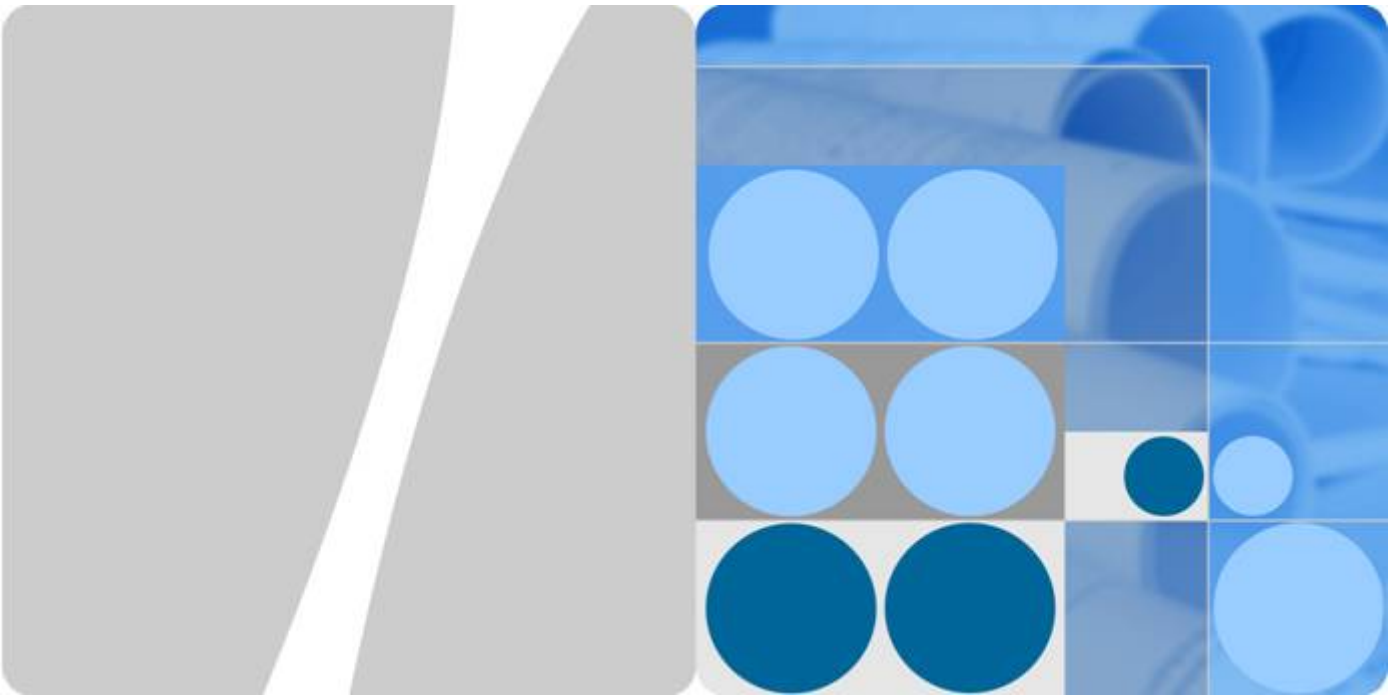

eBIMS

V100R002C00

Product Installation Guide

Issue 02

Date 2015-01-09

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1 Overview

About This Chapter

About This Chapter

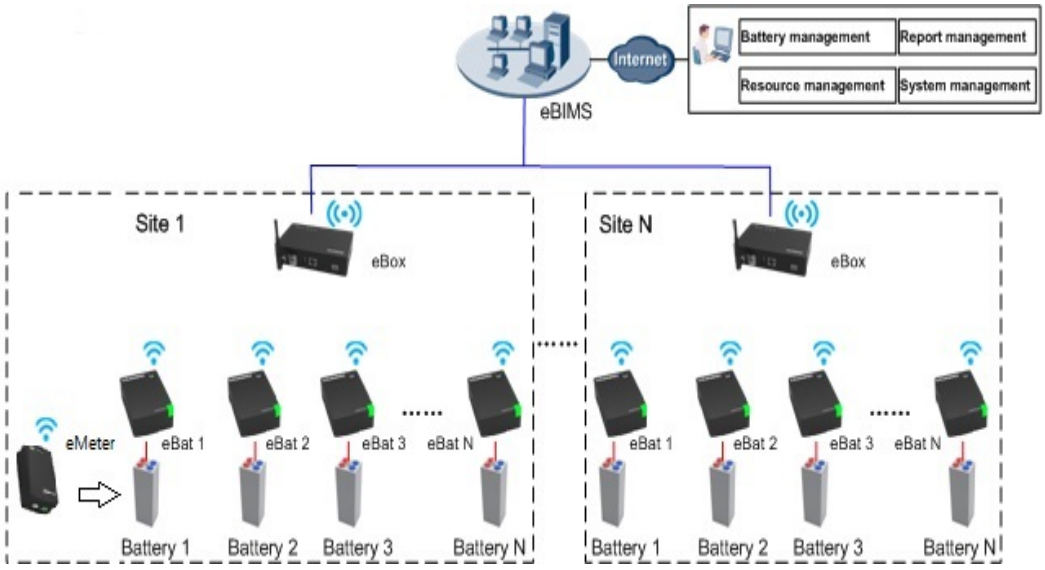
This chapter describes the battery intelligent management system (eBIMS) in terms of its installation networking, safety precautions, installation scenarios, and installation process.

1.1 Networking

This section describes the eBIMS networking.

Figure 1-1 shows the eBIMS networking.

Figure 1-1 eBIMS networking



Networking description:

- The eBIMS consists of monitoring software, its auxiliary facilities, and information collection hardware. The monitoring software refers to the eBIMS software installed on the server. The information collection hardware includes eBoxes, eBats and eMeters.
- One eBox can manage a maximum of 250 wireless sensors simultaneously. An eBox collects information, such as battery temperature, voltage, and resistance, that monitored by eBats by means of wireless connection, and sends the information to the eBIMS software.
- One battery connects to one eBat.
- One battery string connects to one eMeter.
- You can log in to the server from a client to manage batteries, resources, the system, and reports.

1.2 Safety Precautions

This section describes the safety precautions to be taken when you install, operate, and maintain Huawei equipment.

1.2.1 General Safety Precautions

This section describes general safety precautions to be taken when you install and maintain the eBIMS.

Overview

To ensure safety of humans and the equipment, pay attention to the safety symbols on the equipment and all the safety instructions in this document. The **CAUTION**, **WARNING**, and **DANGER** marks in this document do not represent all the safety instructions. They are only supplements to the safety instructions.

Local Safety Regulations

When operating Huawei equipment, you must follow the local laws and regulations. The safety instructions in this document are only supplements to the local laws and regulations.

Personal Requirements

Only trained and qualified personnel are allowed to perform operations.

- Only trained and qualified personnel are allowed to install, operate, and maintain the equipment.
- Only trained and qualified personnel are allowed to remove safety facilities and inspect the equipment.
- Only personnel certified or authorized by Huawei are allowed to replace or change the equipment or components (including software).
- Installation personnel must report faults or errors that might cause serious security issues to related owners.

Human Safety

- Never operate the equipment or touch the cables in the case of a thunderstorm.
- To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telecommunication network voltage (TNV) circuits.
- Before operating a device, wear electrostatic discharge (ESD) clothes, ESD gloves, and an ESD wrist strap. Do not wear jewelry or watches when you operate the device.
- In the case of fire, immediately leave the building or the equipment room, and turn on the fire alarm bell or make an emergency call. Never enter the building on fire in any case.

Equipment Safety

- Before operation, ensure that the equipment is firmly anchored to the floor or other solid objects, such as a wall or an installation rack.
- Never block the air vent when the system is running.
- When installing a panel, use tools to tighten the screws.
- After the installation, remove the packing materials from the equipment area.

Moving Heavy Objects

- Wear protective gloves when moving heavy objects.

- Be careful to prevent injury when moving heavy objects.
- At least two persons are required to move a battery. When lifting it, keep your back straight and move smoothly to avoid injury.

1.2.2 Battery

This section describes the precautions to be taken when you operate batteries.

DANGER

Before operating batteries, carefully read the safety precautions for battery handling and connection.

- Incorrect handling of batteries causes hazards. When operating batteries, avoid battery short circuits and electrolyte overflow or leakage.
- Electrolyte overflow may damage the device. It will corrode metal parts and circuit boards, and ultimately damage the device and cause short circuit of circuit boards.
- Because storage batteries have high power, short circuits caused by incorrect operations may cause serious injuries.

Preventative Measures

When installing and maintaining batteries, pay attention to the following points:

- Use special insulating tools.
- Take care to protect your eyes when operating batteries.
- Wear rubber gloves and a protective coat in case of electrolyte overflow.
- When handling a battery, ensure that its electrodes are upward. Leaning or reversing the battery is prohibited.
- Switch off the power supply during installation and maintenance.
- Open the circuit breaker contacts of the battery group before installing the eBat.
- Close the circuit breaker contacts of the battery group after the eBat is successfully installed.

Short Circuit

DANGER

Battery short circuit may cause human injuries. Although the voltage of ordinary batteries is low, the instantaneous high current caused by the short circuit releases a great deal of energy.

Prevent battery short circuits that are caused by metal objects. If metal objects must be used, first disconnect the batteries in use before performing any other operations.

Harmful Gas

Do not use unsealed lead-acid batteries. Place and secure lead-acid batteries horizontally to prevent inflammation or device corrosion due to flammable gas emitted from batteries.

The lead-acid batteries in use may emit flammable gas. Therefore, store the batteries in a place with good ventilation, and take precautions against fire.

Battery temperature

High temperature may result in battery distortion, damage, and electrolyte overflow.

When the temperature of the battery is higher than 60°C, check the battery for electrolyte overflow. If the electrolyte overflows, absorb and counteract the electrolyte immediately.

Acid leakage

In the case of electrolyte leaks, counteract and absorb the leaking electrolyte immediately.

When moving or handling a storage battery whose electrolyte leaks, note that the leaking electrolyte may hurt human bodies. When you find the electrolyte leaks, use the following substances to counteract and absorb the leaking electrolyte:

- Sodium bicarbonate (baking soda): $NaHCO_3$
- Sodium carbonate (soda): Na_2CO_3

When using substances to counteract and absorb electrolytes, strictly follow the guidelines provided by the battery supplier.

If your body meets the acid, wash the part that has met the acid with clean water immediately, or immediately call a doctor if the situation is serious.

1.3 Unpacking and Acceptance

After devices are delivered to the installation site, lay the packing cases neatly, and check the devices on the presence of both the project supervisor and customer.

Operation Scenario

After the devices are delivered to the installation site, check that all the items are intact and comply with the packing list on the presence of both the project supervisor and customer.

NOTE

- When transporting and moving the devices, components, or parts, protect them against collision with doors, walls, or shelves.
- Never touch the uncoated surface of parts or components with sweat-soaked or dirty gloves.
- To protect the devices and help cause identification, store the unpacked devices and packing materials indoors. Take photos of the storage site, rusty or corroded devices, packing boxes, and packing materials, and keep the photos for future use.

Procedure

1. Check that the number of accepted items is the same as the number of items described in the *Packing List* and that the destination address is the address of the installation site.
2. Check that the packing case is intact.
   - If the outer surface of a packing case is damaged or soaked, or the devices inside are soaked or rusty, stop unpacking the devices and find the reasons. Provide the feedback to the local office of Huawei.
   - If the devices are in good condition, unpack and accept the devices.
3. Use a knife to cut the tape along the seams of the carton cover, and check the number and types of devices in the packing box against the packing list.
4. Unpack the carton labeled "Contain Packing List" and take out the *Packing List*.
5. Check all devices against the packing list.
   - If shortage or miscarriage occurs, fill in the *Cargo Shortage and Miscarriage Report*.
   - If cargo damage occurs, fill in the *Cargo Replacement Application Form*.
6. Sign on the *Packing List* with the customer after verifying that all required items are delivered.
7. Store the devices properly.

1.4 Installation Scenario

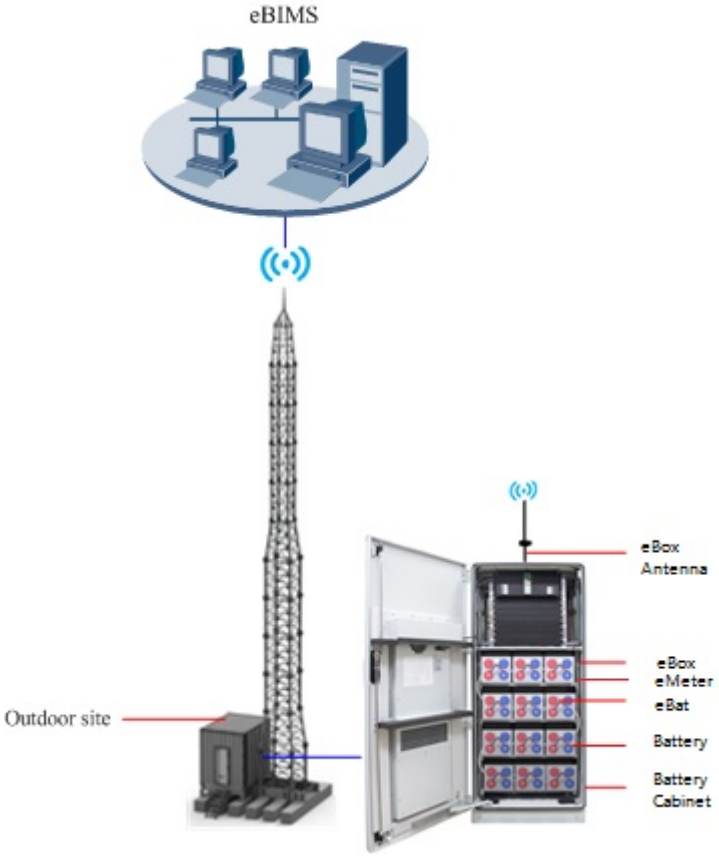
The eBIMS can be deployed inside an outdoor cabinet or indoor equipment room. An equipment room can be a data center power battery room or a site equipment room.

Deployment Inside an Outdoor Cabinet

- Battery: deployed in battery cabinets.
- eBat: deployed in battery cabinets. Install one eBat for one Battery.
- eBox: deployed in battery cabinets. Install one eBox for one battery cabinet.
- eMeter: deployed in battery cabinets. Install one eMeber for one battery string.
- eBIMS: installed on the server.

Figure 1-2 shows the eBIMS deployed inside an outdoor cabinet.

Figure 1-2 Deployment inside an outdoor cabinet

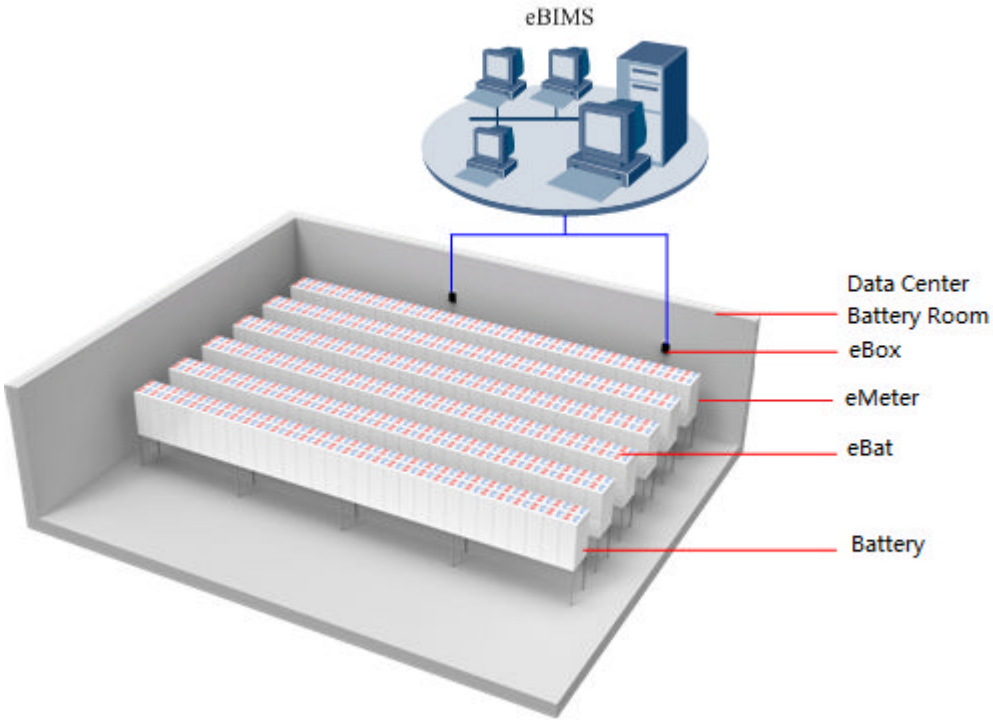


Deployment Inside a Data Center Battery Room

- Battery: deployed in the indoor equipment room.
- eBat: deployed on batteries. Install one eBat for one battery.
- eMeter: deployed for each one of battery strings.
- eBox: deployed in the indoor equipment room. One eBox can manage a maximum of 250 wireless sensors.
- eBIMS: installed on the server.

Figure 1-3 shows the eBIMS installed inside a data center battery room.

Figure 1-3 Deployment inside a data center battery room

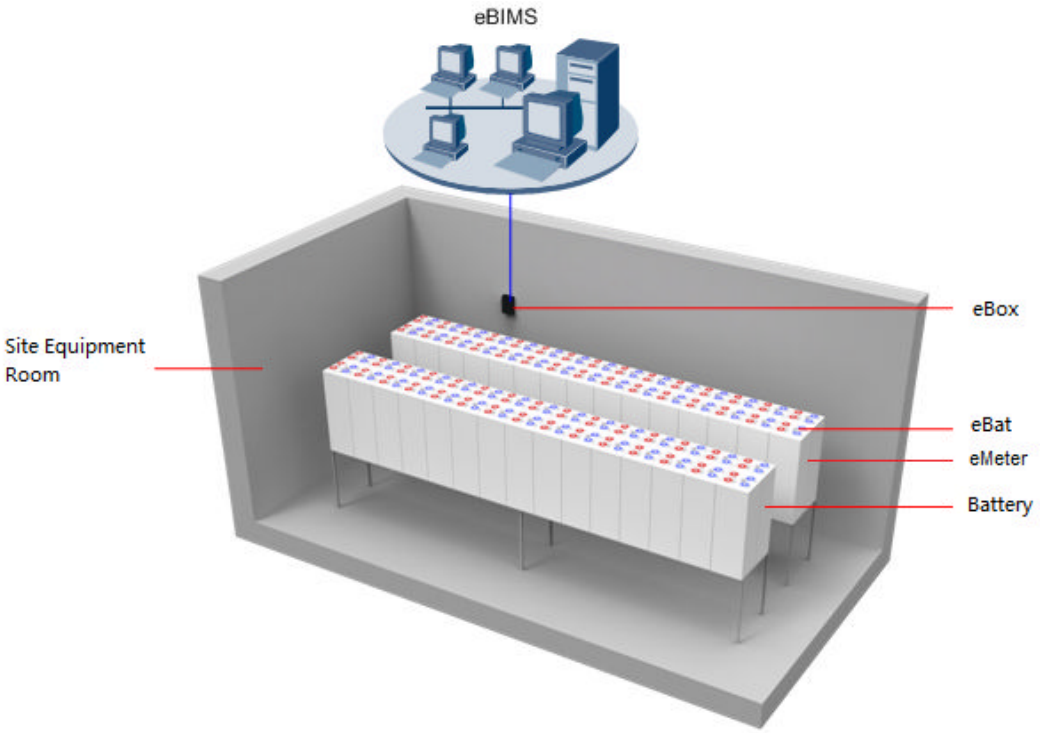


Deployment Inside a Site Equipment Room

- Battery: deployed in the site equipment room.
- eBat: deployed on batteries. Install one eBat for one battery.
- eMeter: deployed for each one of battery strings.
- eBox: deployed in the site equipment room. One eBox is deployed and can manage a maximum of 250 wireless sensors.
- eBIMS: installed on the server.

Figure 1-4 shows the eBIMS installed inside a site equipment room.

Figure 1-4 Deployment inside a site equipment room

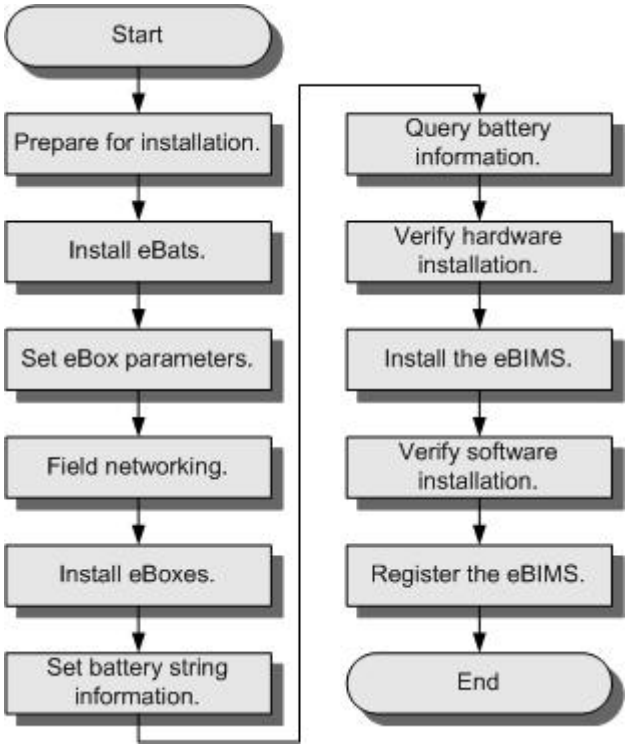


1.5 Installation Process

This section describes the eBIMS installation process.

The eBIMS hardware includes eBats, eBoxes and eMeters, and the software is the eBIMS management system. **Figure 1-5** shows the installation flowchart.

Figure 1-5 eBIMS installation flowchart



NOTE

Field networking: Binding eBats or eMeters with eBox to establish wireless communications.

2 Installation Preparations

About This Chapter

About This Chapter

Prepare installation tools and reference documents before the installation.

2.1 Preparing Tools

To facilitate installation, choose tools as required.

Table 2-1 describes the essential tools used in installation.

Table 2-1 Tools

Name	Outline	Description	Specifications
Hammer drill		Used to drill holes for mounting eBoxes.	With a drill bit of Φ6
Socket wrench		Used to secure battery binding posts of various specifications.	With specifications of M6, M8, and M10
Segmented blade utility knife		Used to open packing cases during unpacking and acceptance.	General
Phillips screwdriver		Used to tighten Phillips screws.	General
Flat-head screwdriver		Used to tighten flat-head screws.	General
Claw hammer		Used to secure plastic expansion anchors.	With the hammer weight of 0.5 kg or above
Protective gloves		Used to protect the hands and the device which you operate.	General
Marker		Used to mark the installation position for a wall-mounted eBox.	General
Ruler		Used to determine the installation position for a wall-mounted eBox.	With a length 50 cm or above

Name	Outline	Description	Specifications
ESD gloves		Used for protection when operating boards or static-sensitive equipment.	Meeting at least 3 kV pressure resistance requirement
Hex key		Used to tighten SIM card screws on the eBox.	ST2.9

2.2 Preparing Documents

Prepare documents related to hardware and software installation before installation.

Hardware Installation

Table 2-2 describes the construction technical documents related to project installation.

Table 2-2 Construction technical documents

Document Name	Description	Obtaining Method
eBIMS V100R002C00 Installation Guide 01	Used to guide onsite installation.	Obtain it from **http://support.huawei.com**.
Project design document	-	Delivered with equipment. (paper copy)
Site survey report	Indicates the environment survey report on the equipment installation site, including information such as cable connection modes and battery positions.	Obtain it from the engineering design administrant system (EDAS).
Packing list	Contains equipment delivery information used for checking equipment during unpacking and acceptance.	Obtain it from the EDAS.

Software Installation

Prepare for the eBIMS installation documentation.

NOTE

Before installing the eBIMS, ensure that Windows Server 2008 R2 with a standard 64-bit OS has been installed.

Table 2-3 Software list

Software	Description	How to Obtain...
eeBIMS V100R002C00	Used for Installing the eBIMS system.	From **http://support.huawei.com**.
eConfig_PC	Used for configuring eBox parameters.	From **http://support.huawei.com**.

3 Hardware Installation

About This Chapter

About This Chapter

Hard installation includes installing eBats, eMeters and eBoxes, connecting cables, and checking hardware installation.

3.1 Installing an eBat

eBat installation includes securing and connecting cables to the eBat.

Prerequisites

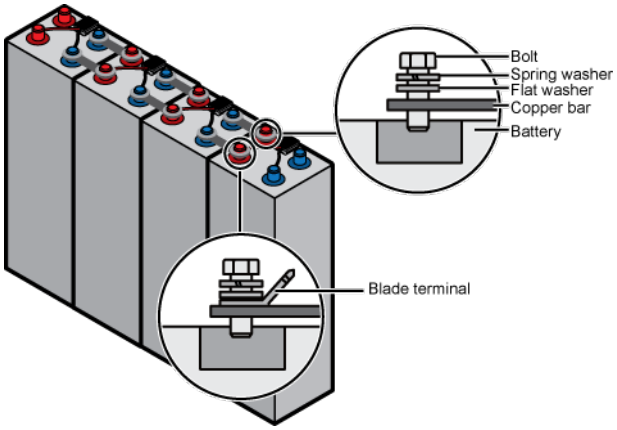
NOTICE

- Before intallation of eBat, the switch of battery stirng should be turned off.
- eBat cable must be installed firstly before eBat was installed.
- After all eBats were installed, the switch of battery string could be turned on.
- For uninstallation of eBat, eBat should be unplugged out firstly, then remove the eBat cable from battery terminal.

Context

- eBat can be sticked on the surface of battery. The position can be determined according to the shape of the battery.
- The installation method of eBat in site room is totally same as in outdoor cabinet.
- eBat can be installed on 2V and 12V lead-acid battery, installation was shown as **Figure 3-1**.

Figure 3-1 eBats installed on batteries

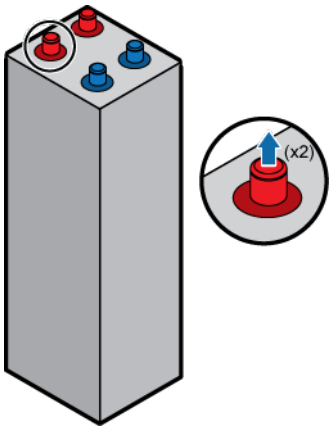


- Positive and negative terminals are in red and blue, respectively.
- The following uses installation of eBats on 12 V batteries as an example.

Procedure

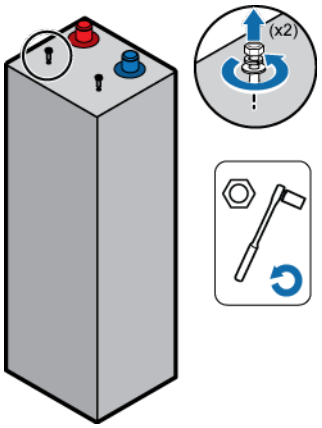
Step 1 Remove insulation covers from battery positive and negative polar columns used to install the eBat, as shown in **Figure 3-2**.

Figure 3-2 Removing insulation covers from a battery



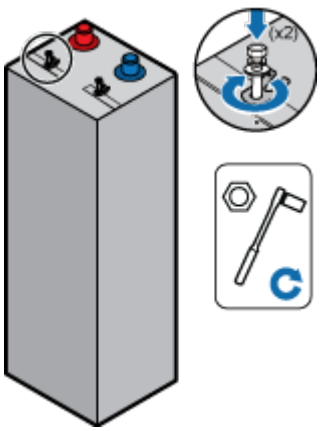
Step 2 Unscrew terminals on the battery positive and negative polar columns using a socket wrench, as shown in **Figure 3-3**.

Figure 3-3 Remove screws



Step 3 Secure springs washers, flat washers, blade terminals, and copper bar on the battery positive and negative polar columns as shown in **Figure 3-4**.

Figure 3-4 Installing blade terminals



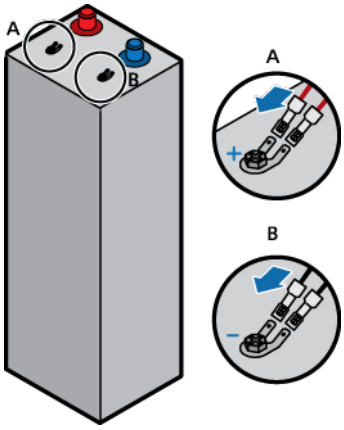
NOTE

Blade terminals match M6, M8, and M10 screws. Select proper blade terminals based on the type of screws on your Battery polar columns. The following shows the torque supported by the screws:

- M6: 4-6 N.m
- M8: 13-15 N.m
- M10: 15-20 N.m

Step 4 Connect the red and black cables respectively to the positive and negative blade terminals, as shown in **Figure 3-5**.

Figure 3-5 Installing cables

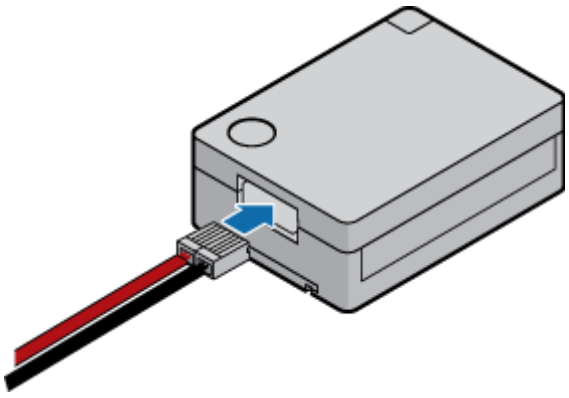


NOTE

Connect the red and black cables respectively to the positive and negative polarities.

Step 5 Insert cable connectors to eBat cable ports, as shown in **Figure 3-6**.

Figure 3-6 Inserting cable connectors



Step 6 Determine the optimal position for attaching the eBat. Ensure that the installation position is clean without dust.

Step 7 Remove the adhesive tape from the eBat bottom, as shown in **Figure 3-7**, attach the eBat to the surface of the battery, and press the eBat using a force of 1 N to 2 N for 5 to 10 seconds.**Figure 3-8**and**Figure 3-9** show an eBat installed on a battery.

Figure 3-7 Removing the adhesive tape from the eBat bottom

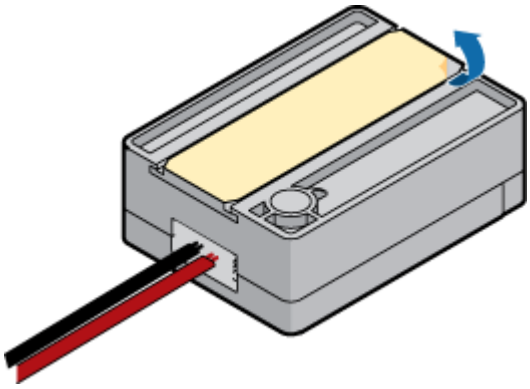


Figure 3-8 eBat installed on a battery

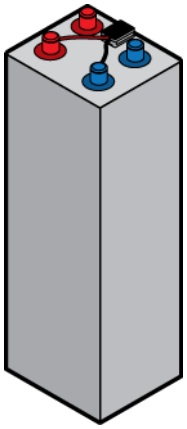
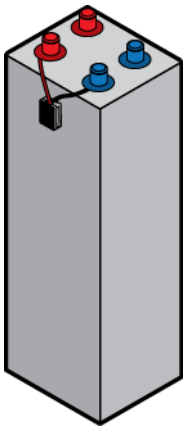


Figure 3-9 eBat installed on the side of a battery



----End

3.2 Installing an eMeter

eMeter installation includes securing and connecting cables to the eMeter and connection with current transducer.

Prerequisites

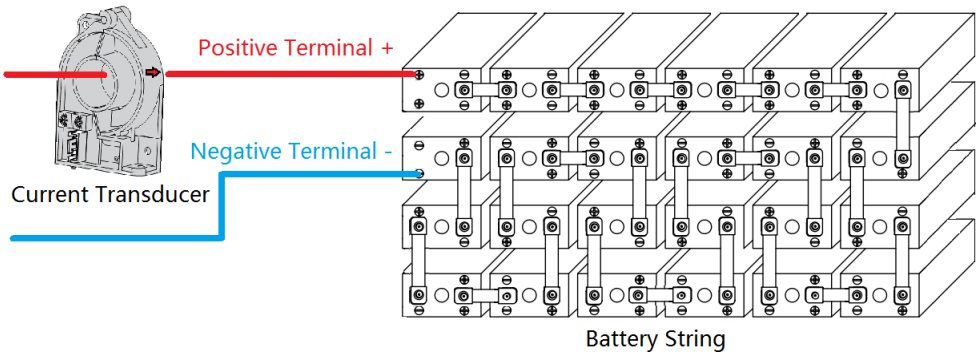
NOTICE

- The switch between battery string and power supply is turned off.

Procedure

Step 1 Make the power cable to the positive terminal of battery string go through the current transducer, as shown in **Figure 3-10**.

Figure 3-10 Installation of current transducer



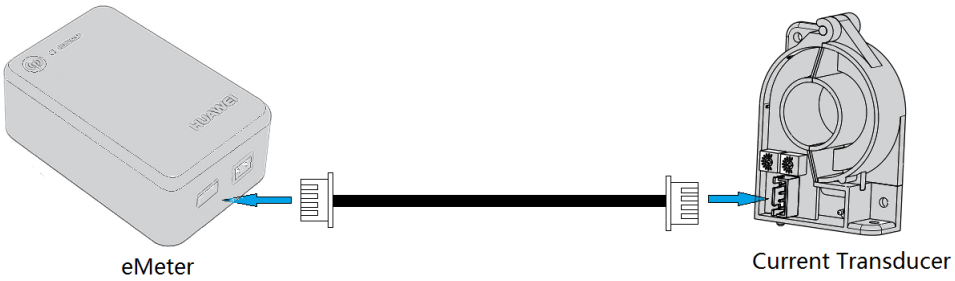
NOTE

- The symbol on the current transducer must be pointed to the positive terminal.
- The current transducer should not be installed on the connecting strap between batteies.
- The current transducer should not be installed on the connecting wire between battery string and load.

Step 2 Determine the optimal position for attaching or fixing the eMeter. Ensure that the installation position is clean without dust.

Step 3 Connect eMeter and current transducer with cable, as shown in **Figure 3-11**.

Figure 3-11 Connect eMeter with current transducer

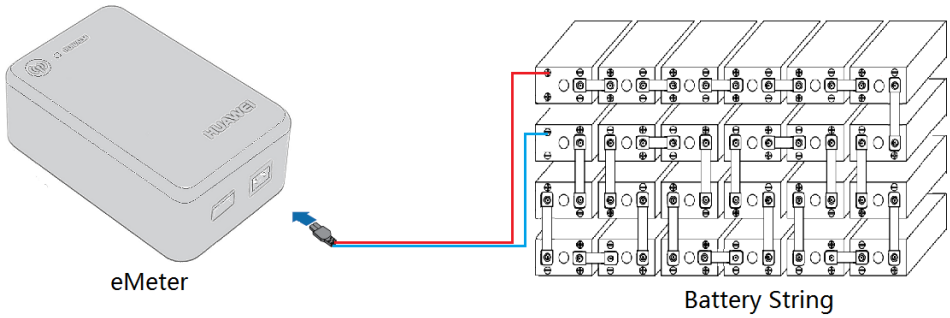


NOTE

- The wire between eMeter and current transducer should not be coiled or folded.

Step 4 Provide power supply for eMeter, as shown in **Figure 3-12**.

Figure 3-12 The connection of eMeter and battery string



NOTE

The power port of eMeter was used not only for power supply to eMeter, but also for detection the battery string voltage. Currently for the detection of battery string, only 48V battery string could be used.

----End

3.3 Installing an eBox

eBox installation includes securing the eBox, drilling holes, and connecting cables to the eBox.

Context

The eBox deployment mode is different inside an outdoor cabinet and an indoor equipment room:

- Inside an outdoor cabinet: Attach the eBox rear panel to the inside of the battery cabinet, and mount the eBox on the rear panel.
- Inside an indoor equipment room: Mount the eBox on the wall.

An eBox communicates with the upstream using any of the following modes:

- GPRS: Fast Ethernet (FE) network cables are not required in this mode.
- FE network cables: A GPRS antenna and a SIM card are not required in this mode.
- RS485 cables: A GPRS antenna and a SIM card are not required in this mode.

Installation location of eBox:

- The location of eBox should be close to the battery string.
- There should be no obstacles between eBox and eMeter or eBat.

3.3.1 Inside an Outdoor Cabinet

eBox hardware installation includes positioning and securing the eBox.

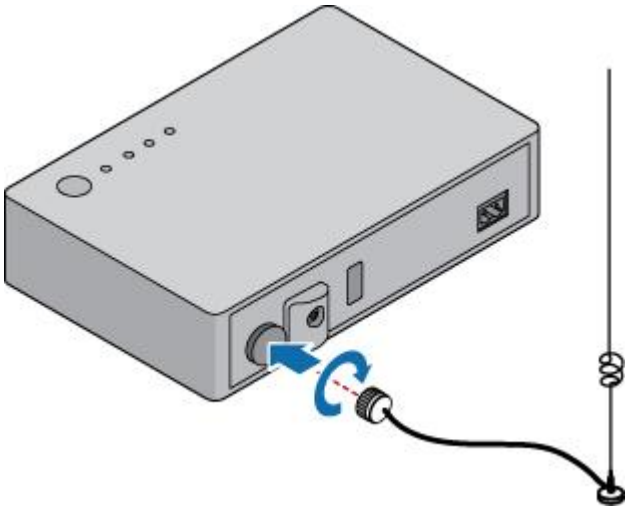
Context

To secure an eBox to a battery cabinet, attach the eBox rear panel to the inside of the battery cabinet, and mount the eBox on the rear panel. Configure one eBox for one battery cabinet.

This section describes how to install an eBox in GPRS communication mode.

eBox antennas are placed outside the cabinet, as shown in **Figure 3-13**.

Figure 3-13 Antenna



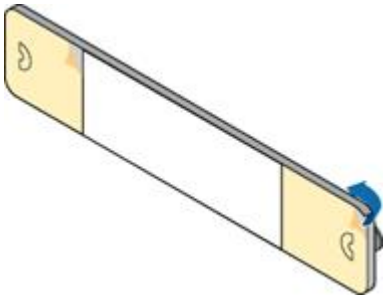
Procedure

Step 1 Determine the installation position of the eBox inside the cabinet.

Step 2 Loosen the SIM cover using an inner hexagon screwdriver, insert the SIM card, and tighten the cover.

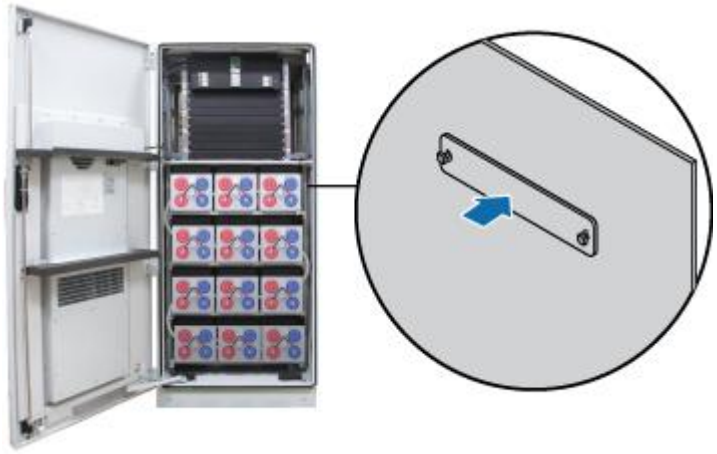
Step 3 Remove the adhesive tape from the bottom of the eBox rear panel, as shown in **Figure 3-14**.

Figure 3-14 Removing the adhesive tape from the bottom of the eBox rear panel



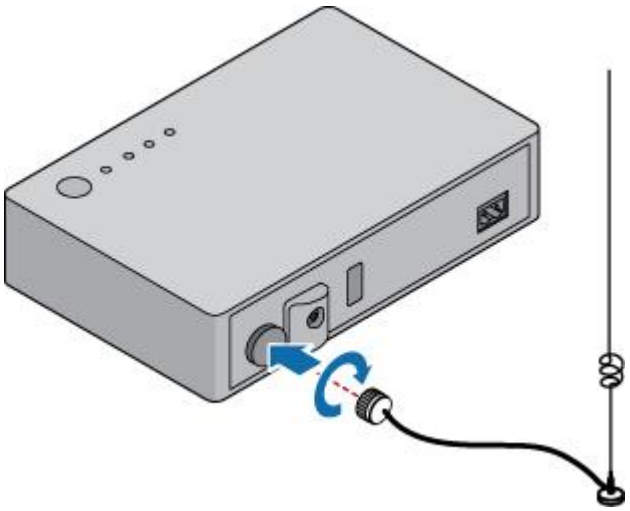
Step 4 Attach the rear panel to the eBox installation position inside the cabinet, as shown in **Figure 3-15**.

Figure 3-15 Attaching the rear panel to the installation position



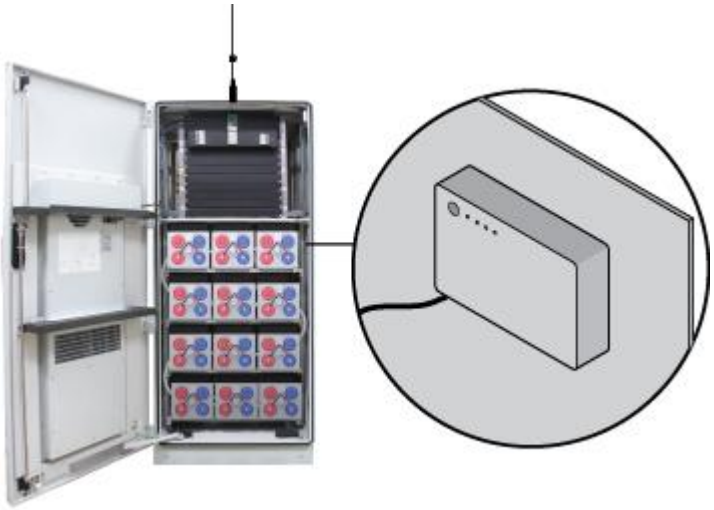
Step 5 Route the GPRS antenna through the cable hole and secure one end of the antenna to the eBox, as shown in **Figure 3-16**.

Figure 3-16 Installing the antenna



Step 6 Mount the eBox on the rear panel, and secure the antenna outside the cabinet. **Figure 3-17** shows an eBox installed inside an outdoor cabinet.

Figure 3-17 eBox installed inside an outdoor cabinet



----End

3.3.2 Inside an Indoor Equipment Room

eBox hardware installation includes positioning and drilling holes.

Context

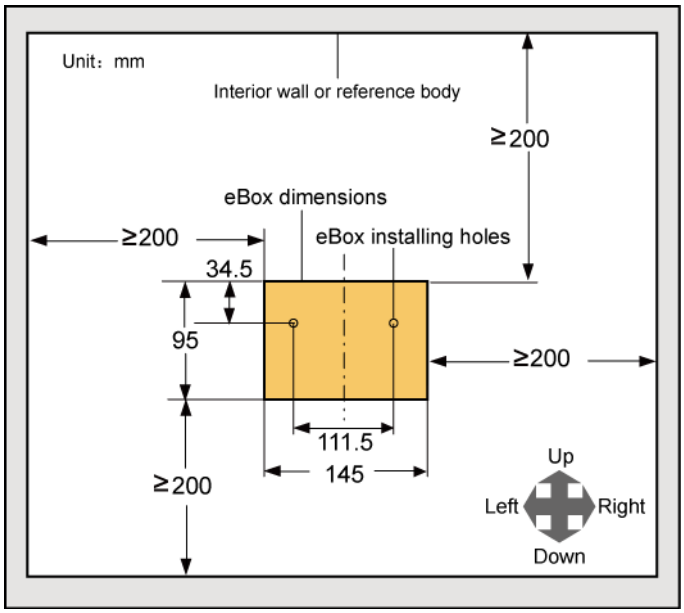
To secure an eBox to an indoor equipment room, mount the eBox on the wall inside the equipment room.

The eBox communicates with uplink devices using FE network cables or antennas.

This section describes how to install an eBox in FE network cable communication mode.

Figure 3-18 shows the installation position requirements.

Figure 3-18 eBox installation position requirements

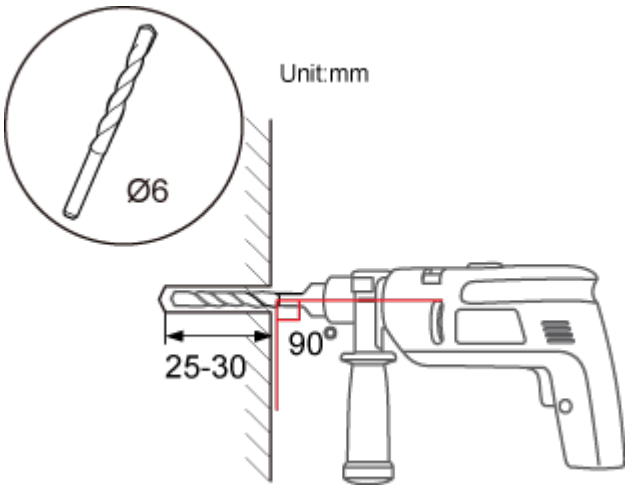


Procedure

Step 1 Determine the eBox installation position inside the equipment room using a ruler, and mark the position using a marker.

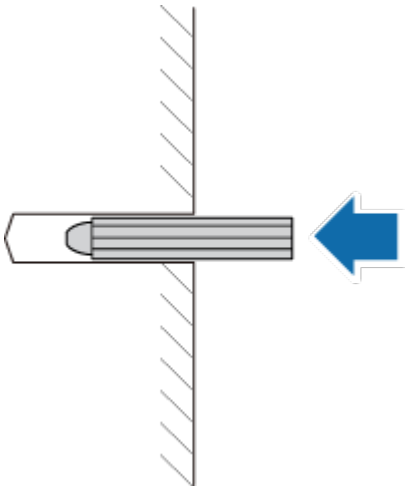
Step 2 Drill a hole in the marked position using a hammer drill, as shown in **Figure 3-19**.

Figure 3-19 Drilling a hole in the installation position



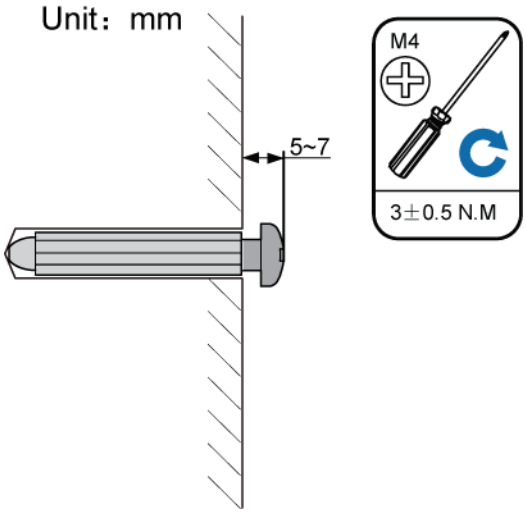
Step 3 Knock a plastic expansion anchor into the mounting hole using a claw hammer, as shown in **Figure 3-20**.

Figure 3-20 Installing a plastic expansion anchor



Step 4 Insert a tapping screw into the plastic expansion anchor using a Phillips screwdriver, as shown in **Figure 3-21**.

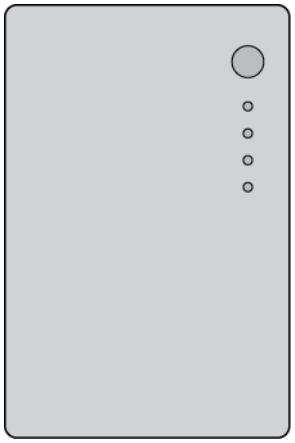
Figure 3-21 Installing a tapping screw



Step 5 Mount the eBox on the screw. **Figure 3-22** and **Figure 3-23** show an eBox installed inside an indoor equipment room.

Figure 3-22 Installation effect drawing 1

Figure 3-23 Installation effect drawing 2



NOTE

You can mount an eBox in either of the ways shown in **Figure 3-22** and **Figure 3-23** based on your actual situation.

----End

3.3.3 Connecting Cables

Connect cables to the eBox after installation.

Context

An eBox communicates with the upstream in any of the following modes:

- GPRS communication: You only need to connect the power cable.
- FE network cable: You need to connect the FE network cable and power cable.
- RS485 cable: You need to connect the RS485 cable and power cable.

Figure 3-24 shows the RS485 pins. **Table 3-1** shows the function of each RS485 pin.

Figure 3-24 RS485 pins

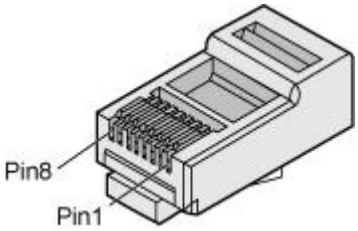


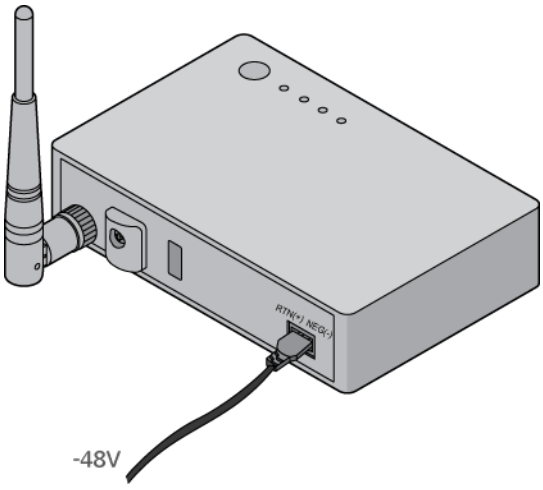
Table 3-1 Functions of RS485 pins

Pin	Function
Pin 1	TX+
Pin 2	TX-
Pin 3	---
Pin 4	RX+
Pin 5	RX-
Pin 6	---
Pin 7	---
Pin 8	GND

The eBox can be powered by using the following two methods:

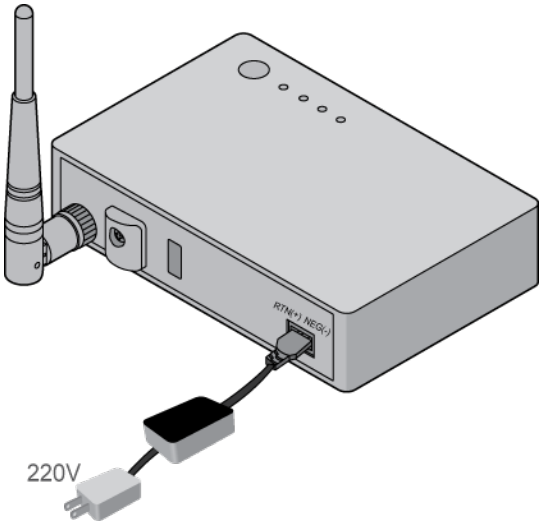
1. The eBox is powered by the 48 V power supply system in the power cabinet, as shown in **Figure 3-25**.

Figure 3-25 eBox powered by the 48 V power supply system



2. The eBox is powered by the 220 V power supply system using an adapter, as shown in **Figure 3-26**.

Figure 3-26 eBox powered by the 220 V power supply system



Procedure

Step 1 Connect the power cable to the eBox, as shown by 1 in **Figure 3-27**.

Step 2 Connect the FE network cable to the eBox, as shown by 2 in **Figure 3-27**.

Step 3 Connect the RS485 cable to the eBox, as shown by 3 in **Figure 3-29**.

Figure 3-27 Cable connections in FE communication mode

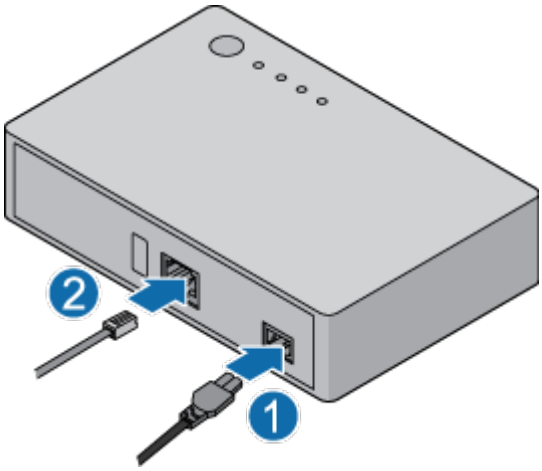


Figure 3-28 Cable connections in GPRS communication mode

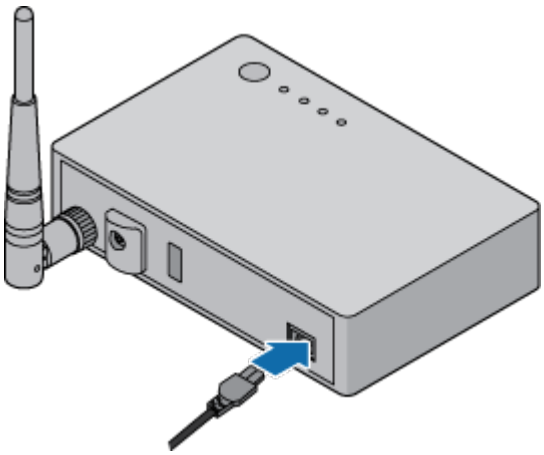
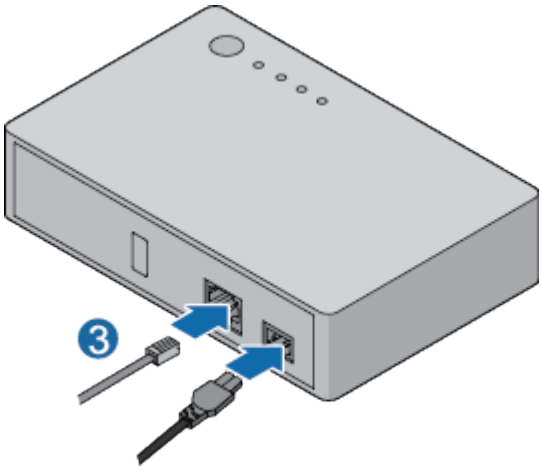


Figure 3-29 Cable connections in RS485 communication mode



----End

3.4 Setting eBox Parameters

eBox parameters include the IP address, mask, gateway, ports, etc.

Prerequisites

- The eBox has been connected to a laptop and the USB serial driver has been installed.
- **HyperTerminal** has been installed on the laptop running Windows OS and ports have been correctly configured. For details, see **5.2 How Can I Connect the eBox to a Laptop?**.

NOTE

You can also use the eConfig tool of the eBox to obtain the COM port information from the laptop.

- The latest release of the eBox configuration tool package has been downloaded to the laptop from **http://support.huawei.com**.

  NOTE

  This document describes commands used for networking deployment and maintenance.

  The following types of commands are beyond the scope of this document:

  1. Commands that are used during production, assembly, and return for repair.
  2. Commands used for engineering and fault diagnosis are beyond the scope of this document. If these commands are not used properly, equipment may become abnormal or services may be interrupted. If you do need to use these commands, please contact the local Huawei office to know the process of getting permission for these documents and the special requirements.

Context

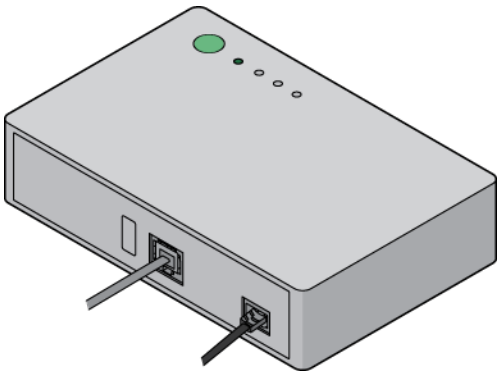
Set eBox parameters using either of the following methods:

1. Use the eConfig function of the eBox.
2. Enter command lines on the laptop.

The eBox uses the following three communication modes:

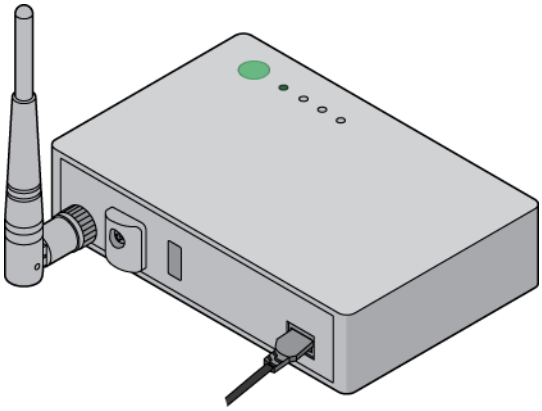
- FE ports: FE cables and power cables are required. **Figure 3-30** shows the cable connections.

Figure 3-30 Cable connections in FE port-based communication mode



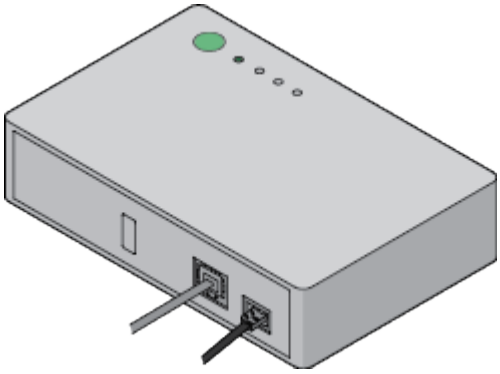
- GPRS: Install an antenna, insert the SIM card, and connect cables. **Figure 3-31** shows the cable connections.

Figure 3-31 Cable connections in GPRS-based communication mode



- RS485 port: cables fitted with the RS485 connectors and power cables. **Figure 3-32** shows the cable connections.

Figure 3-32 Cable connections in RS485 port-based communication mode



3.4.1 Setting eBox Parameters Using eConfig

You can set eBox parameters using the eConfig function.

Prerequisites

The IP address, subnet mask, and gateway IP address have been provided by the customer.

Context

The default IP address of the eBox is 192.168.0.33.

Correct Trap IP address and port settings are crucial to successful report of system events and alarms.

3.4.1.1 Setting eBox FE Interface Parameters

If the eBox is connected to upstream devices through the FE ports, you must specify the IP address, Trap IP address, channel, and PAN ID.

Procedure

Step 1 Double-click **eConfig_PC.exe** in the eBox configuration tool kit to start the eConfig tool.

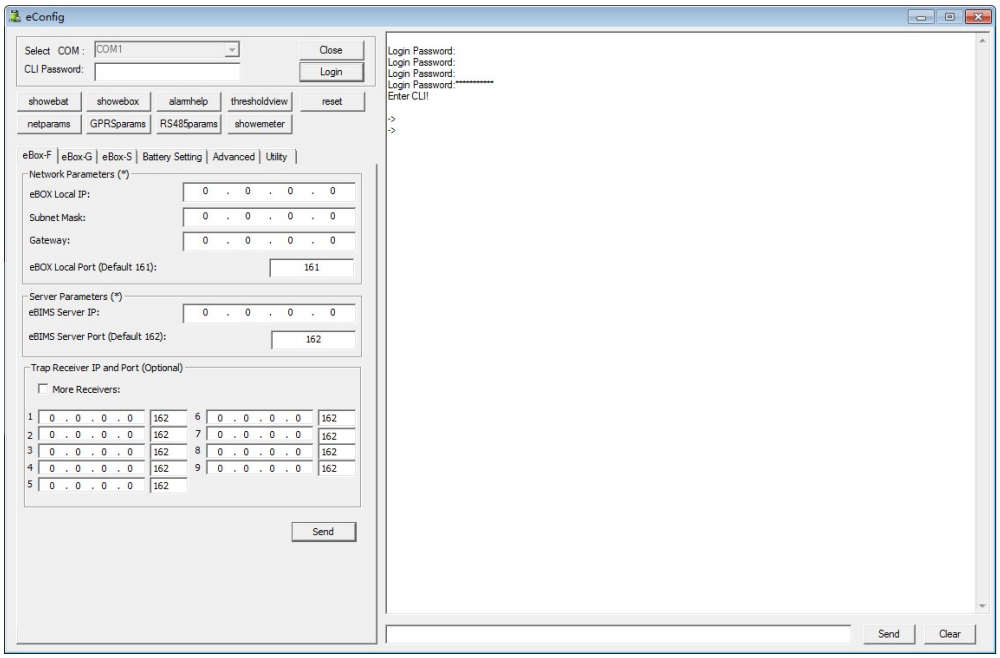
NOTE

If the eConfig tool is being used for the first time, double-click **eConfig_reg.bat** to import registry information first.

Step 2 Choose the COM port and click **Open**.

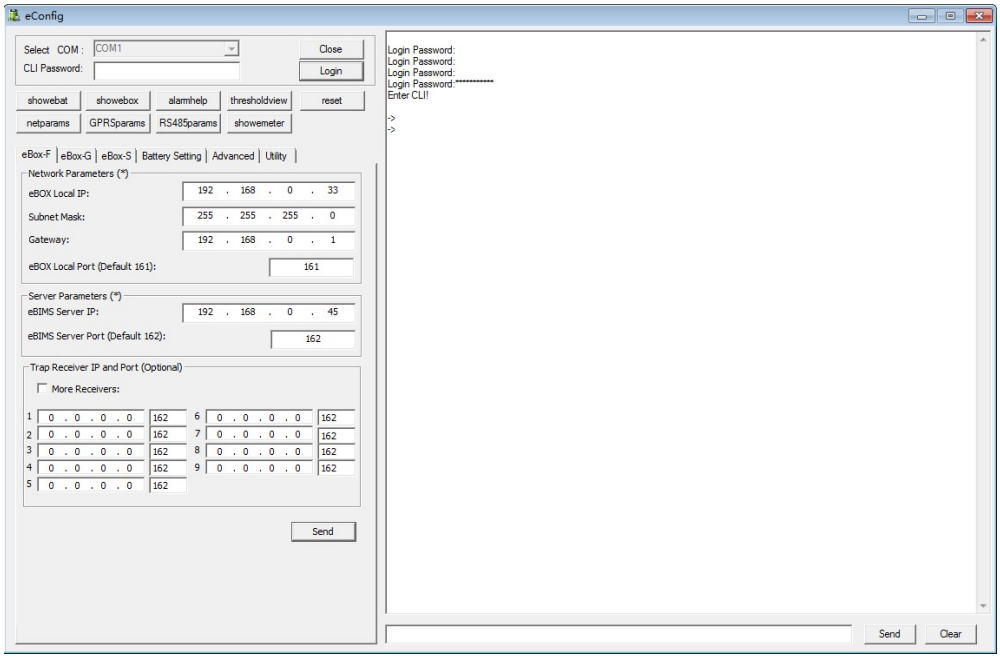
Step 3 Click **Login** to log in to the eBox, as shown in **Figure 3-33**.

Figure 3-33 eConfig dialog box



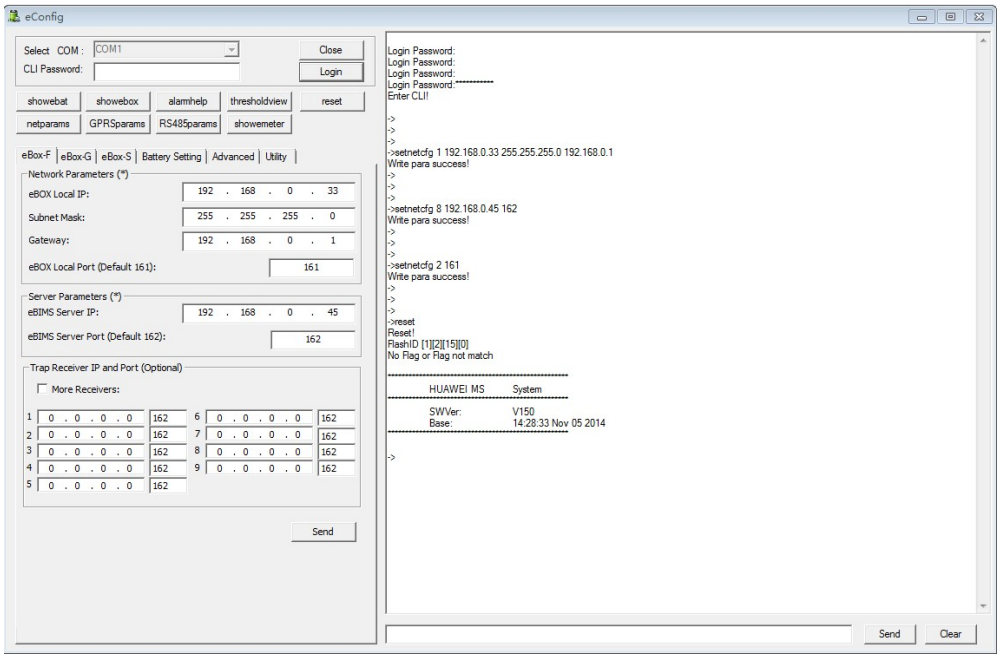
Step 4 Choose the **eBox-F** tab. Enter the eBox local IP address, gateway IP address, subnet mask, port number, and server parameters, as shown in **Figure 3-34**.

Figure 3-34 Setting eBox-F parameters



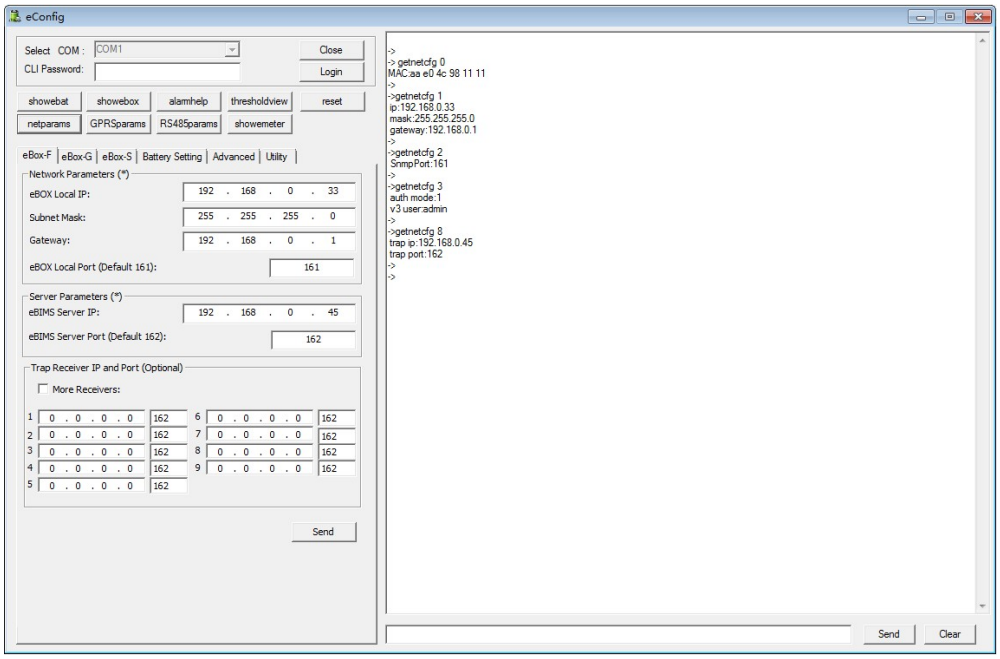
Step 5 Click **Send**. In the **Reset eBox** dialog box displayed, click **Yes** to reset the eBox. **Figure 3-35** is displayed indicating successful setting of eBox-F parameters.

Figure 3-35 Message indicating successful setting of eBox-F parameters



Step 6 Click **netparams** to view the eBox-F parameter settings, as shown in **Figure 3-36**.

Figure 3-36 Viewing eBox-F parameter settings

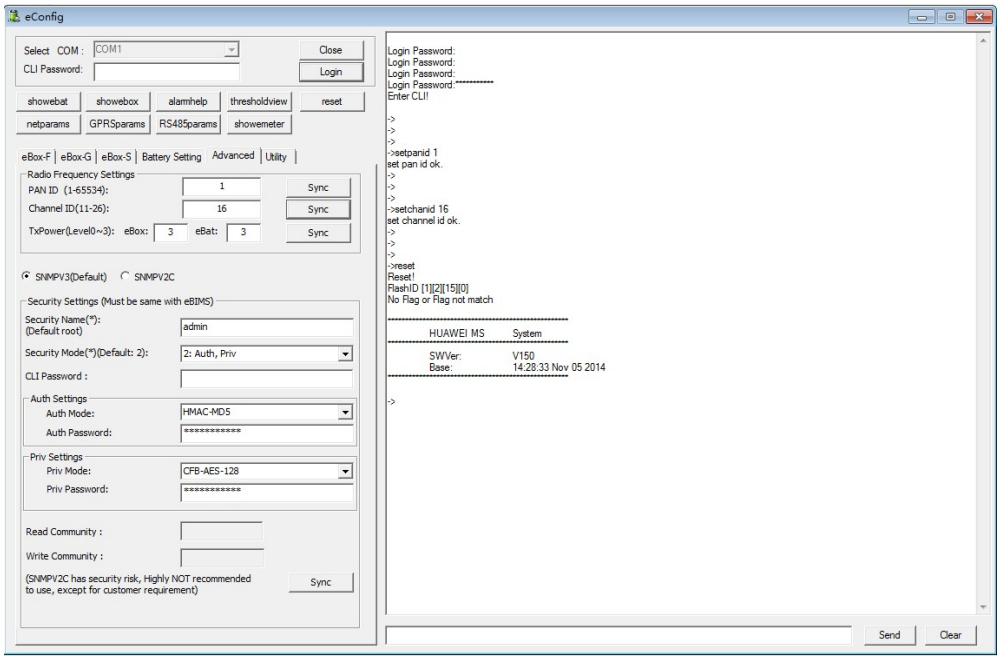


Step 7 **Optional:** Choose the **Advanced** tab and specify **PAN ID** and **Channel ID**, as shown in **Figure 3-37**.

NOTE

- If more than four eBoxes are used for the same scenario, set radio frequency parameters to ensure the reliability of communication between the eBox and eBat.
- A total of 16 channels can be used, ranging from channel 11 to channel 26.
- Each channel supports up to 4 eBoxes. Each eBox is identified by PAN ID.
- Different channel can share the same PAN ID.

Figure 3-37 Setting the channel ID and PAN ID



----End

3.4.1.2 Setting eBox GPRS Interface Parameters

If the eBox is connected to upstream devices through the GPRS, you must specify the APN, SIMPIN, Trap IP address, channel, and PAN ID.

Procedure

Step 1 Double-click **eConfig_PC.exe** in the eBox configuration tool kit to start the eConfig tool.

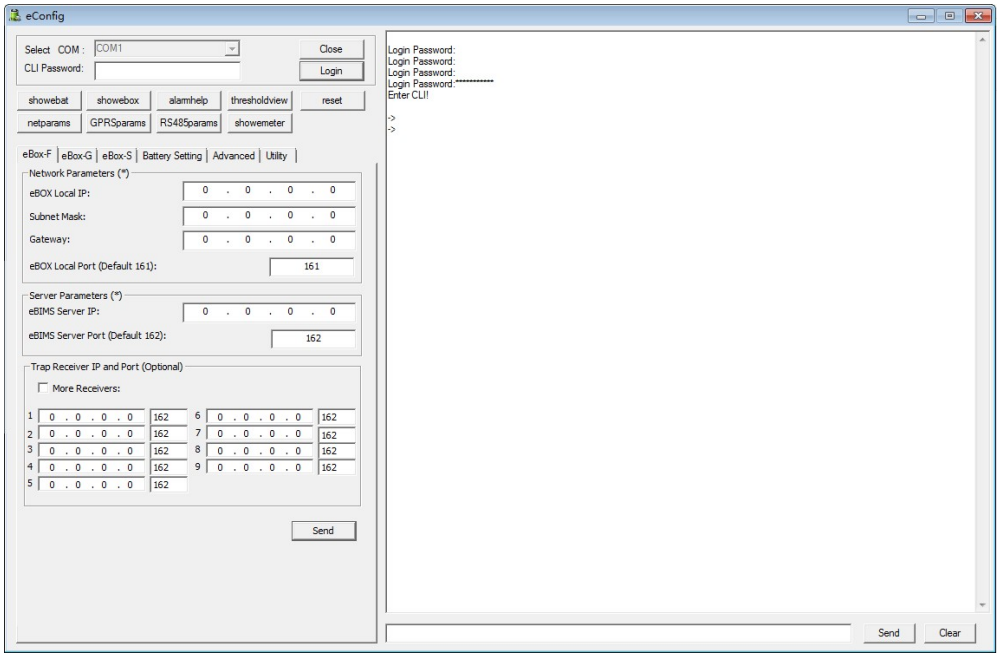
NOTE

If the eConfig tool is being used for the first time, double-click **eConfig_reg.bat** to import registry information first.

Step 2 Choose the COM port and click **Open**.

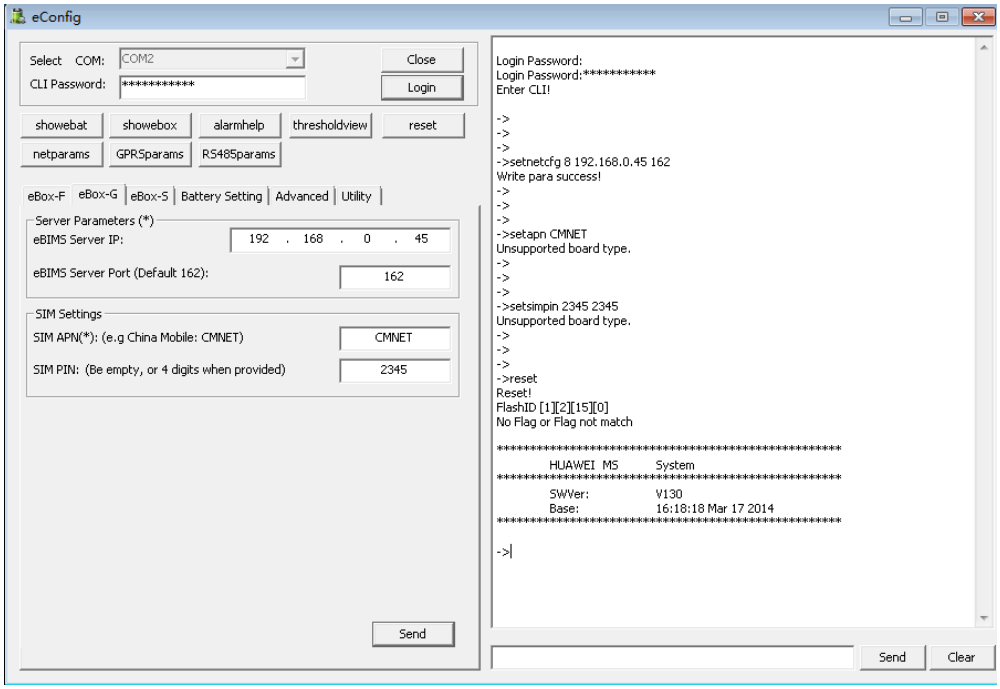
Step 3 Click **Login**to log in to the eBox, as shown in**Figure 3-38**.

Figure 3-38 eConfig dialog box



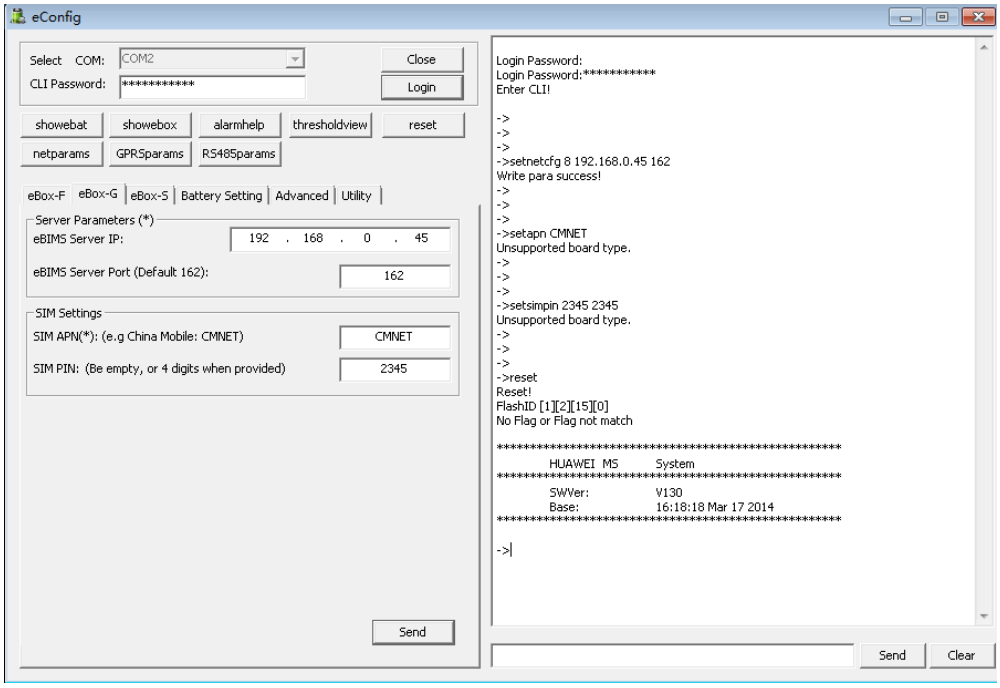
Step 4 Choose the **eBox-G**tab and enter the eBIMS server IP address, port number, SIM APN, and SIM PIN information, as shown in**Figure 3-39**.

Figure 3-39 Setting eBox-G parameters



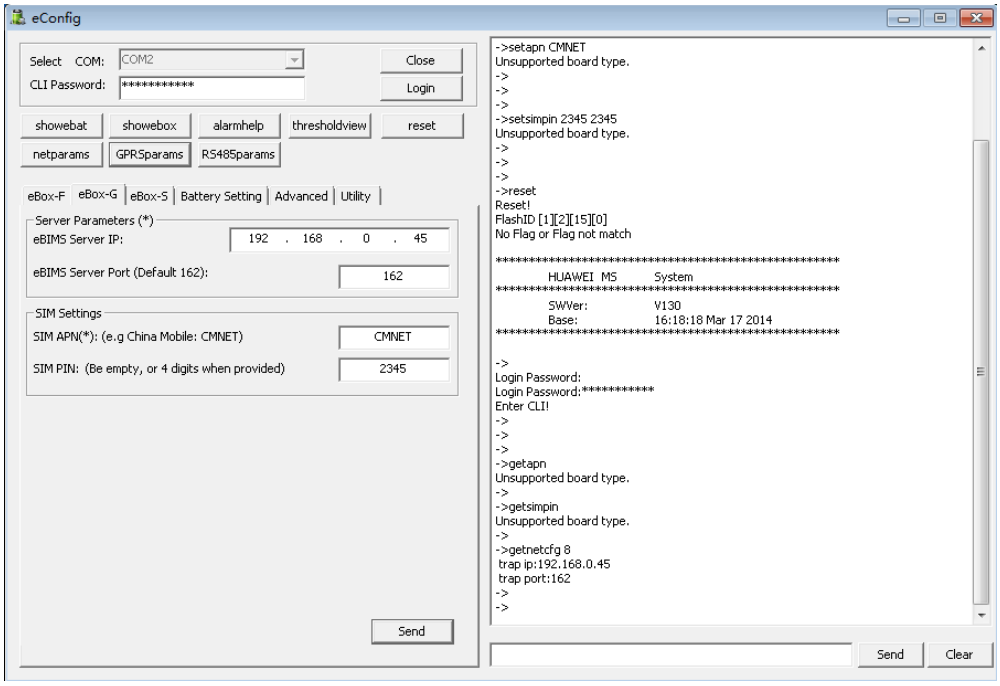
Step 5 Click **Send**. In the**Reset eBox**dialog box displayed, click**YES**to reset the eBox.**Figure 3-40** is displayed indicating successful setting of eBox-G parameters.

Figure 3-40 Message indicating successful setting of eBox-G parameters



Step 6 Click **GPRSparams**to view the eBox-G parameter settings, as shown in**Figure 3-41**.

Figure 3-41 Viewing eBox-G parameter settings

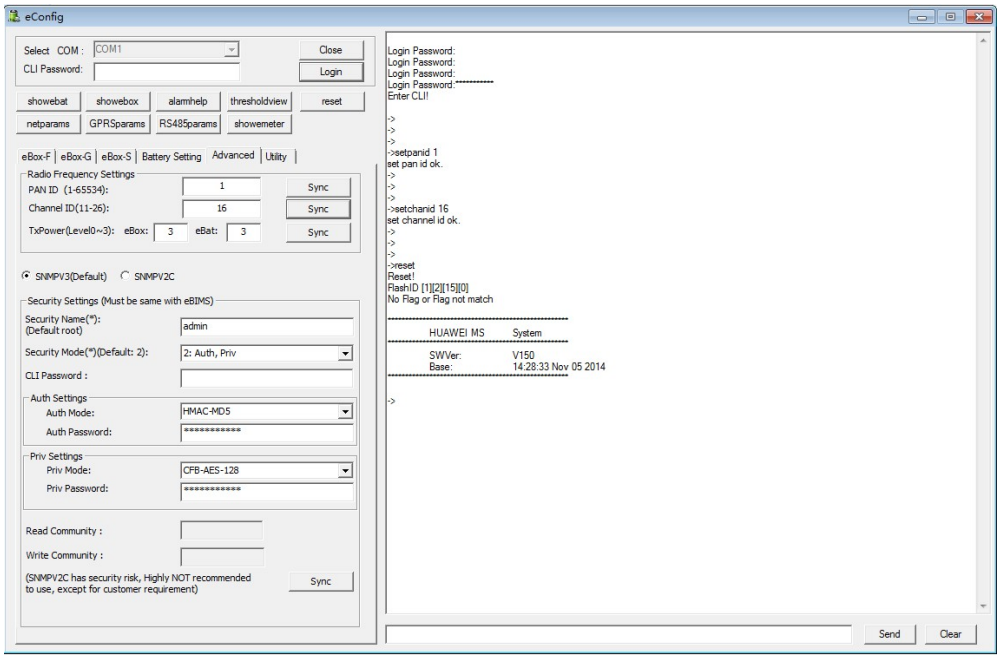


Step 7 **Optional:** Choose the**Advanced**tab and specify**PAN ID**and**Channel ID**, as shown in**Figure 3-42**.

NOTE

- If more than four eBoxes are used for the same scenario, set radio frequency parameters to ensure the reliability of communication between the eBox and eBat.
- A total of 16 channels can be used, ranging from channel 11 to channel 26.
- Each channel supports up to 4 eBoxes. Each eBox is identified by PAN ID.
- Different channel can share the same PAN ID.

Figure 3-42 Setting the channel ID and PAN ID



----End

3.4.1.3 Setting eBox RS485 Interface Parameters

If the eBox is connected to upstream devices through the RS485 port, you must specify the baud rate and device address.

Procedure

Step 1 Double-click **eConfig_PC.exe** in the eBox configuration tool kit to start the eConfig tool.

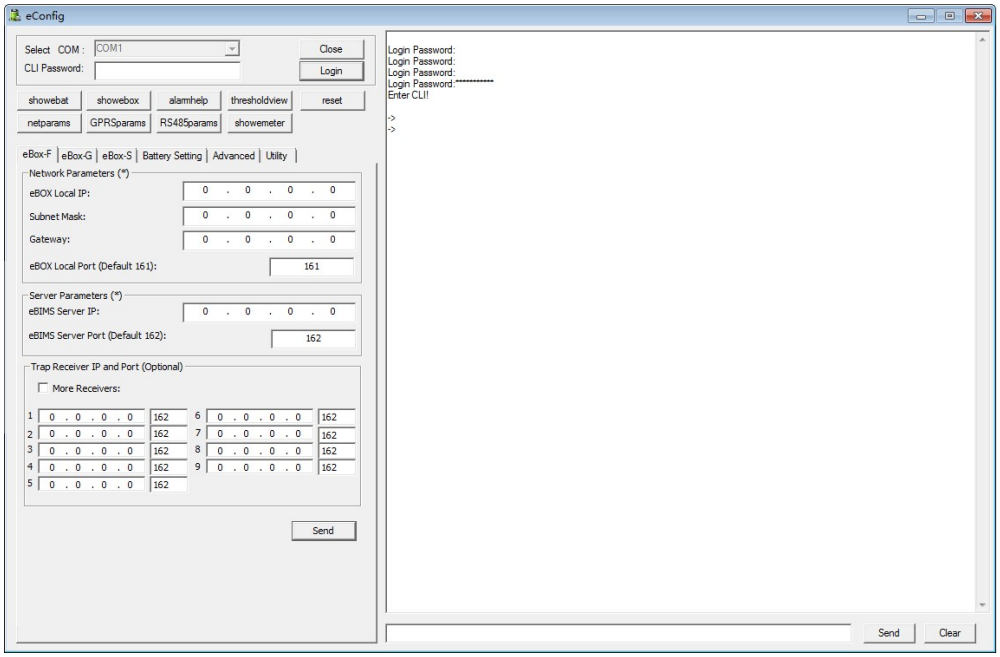
NOTE

If the eConfig tool is being used for the first time, double-click **eConfig_reg.bat** to import registry information first.

Step 2 Choose the COM port and click **Open**.

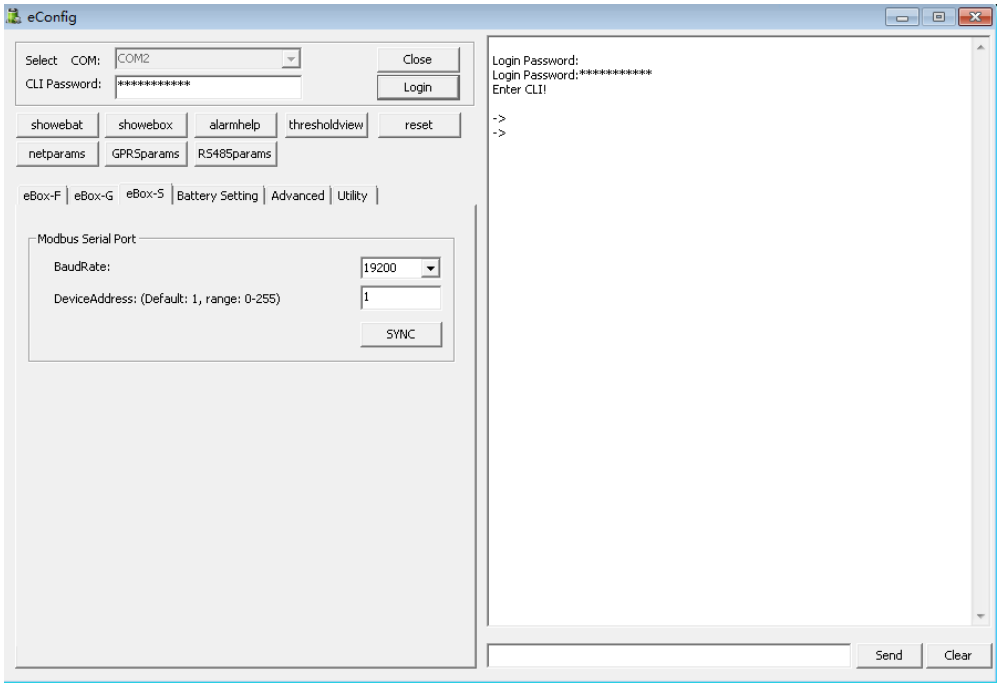
Step 3 Click **Login** to log in to the eBox, as shown in **Figure 3-43**.

Figure 3-43 eConfig dialog box



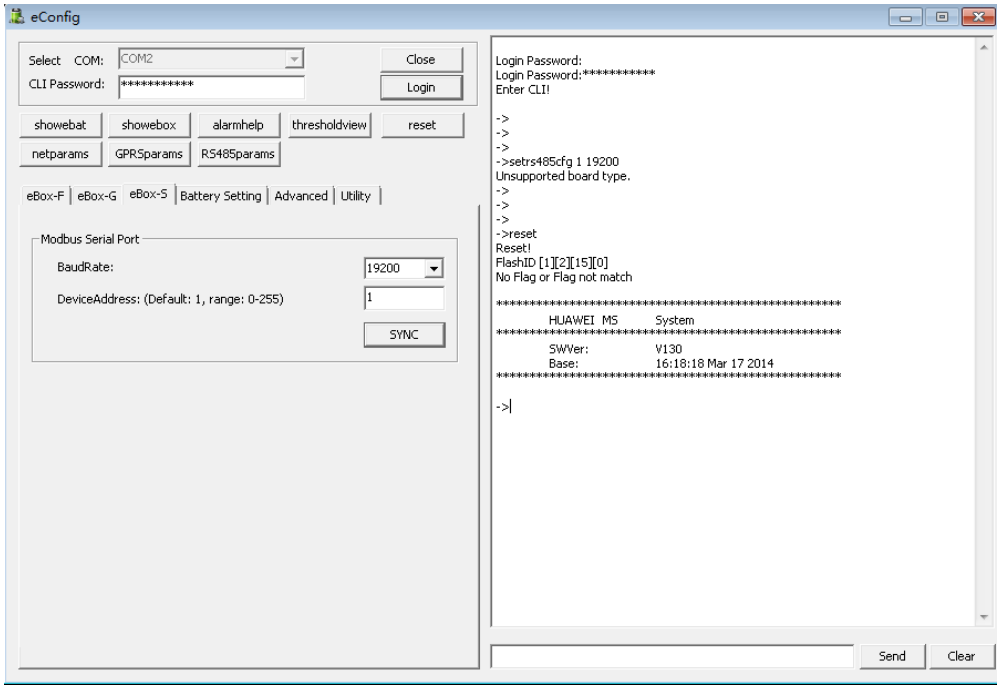
Step 4 Choose the **eBox-S** tab and specify the baud rate and device address, as shown in **Figure 3-44**.

Figure 3-44 Setting eBox-S parameters



Step 5 Click **Send**. In the **Reset eBox** dialog box displayed, click **YES** to reset the eBox. **Figure 3-45** is displayed indicating successful setting of eBox-S parameters.

Figure 3-45 Message indicating successful setting of eBox-S parameters



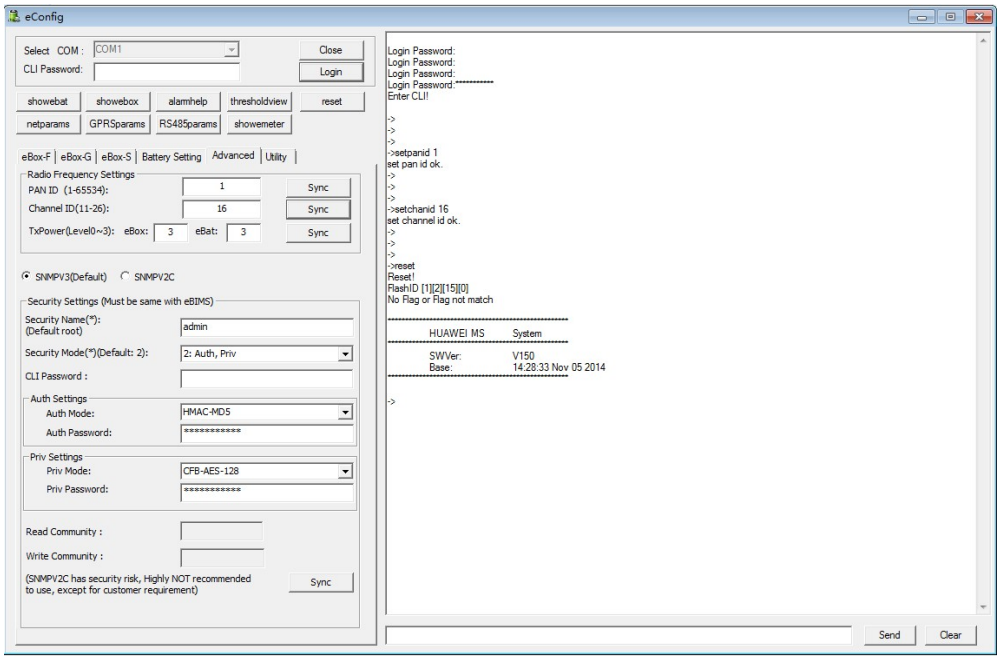
Step 6 Click **RS485params** to view the eBox-S parameter settings.

Step 7 **Optional:** Choose the **Advanced** tab and specify **PAN ID** and **Channel ID**, as shown in **Figure 3-46**.

NOTE

- If more than four eBoxes are used for the same scenario, set radio frequency parameters to ensure the reliability of communication between the eBox and eBat.
- A total of 16 channels can be used, ranging from channel 11 to channel 26.
- Each channel supports up to 4 eBoxes. Each eBox is identified by PAN ID.
- Different channel can share the same PAN ID.

Figure 3-46 Setting the channel ID and PAN ID



----End

3.4.2 Setting eBox Parameters Manually

You can manually set eBox parameters with any PC serial port terminal tool.

Prerequisites

The IP address, subnet mask, and gateway IP address have been provided by the customer.

Context

The default IP address of the eBox is 192.168.0.33.

Correct Trap IP address and port settings are crucial to successful report of system events and alarms.

3.4.2.1 Setting eBox Parameters in FE Port-based

Communication Mode

For an eBox that uses the FE port to communicate with the eBIMS, set the eBox local IP address, trap address, channels, and PAN ID.

Configuring Address Parameters

Configure the eBox local IP address and trap address.

Prerequisites

The IP address, subnet mask, and gateway IP address allocated to the eBox have been provided by the customer.

Context

The default eBox IP address is 192.168.0.33.

System events and alarms can be properly reported only when the trap address and ports are correctly configured.

Procedure

Step 1 In the eBox serial port CLI of the client, enter **setnetcfg 1 IP NetMask GateWay** and press **Enter** to set the eBox IPv4 address, subnet mask, and gateway address.

Step 2 Enter **reset** and press **Enter** to reset the board.

Step 3 Enter **getnetcfg 1** to query whether the setting is successful.

Step 4 Enter **setnetcfg 8 Trap destination IP Trap destination port** and press **Enter**.

Step 5 Enter **reset** and press **Enter** to reset the board.

Step 6 Enter **getnetcfg 8** to query whether trap parameters are successfully set.

----End

Example

1. In the eBox serial port CLI of the client, enter **setnetcfg 1 192.168.1.66 255.255.255.0 192.168.1.1** and press **Enter**, as shown in Figure 3-47.

Figure 3-47 Setting the eBox address

```
->setnetcfg 1 192.168.1.66 255.255.255.0 192.168.1.1
Write para success!
->
->reset
```

NOTE

If the **Write para success!** message is displayed after you press **Enter**, the setting is successful.

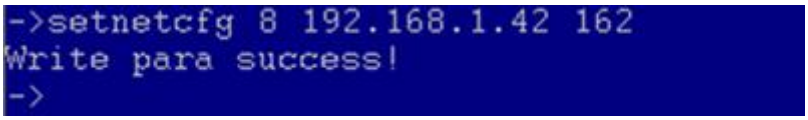
2. Enter **reset** and press **Enter**.
3. Enter **getnetcfg 1**. Figure 3-48 shows the address configuration information.

Figure 3-48 IP address configuration information

```
->getnetcfg 1
 ip:192.168.1.66
 mask:255.255.255.0
 gateway:192.168.1.1
->
```

4. Enter **setnetcfg 8 192.168.1.42 162** and press **Enter** to configure the trap IP address and port parameters, as shown in **Figure 3-49**.

Figure 3-49 Setting the trap IP address and port parameters

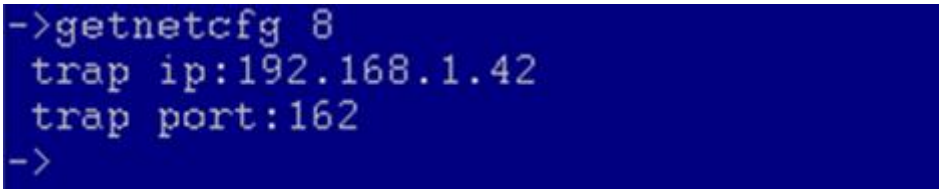


NOTE

If the **Write para success!** message is displayed after you press **Enter**, the setting is successful.

5. Enter **reset** and press **Enter**.
6. Enter **getnetcfg 8**. **Figure 3-50** shows the trap configuration information.

Figure 3-50 Trap configuration information



Configuring the Channel and PAN ID

If more than four eBoxes are deployed in the same scenario, configure eBox RF communication parameters to ensure the reliability of data communications between the eBoxes and eBats.

Prerequisites

More than four eBoxes have been deployed at the same time.

Context

- The number of available channels ranges from 11 to 26, totally 16 channels.
- Each channel supports a maximum of four eBoxes that have different PAN IDs.
- PAN IDs of eBoxes in different channels can be the same.

Procedure

Step 1 In the eBox serial port CLI of the client, enter **setchanid 14** and press **Enter**.

NOTE

If the **set channel id ok.** message is displayed after you press **Enter**, the setting is successful.

Step 2 Enter **reset** and press **Enter** to reset the eBox.

Step 3 Enter **showebox** to query whether the setting is successful.

Step 4 Enter **setpanid 1** and press **Enter** to set the PAN ID.

Step 5 Enter **reset** and press **Enter** to reset the eBox.

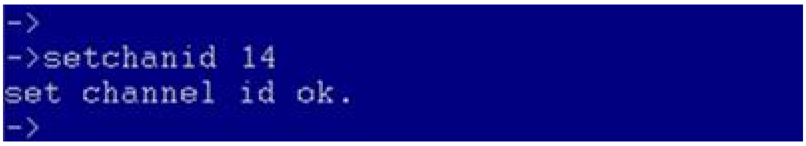
Step 6 Enter **showebox** to query whether the setting is successful.

----End

Example

1. In the eBox serial port CLI, enter **setchanid 14** and press **Enter**, as shown in **Figure 3-51**.

Figure 3-51 Setting the channel

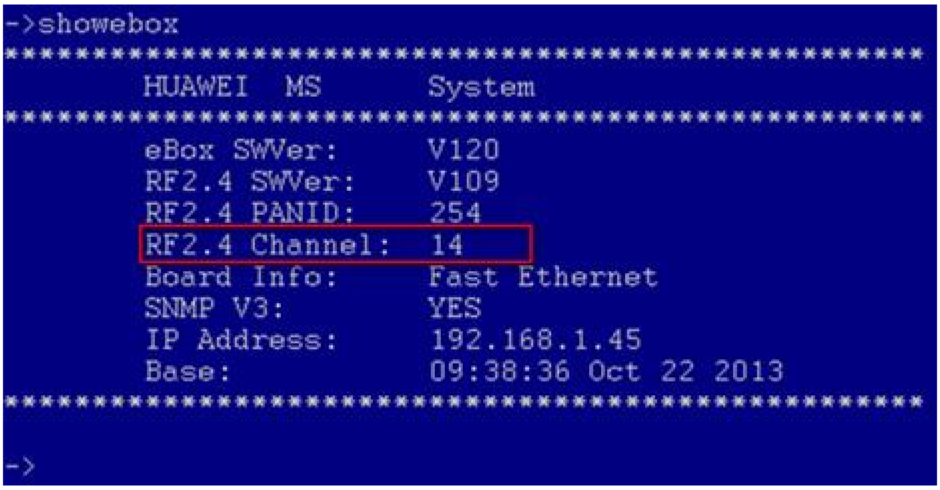


NOTE

If the **set channel id ok.** message is displayed after you press **Enter**, the setting is successful.

2. Enter **reset** and press **Enter** to reset the eBox.
3. Enter **showebox** to query whether the setting is successful, as shown in **Figure 3-52**.

Figure 3-52 Querying channel information



4. Enter **setpanid 1** and press **Enter** to set the PAN ID, as shown in **Figure 3-53**.

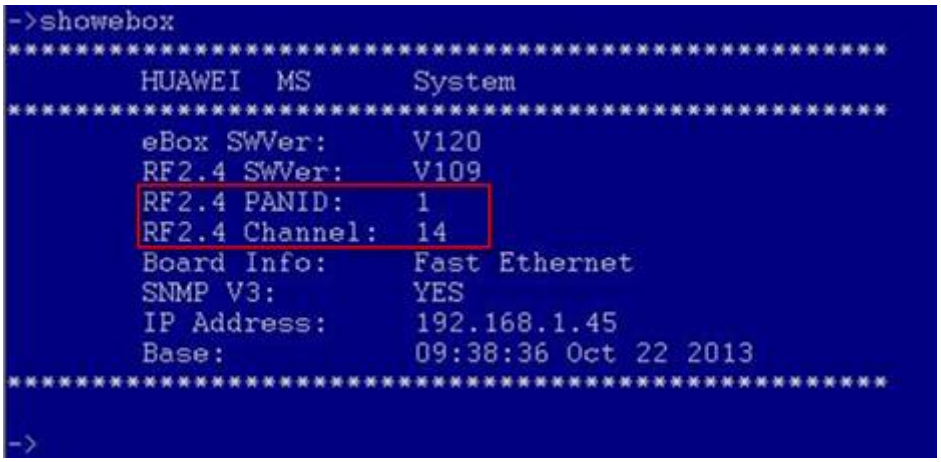
Figure 3-53 Setting the PAN ID

NOTE

If the **set pan id ok.** message is displayed after you press **Enter**, the setting is successful.

5. Enter **reset** and press **Enter** to reset the eBox.
6. Enter **showebox** to query whether the setting is successful, as shown in **Figure 3-54**.

Figure 3-54 Querying eBox setting information



3.4.2.2 Setting eBox Parameters in GPRS-Based

Communication Mode

For an eBox that uses GPRS-based communication mode, set the eBox APN, SIMPIN, trap address, channels, and PAN ID.

Configuring Address Parameters

Configure the eBox APN, SIMPIN, and trap address.

Prerequisites

- The eBox uses GPRS to communicate with the eBIMS.
- The subnet mask and gateway IP address allocated to the eBox have been provided by the customer.

Context

System events and alarms can be reported properly only when the TRAP address and ports are configured correctly.

Procedure

Step 1 In the eBox serial port CLI of the client, enter **setapn apn parameter** and press **Enter** to set APN parameters.

Step 2 Enter **reset** and press **Enter** to reset the eBox.

Step 3 Enter **getapn** to check whether the setting is successful.

Step 4 Enter **setsimpin pincode repeat pincode** and press **Enter** to set SIMPIN parameters.

Step 5 Enter **reset** and press **Enter** to reset the eBox.

Step 6 Enter **getsimpin** to query whether the setting is successful.

NOTE

setsimpin is set to be blank by default. If the SIM card does not require **pincode**, retain the setting. If the SIM card requires **pincode**, ensure that **pincode** you set is the same as **pincode** of the SIM card. Otherwise, the SIM card will be locked after three attempts fail.

Step 7 Enter **setnetcfg 8 Trap destination IP Trap destination port** and press **Enter** to set trap parameters.

Step 8 Enter **reset** and press **Enter** to reset the eBox.

Step 9 Enter **getnetcfg 8** to query whether trap parameters are successfully set.

----End

Example

1. In the eBox serial port CLI of the client, enter **setapn apn parameter** and press **Enter** to set APN parameters, as shown in **Figure 3-55**.

Figure 3-55 Setting APN parameters

```
->setapn CMNET
Set apn success.
->
```

2. Enter **reset** and press **Enter** to reset the eBox.
3. Enter **getapn** to query whether the setting is successful, as shown in **Figure 3-56**.

Figure 3-56 Querying APN parameters

```
->getapn
APN:CMNET
->
```

4. Enter **setsimpin pincode repeat pincode** and press **Enter** to set SIMPIN parameters, as shown in **Figure 3-57**.

Figure 3-57 Setting SIMPIN parameters

```
->setsimpin 2345 2345
set SIM PIN code success.
->
```

5. Enter **reset** and press **Enter** to reset the eBox.
6. Enter **getsimpin** to query whether the SIMPIN setting is successful, as shown in **Figure 3-58**.

Figure 3-58 Querying SIMPIN parameters

7. Enter **setnetcfg 8 192.168.1.42 162** and press **Enter** to configure the trap IP address and port parameters, as shown in **Figure 3-59**.

Figure 3-59 Setting the trap IP address and port parameters

NOTE

If the **Write para success!** message is displayed after you press **Enter**, the setting is successful.

8. Enter **reset** and press **Enter** to reset the eBox.
9. Enter **getnetcfg 8**. **Figure 3-60** shows the trap configuration information.

Figure 3-60 Querying trap configuration information

Configuring the Channel and PAN ID

If more than four eBoxes are deployed in the same scenario, configure eBox RF communication parameters to ensure the reliability of data communications between the eBoxes and eBats.

Prerequisites

More than four eBoxes have been deployed in the same scenario.

Context

- The number of available channels ranges from 11 to 26, totally 16 channels.
- Each channel supports a maximum of four eBoxes that have different PAN IDs.
- PAN IDs of eBoxes in different channels can be the same.

Procedure

Step 1 For details, see **Configuring the Channel and PAN ID**.

----End

3.5 Field Networking

An eBat or eMeter communicates with an eBox by means of wireless connection. Bind eBox and eBat before the wireless connection.

Prerequisites

- The eBat has been installed.
- The eBat and eBox parameters have been configured.
- The linear distance between the eBat and the eBox is no greater than 100 m.

Context

Figure 3-61 shows the binding button and indicator on the eBat.

Figure 3-61 Binding button and indicator on the eBat

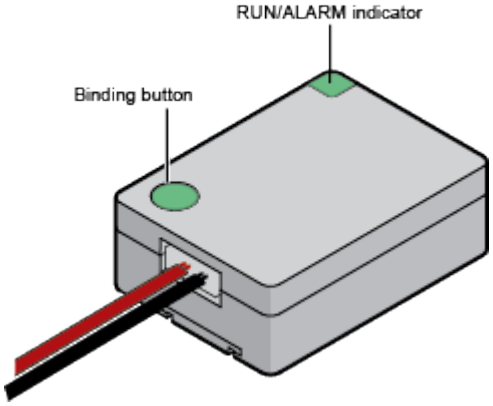


Figure 3-62 shows the binding button and indicator on the eBox.

Figure 3-62 Binding button and indicator on the eBox

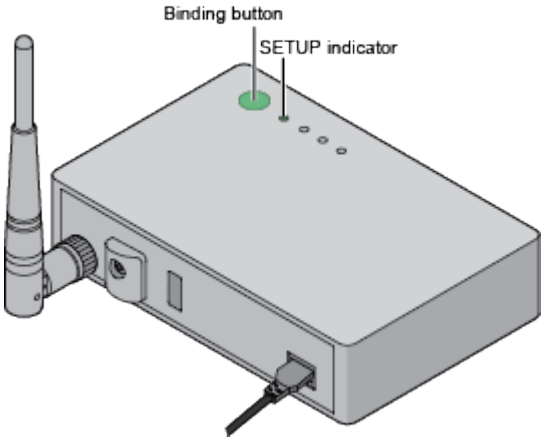


Table 3-2,Table 3-3andTable 3-4, respectively describe the meanings of different indicator status on the eBat eMeter and eBox.

Table 3-2 Description of eBat indicator status

Indicator Name	Indicator Status	Description
RUN/ALARM	Off	The eBat is powered off or in sleep mode.
	Steady green	The eBat is powered on but not connected to the network.
	Fast blinking in green (4 Hz)	The eBat is searching for the network.
	Slow blinking in green (0.5 Hz)	The eBat communication is ready.
	Steady red	The eBat communication is normal. A critical battery internal resistance alarm has happened, which means the battery should be changed.
	Fast blinking in red (4 Hz)	A hardware failure has happened; The communication of ebat is also NOT normal.
	Slow blinking in red (0.5 Hz)	A hardware failure has happened; The communication of ebat is normal.
	Steady orange	The eBat communication is normal, but there is a minor high battery internal resistance alarm.
	Fast blinking in orange (4 Hz)	The eBat LED was turned on manually by remote work station like eBIMS.

Table 3-3 Desciption of eMeter indicator status

Indicator Name	Indicator Status	Description
RUN/ALARM	Off	The eMeter is powered off or in sleep mode.
	Steady green	The eMeter is powered on but not connected to the network.
	Fast blinking in green (4 Hz)	The eMeter is searching for the network.
	Slow blinking in green (0.5 Hz)	The eMeter communication is ready.

Indicator Name	Indicator Status	Description
	Fast blinking in red (4 Hz)	A hardware failure has happened; The communication of eMeter is NOT normal.
	Slow blinking in red (0.5 Hz)	A hardware failure has happened; The communication of eMeter is normal.
	Fast blinking in orange (4 Hz)	The eMeter LED was turned on manually by remote work station like eBIMS

Table 3-4 Description of eBox indicator status

Indicator Name	Indicator Status	Description
SETUP	Off	The eBox is powered off or there is no data transmission.
	Steady green	System initialization (Binding for ebox and ebat is not allowed).
	Fast blinking in green (8 Hz)	Data transmission.
	Slow blinking in green (0.5 Hz)	Binding for eBox and eBat is allowed. Auto disabled after 10 minutes.
RUN	Off	The eBox is powered off or hardware failure.
	Steady Green	The eBox is powered on and there is hardware failure.
	Blinking(0.5 Hz)	The eBox in running normally.
ALM	Off	The eBox is powered off, and there is no fault alarm.
	Steady Red	The hardware failure, the eBox should be replaced.
LINK	Off	The eBox is powered off or there is no data transmission.

Indicator Name	Indicator Status	Description
	Blinking	● eBox-F: data transmission. ● eBox-G: - 1Hz: Searching GPRS networking. - 1/3Hz: Network registered. - 8Hz: data transmission.

Procedure

Step 1 Click the binding button on the eBox within 1 seconds. The SETUP indicator is blinking slowly in green at a frequency of 0.5 Hz, indicating that the eBox and eBat networking is enabled.

Step 2 Press the binding button on the eBat longer than 1 seconds. The RUN/ALARM indicator is blinking slowly in green at a frequency of 0.5 Hz, indicating that the eBox and eBat networking is successful.

Step 3 **Optional:** Repeat**Step 2** for other eBats in the same group.

Step 4 Click the binding button on the eBox within 1 seconds to turn off the binding procedure.

----End

3.6 Setting Number of Battery Strings

To facilitate the eBIMS to analyze and display battery data, you need to set string numbers for the batteries connected to the eBIMS.

Prerequisites

- eBats are connected to batteries.
- eBats and eBoxes are networked after code matching.

Context

- You can group batteries using the eBox configuration tool. To use the eBox configuration tool to group batteries, start from **Step 5**.
- You can set a string number for a single eBat or for multiple eBats.
- One eBat is used for each battery. Therefore, the string number of eBats is that of batteries.
- A eBox contains a maximum of eight eBat strings.

Procedure

Step 1 In the eBox serial port CLI of the client, enter **setstrno 2 1**and press**Enter**to set the string number to**2** for No.1 eBat.

- **2**: indicates the string number.
- **1**: indicates the eBat number.

NOTE

If the system displays **Set string number success.**, the setting is successful.

Step 2 Enter **showebat** to query single eBat string information.

Step 3 In the eBox serial CLI, enter **setstrno 2 1 3**and press**Enter**to set the string number to**2** for No. 1 to No.3 eBats.

- **2**: indicates the string number.
- **1**: indicates the eBat start number.
- **3**: indicates the eBat end number.

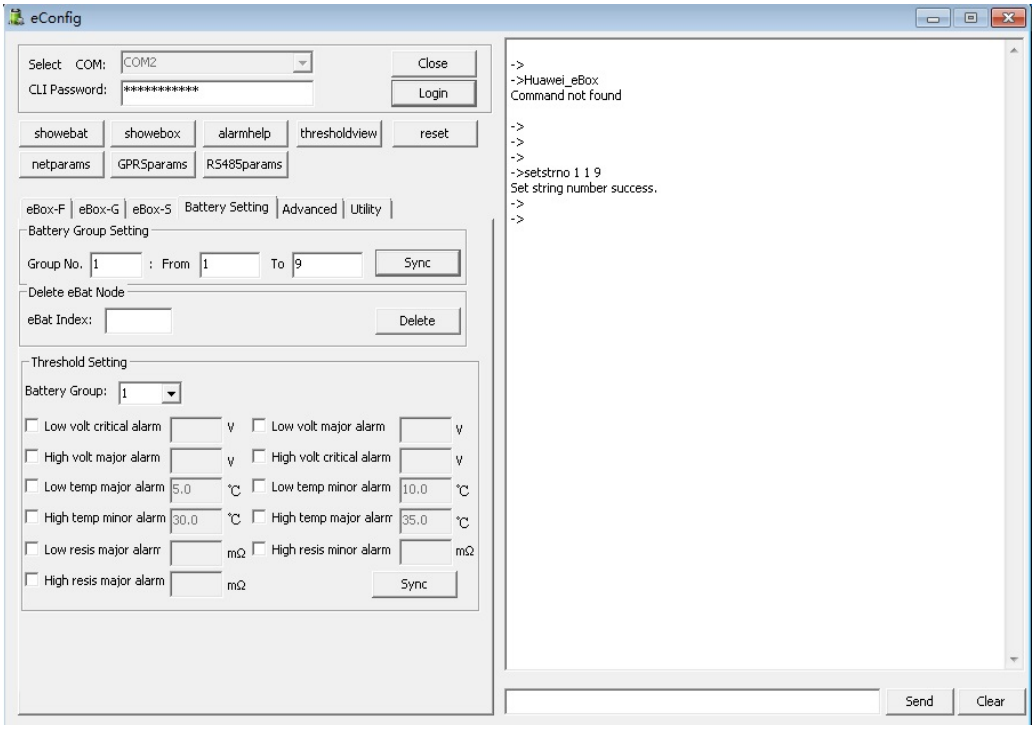
NOTE

If the system displays **Set string number success.**, the setting is successful.

Step 4 Enter **showebat** to query multiple eBat string information.

Step 5 **Optional:** Use the eBox configuration tool to group batteries by specify the group number and battery number range, as shown in**Figure 3-63**.

Figure 3-63 Grouping batteries

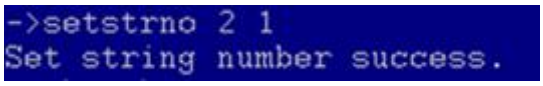


----End

Example

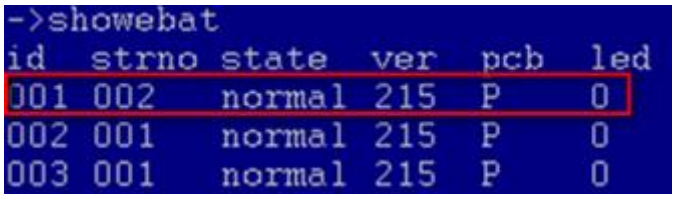
1. In the eBox serial port CLI of the client, enter **setstrno 2 1**and press**Enter**to set the string number to**2**for No.1 eBat, shown as**Figure 3-64**.

Figure 3-64 Setting string number for a single eBat



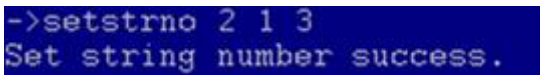
2. Enter **showebat**to query single eBat string information, as shown in**Figure 3-65**.

Figure 3-65 Querying single eBat string information



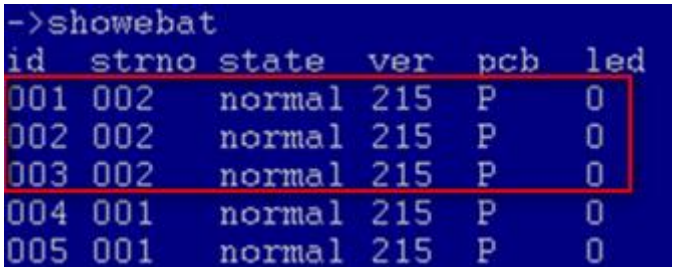
3. In the eBox serial CLI, enter **setstrno 2 1 3**and press**Enter**to set the string number to**2**for No.1 to No.3 eBats, as shown in**Figure 3-66**.

Figure 3-66 Setting string number for multiple eBats



4. Enter **showebat**to query eBat string information, as shown in**Figure 3-67**.

Figure 3-67 Querying multiple eBat string information



3.7 Querying Battery Information

Query information about eBats managed by the eBox for onsite commissioning and fault locating.

Prerequisites

- eBats and eBoxes are networked.
- The eBats have been grouped.

Context

You can also query the battery information using the eConfig function of the eBox. For details, see **Step 2**.

Procedure

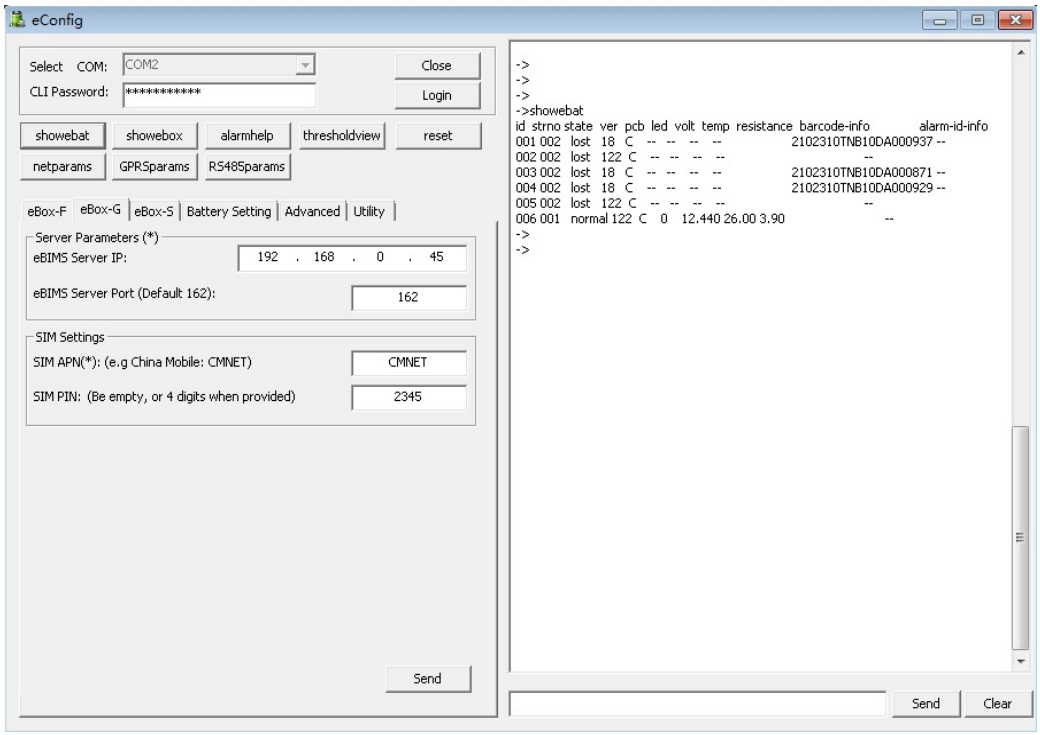
Step 1 In the eBox CLI, enter the **showebat**command to query the number of the eBats and determine whether the onsite connection configuration is correct.**Figure 3-68** shows the eBat information query page.

Figure 3-68 Querying eBat information

```
showebat
id  strno state  ver  pcb  led  volt  temp  resistance  barcode-info          alarm-id-info
001 001   normal 215  C    0    2.081 21.00 13.03       2102310TNB10D9000180 --
002 001   normal 215  C    0    2.076 21.00 12.85       2102310TNB10D9000004 --
003 001   normal 215  C    0    2.086 21.50 13.34       2102310TNB10D9000178 --
004 001   normal 215  C    0    2.086 20.50 13.47       2102310TNB10D9000142 --
005 001   normal 215  C    0    2.081 21.00 13.44       2102310TNB10D9000113 --
```

Step 2 **Optional:** In the eConfig dialog box, click**showebat**to check the storage battery information, as shown in**Figure 3-69**.

Figure 3-69 Querying eBat information using the eConfig function



----End

3.8 Setting current transducer information of eMeter

Prerequisites

- eMeter has been connected with battery string.
- eMeter has been connected with current transducer.

- eMeter and eBox are networked.

Context

- You can configure the current transducer by means of eConfig.
- One eMeter works for only one battery string.
- One eBox can manage max 8 eMeters.

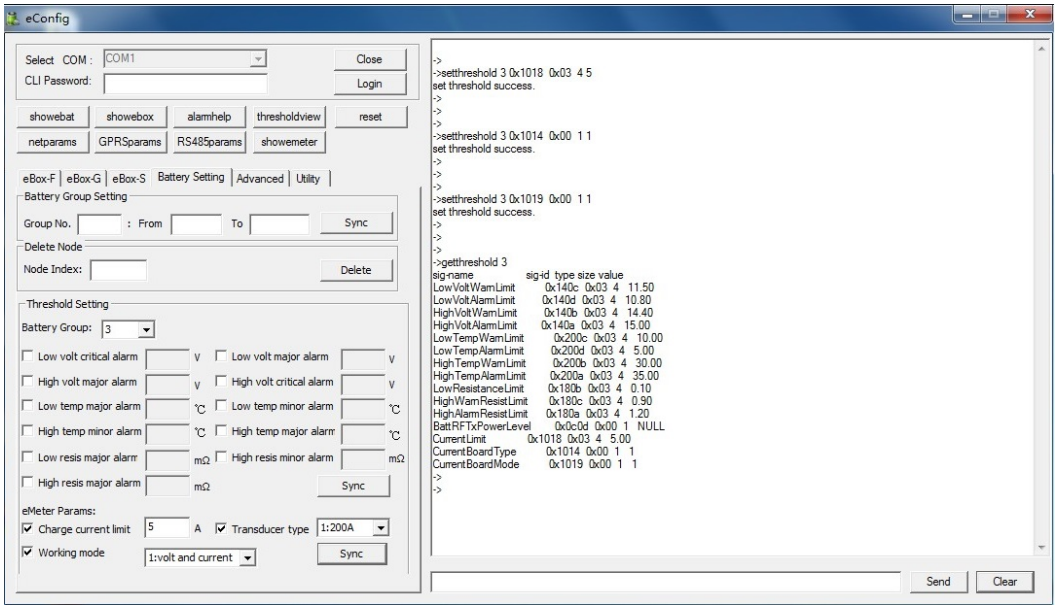
Procedure

Step 1 To confiugre the current transducer by eConfig. **Figure 3-70** shows how to use eConfig to setup the current transducer information.

- Charge Current Limit: Current value when battery string state changes from equalize state to float state.
- Transducer Type: The transducer type to be used.
- Working Mode: String voltage and current mode; Current only mode.

----End

Figure 3-70 Configuration of current transducer



3.9 Verifying the Hardware Installation

After the hardware installation, verify the installation.

Table 3-5 describes the check items and check methods for the hardware installation.

Table 3-5 Hardware installation checklist

No.	Check Item	Check Method
1	Cables between eBats and Batteries are connected correctly and securely.	Visually check that the red and black cables correctly and securely connect to the Batteries.
2	eBats are secured on Batteries.	Visually check that eBats are secured.
3	The wireless communication signal indicator for eBats works properly.	Consecutively press the code matching button on the eBat. Visually check that the signal indicator blinks in green at a frequency of 0.5 Hz.
4	eBoxes are securely mounted to the wall.	Manually check that the eBoxes are properly mounted to the wall without drop risks.
5	The wireless communication signal indicator for eBoxes works properly.	Visually check that the SETUP indicator is off.
6	All battery screws are secured.	Perform operations by referring to **3.7 Querying Storage Battery Information**. If the number of eBats are correct, battery screws are properly secured. Otherwise, check and secure screws.

4 Software Installation

About This Chapter

About This Chapter

Installing the eBIMS includes installing software and loading license files.

4.1 Hardware Requirements

To install the eBIMS, the software and hardware must meet installation requirements.

Table 4-1 shows the eBIMS requirements for software and hardware configurations.

Table 4-1 eBIMS hardware configuration requirements

Server Configuration	Operating System	Database	Client
CPU: 2 x 4-core, 2.4 GHz or above Memory: 32 GB or above Disk: 2.0 TB or above	Windows Server 2008 R2 Standard 64-bit	The system is equipped with a database, so you do not need to install one.	Internet Explorer 8.0 or later versions

NOTE

Recommended server: Tecal RH2288 V2-HS1M000SRS01-eBIMS Server Standard (Xeon E5-2609-4Core-2.4GHz-64bit, Mem 32G,2*1000G)

4.2 Installing the eBIMS

This section describes how to install the eBIMS. Comply with the requirements during the installation.

Prerequisites

- Windows Server 2008 is installed.
- Hardware facilities meet configuration requirements.
- The directory for storing installation files can contain only characters, digits, -, and _. Otherwise, the eBIMS cannot be installed.

Context

To ensure secure and stable running of the eBIMS, harden the operating system and antivirus software by referring to the following guides:

- eBIMS V100R002C00 Windows Server 2008 R2 Security Hardening User Guide
- eBIMS V100R002C00 Windows Server 2008 R2 Antivirus Solution User Guide

The guides are available on **http://support.huawei.com**.

Procedure

Step 1 Log in to Windows Server 2008 using an account with the operation right.

NOTE

The eBIMS cannot be installed in a remotely shared directory.

Step 2 Double-click **setup.bat** to start the eBIMS installation.

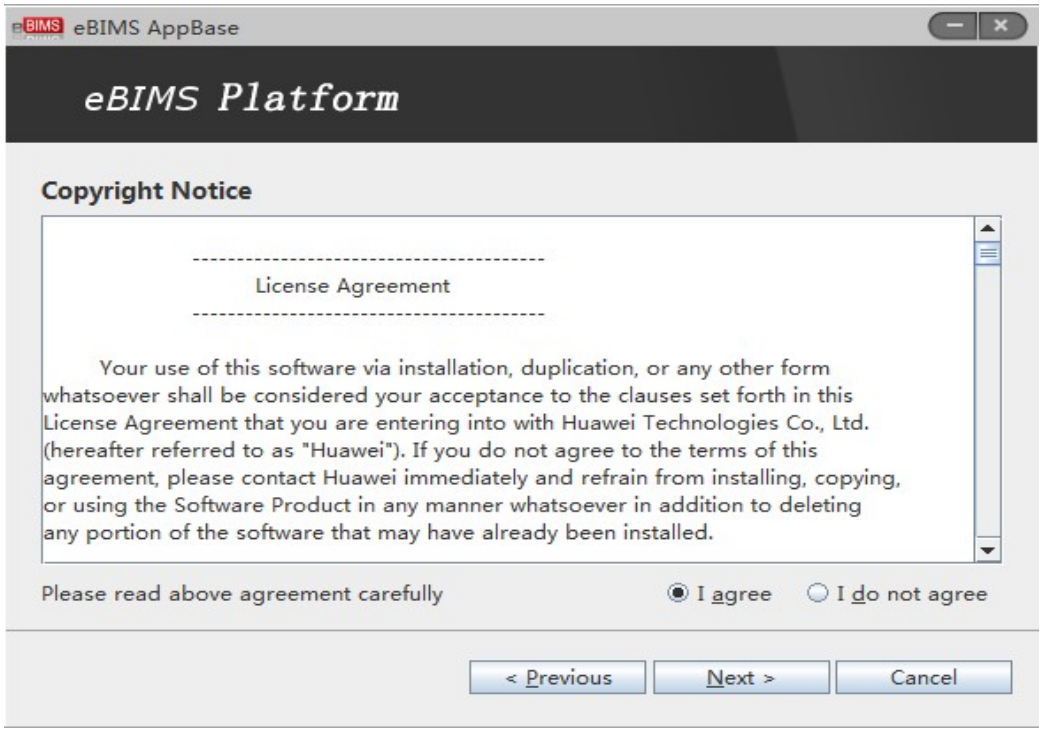
Step 3 In the **Choose a Language** dialog Box, select a language and click **OK**. The eBIMS installation dialog Box is displayed.

NOTE

The system automatically checks whether the current environment meets the requirements for installing the eBIMS. If the current environment does not meet the requirements, the system will display a message.

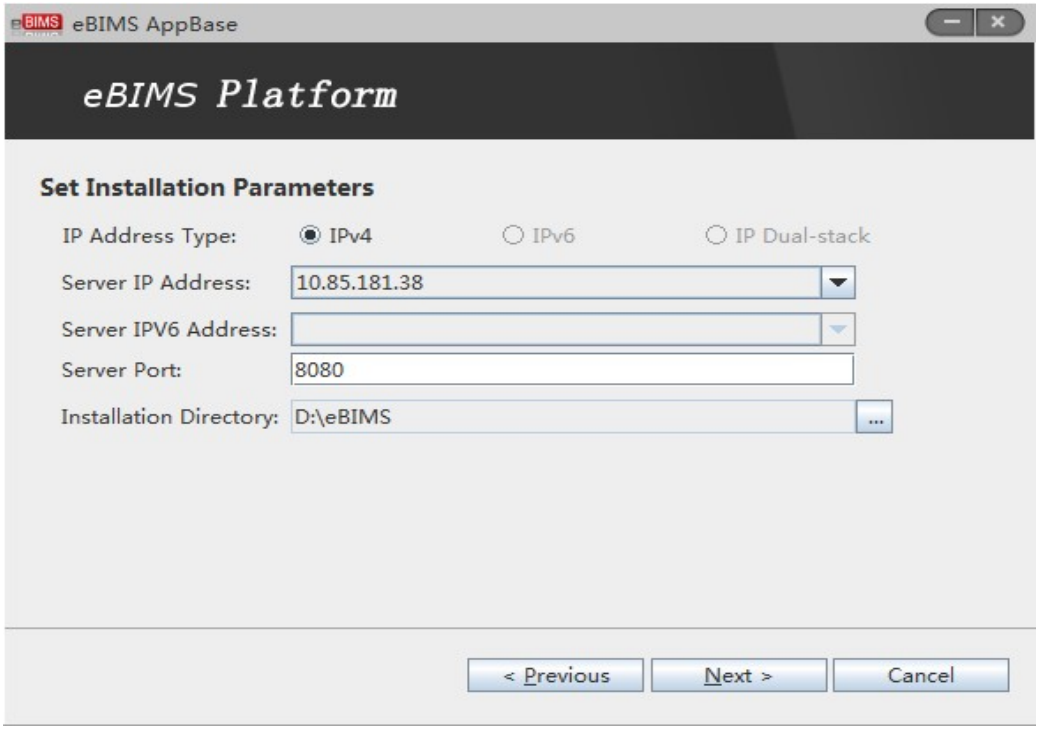
Step 4 Click **Next**. The **Copyright Notice** dialog Box is displayed, as shown in **Figure 4-1**.

Figure 4-1 Copyright Notice



Step 5 Click **I agree** and click **Next**. The **Server Parameters** dialog Box is displayed, as shown in **Figure 4-2**.

Figure 4-2 Setting server parameters

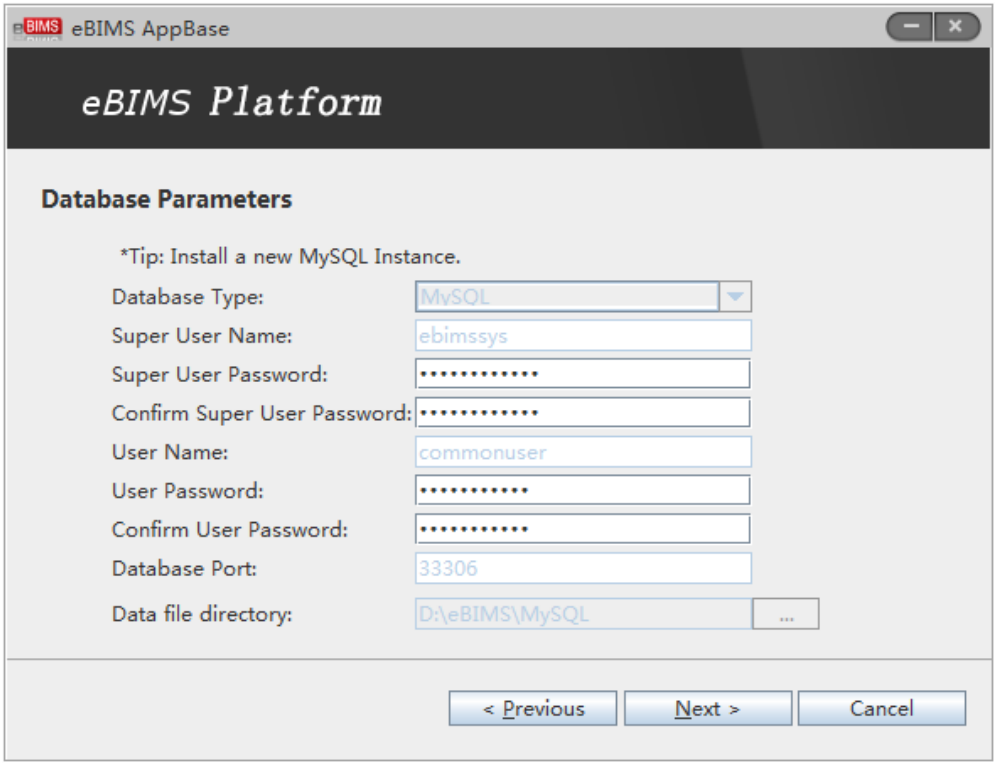


NOTE

- **Server IP Address**: indicates the default IP address of the eBIMS server. If the server has multiple IP addresses, select a public IP address from the drop-down list.
- **Server Port**: The default port number is **8080**.
- The eBIMS is installed in drive D by default. You can change the installation directory. The directory should not contain Chinese characters, special characters, or spaces and its name length should be no longer than 60 characters.
- To ensure successful eBIMS installation, verify that the eBIMS installation directory is empty before the installation.

Step 6 Click **Next**. In the **Database Parameters** dialog Box, set parameters and click **Next**, as shown in **Figure 4-3**.

Figure 4-3 Setting database parameters

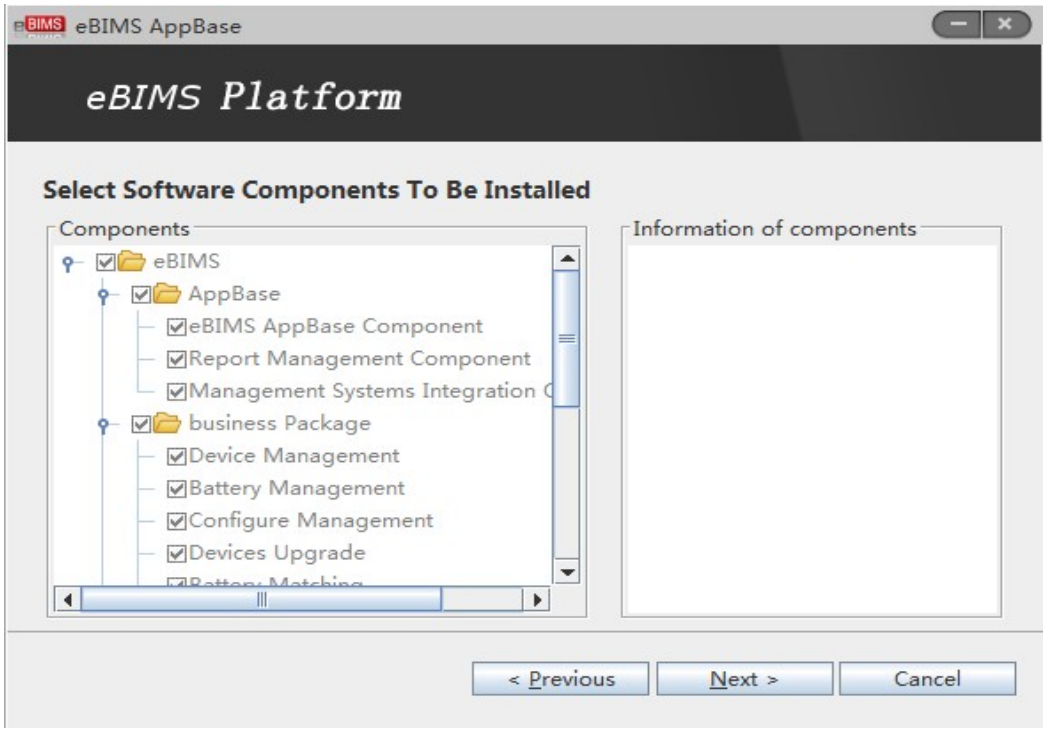


NOTE

- **Database Type**: The default database is **MySQL**.
- **Super User Name**: The default database administrator user name is **ebimssys**.
- **Super User Password**: The default database administrator password is **Changeme1234**. It is recommended that you set a password by yourself.
- **User Name**: The default database common user name is **commonuser**.
- **User Password**: The default database common user password is **Changeme123**. It is recommended that you set a password by yourself.
- **Database Port**: The default database port number is **33306**.
- **Data file directory**: The default database directory is **MySQL** under the eBIMS installation directory.

Step 7 Click **Next**. The **Components Select** dialog Box is displayed, as shown in **Figure 4-4**.

Figure 4-4 Components Select

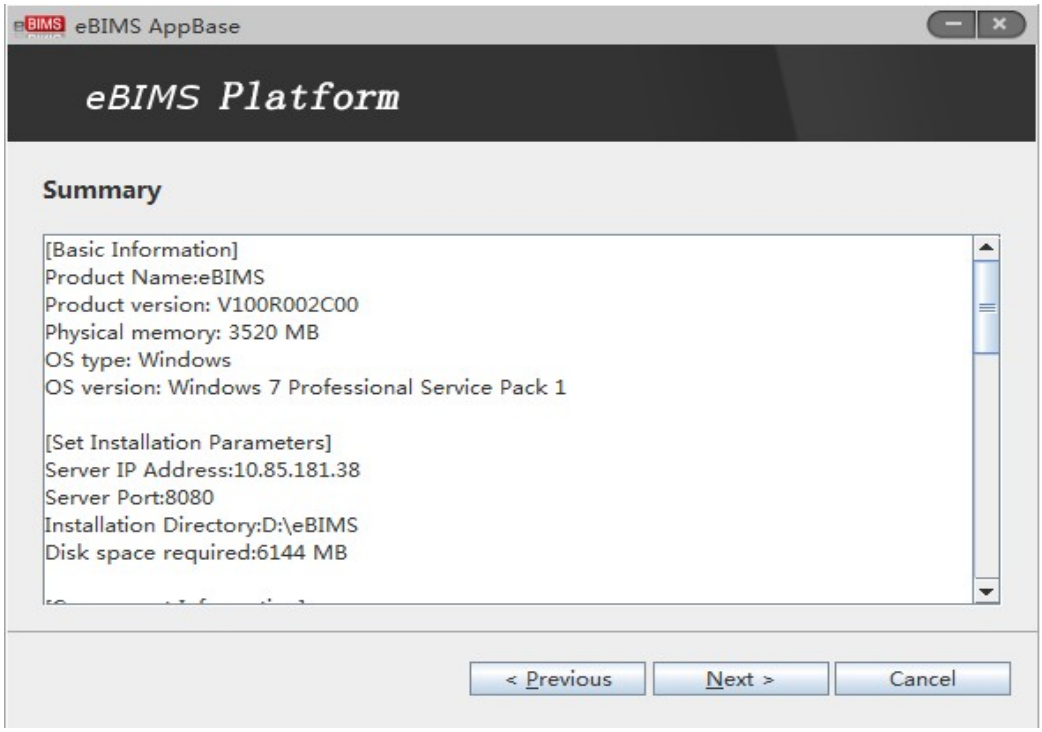


NOTE

All components are selected by default.

Step 8 Click **Next**. The **Summary** dialog box is displayed, as shown in **Figure 4-5**.

Figure 4-5 Summary

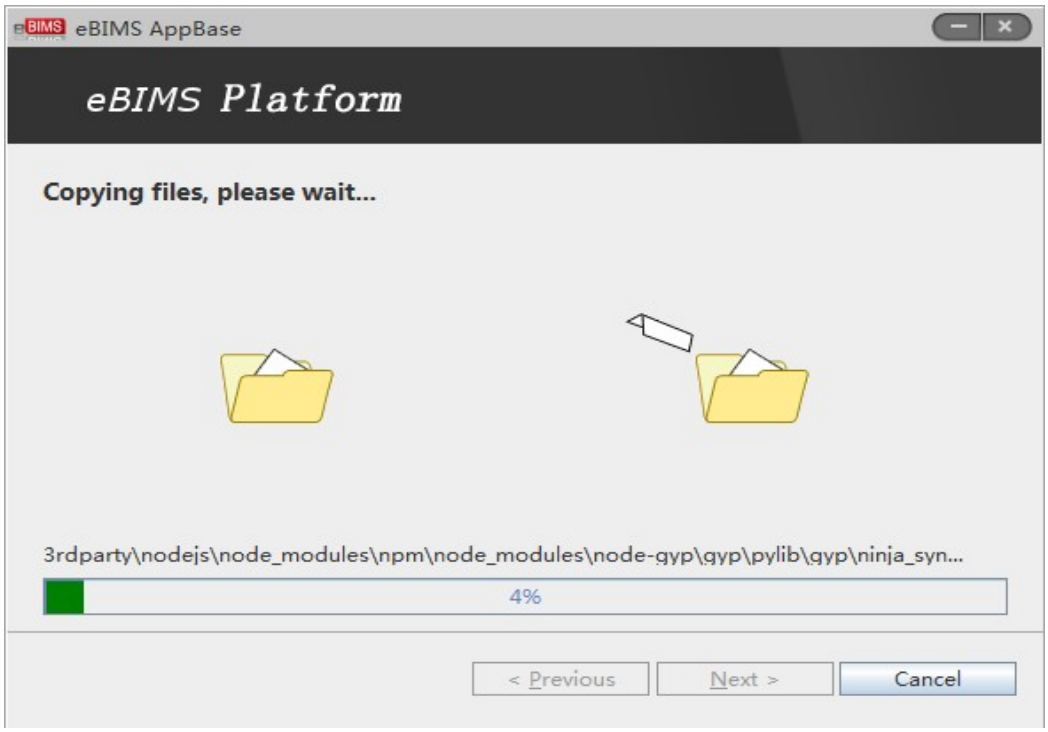


NOTE

If the installation information is incorrect, click **Previous** to reset the installation information.

Step 9 After confirming the installation information, click **Next**. The system starts to install the eBIMS, as shown in **Figure 4-6**.

Figure 4-6 Installation process



Step 10 Wait about 3 to 5 minutes, the **Installation Completed** dialog Box is displayed. Then click **Finish**.

NOTE

- The default user name is **admin** and the default password is **Changeme123**. You can change them the first time you log in to the eBIMS.
- Please change the admin user's password periodically.

----End

4.3 Verifying the Software Installation

This section describes how to verify the software installation.

Procedure

Step 1 Verify that the **eBIMS Console** shortcut icon is displayed on the desktop.

Step 2 Start the eBIMS service. If the message **starting eBIMS system succeeded.** is displayed, the eBIMS service has been started.

Start the eBIMS service using either of the following two methods:

- Double-click the **eBIMS Console** shortcut icon on the desktop. In the displayed **eBIMS Console** dialog box, click **Start**.
- Choose **Start** > **All Programs** > **eBIMS** > **eBIMS Console**. In the displayed **eBIMS Console** dialog box, click **Start**.

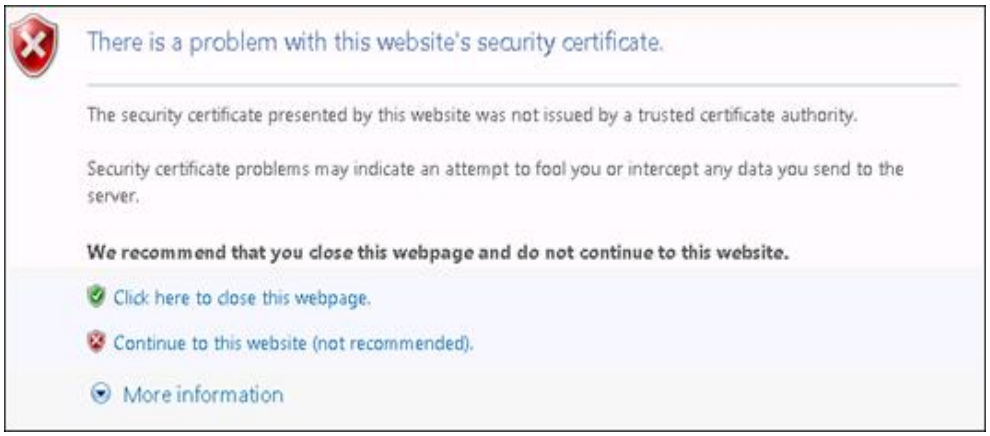
Step 3 Log in to the eBIMS server from the client by using the Internet Explorer 8.0.

1. Open Internet Explorer.
2. Choose **Tools** > **Internet Options** from the main menu. In the **Internet Options** dialog Box, click the **Security** tab, and click **Custom Level**.
3. In the **Security Settings** dialog Box, click **Enable** under **Downloads** > **Automatic prompting for file downloads**, and click **OK**.
4. Enter **http://*Server IP address*:*Port ID*** in the address bar and press **Enter**.

   NOTE

   - **Server IP address** indicates the server IP address configured when installing the eBIMS.
   - **Port ID** is **8080** by default.
5. Install a security certificate when logging in to the eBIMS server for the first time. Click **Continue to this website (not recommended)**, as shown in **Figure 4-7**.

   Figure 4-7 Message indicating an incorrect certificate



6. Click **Certificate Error** on the right of the address bar.
7. In the **Untrusted Certificate** dialog Box, click **View certificates**, as shown in **Figure 4-8**.

Figure 4-8 Message indicating an untrusted certificate

8. In the **Certificate** dialog Box, click **Install Certificate** on the **General** tab page, as shown in **Figure 4-9**.

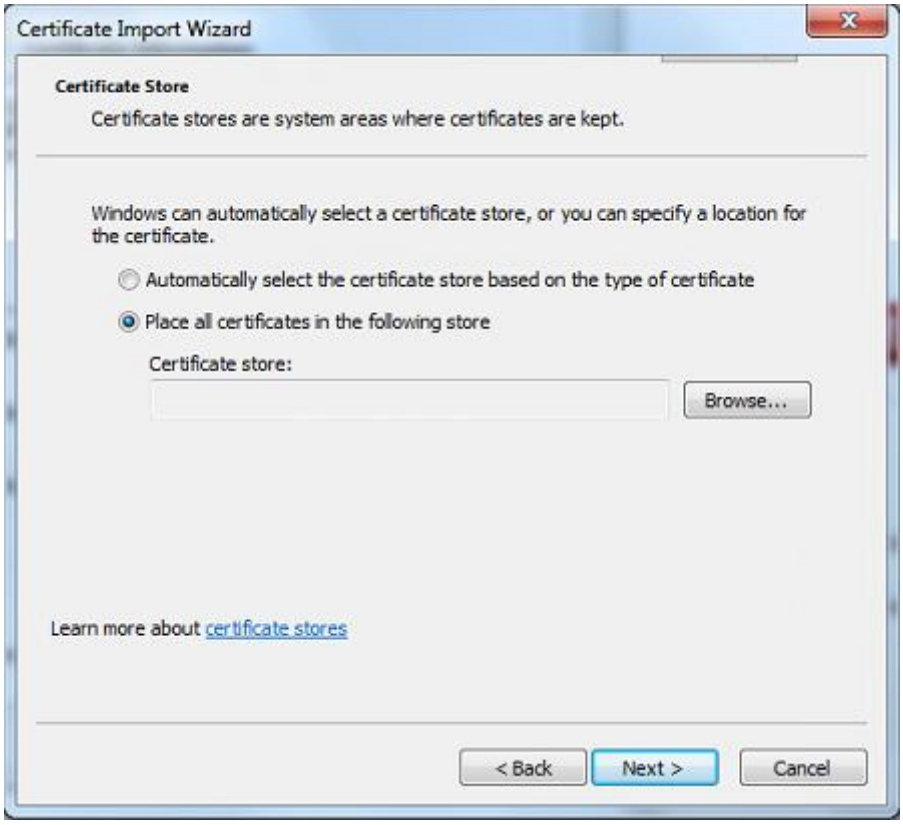
Figure 4-9 Certificate information

9. In the **Certificate Import Wizard** dialog Box, retain the default settings and click **Next** until the installation is completed. Then, click **Finish**, as shown in **Figure 4-10**.

Figure 4-10 Certification importing wizard

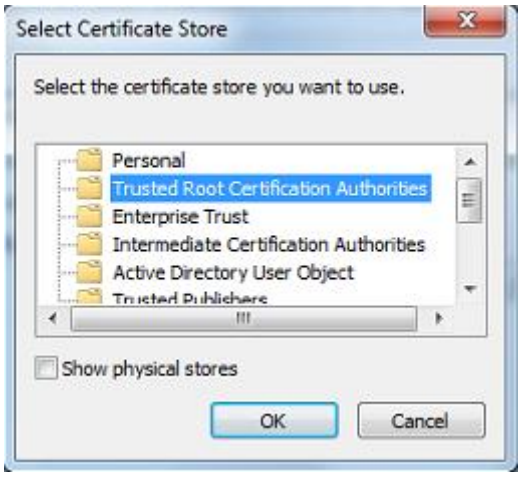
10. In the displayed **Certificate Import Wizard** dialog box, select **Place all certificate in the following store** and click **Browse**, as shown in **Figure 4-11**.

Figure 4-11 Certificate Import Wizard



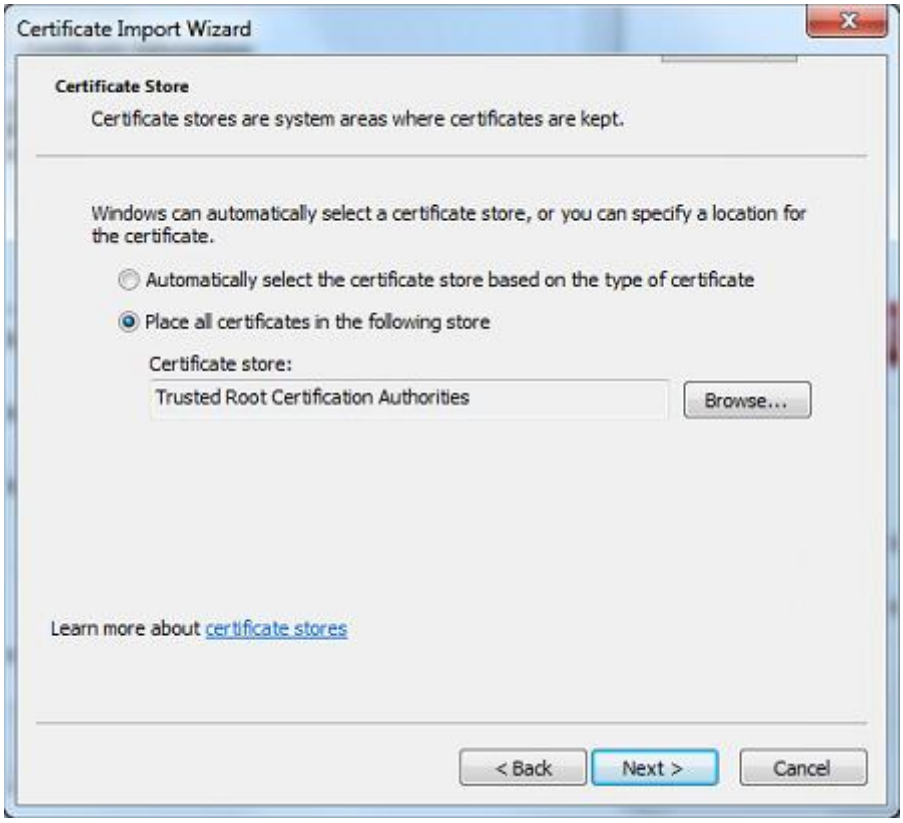
11. In the displayed **Select Certificate Store** dialog box, select **Trusted Root Certification Authorities** and click **OK**, as shown in **Figure 4-12**.

Figure 4-12 Select Certificate Store



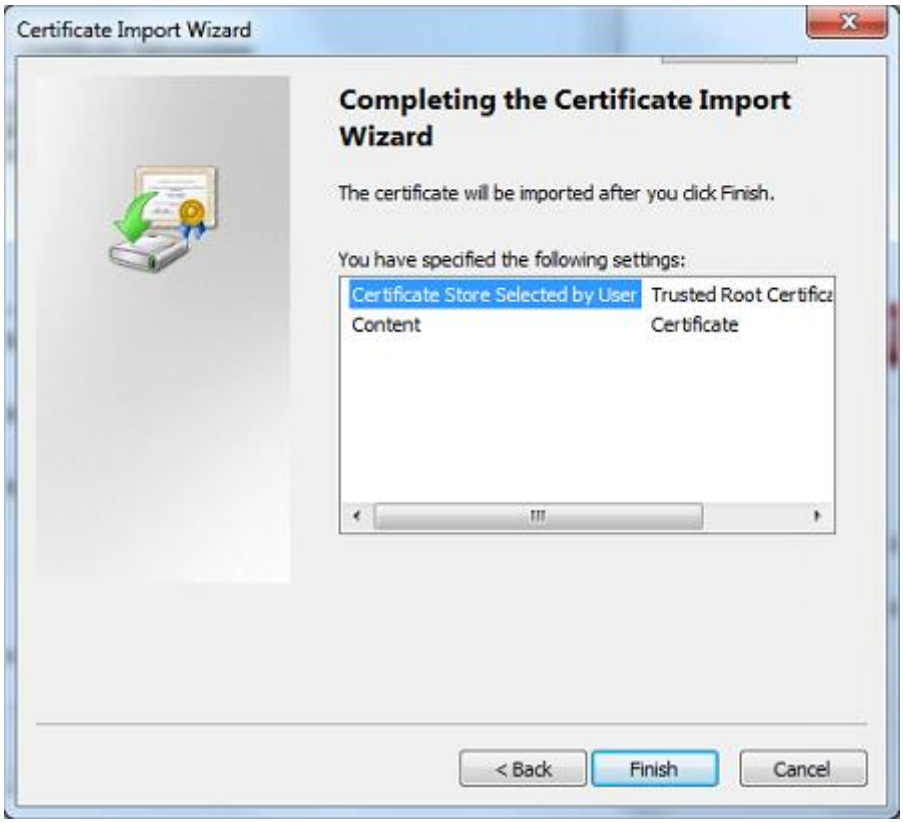
12. In the displayed **Certificate Import Wizard** dialog box, click **Next**, as shown in **Figure 4-13**.

Figure 4-13 Certificate Import Wizard



13. In the displayed **Certificate Import Wizard** dialog box, click **Finish**.
14. In the displayed **Security Warning** dialog box, click **Yes**, as shown in **Figure 4-14**.

Figure 4-14 Completing the Certificate Import Wizard



15. Click **Finish**.
16. Open the Internet Explorer again, enter **http://*server IP address*:*port number*** in the address bar, and click **Enter**.
17. Enter the user name **admin** and the default password **Changeme123**, and click **Login**.

----End

4.4 Registering the eBIMS

When the initial license of the eBIMS expires, load a new license file and register the eBIMS to ensure that the eBIMS works properly.

The eBIMS provides a license with a validity period when the eBIMS is installed the first time. When the license expires, a new license file must be loaded to ensure proper running of the eBIMS.

A license file can be reloaded in the following two scenarios:

1. Loading the license file before the initial license expiration
2. Loading the license file after initial license expiration

4.4.1 Loading a New License File Before the Initial License Expires

Apply for a new license and load the license file before the initial license expires.

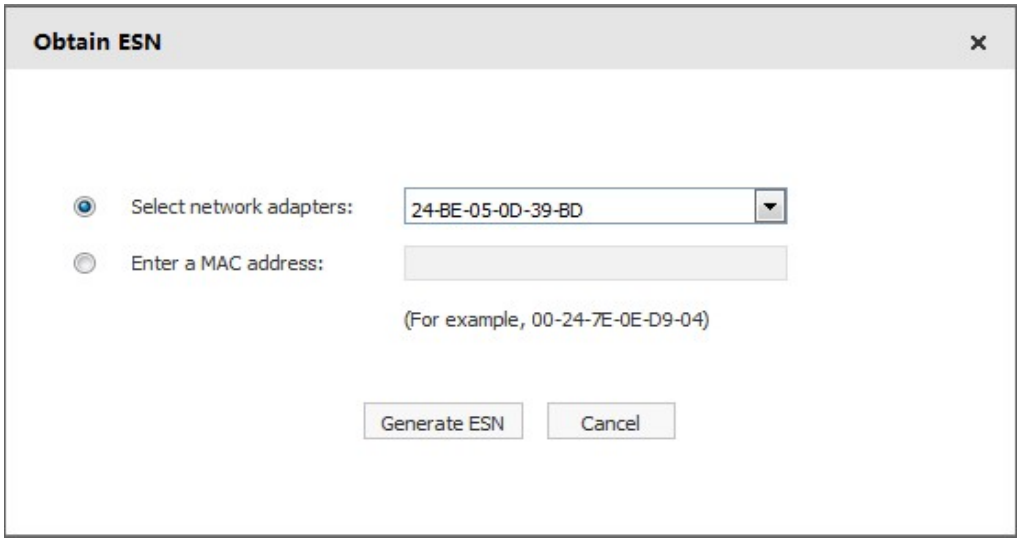
Procedure

Step 1 Specify **User name** and **Password** to log in to the eBIMS.

Step 2 Choose **System** > **License Management** and click **Obtain ESN**.

Step 3 In the displayed **Obtain ESN** dialog box, select **Select network adapters** and click **Generate ESN**, as shown in **Figure 4-15**.

Figure 4-15 Obtain ESN



NOTE

An ESN (Equipment Serial Number) is a string that uniquely identifies a device. It ensures that the license is granted to the specified device. If the server is equipped with multiple network adapters, record the ESNs for all the network adapters.

Select the network adapter whose IP address is the one defined for the eBIMS.

Step 4 Log in to **http://support.huawei.com/support/**, fill the license application information, and click **Submit**.

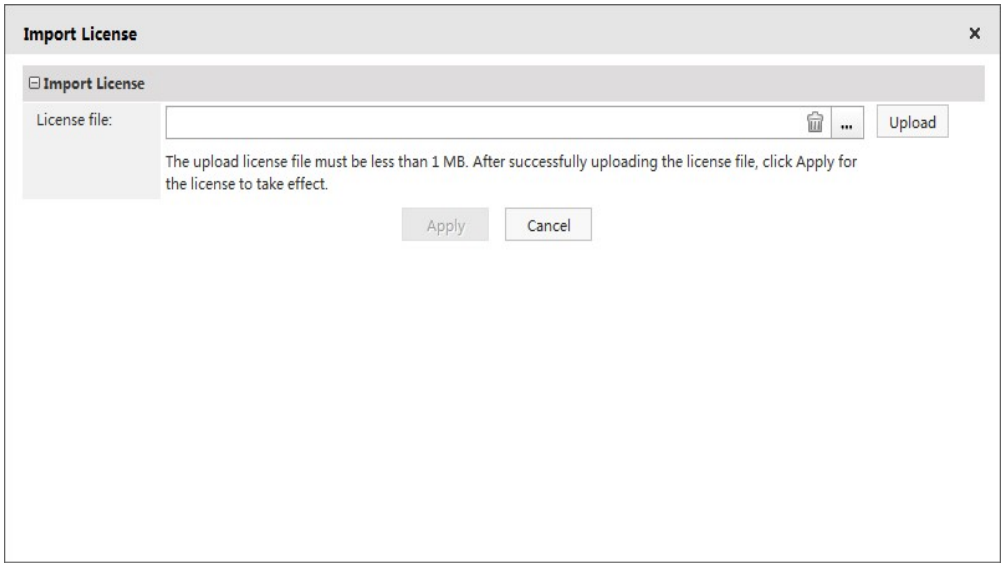
NOTE

After the application is granted, a license is sent to you by email.

Step 5 Choose **System** > **License Management** and click **Import License**.

Step 6 In the displayed **Import License** dialog box, select a license file and click **Import**, as shown in **Figure 4-16**.

Figure 4-16 Import License



Step 7 Click **Apply**.

----End

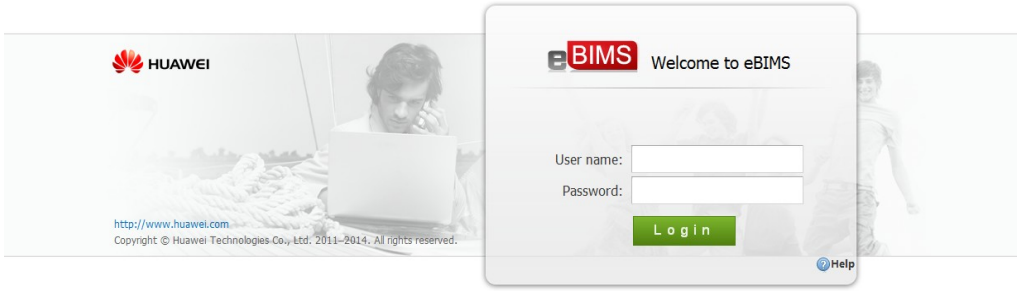
4.4.2 Loading a New License File After the Initial License Expires

After the initial license expires, apply for a new license and load the license file again to ensure that the eBIMS works normally.

Procedure

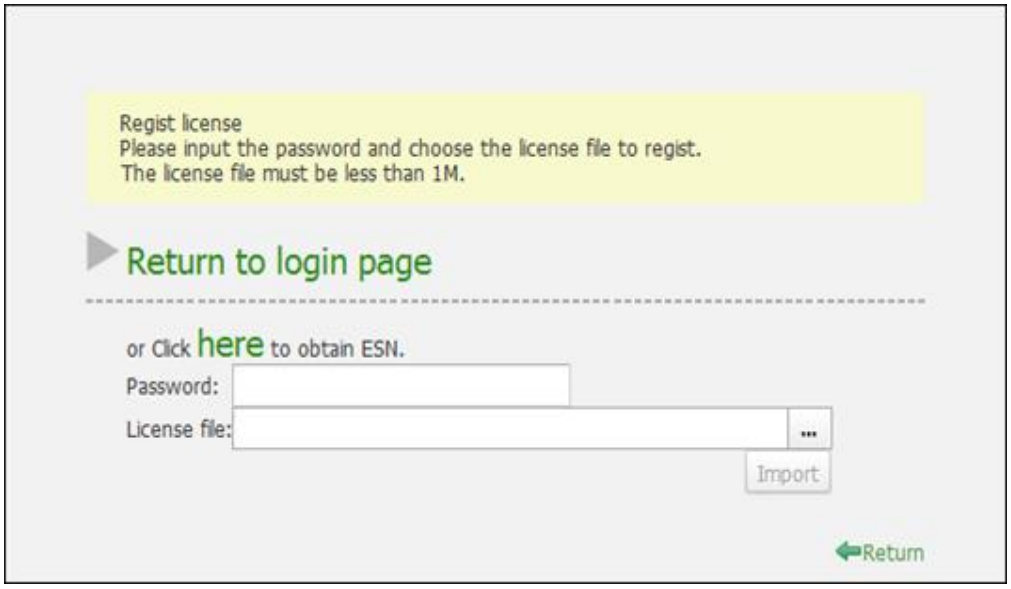
Step 1 Click **here** on the eBIMS login page, as shown in **Figure 4-17**.

Figure 4-17 eBIMS login page



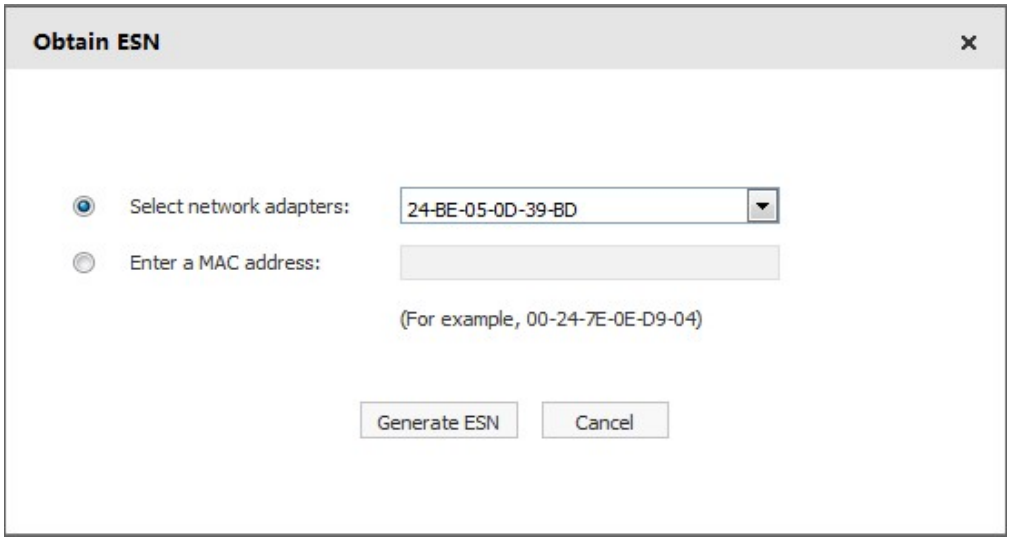
Step 2 In the displayed dialog box, click **here**, as shown in **Figure 4-18**.

Figure 4-18 ESN entry dialog box



Step 3 In the displayed **Obtain ESN** dialog box, select **Select network adapters** and click **Generate ESN**, as shown in **Figure 4-19**.

Figure 4-19 Obtain ESN



NOTE

An ESN (Equipment Serial Number) is a string that uniquely identifies a device. It ensures that the license is granted to the specified device. If the server is equipped with multiple network adapters, record the ESNs for all the network adapters.

Step 4 Log in to **http://support.huawei.com/support/**, fill the license application information, and click **Submit**.

NOTE

After the application is granted, a license is sent to you by email.

Step 5 Repeat **Step 1** and **Step 2**, enter the administrator's password, select the license, and click **Import**.

NOTE

After the license is loaded successfully, the eBIMS login page is displayed.

----End

4.5 Uninstalling the eBIMS

This section describes how to uninstall the eBIMS.

Procedure

Step 1 Choose **Start**>**All Programs**>**eBIMS**>**eBIMS Console**. In the displayed **eBIMS Console** dialog box, click **Stop**.

Step 2 Choose **Start**>**All Programs**>**eBIMS**>**uninstall eBIMS**.

NOTE

After the uninstallation, eBIMS data is deleted. If you need to save eBIMS data, back up the data as prompted.

Step 3 In the **Confirm uninstallation** dialog box, click **Next**.

Step 4 In the **Confirm** dialog box, click **Yes**.

Step 5 In the **Uninstallation Completed** dialog box, click **Finish**.

----End

Follow-up Procedure

1. Verify that the shortcut icons are deleted from the desktop.
2. Verify that the eBIMS installation directory is deleted.

5 FAQ

About This Chapter

About This Chapter

Frequently asked questions about the installation of eBIMS

5.1 How Can I Modify the Database eBIMS IP Address?

Question

After the server IP address is changed, how do I modify the database eBIMS IP address?

Answer

Step 1 Choose **Start** > **All Programs** > **eBIMS** > **eBIMS Console**. In the **eBIMS Console** dialog box, click **Stop**.

Step 2 Modify the database eBIMS IP address using an IP address modification tool.

1. Choose **Start** > **All Programs** > **eBIMS Console**> **Tools** > **IP Change Tool** to start the IP address modification tool.
2. In the **IP Change Tool** dialog box, choose the desired server IP address and click **Modify**.
3. Click **Yes** when the system prompts you to continue.
4. In the displayed window, click **Confirm**.

Step 3 Start the eBIMS service.

- On the Windows OS, choose **Start** > **All Programs** > **eBIMS** > **eBIMS Console**. In the displayed **eBIMS Console** dialog box, click **Start**.

----End

5.2 How Can I Connect the eBox to a Laptop?

Question

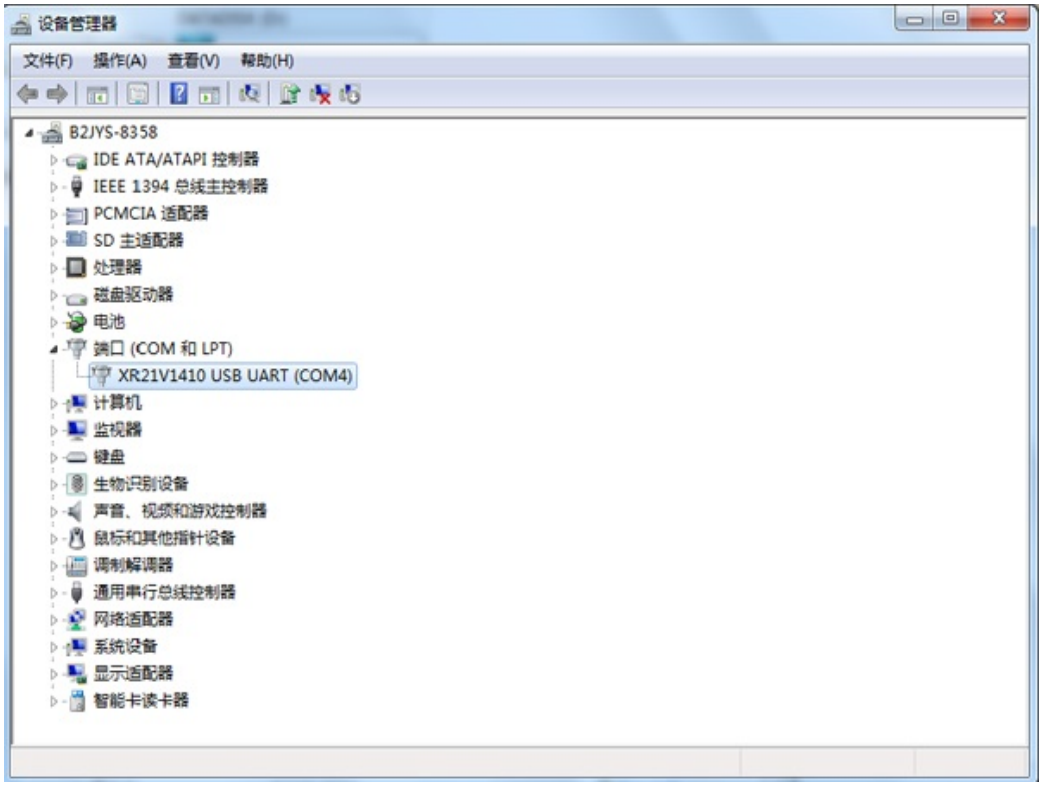
How can I connect the eBox to a laptop?

Answer

Step 1 Connect the eBox to a laptop using a USB cable.

Step 2 Install the USB serial driver on the laptop. After the installation is successful, a new COM port is displayed in the **Device Manager** window, as shown in **Figure 5-1**.

Figure 5-1 New COM port



NOTE

Obtain the USB serial driver at **http://support.huawei.com**.

Step 3 Choose **Start** > **All Programs** > **Accessories** > **hypertrm** to open HyperTerminal.

NOTE

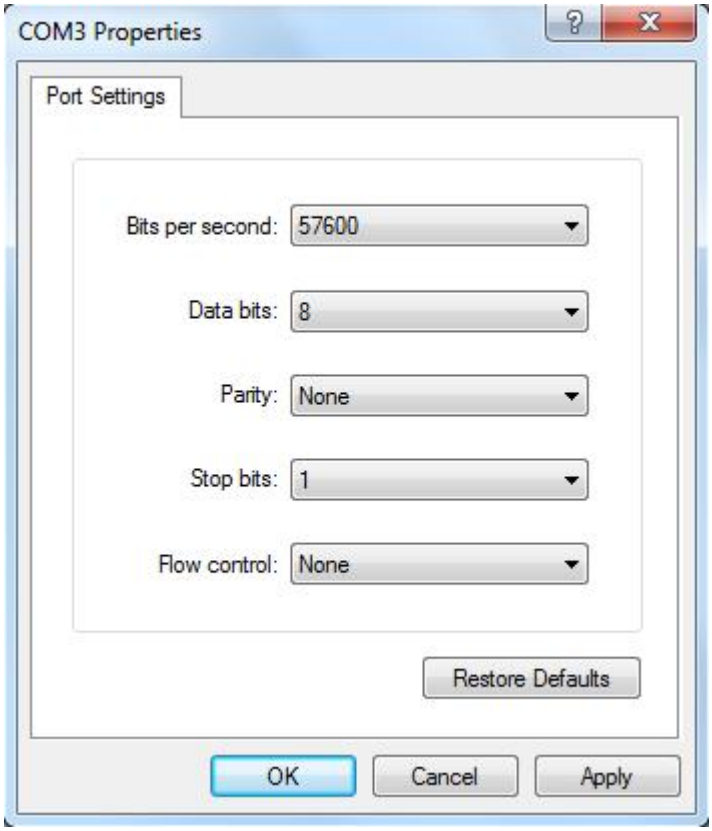
You can also use the eBox parameter configuration tool to obtain the COM port information from the laptop.

Step 4 Select the number of the COM port configured in **Step 2**, as shown in **Figure 5-2**.

Figure 5-2 Setting COM port number

Step 5 Set COM port parameters, as shown in **Figure 5-3**.

Figure 5-3 Setting COM port parameters



Step 6 Enter the password of the eBox CLI to configure and commission the eBox, as shown in **Figure 5-4**.

Figure 5-4 Configuring eBox CLI

```
Login Password:***********
Enter CLI!

->showebox
************************************************************
        HUAWEI  MS      System
************************************************************
        eBox SWVer:     V115
        RF2.4 SWVer:    V105
        RF2.4 PANID:    0x8c18
        Board Info:     Fast Ethernet
        SNMP V3:        YES
        IP Address:     192.168.0.33
        Base:           16:48:41 Aug 06 2013
************************************************************
```

NOTE

The initial password of the eBox CLI is **Huawei_eBox**.

----End

5.3 How Can I Do If an Access Failure Message Is Displayed?

Question

After the eBIMS server starts, logging in to the eBIMS server by using a browser fails and an access failure message is displayed. How can I rectify this failure?

Answer

Step 1 Choose **Start**>**Control Panel**.

Step 2 Double-click **Administrative Tools** and double-click **Services**.

Step 3 In the **Services** dialog Box, double-click **Security Center**.

Step 4 In the **Security Center Properties** dialog Box, select **Disabled** as **Startup type** and click **Stop** under **Service status**.

Step 5 Click **OK**.

Step 6 Log in to the eBIMS server by using the browser.

----End

5.4 How Can I Enable Automatic prompting for file downloads of the Internet Explorer?

Question

Files fail to be downloaded from the eBIMS. How can I enable automatic prompting for file downloads of the Internet Explorer?

Answer

Step 1 Open Internet Explorer.

Step 2 Choose **Tools**>**Internet Options** from the main menu. In the **Internet Options** dialog Box, click the **Security** tab, and click **Custom Level**.

Step 3 In the **Security Settings** dialog box, click **Enable** under **Download**>**Automatic prompting for file downloads**.

Step 4 Click **OK**.

----End

5.5 How Do I Set a Database User Name and Password?

Question

How do I set a database user name and password?

Answer

Step 1 The databases are installed automatically when you install the eBIMS. The system asks you to enter a user name and password.

Step 2 The super administrator user name of the database is **root**, which cannot be changed. You can set a password for the user name.

Step 3 The default database eBIMS user name is **commonuser**, which can be changed. You can set a password for the user name.

NOTE

The password must contain at least an upper-case letter (A to Z), a lower-case letter (a to z), and a digit (0 to 9).

You can also define the database user name and password for the maintenance system.

----End

5.6 How Do I Change the Initial Login Password?

Question

How do I change the user password after logging into the eBIMS the first time?

Answer

Step 1 After the eBIMS is installed, the initial user name is **admin**, and the initial user password is **Changeme123**.

Step 2 After you log in to the eBIMS the first time, the system forcibly asks you to change the password. For details about the password rules, see the password modification page.

Step 3 After changing the password successfully, use the new password when you log in to the eBIMS the next time.

----End

NOTE

Please change **admin** user's password periodically.

5.7 How Do I Change the Initial Login Password of maintenance tool?

Question

How do I change the user password after logging into the eBIMS maintenance web page for the first time?

Answer

Step 1 After the eBIMS is installed, the initial user name for maintenance tool is **sys**, and the initial user password is **Changeme123**.

Step 2 After you log in to the eBIMS maintenance tool for the first time, the system forcibly asks you to change the password. For details about the password rules, see the password modification page.

Step 3 After changing the password successfully, use the new password when you log in to the eBIMS the next time.

----End

NOTE

- Web link for maintenance tool: http://ebimsIP:8088
- Please change **sys** user's password periodically.

5.8 How Do I Reinstall the eBIMS System?

Question

After uninstalling the eBIMS, how do I reinstall it?

Answer

Step 1 Restart the eBIMS system after uninstalling the eBIMS.

Step 2 Delete the original installation directory, and install the eBIMS system again.

----End

5.9 How Can I Handle the Problem that Forward and Backward Buttons Are Unavailable When Accessing the eBIMS Using the Internet Explorer?

Question

How can I handle the problem that forward and backward buttons are unavailable when accessing the eBIMS using the Internet Explorer?

Answer

Step 1 Install the Internet Explorer 9 with other versions or perform page switch from the eBIMS menu. Do not use **Forward** or **Backward** provided by the browser.

----End

5.10 How Can I Handle the Problem that Web Page Cannot Be Displayed Normally When Using the Internet Explorer on Windows 2008 OS?

Question

How can I handle the problem that web page cannot be displayed normally when using the Internet Explorer on Windows 2008 OS?

Answer

Step 1 Open the Internet Explorer and choose **Tools**>**Internet Options**. In the **Internet Options** dialog box, click the **Security** tab page and click **Trusted sites**. Add the eBIMS website (**https://*eBIMS***

***server IP address*:*eBIMS server port number*/**) to the trusted site list and set the security level to **Low**.

----End

5.11 How Can I Handle the Problem that Security Warnings Are Displayed When Logging in to the eBIMS?

Question

How can I handle the problem that security warnings are displayed when logging in to the eBIMS?

Answer

Step 1 In the **Security Warning** dialog box, click **Add**.

Step 2 In the **Internet Options** dialog box of the Internet Explorer, click the **Security** tab page and select **Trusted sites**.

Step 3 Click **Sites**. In the **Trusted sites** dialog box, enter the eBIMS website in the **Add this website to the zone:** text box and click **Add**.

Step 4 Click **Close**.

Step 5 Restart the Internet Explorer to log in to the eBIMS.

----End

5.12 How Can I Handle the Problem of Internet Explorer Closing When Logging In to the eBIMS?

Question

How can I handle the problem of Internet Explorer closing when logging in to the eBIMS?

Answer

Step 1 In the **Internet Options** dialog box of the Internet Explorer, click the **Privacy** tab page and deselect **Block pop-ups**.

Step 2 Click **OK**.

Step 3 Restart the Internet Explorer to log in to the eBIMS.

----End

5.13 How Can I Handle the Problem of Failure in Logging In to the eBIMS When Cookies Are Disabled?

Question

How can I handle the problem of failure in logging in to the eBIMS when cookies are disabled?

Answer

Step 1 Open the Internet Explorer and choose **Tools**>**RoboForm Toolbar**.

Step 2 On the **RoboForm Toolbar** page, click **Cache** and deselect **Disable Cookies**.

Step 3 Restart the Internet Explorer.

----End

5.14 How Can I Handle the Problem of Layout Disorder When Logging In to the eBIMS?

Question

How can I handle the problem of layout disorder when logging in to the eBIMS?

Answer

Step 1 Open the Internet Explorer and choose **Tools**>**Compatibility View**.

Step 2 In the **Compatibility View** dialog box, deselect **Include updated website lists from Microsoft**, **Display intranet sites in Compatibility View**, and **Display all websites in Compatibility View**.

Step 3 Click **Close**.

----End

5.15 How Can I Handle the Problem that Exporting eBIMS Data Fails Using the Internet Explorer?

Question

How can I handle the problem that exporting eBIMS data fails using the Internet Explorer?

Answer

Step 1 Choose **Tool**>**Internet Options** from the main menu. In the **Internet Options** dialog box, click the **Security** tab, and click **Custom Level**.

Step 2 In the **Security Settings** dialog box, click **Enable** under **Download**>**Automatic prompting for file downloads**.

Step 3 Click **OK**.

Step 4 Restart the Internet Explorer to log in to the eBIMS.

----End

5.16 How Can I Handle the Problem that Login to the eBIMS Fails and the Account Is Locked?

Question

How can I handle the problem that login to the eBIMS fails and the account is locked?

Answer

Step 1 Log in to the eBIMS again after 30 minutes.

NOTE

User **admin** can use other computers to log in to the eBIMS.

----End

5.17 How to change eBox command line password

Question

How to change eBox command line password, after logged in?

NOTE

It is recommended to change the default password to avoid the security risk.

Answer

Step 1 Doulbe click eConfig_PC.exe to start the config tool.

NOTE

For the first time to use eConfig tool, please double click eConfig_reg.bat firstly to register eConfig to your PC.

Step 2 Select the correct COM port, then input default password: **Huawei_eBox**, and click **Open**.

Step 3 Input chgpwd [old pwd] [new pwd] [new pwd] at the right bottom input box, and then click **send**.

NOTE

- For example, the old password is **Huawei_eBox**, and new password is **Huawei_eBoxV1**, please input **chgpwd Huawei_eBox Huawei_eBoxV1 Huawei_eBoxV1**, then click **send** at the right bottom input box. For successful operation, there should be a **Set CLI password success!** in the display area on the right part of eConfig window.
- Please change the eBox command line password periodically.

----End

5.18 How to import CA Certificate?

Question

How to import CA Certificate?

Answer

CA Certificate is a kind of Digital Certificate, which was used to establish a secure communication channel between client browser and Web server. Communication data was encrypted by encryption algorithm.

Table 5-1 Self-Signed Certificate and CA Certificate

Certificate Type	Comments	How to get
Self-Signed Certificate	Temporary certificates installed by eBIMS, which was used go enable the the secure communication of eBIMS after installation. eBIMS support SHA1withRSA and SHA256withRSA, default is SHA256withRSA. SHA is Secure Hash Algorithm, which was used for generation of digital signature. SHA1 is Secure Hash Algorithm 1. SHA256's hash value length is 256. RSA is the most popular encryption algorithm, which was used to make digital signature.	**Import CA Certificate** or **Create Self-signed Certificate** are supported after installation to replace the temporary certificates installed by eBIMS.
CA Certificate	Signed by certificate authority.	Apply for CA certificate to official certificate authority.

Step 1 Double click **eBIMS Console** on desktop, or **Start > All programs > eBIMS > eBIMS Console**. **eBIMS Console** dialog should be displayed.

Step 2 Select **Tools > Certificate Tool**. **Certificate Tool** dialog should be displayed.

Step 3 Select **Import CA Certificate**, then **Next**.

Step 4 Select a **CA certificate** and input the correct **password**, then click **Apply**. New certificate should be enabled after restart of eBIMS.

----End

NOTE

- Please import or change the certificate with different password periodically.
- **Certificate Tool** menu is enabled after eBIMS service was stopped.

5.19 How to create self-signed certificate?

Question

How to create self-signed certificate?

Answer

CA Certificate is a kind of Digital Certificate, which was used to establish a secure communication channel between client browser and Web server. Communication data was encrypted by encryption algorithm.

Table 5-2 Self-Signed Certificate and CA Certificate

Certificate Type	Comments	How to get
Self-Signed Certificate	Temporary certificates installed by eBIMS, which was used go enable the the secure communication of eBIMS after installation. eBIMS support SHA1withRSA and SHA256withRSA, default is SHA256withRSA. SHA is Secure Hash Algorithm, which was used for generation of digital signature. SHA1 is Secure Hash Algorithm 1. SHA256's hash value length is 256. RSA is the most popular encryption algorithm, which was used to make digital signature.	**Import CA Certificate** or **Create Self-signed Certificate** are supported after installation to replace the temporary certificates installed by eBIMS.

Certificate Type	Comments	How to get
CA Certificate	Signed by certificate authority.	Apply for CA certificate to official certificate authority.

Step 1 Double click **eBIMS Console** on desktop, or **Start > All programs > eBIMS > eBIMS Console**. **eBIMS Console** dialog should be displayed.

Step 2 Select **Tools > Certificate Tool**. **Certificate Tool** dialog should be displayed.

Step 3 Select **Create Self-signed Certificate**, then click **Next**.

Step 4 Select your wanted encryption algorithm, then click **Apply**. New certificate should be enabled after restart of eBIMS.

----End

NOTE

- Please import or change the certificate with different password periodically.
- **Certificate Tool** menu is enabled after eBIMS service was stopped.