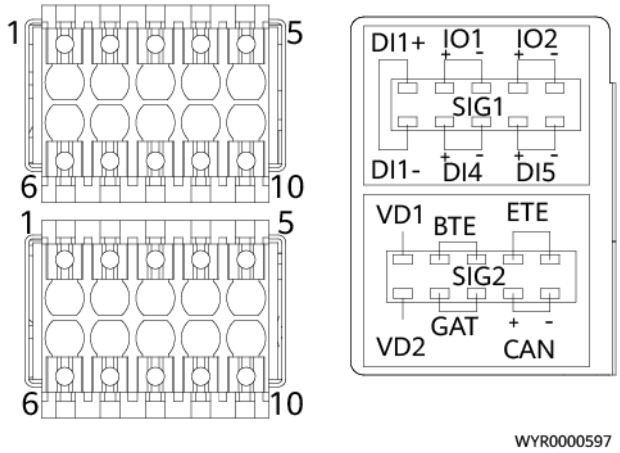


Table 1-2 Pin definitions for SIG1 wiring terminals

Pin	Signal	Description
1	DI1+	Dry contact input
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	DI4+	Dry contact input
8	DI4-	
9	DI5+	
10	DI5-	

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

Pin	Signal	Description
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.
		-	Provides 12 V power supply for external devices.
FE	10/100 M autonegotiation	SNMP protocols	Connects to a third-party management system.
		HTTPS protocols	Connects to a PC and manages the SMU through the WebUI.
NOTE All these ports are protected by a security mechanism.			

Figure 1-3 Pins in the COM port

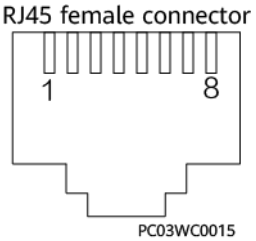


Table 1-5 Pin definitions for the COM port

Pin	Signal	Description
1	RS485+	RS485 data +
2	RS485-	RS485 data –
3	12V	Power supply
4	RS485+	RS485 data +
5	RS485-	RS485 data –
6	SCL	I^2C clock
7	SDA	I^2C data
8	GND	Grounding

Figure 1-4 Pins in the FE port

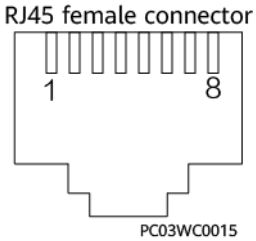


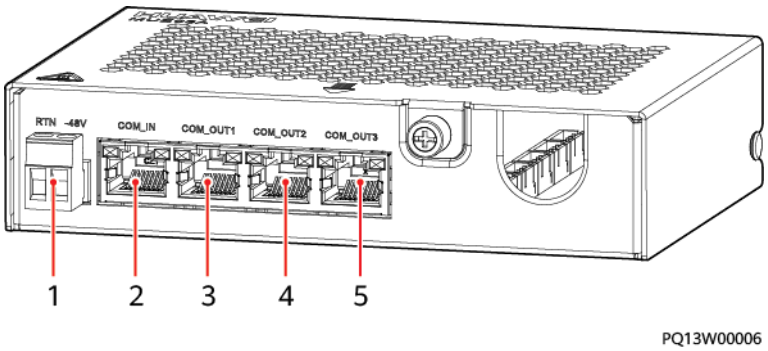
Table 1-6 Pin definitions for the FE port

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



(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			

Communications Port	Communications Parameter	Communications Protocol	Function
NOTE All these ports are protected by a security mechanism.			

Figure 1-6 Pins in the COM port

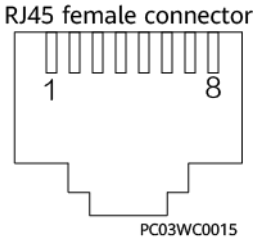


Table 1-9 Pin definitions for the COM_IN port

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	I^2C_SCL	I^2C clock signal
7	I^2C_SDA	I^2C 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)

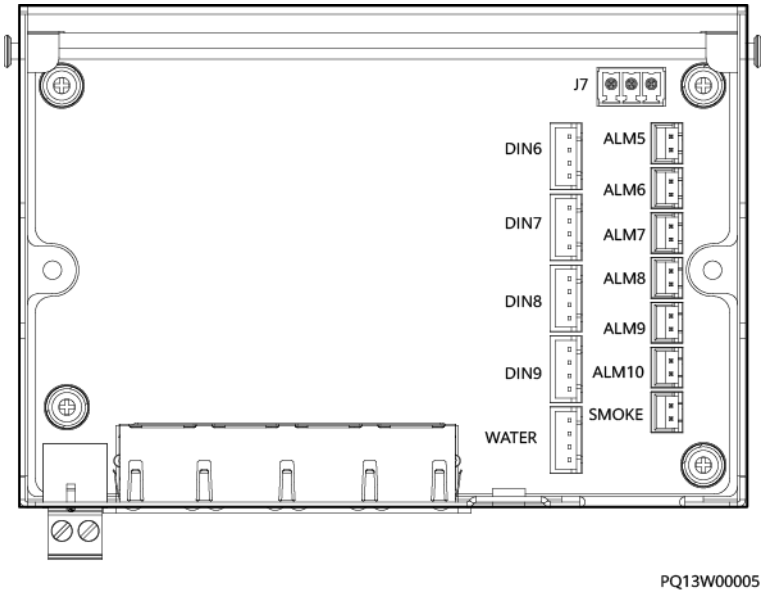


Figure 1-8 DIN and WATER pins

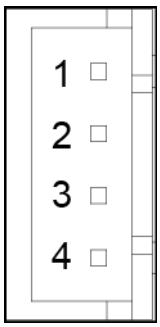


Table 1-11 DIN and WATER pin definitions

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

Terminal	Pin	Signal	Description
	3	GND	Grounding (PE)
	4	–	–

Figure 1-9 ALM and SMOKE pins

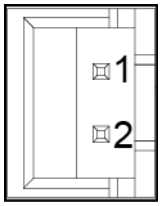


Table 1-12 ALM and SMOKE pin definitions

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

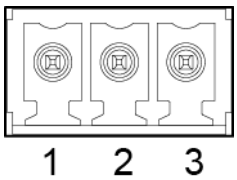


Table 1-13 J7 pin definitions

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

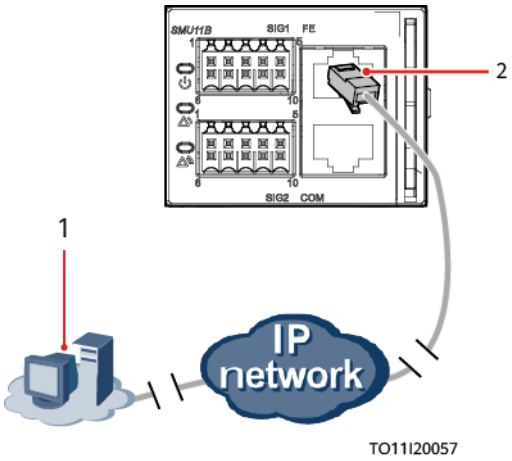
2 User Interface

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

Procedure

Step 1 Set the PC IP address in the same network segment as the SMU IP address.

For example, if the SMU has an IP address of 192.168.0.10, a subnet mask of 255.255.255.0, and a default gateway of 192.168.0.1, set the IP address to

192.168.0.11, subnet mask to 255.255.255.0, and default gateway to 192.168.0.1 on the PC.

Step 2 Enter **https://monitoring unit local IP address** (for example, https://192.168.0.10) in the address box of the browser, and then press **Enter** to access the WebUI login page.

Figure 2-2 WebUI login page

NOTE

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

----End

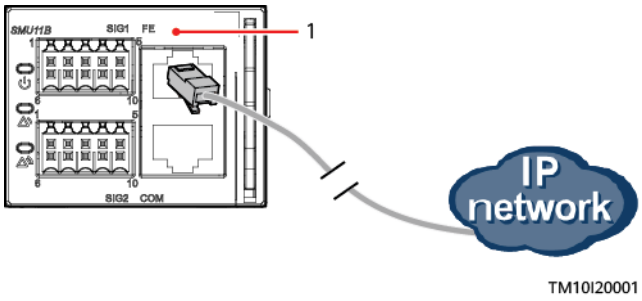
3 NMS Management

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 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

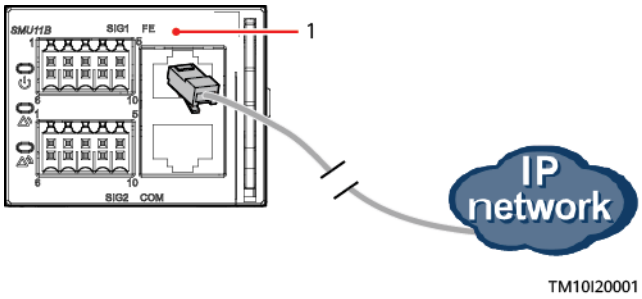
3.2 NMS Management over SNMP

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

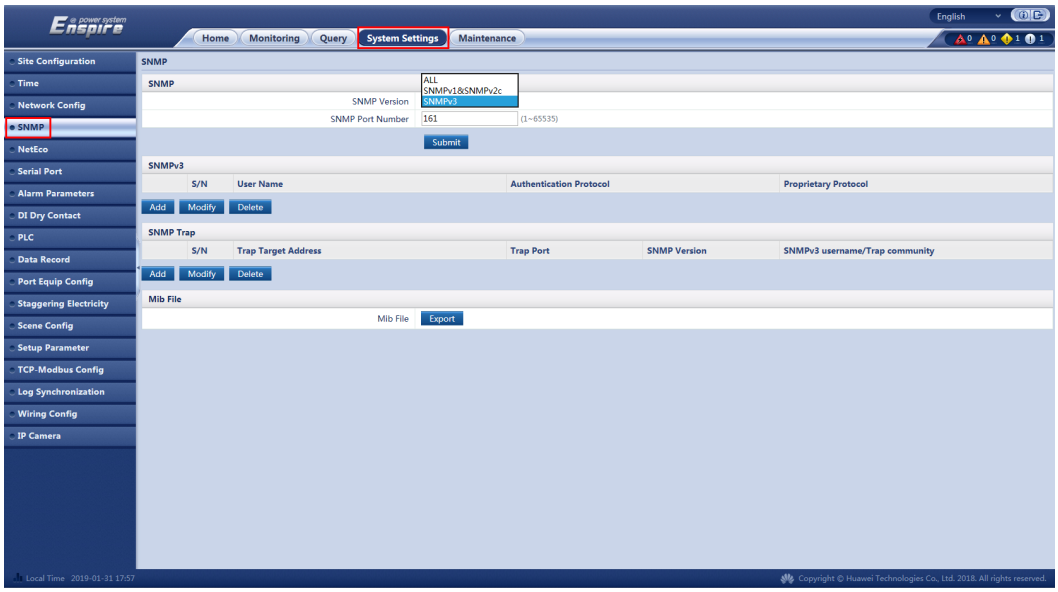
Step 1 Log in to the WebUI.

NOTE

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

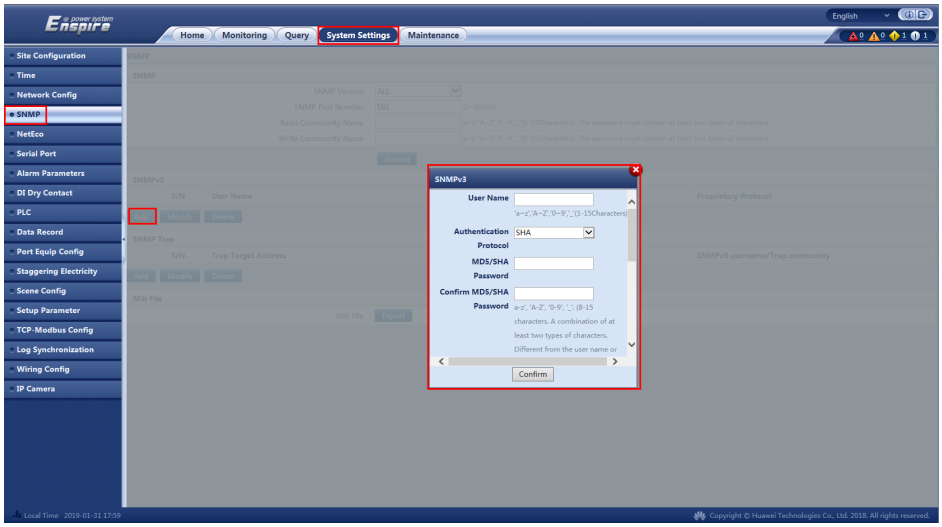
Step 2 Access the **System Settings** page and set **SNMP.**

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

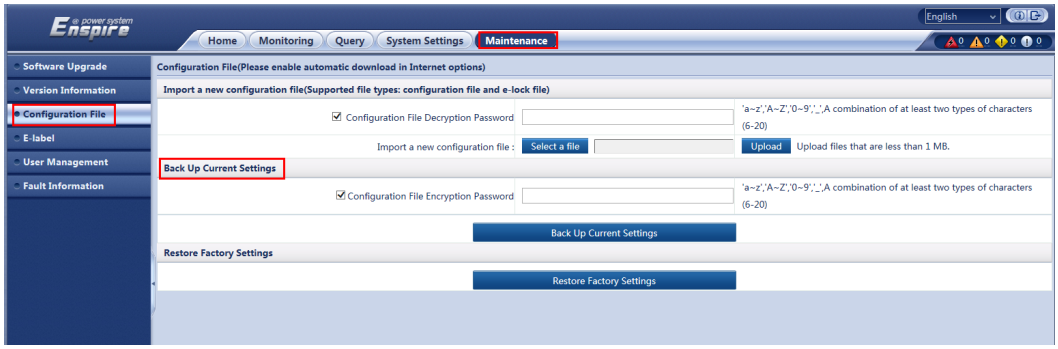
The configuration file contains all user configuration information (such as parameter values and alarm configurations) about the current system.

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.

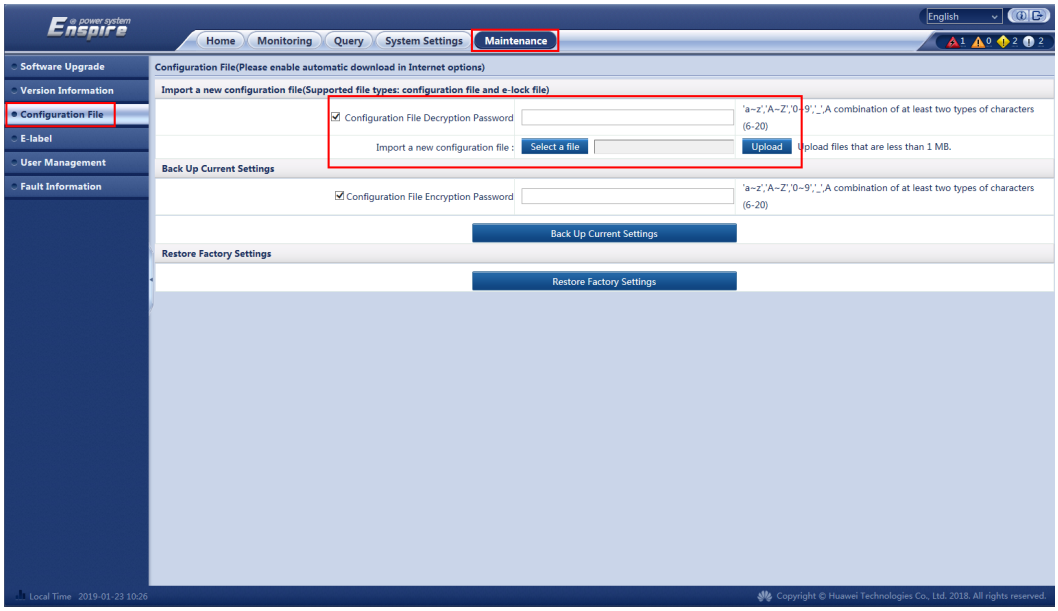
Figure 4-1 Backing up current settings



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.

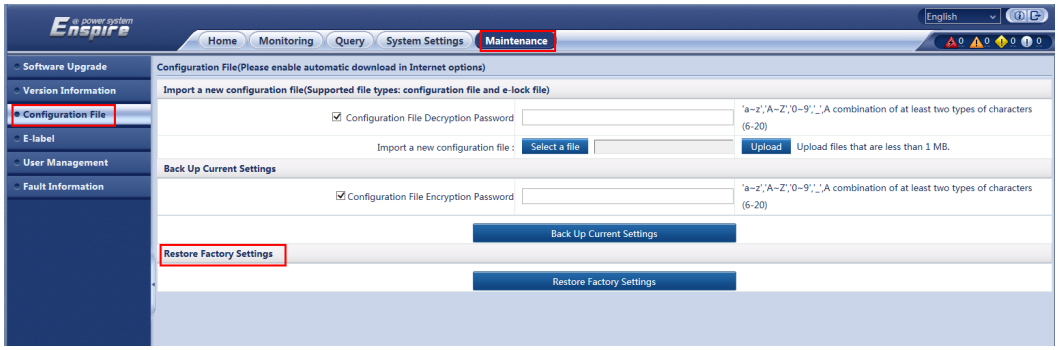
4.3 Restoring Factory Defaults

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



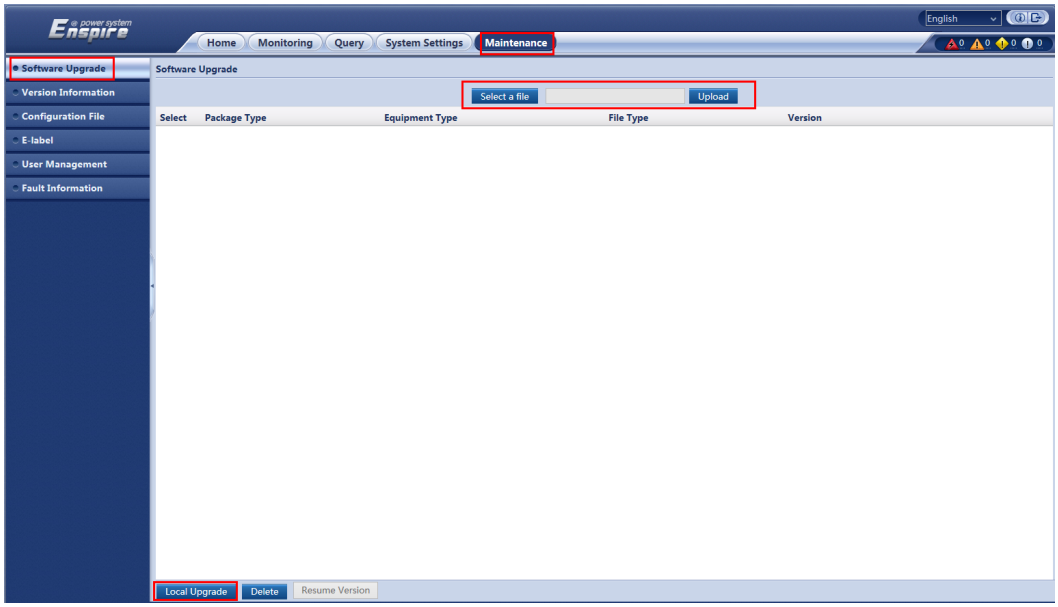
4.4 Upgrading Software

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

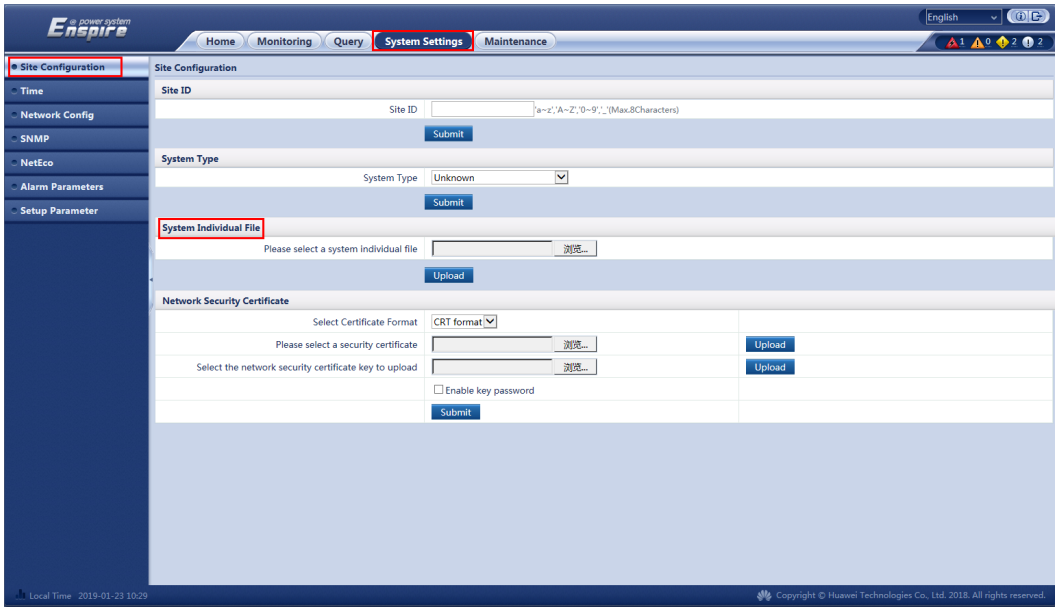


4.5 Importing an Individual File

The SMU restarts after an individual file is imported.

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

Figure 4-5 Importing an individual file



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

----End

4.6 Changing Password

Context

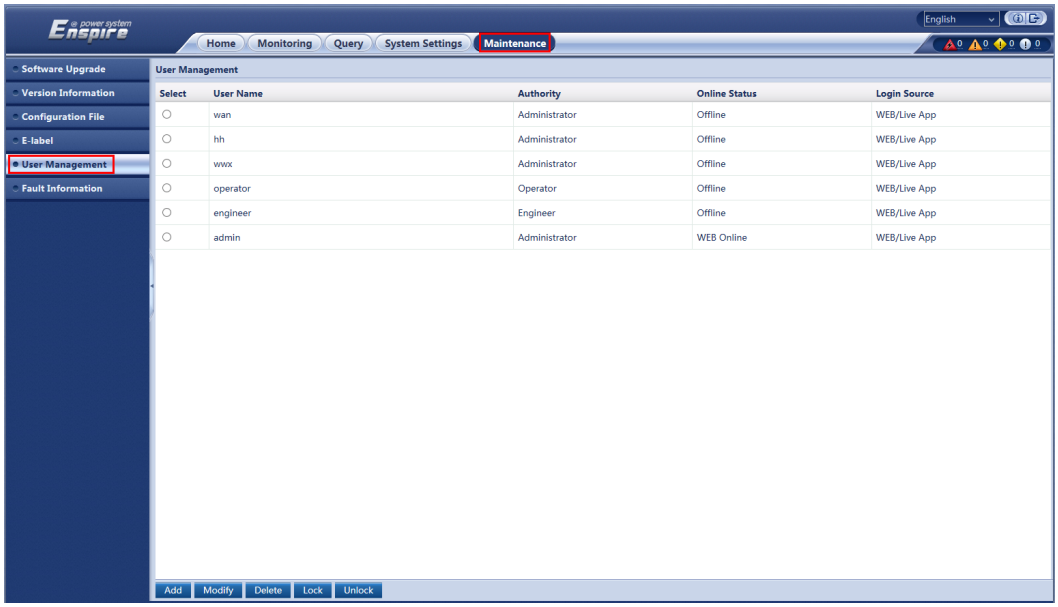
For security purposes, change your password periodically.

Only the system administrator can change user passwords.

Changing a User Password

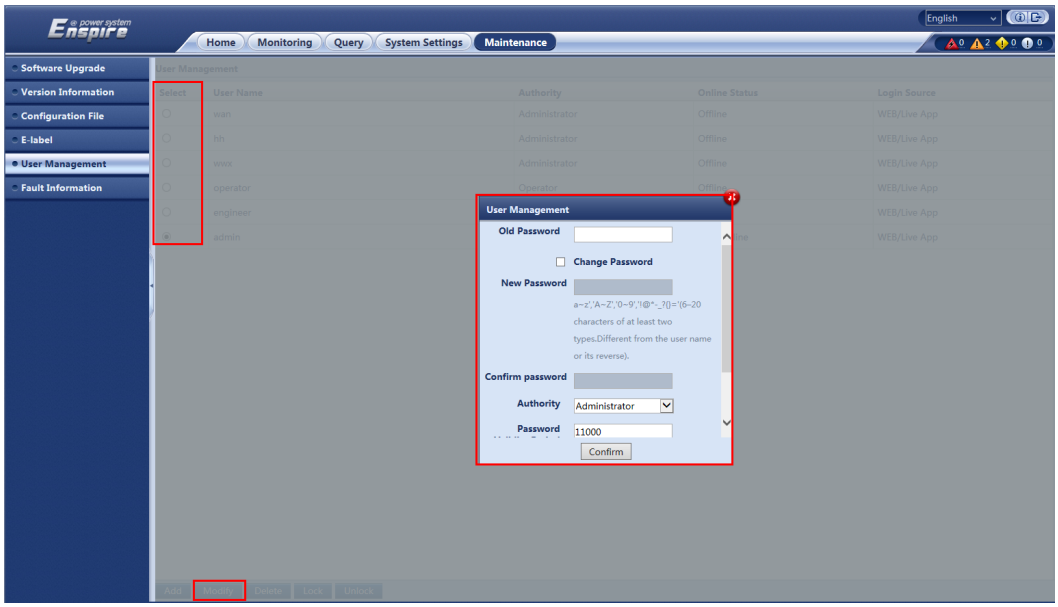
Step 1 Log in to the WebUI and choose **Maintenance** > **User Management**. The user management page is displayed.

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

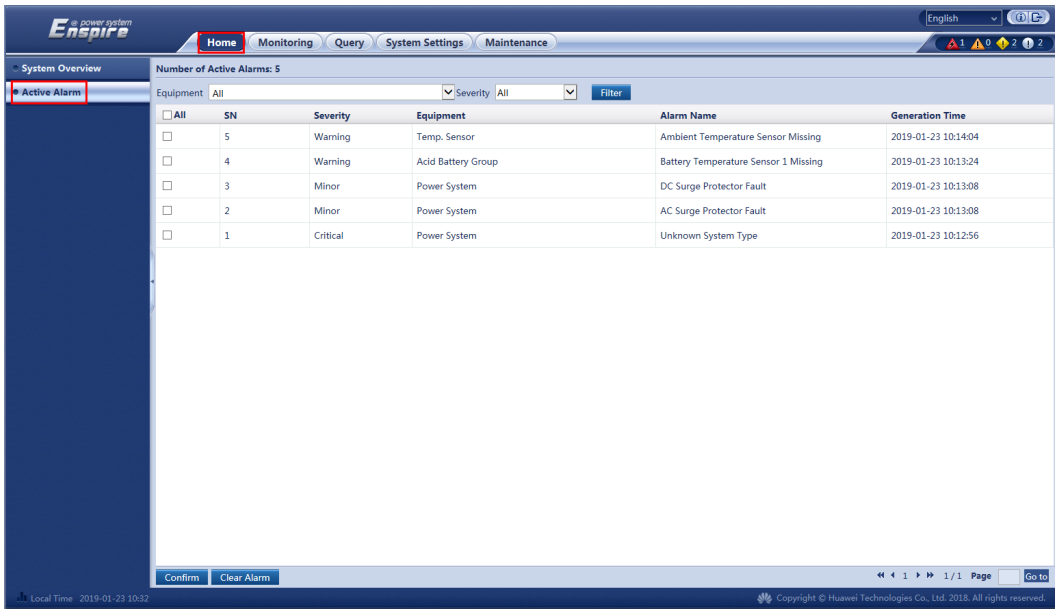
NOTICE

- 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: **System Settings** > **Network Settings** > **WIFI**.

4.7 Viewing Active Alarms

Figure 4-8 Viewing active alarms



4.8 Viewing Historical Alarms

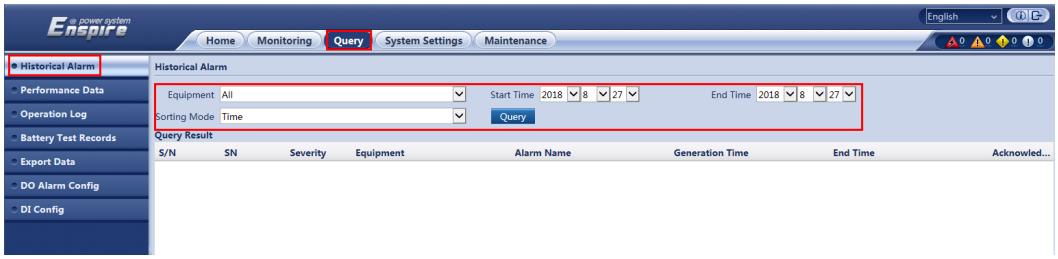
Prerequisites

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

Procedure

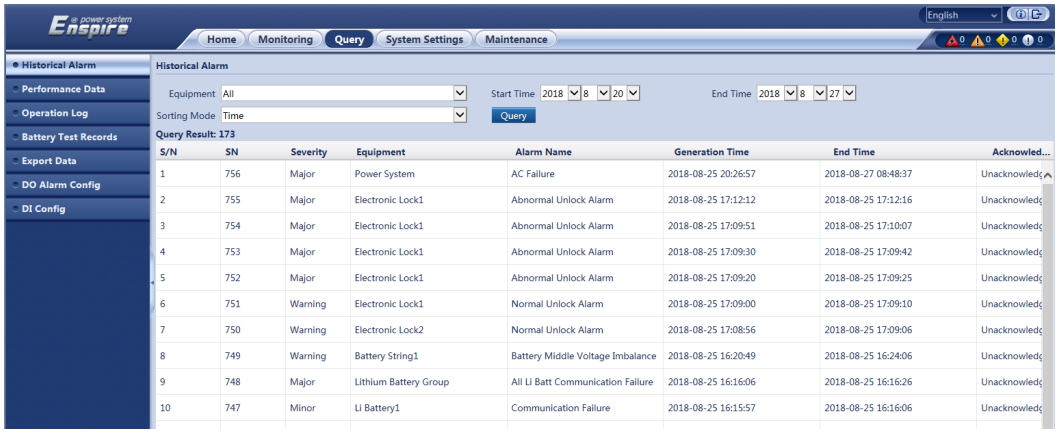
Step 1 Filter out historical alarms.

Figure 4-9 Filtering out historical alarms



Step 2 View historical alarms.

Figure 4-10 Viewing historical alarms

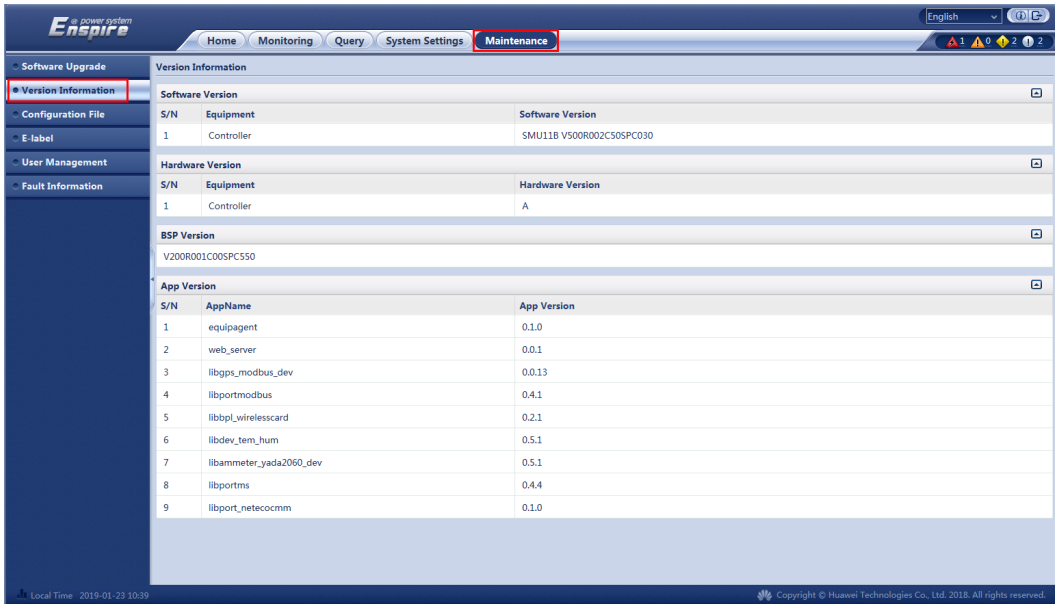


----End

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

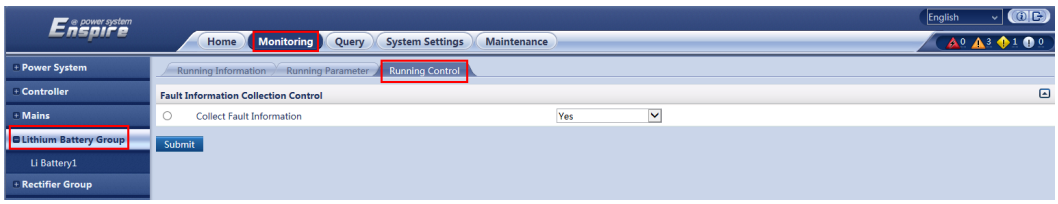
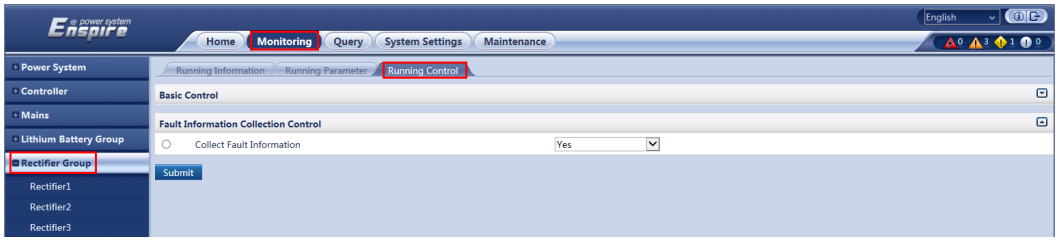


Figure 4-13 Collecting fault information about the rectifier module



4.11 Exporting Maintenance Information

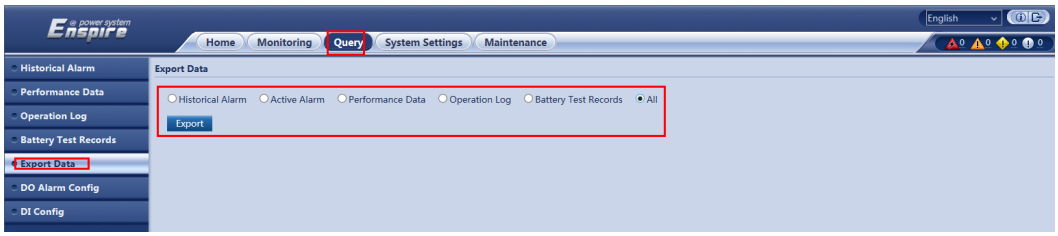
Context

- 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

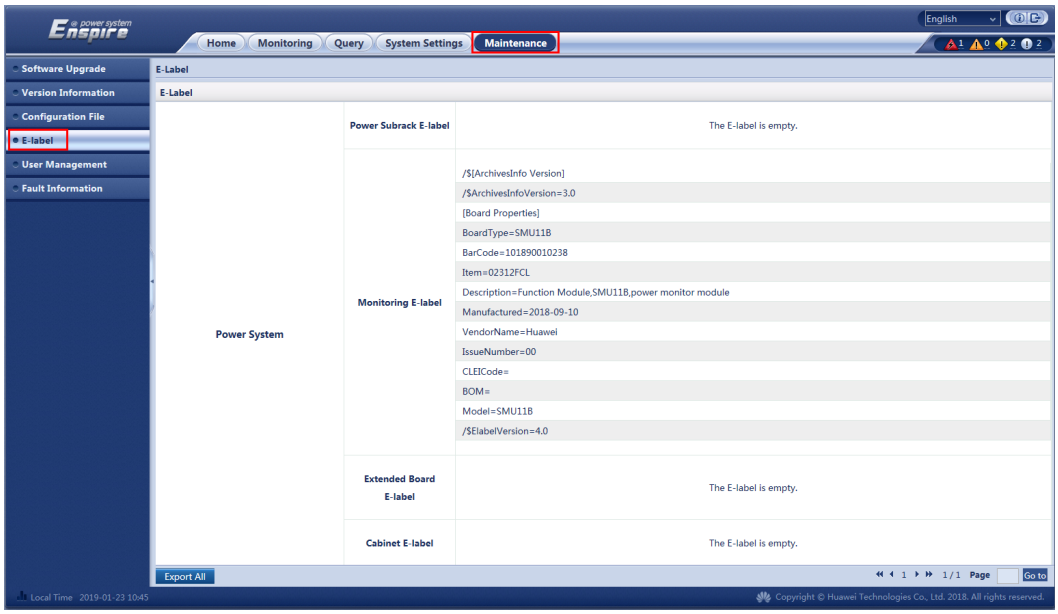
Step 1 Export historical data.

Figure 4-14 Exporting historical data



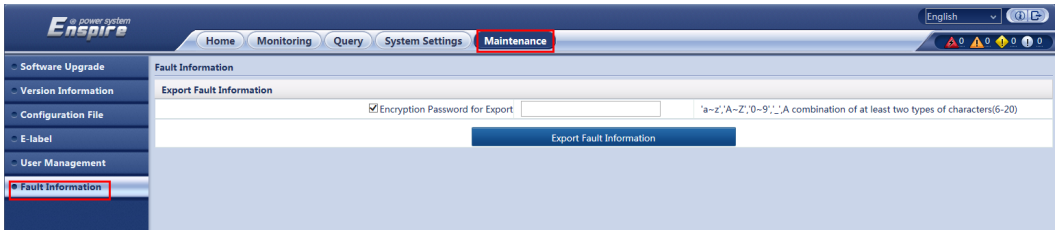
Step 2 Export e-label information.

Figure 4-15 Exporting e-label information



Step 3 Export fault information.

Figure 4-16 Exporting fault information



----End

5 Installing a Cable for the Expansion Box

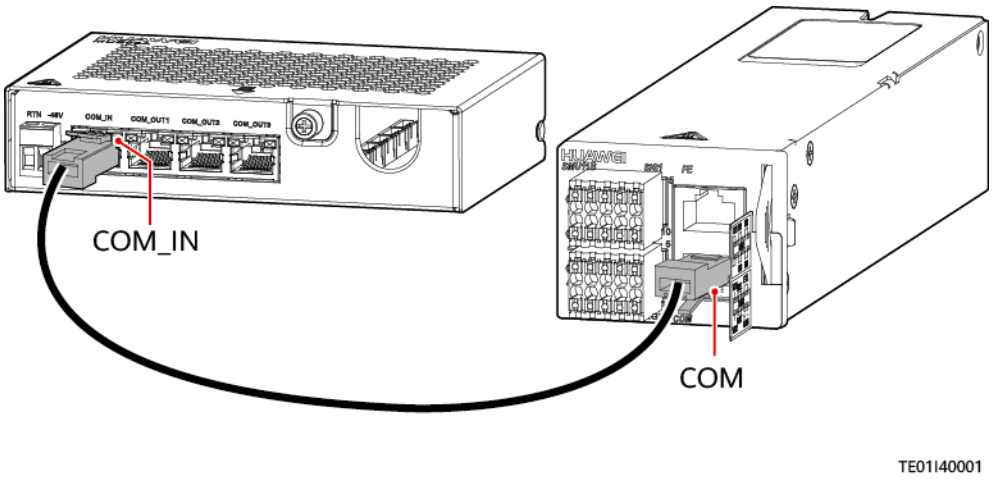
Prerequisites

If an expansion box is required, perform the following steps to install the cable.

Procedure

Step 1 Connect one end of a communications cable to the COM_IN port on the expansion box, and connect the other end to the COM port on the SMU.

Figure 5-1 Installing a cable for the expansion box



NOTE

Ensure that the expansion box side with holes does not face downwards.

----End

6 Replacing an SMU11B

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.

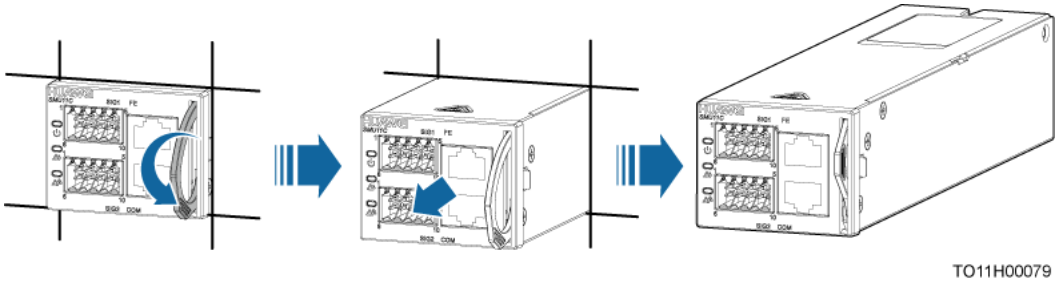
Procedure

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.

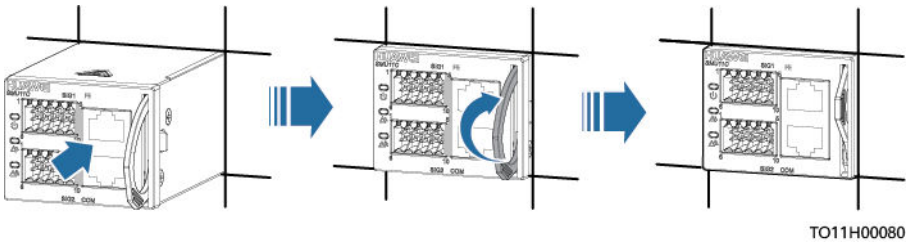
Figure 6-1 Removing the old monitoring module



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 6-2 Installing a new monitoring module



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 ibox Alarm Table

Table A-2 ibox Alarm Settings

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

A.3 TCUC Alarm Table

Table A-3 TCUC Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Air Exhaust Vent Temperature Sensor Fault	Enable	Major	No
Air Intake Vent Temperature Sensor Fault	Enable	Major	No
EXTFAN1 Fault	Enable	Major	No
EXTFAN2 Fault	Enable	Major	No
INFAN1 Fault	Enable	Major	No
INFAN2 Fault	Enable	Major	No
INFAN3 Fault	Enable	Major	No
INFAN4 Fault	Enable	Major	No
Air Exhaust Vent Overtemperature Alarm	Enable	Critical	No
Air Exhaust Vent Undertemperature Alarm	Enable	Warning	No
Air Intake Vent Overtemperature Alarm	Enable	Critical	No
Air Intake Vent Undertemperature Alarm	Enable	Warning	No
TEC Cooler Fault	Enable	Major	No
Door Open Alarm	Enable	Minor	No
Smoke Alarm	Enable	Critical	No
Water Alarm	Enable	Critical	No
Reserved IN0 Alarm	Enable	Minor	No
Reserved IN1 Alarm	Enable	Minor	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery String 1 Cell1 Imbalance	Enable	Warning	No
Battery String 1 Cell2 Imbalance	Enable	Warning	No
Battery String 1 Cell3 Imbalance	Enable	Warning	No
Battery String 1 Cell4 Imbalance	Enable	Warning	No
Battery String 2 Cell1 Imbalance	Enable	Warning	No
Battery String 2 Cell2 Imbalance	Enable	Warning	No
Battery String 2 Cell3 Imbalance	Enable	Warning	No
Battery String 2 Cell4 Imbalance	Enable	Warning	No
Battery String 3 Cell1 Imbalance	Enable	Warning	No
Battery String 3 Cell2 Imbalance	Enable	Warning	No
Battery String 3 Cell3 Imbalance	Enable	Warning	No
Battery String 3 Cell4 Imbalance	Enable	Warning	No
Battery String 4 Cell1 Imbalance	Enable	Warning	No
Battery String 4 Cell2 Imbalance	Enable	Warning	No
Battery String 4 Cell3 Imbalance	Enable	Warning	No
Battery String 4 Cell4 Imbalance	Enable	Warning	No
Communication Failure	Enable	Minor	No
Battery String 1 Mid-Point Imbalance	Enable	Warning	No

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery String 2 Mid-Point Imbalance	Enable	Warning	No
Battery String 3 Mid-Point Imbalance	Enable	Warning	No
Battery String 4 Mid-Point Imbalance	Enable	Warning	No
Return Vent Temperature Sensor Fault	Enable	Major	No
Return Vent Overtemperature Alarm	Enable	Critical	No
Return Vent Undertemperature Alarm	Enable	Warning	No
Battery Missing	Disable	Major	No
Battery String 1 Missing	Enable	Major	No
Battery String 2 Missing	Enable	Major	No
Battery String 3 Missing	Enable	Major	No
Battery String 4 Missing	Enable	Major	No
Infra Sensor Alm	Enable	Major	No
Heater Fault Alm	Enable	Major	No
Equip Fault	Enable	Minor	No
Emergency Ventilation Start	Enable	Warning	No
Motor1 Abnormal Alarm	Enable	Major	No
Motor2 Abnormal Alarm	Enable	Major	No

A.4 Battery String Alarm Table

Table A-4 Battery String Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Battery Fuse Break	Enable	Critical	No
Battery Middle Voltage Imbalance	Enable	Warning	No
Battery Missing	Enable	Major	No
SOH Low	Enable	Major	No
SOH Warning	Enable	Minor	No

A.5 Power System Alarm Table

Table A-5 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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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
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
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
LLVD Warning	Enable	Major	No
LLVD Disconnected	Enable	Major	No
LLVD Low Voltage Disconnected	Enable	Critical	No
LLVD Manual Disconnected	Enable	Major	No
LLVD High Temperature Disconnected	Enable	Major	No
LLVD Timed Disconnected	Enable	Major	No
LLVD2 Warning	Enable	Major	No
LLVD2 Disconnected	Enable	Major	No
LLVD2 Low Voltage Disconnected	Enable	Critical	No
LLVD2 Manual Disconnected	Enable	Major	No
LLVD2 High Temperature Disconnected	Enable	Major	No
LLVD2 Timed Disconnected	Enable	Major	No

A.6 Electronic Lock Alarm Table

Table A-6 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.7 Controller Alarm Table

Table A-7 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
Certs Invalid	Enable	Major	No
Certs Pre Overtime	Enable	Major	No
Certs Overtime	Enable	Major	No

A.8 Li Battery Alarm Table

Table A-8 Li Battery Alarm Settings

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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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
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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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
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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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.9 Lithium Battery Group Alarm Table

Table A-9 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
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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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.10 Door Sensor Alarm Table

Table A-10 Door Sensor Alarm Settings

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

A.11 Acid Battery Group Alarm Table

Table A-11 Acid Battery Group Alarm Settings

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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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
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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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.12 Camera Alarm Table

Table A-12 Camera Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Communication Failure	Enable	Major	No
Motion Detection Alarm	Enable	Minor	No

A.13 Mains Alarm Table

Table A-13 Mains Alarm Settings

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

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

A.14 Water Sensor Alarm Table

Table A-14 Water Sensor Alarm Settings

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

A.15 Temperature Control Group Alarm Table

Table A-15 Temperature Control Group Alarm Settings

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Indoor Return Vent Temperature Sensor Missing	Enable	Major	No
Outdoor Temperature Sensor Missing	Enable	Warning	No
Indoor Return Vent Temperature Sensor Fault	Enable	Major	No
Outdoor Temperature Sensor Fault	Enable	Warning	No
Indoor Vent High Temperature	Enable	Critical	No
System Noise Too Loud	Disable	Major	No
Indoor Vent High Temperature	Enable	Major	No

A.16 Humiture Sensor Alarm Table

Table A-16 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.17 Tem-Hum Alarm Table

Table A-17 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
Very High Ambient Temperature	Enable	Major	No
High Ambient Humidity	Enable	Warning	No
Low Ambient Humidity	Enable	Warning	No

A.18 Tem_hum_group Alarm Table

Table A-18 Tem_hum_group Alarm Settings

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

A.19 Yada2060 Ammeter Alarm Table

Table A-19 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.20 Rectifier Alarm Table

Table A-20 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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
Rectifier Hardware Address Abnormal	Enable	Major	No

A.21 Rectifier Group Alarm Table

Table A-21 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
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.22 DC Energy Meter Alarm Table

Table A-22 DC Energy Meter Alarm Settings

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

A.23 Int. AirCon Alarm Table

Table A-23 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
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

WebUI Alarm	Alarm Enabled	Alarm Severity	Relay
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

