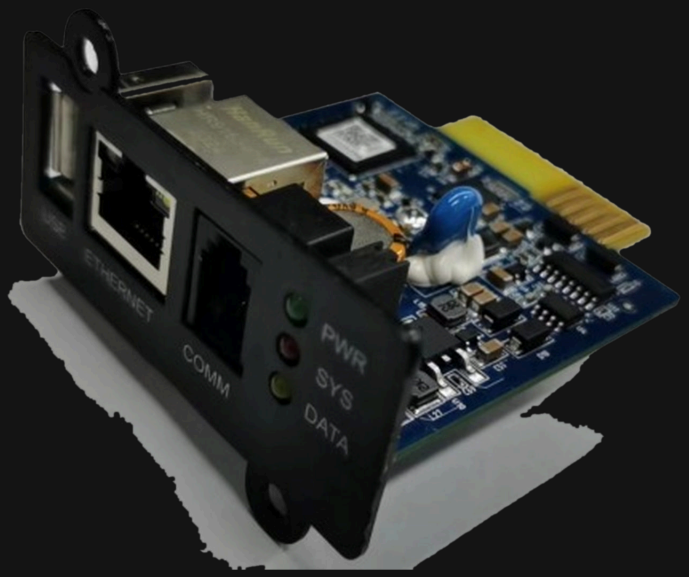
SNMP NETWORK CARD · WEB · SNMP · MODBUS TCP · MQTT

SNMP-M

Network card

Puts an AEC UPS on your network: web monitoring, e-mail alarms, SNMP V1/V2c/V3, Modbus TCP and MQTT. For FERRUS · FERRUS RT · FERRUS SP · FERRUS SP RT · RADIANT · RADIANT-IB · CIRRO-IB · CIRRO.



User Manual

Installation · Operation · Maintenance

FERRUS · FERRUS RT · FERRUS SP · FERRUS SP RT · RADIANT · RADIANT-IB · CIRRO-IB · CIRRO

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AEC UPS USA LLC
4872 SW 72nd Ave, Miami, FL 33155
Technical support, 24/7 · phone and WhatsApp: **+1 786 553 2100**
service.us@aecups.com · sales@aecups.com · aecups.com

AEC-UM-SNMP-M-US · Rev. C · November 2026. Rev. C corrects the CIRRO and CIRRO-IB ranges and the cross-references, turns the UPS settings of Section 5.3 into numbered call-outs on the Sys Set › Device page, adds call-out pictures for the card, every slot location and every web page used in a procedure, and replaces the FERRUS display drawings with complete ones.

BEFORE YOU START

About this manual

Thank you for choosing the AEC SNMP-M network card. This manual describes the card, its installation, the network set-up, the connection to the UPS, every page of the web interface, SNMP, Modbus TCP and MQTT, UPS View, network planning and security, and troubleshooting. For a short procedure use the SNMP-M Quick Installation Guide. Keep this manual for future reference.

MODELS COVERED

The AEC SNMP-M card for FERRUS (1–3 kVA), FERRUS RT (1–3 kVA), FERRUS SP and FERRUS SP RT (6–20 kVA), RADIANT (15–90 kVA), RADIANT-IB (20–100 kVA), CIRRO-IB (30–150 kVA) and CIRRO (60–1,600 kVA). Compatible UPS: Table 2-1.

WHO THIS MANUAL IS FOR

IT staff, network administrators and installers who put the UPS on the network. Only qualified personnel fit the card in the UPS.

Safety messages

Safety messages in this manual follow ANSI Z535.6. The signal word tells how serious the hazard is:

DANGER	A hazardous situation which, if not avoided, **will** result in death or serious injury.
WARNING	A hazardous situation which, if not avoided, **could** result in death or serious injury.
CAUTION	A hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Information about practices that could damage the equipment, lose data, reduce performance or give unexpected results — not related to injury.

Other conventions

i NOTE Additional information that stresses or completes the text.

✓ TIP A hint that helps you solve a problem or save time.

Keys are shown like [ON]; menus like **Settings › Battery**. Numbers in red circles on a picture are explained in the list under it. Cross-references in red are links in the PDF.

QUICK START

On the network in five steps

The short version — each step points to the full instructions. Read the safety chapter first.

1. **Fit the card** in the UPS's SNMP slot and plug in the network cable. Section 3.1, page 16, Section 3.2, page 19.
2. **Find the card with IPSearch** and give it a fixed IP address. Section 4.3, page 25.
3. **Log in** at the card's web page as admin (password given by AEC technical service), and change the password. Section 4.4, page 26.
4. **Add the UPS** in **Sys Set › Device**: Megtec for the FERRUS family, ACM(10-600KVA) for RADIANT, RADIANT-IB, CIRRO-IB and CIRRO. Section 5.3, page 31.
5. **Secure the card and set e-mail alarms.** Section 10.3, page 58, Section 7.9, page 47.

Web	SNMP	E-mail	Modbus · MQTT
monitoring in any browser	V1 · V2c · V3, traps and informs	alarms to up to 20 addresses	for BMS and IoT platforms

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CHAPTER 1

01 Introduction

The SNMP-M card connects an AEC UPS to your network: monitor it from a browser, receive its alarms, and link it to your management platform.

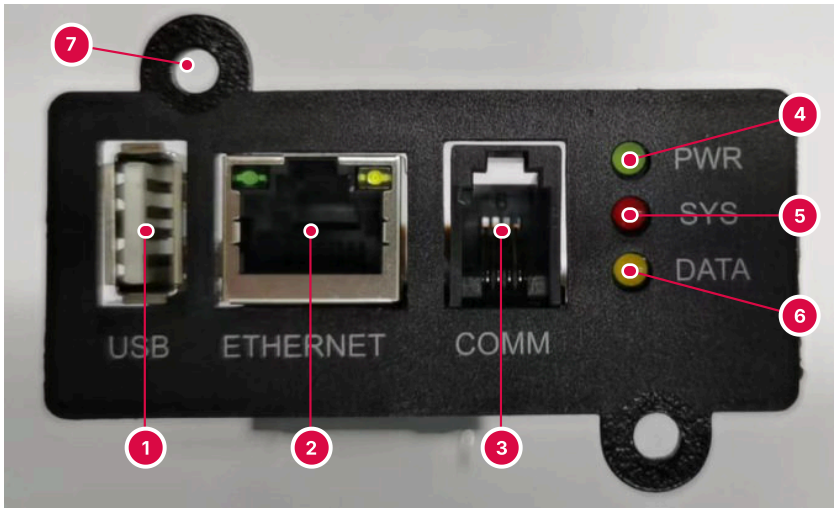
1.1 About this manual

This manual covers the installation, the network set-up and every function of the AEC SNMP-M card, its web interface and the AEC programs IPSearch and UPS View. For a short installation procedure use the SNMP-M Quick Installation Guide. Keep this manual for future reference.

TABLE 1-1 Where to read what

You want to...	Read	
Put the card on the network and make it read the UPS	Chapter 3, Chapter 4 and Chapter 5	**Required**
Receive an e-mail when the UPS has a problem	Section 7.9 and Section 7.10	Recommended
Know every page of the web interface	Chapter 6 and Chapter 7	
Connect a network manager, BMS or IoT platform	Chapter 8	Optional
Watch several UPS from one place	Chapter 8 (SNMP manager) or each card's web page	Optional
Check or set a UPS from a PC with a cable, without the card	Chapter 9	Service
Fix a problem	Chapter 11	

1.2 The SNMP-M card



1	USB port (USB 2.0 type A)	4	PWR LED, green
2	ETHERNET port (RJ45): the network cable	5	SYS LED, red
3	COMM port (RJ11): sensors and SMS alarm module	6	DATA LED, yellow
		7	Fixing holes (one at each end)

FIGURE 1-1 The AEC SNMP-M card — front plate

The SNMP-M card fits the intelligent slot of AEC FERRUS, FERRUS RT, FERRUS SP, FERRUS SP RT, RADIANT, RADIANT-IB, CIRRO-IB and CIRRO UPS. Once the card is on the network, any computer with a browser can open the card's IP address and see all the UPS data.

The card watches the UPS continuously and reports any abnormal condition by e-mail, SNMP trap and — with the optional SMS alarm module — text message or voice call. It keeps data, alarms and logs as history and charts.

1.3 Features

- Web access to all UPS data and to every card setting.
- SNMP V1, V2c and V3, Modbus TCP and MQTT for third-party monitoring and IoT platforms.
- IPSearch: finds the cards on the network and sets their address.
- Alarms by SNMP trap, e-mail (up to 20 addresses), SMS and voice call (with the SMS alarm module).
- Optional temperature/humidity and water-leak sensors.
- History of data, alarms and logs, with charts.
- Centralized monitoring of many UPS from any SNMP or Modbus TCP manager.

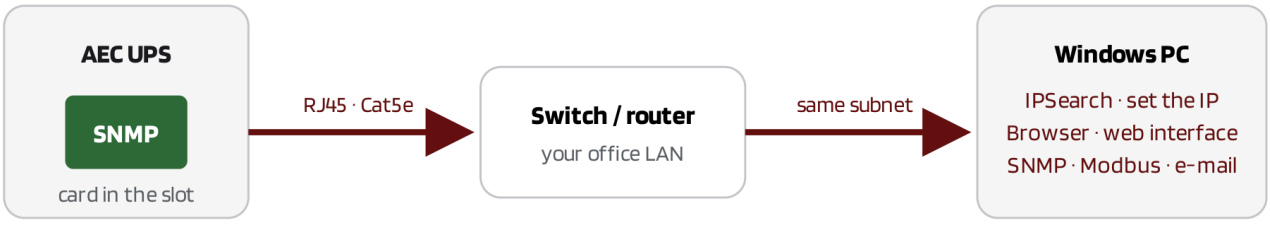


FIGURE 1-2 How the card fits in your network: UPS with the card, your switch, and the PC used for set-up

1.4 Before you start

You need:

- The AEC SNMP-M card, and a UPS with an intelligent slot for it (Section 2.1).
- A network cable, RJ45 Cat5e or better.
- A Windows PC on the same local network as the UPS.
- IPSearch from the AEC app (**Support › Downloads › SNMP › SNMP-M**) and a program to unpack RAR archives (for example 7-Zip).
- A free, fixed IP address for the card, its subnet mask and gateway — ask your IT department.
- For e-mail alarms: the SMTP server, port, account and password of your mail system.

TABLE 1-2 Factory defaults of the card

Item	Default
IP address	Shown by IPSearch on the first search. Give the card your own fixed address before use (Section 4.3).
Administrator	admin — full rights. The password is given by AEC technical service; change it at the first login.
User	user — view only. The password is given by AEC technical service; change it at the first login.
SNMP	Port 161 · trap port 162 · community public · system name UPS Agent
E-mail port	25 (set it to your mail server's port)
History saving interval	10 minutes

1.5 Software

TABLE 1-3 AEC programs for the card

Program	File	What it does
IPSearch	AEC IPSearch.rar	Finds the SNMP-M cards on the network, shows their type, MAC, IP and versions, sets their IP (static or DHCP) and opens their web page.
Web interface	— (built into the card)	Monitoring, alarms, history, e-mail, SNMP, Modbus TCP, MQTT and user settings, from any browser.
UPS View 2.0.7	UPSView_V2.0.7.rar	Monitors and sets up the UPS from a PC over a direct cable (RS-232, RS-485 or USB) — for service and set-up, without the network card.

Download them from the AEC app: **Support › Downloads › SNMP › SNMP-M › Programs to install**. Both come as RAR archives: unpack them (for example with 7-Zip) and run the program or setup inside.

1.6 Safety and advisories

WARNING · Safety

Only qualified personnel may fit the card. Follow the safety instructions of the UPS user manual. The card is hot-swappable: beware of the risk of electric shock. If your UPS has no card slot, contact AEC service — never open the UPS to reach internal circuits.

> ⚠ ***CAUTION · Passwords***
>
> Change the default admin and user passwords as soon as the card is in service, and keep them safe. Losses caused by unchanged default passwords are the owner's responsibility.

1.6.1 FCC statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used in accordance with this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

02

CHAPTER 2

Product description

The UPS the card works with, its communication settings, the card's appearance, dimensions, specifications, ports and indicators.

2.1 Compatible AEC UPS



1. FERRUS · FERRUS RT
2. FERRUS SP · FERRUS SP RT
3. RADIANT
4. RADIANT-IB
5. CIRRO-IB
6. CIRRO

FIGURE 2-1 The AEC UPS that take the SNMP-M card

TABLE 2-1 Compatible AEC UPS

UPS	Range
FERRUS · FERRUS RT	1–3 kVA tower and rack/tower, single phase 120 V, VRLA
FERRUS SP · FERRUS SP RT	6–20 kVA, split phase 120/240 V, VRLA
RADIANT	15–90 kVA modular, 208/120 V three phase
RADIANT-IB	20–100 kVA modular, internal batteries
CIRRO-IB	30–150 kVA modular, 480 V, internal batteries
CIRRO	60–1,600 kVA modular, 480 V

2.1.1 Communication settings

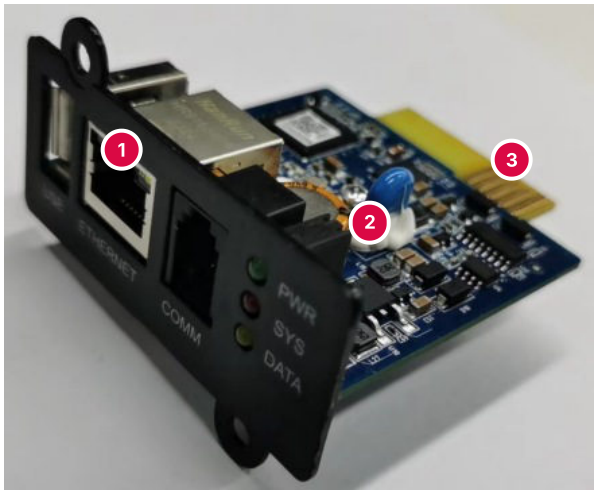
The card must use the same protocol and serial settings as the UPS. Table 2-2 gives them for each AEC UPS; Chapter 5 tells you where to set them.

TABLE 2-2 Card settings for each AEC UPS

AEC UPS	Range	Protocol	Port Type · Serial Port	Baud Rate	Modbus Addr · Mode
FERRUS · FERRUS RT	1–3 kVA · single phase	Megtec	Uart · Port A	2400	1 · — (automatic)
FERRUS SP · FERRUS SP RT	6–20 kVA · split phase	Megtec	Uart · Port A	2400	1 · — (automatic)
RADIANT	15–90 kVA · modular	ACM(10-600KVA)	Uart · Port A	Same as the UPS (e.g. 9600)	Same as the UPS (1 · RTU or ASCII)
RADIANT-IB	20–100 kVA · modular	ACM(10-600KVA)	Uart · Port A	Same as the UPS (e.g. 9600)	Same as the UPS (1 · RTU or ASCII)
CIRRO-IB	30–150 kVA · modular	ACM(10-600KVA)	Uart · Port A	Same as the UPS (e.g. 9600)	Same as the UPS (1 · RTU or ASCII)
CIRRO	60–1,600 kVA · modular	ACM(10-600KVA)	Uart · Port A	Same as the UPS (e.g. 9600)	Same as the UPS (1 · RTU or ASCII)

ACM(10-600KVA) is the exact label of the protocol in the card's list; it covers all the modular AEC UPS above, whatever their rating. The baud rate, Modbus address and mode on the card must be the same as on the UPS: check them on the UPS display under the communication settings (Section 5.2). 2400 baud, 8 data bits, 1 stop bit, no parity is the standard of the Megtec protocol. The list also offers TT and Megtec33: they are not used with the UPS above. If the UPS does not communicate with the protocol of Table 2-2, call AEC service before you try another one.

2.2 Appearance and dimensions



1 Front plate with the ports and LEDs
2 Circuit board
3 Card-edge connector J1 (to the UPS)

FIGURE 2-2 The card, component side

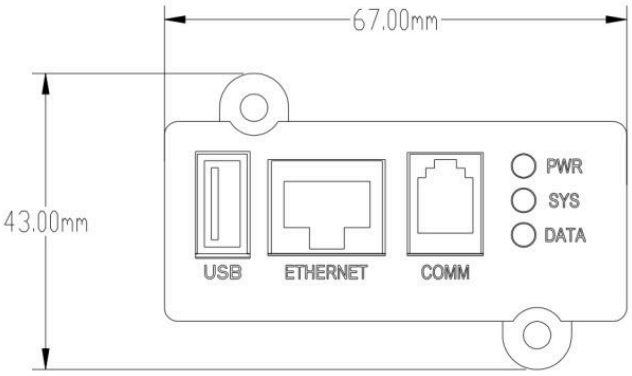


FIGURE 2-3 Front: 2.64 in (67 mm) wide, 1.69 in (43 mm) high

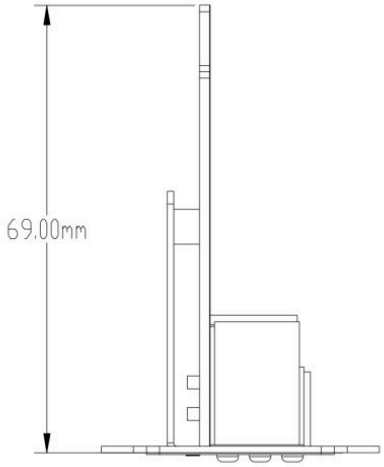


FIGURE 2-4 Side: 2.72 in (69 mm) long

2.3 Specifications

TABLE 2-3 General

Item	Value
Processor	Cortex-A7 dual core, 1 GHz
Memory	128 MB DDR3 RAM · 128 MB flash
Watchdog · real-time clock	Yes · Yes
LAN	10/100 Mbps, RJ45
Expansion port	RJ11 (COMM): sensors, SMS alarm module
USB	USB 2.0 type A
Indicators	3 LEDs
Dimensions (L × W × H)	2.72 × 2.64 × 1.69 in (69 × 67 × 43 mm)
Connection	26-pin dedicated card slot

TABLE 2-4 Power supply (from the UPS)

Item	Value
DC input voltage	12 V (8–15 V)
DC input current	300 mA (100–500 mA)

TABLE 2-5 Environment

Item	Value
Operating temperature	−4 °F to 158 °F (−20 °C to 70 °C)
Storage temperature	−40 °F to 185 °F (−40 °C to 85 °C)
Operating humidity	10–90 % RH, non-condensing
Storage humidity	5–90 % RH, non-condensing
Altitude	Up to 9,800 ft (3,000 m)

2.4 Ports and connectors

The ports are on the front plate (Figure 1-1).

TABLE 2-6 Ports

Port	Function
USB (item 1)	USB 2.0 type A
ETHERNET, RJ45 (item 2)	Network communication
COMM, RJ11 (item 3)	Expansion devices: water-leak sensor, temperature/humidity sensor, 4G SMS alarm module

TABLE 2-7 COMM port pin-out

Pin	Signal	Description
1	+12 V output	Power for external devices (max. 200 mA)
2	RS485+	RS485 A
3	RS485−	RS485 B
4	GND	Ground

TABLE 2-8 ETHERNET pin-out

Pin	Signal
1	TD+ transmit data +
2	TD− transmit data −
3	RD+ receive data +
6	RD− receive data −
8	GND
4, 5, 7	Not connected

TABLE 2-9 Card-edge connector J1 (to the UPS)

Pin	Signal	Description
J1-1	GND	Ground
J1-2	+12 V input	DC power input
J1-3 / J1-4	RS232 TXD / RXD (1)	Communication with the UPS
J1-5 / J1-6	RS232 TXD / RXD (0)	Debugging
Others	—	Not connected

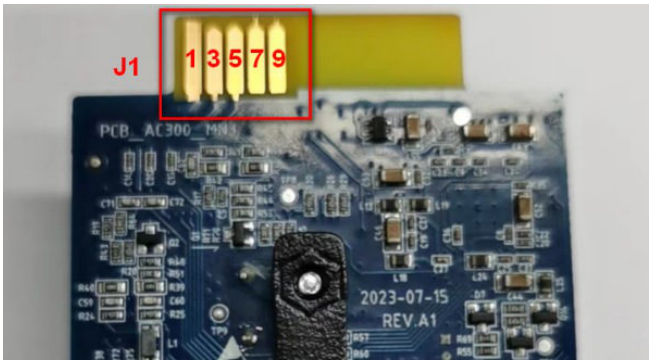


FIGURE 2-5 J1, back of the board: odd pins 1-3-5-7-9

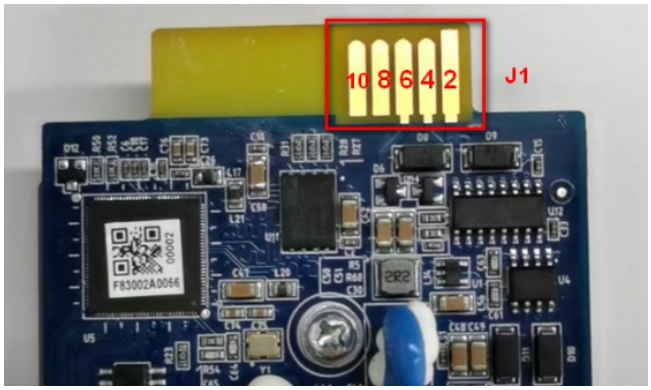


FIGURE 2-6 J1, front of the board: even pins 2-4-6-8-10

Pin 1 of J1 is on the back of the circuit board.

2.5 Indicators

The three LEDs are on the front plate (Figure 1-1, items 4 to 6).

TABLE 2-10 Indicators

LED	State	Meaning
PWR (green)	On	Card powered normally
	Off	Card not powered
SYS (red)	Off	System normal
	Flashing	General alarm
	On	Serious alarm
DATA (yellow)	Off	Communication with the UPS normal
	Flashing	Communication with the UPS abnormal

CHAPTER 3

03 Installation

Where the card slot is on each AEC UPS, how to fit the card, the optional sensors and SMS module, and the first-use procedure.

3.1 Where the slot is on your UPS

3.1.1 FERRUS and FERRUS RT

The slot is on the rear panel, behind a cover. Unplug any cable from the RS-232 port while the card is fitted (Section 5.2).



1. SNMP slot (cover fitted)
2. RS-232 port

FIGURE 3-1 FERRUS: top left of the rear panel



1 SNMP slot (cover fitted)

2 RS-232 port

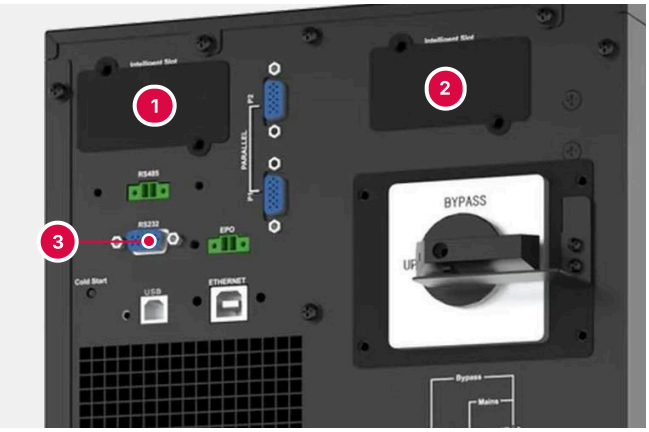
FIGURE 3-2 FERRUS RT: left of the rear panel

3.1.2 FERRUS SP and FERRUS SP RT



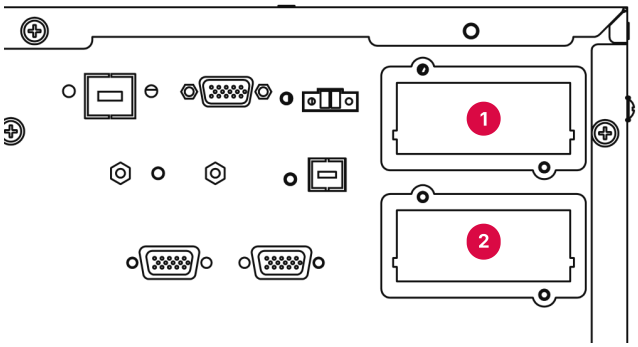
1 SNMP slot (cover fitted)

FIGURE 3-3 FERRUS SP RT: right of the communication ports on the rear panel



1. Intelligent Slot
2. Intelligent Slot
3. RS-232 port

FIGURE 3-4 FERRUS SP 6–10 kVA tower: rear communication panel



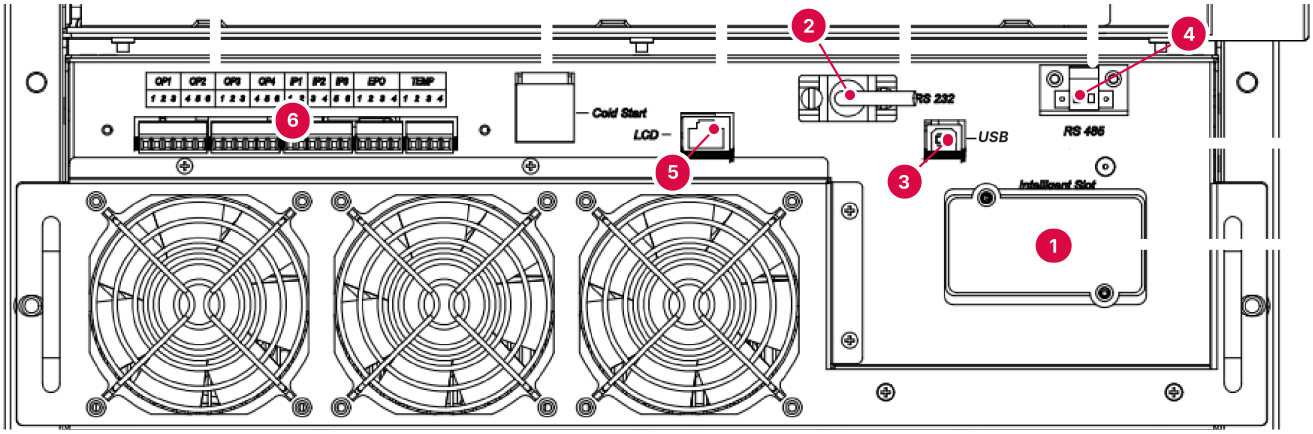
1. Intelligent Slot
2. Intelligent Slot

FIGURE 3-5 FERRUS SP 20 kVA: rear communication panel

The FERRUS SP tower has two intelligent slots on the rear communication panel. Fit the SNMP-M card in a free one; the FERRUS SP user manual shows the panel in full.

3.1.3 RADIANT

On the RADIANT frame the card goes in the card slot of the communication panel, on the front of the bypass module, behind the upper door.

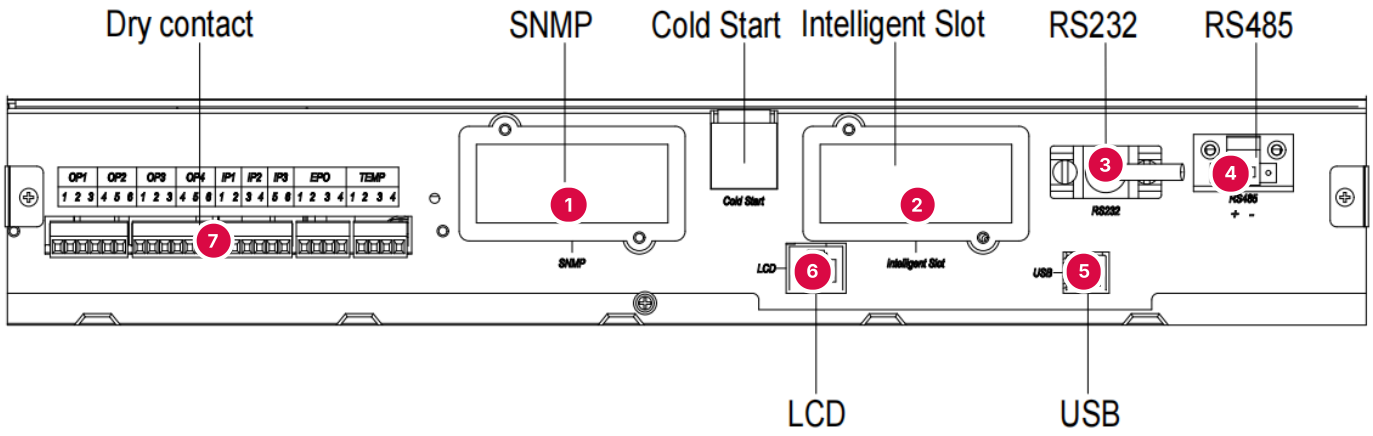


1. Card slot for the SNMP-M card
2. RS-232 port
3. USB port
4. RS-485 port
5. LCD: cable to the touchscreen — not a network port
6. Dry-contact terminals

FIGURE 3-6 RADIANT — communication panel on the front of the bypass module

3.1.4 RADIANT-IB, CIRRO-IB and CIRRO

The card goes in the slot marked **SNMP** on the front panel of the bypass & monitoring module. Do **not** use the slot next to it marked *Intelligent Slot*: that one is for the dry-contact card.

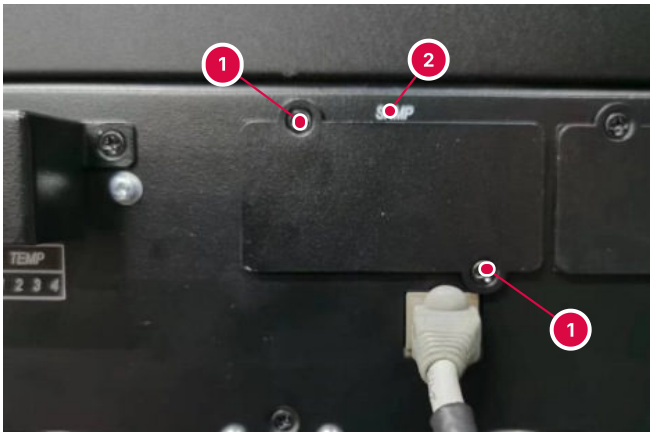


1. SNMP slot: the SNMP-M card goes here
2. Intelligent Slot: dry-contact card — not for the SNMP-M card
3. RS-232 port
4. RS-485 port
5. USB port
6. LCD: cable to the touchscreen
7. Dry-contact terminals

FIGURE 3-7 RADIANT-IB, CIRRO-IB and CIRRO — front of the bypass & monitoring module

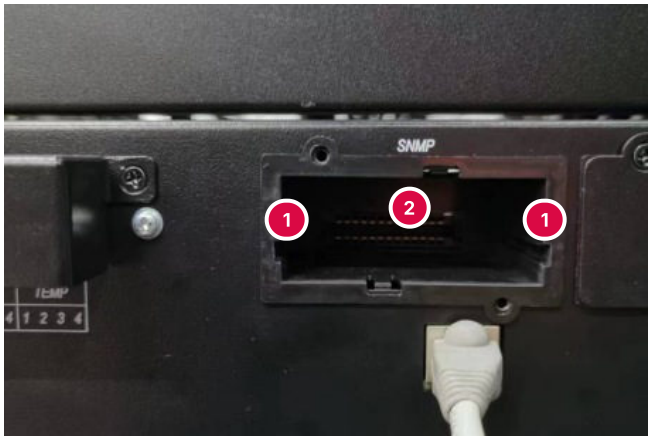
3.2 Fitting the card

The card goes in the UPS's intelligent slot (Section 3.1). Some models have the slot fitted at the factory; on others AEC service fits the slot kit. Contact AEC — do not open the UPS. Make sure the UPS is off before a slot kit is fitted.



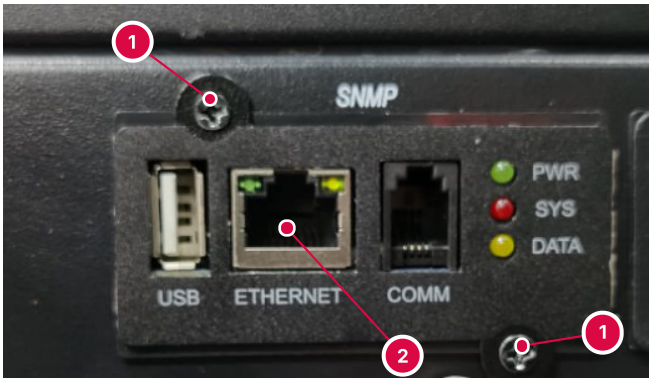
1. Fixing screws of the cover
2. SNMP marking

FIGURE 3-8 Step 1: the slot with its cover



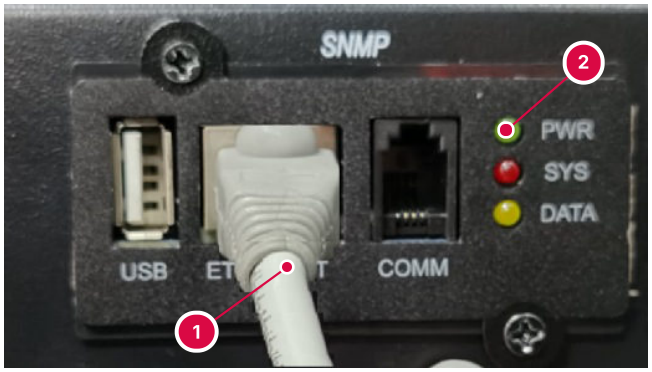
1. Card guides (both sides)
2. UPS connector for J1

FIGURE 3-9 Step 2: the open slot



1. Fixing screws (both ends)
2. ETHERNET port

FIGURE 3-10 Step 3: the card fitted, screws tightened



1. Network cable in the ETHERNET port
2. PWR LED: lit when the UPS is on

FIGURE 3-11 Steps 4 and 5: network cable in, PWR LED on

1. **Remove the cover.** Unscrew the slot's protective cover and remove it (Figure 3-8, item 1).
2. **Insert the card.** Push it all the way along the slot's guides (Figure 3-9, item 1), component side as in Figure 2-2, until J1 sits in the UPS connector.
3. **Fix it.** Tighten the fixing screws at both ends (Figure 3-10, item 1).
4. **Connect the network.** Plug the network cable into the ETHERNET port (Figure 3-11, item 1).
5. **Power.** Switch the UPS on: the green PWR LED lights (Figure 3-11, item 2).

CAUTION · Hot-swappable

The card can be fitted with the UPS running: beware of the risk of electric shock.

3.3 Sensors and SMS alarm

3.3.1 Temperature/humidity and water-leak sensors

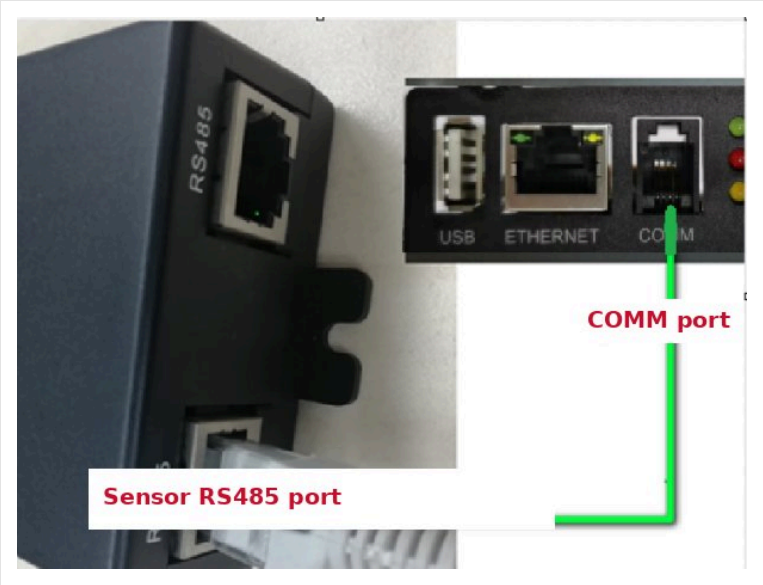
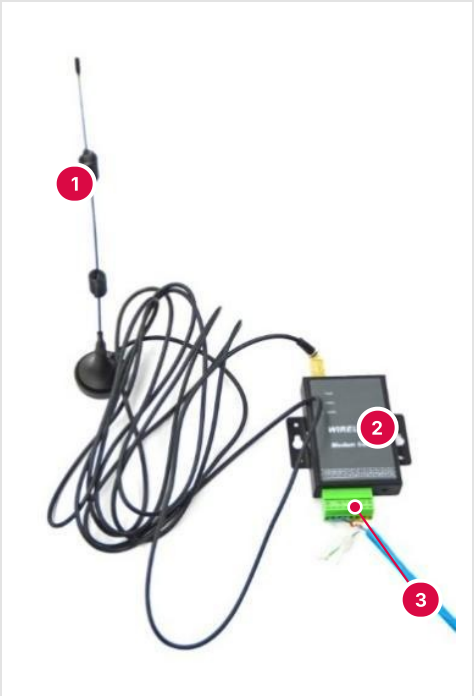


FIGURE 3-12 Temperature and humidity sensor wired to the card's COMM port

1. Connect the sensor's RS485 port to the card's COMM (RJ11) port with a network cable (Figure 3-12).
2. Check that the sensor's power LED is on.
3. Add the sensor in **Sys Set › Device** (Section 7.1). When its values appear, the connection works.

3.3.2 SMS alarm module



1	Antenna
2	SMS alarm module
3	Power and communication cable to the card's COMM port

FIGURE 3-13 4G SMS alarm module

1. Connect the module's power and communication cable to the card's COMM port (Figure 1-1, item 3).
2. Add the module in **Sys Set › Device** (Section 7.1).
3. Alarms can then be sent as SMS and voice calls (Section 7.10).

3.4 First-use procedure

1. **Power.** The PWR LED is on steadily.
2. **Network.** Connect the card and the PC to the same local network, or the card straight to the PC (Figure 3-14).
3. **IP address.** Open IPSearch and give the card its IP address (Chapter 4).
4. **Log in.** Open the web page as admin, with the password given by AEC technical service (Section 4.4).
5. **UPS communication.** If the alarm *UPS communication failure* shows, add the UPS in **Sys Set › Device** (Chapter 5).

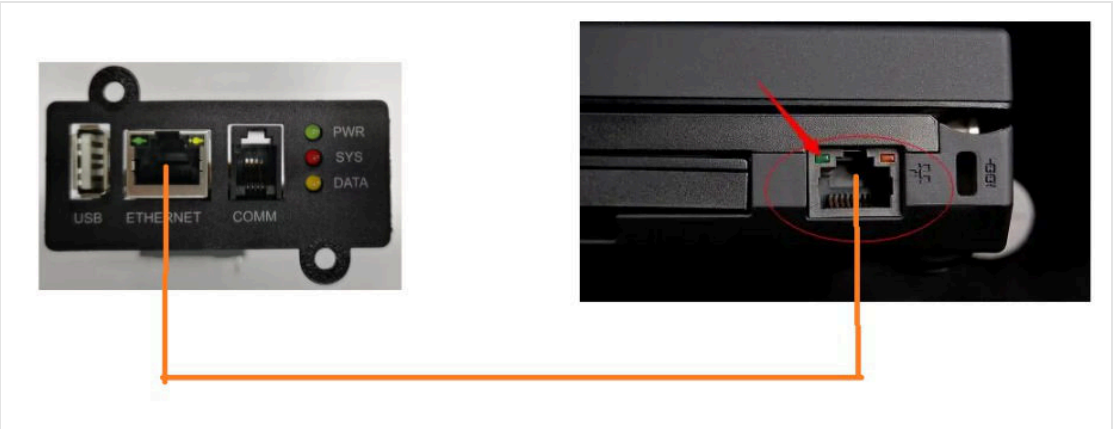


FIGURE 3-14 For the first set-up the card's ETHERNET port can go straight to the PC's network port

04

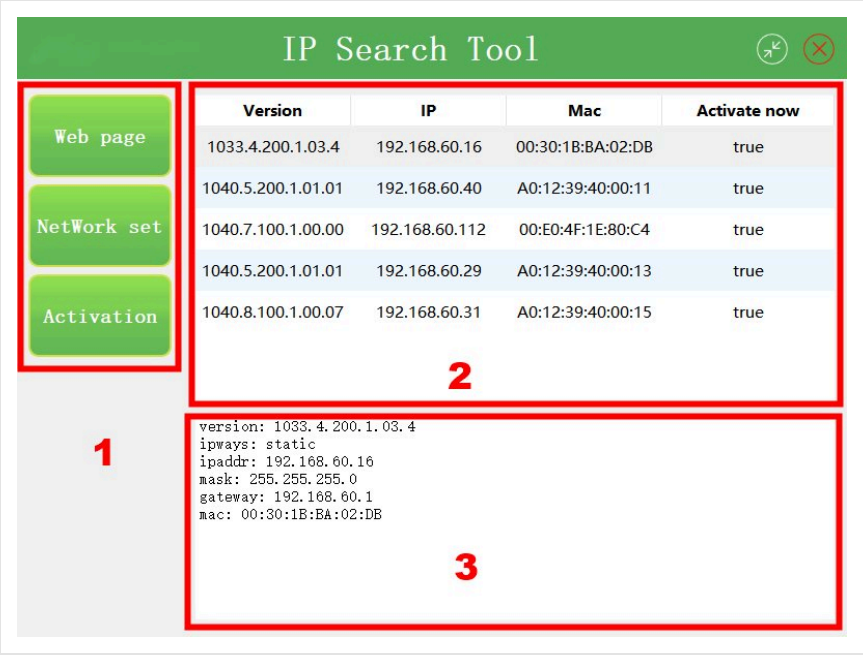
CHAPTER 4

IPSearch

IPSearch finds every SNMP-M card online on your local network and sets its address.

4.1 The window

Unpack AEC IPSearch.rar from the AEC app and run IPSearch. It searches by itself and refreshes the list every 15 seconds.

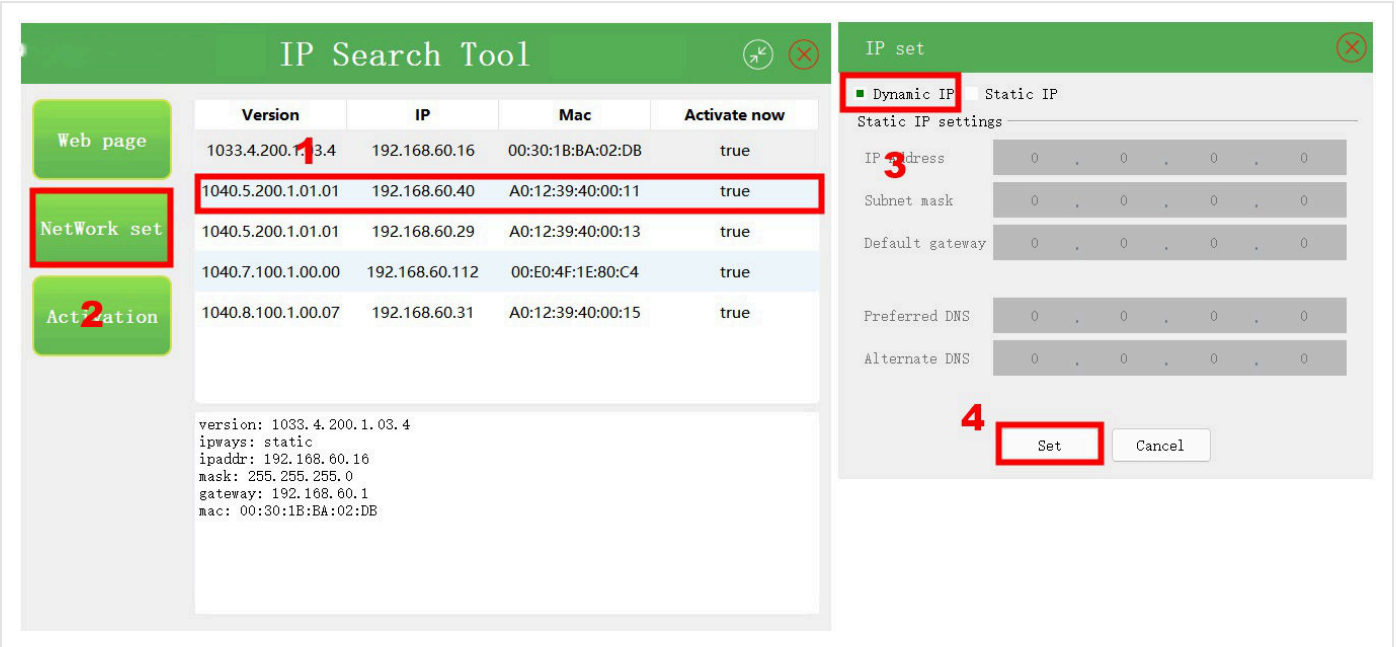


1. Buttons: **Web page**, **NetWork set**, **Activation**.
2. Online device list: every card found, with its version, IP, MAC and status. The first card is selected by default.
3. Details of the selected card: version, IP type (static or DHCP), IP address, mask, gateway and MAC.

FIGURE 4-1 The IPSearch window

4.2 Dynamic IP (DHCP)

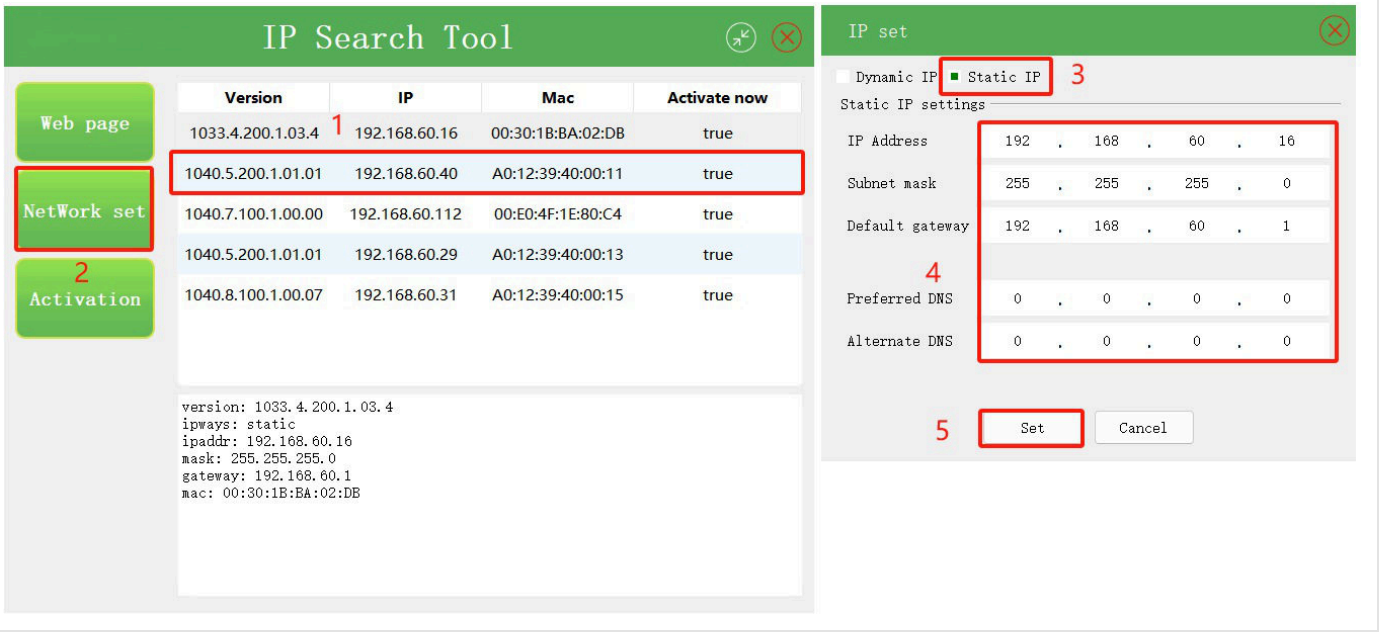
This works only if the network has a DHCP server. Reserve the address on the server so that it does not change.



1. Select the card in the online device list.
2. Press **NetWork set**.
3. Choose **Dynamic IP**.
4. Press **Set**.

FIGURE 4-2 IPSearch: dynamic IP

4.3 Static IP



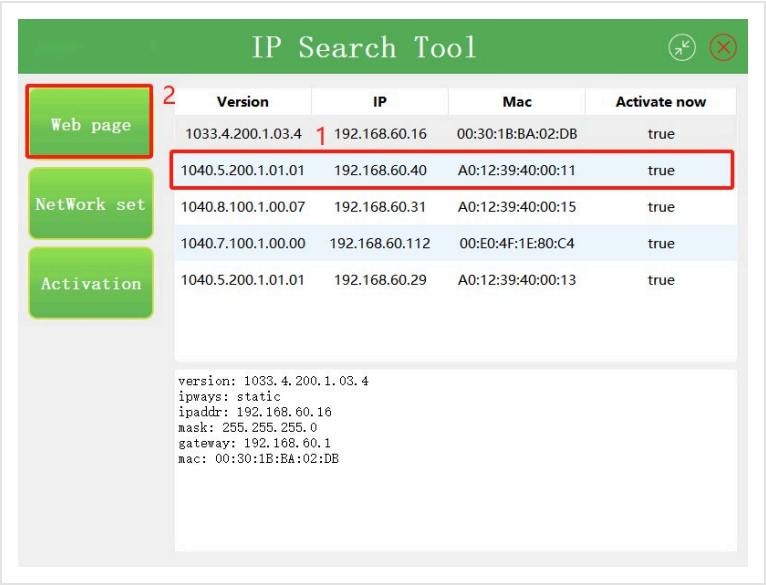
1. The card selected in the online device list
2. **NetWork set**
3. **Static IP**
4. IP address, subnet mask, gateway (DNS optional)
5. **Set**

FIGURE 4-3 IPSearch: static IP

1. Select the card in the online device list (Figure 4-3, item 1).
2. Press **NetWork set** (item 2).
3. Choose **Static IP** (item 3).
4. Enter the IP information (item 4): IP address, subnet mask and gateway — a free address in your PC's network.
5. Press **Set** (item 5). The list shows the new address.

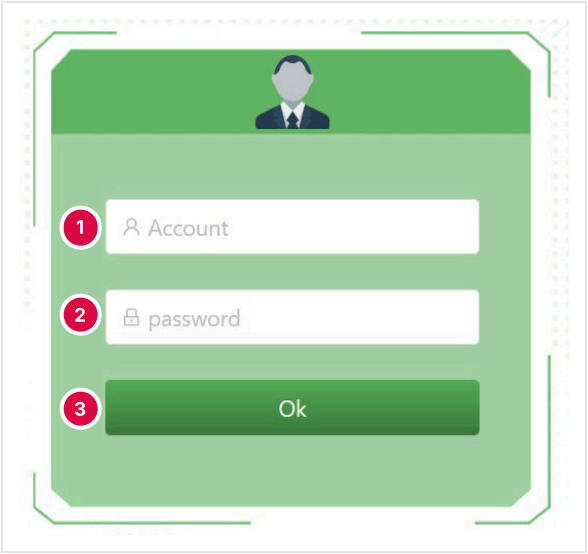
> ⚠ ***WARNING · Unique address***
>
> The address must not be used by any other device. Ask your IT department for a free fixed address.

4.4 Open the web page



1. The card selected
2. **Web page**

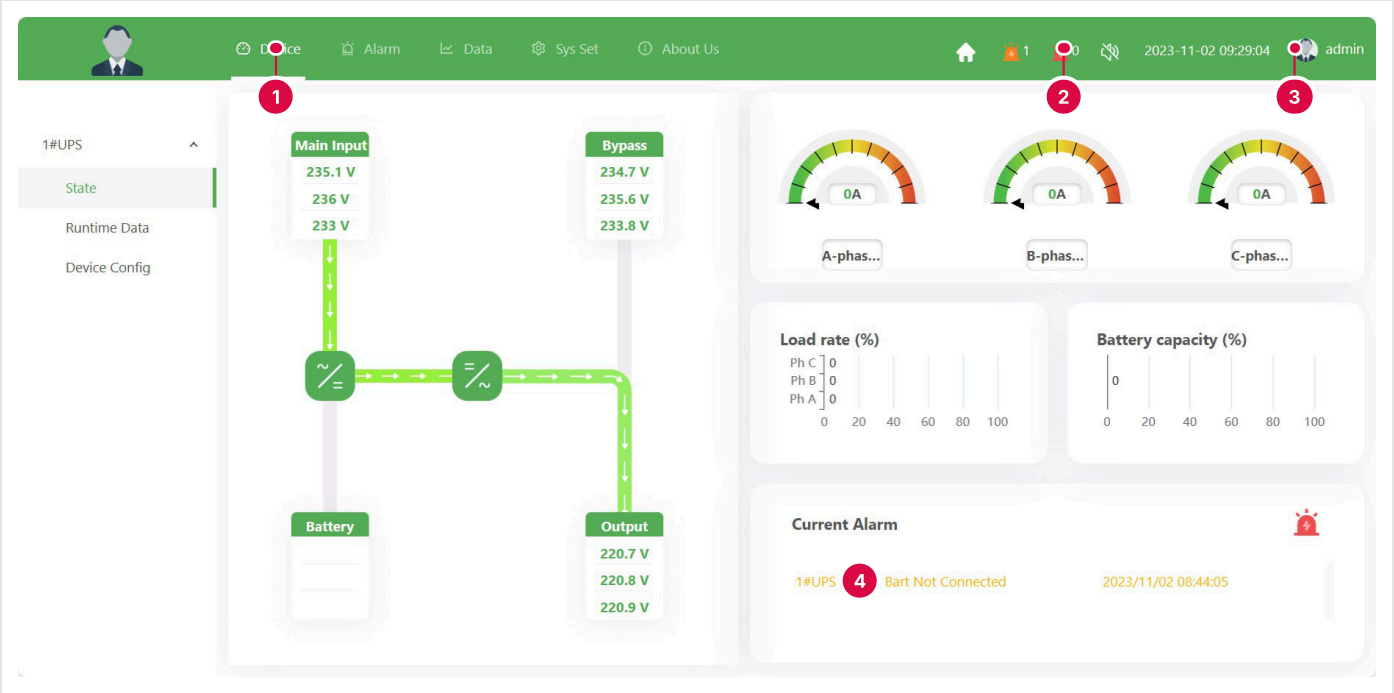
FIGURE 4-4 IPSearch: open the card's web page



1. Account: admin
2. password: given by AEC technical service
3. **Ok**

FIGURE 4-5 The card's login page

1. In IPSearch select the card and press **Web page** (Figure 4-4), or type the card's IP address in a browser (http://card-IP).
2. Enter the account **admin** and the password given by AEC technical service (Figure 4-5, items 1 and 2).
3. Press **Ok** (item 3). The card's web page opens (Figure 4-6).
4. Change the admin and user passwords now (Section 7.11).



1. Top menu: Device · Alarm · Data · Sys Set · About Us
2. Number of general and serious alarms
3. User logged in
4. Current alarm — here *Bart Not Connected*: add the UPS (Chapter 5)

FIGURE 4-6 The card's web page after the first login — here the card does not read the UPS yet

The PC and the card must be in the same local network; otherwise the page cannot open.

4.5 Your PC's network

To see or change your PC's address: **Control Panel › Network and Internet › Network Connections**, right-click the connection › **Properties** › **Internet Protocol Version 4 (TCP/IPv4)** › **Properties**. Or type `ipconfig` in Command Prompt.

The PC's first three numbers must match the card's (for example PC 192.168.60.20, card 192.168.60.16, mask 255.255.255.0). If your subnet mask is not 255.255.255.0, ask your IT department for the address.

CHAPTER 5

05 Connecting the card to the UPS

The card must be told which UPS it is in. Until then it shows “UPS communication failure” and the DATA LED flashes.

5.1 Settings per AEC UPS

Use the values of Table 2-2 for your UPS. In short:

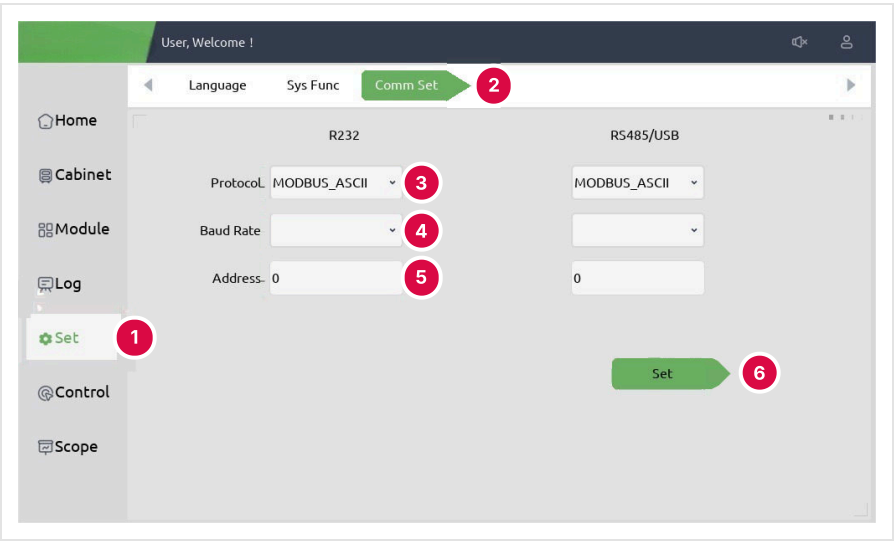
- **FERRUS, FERRUS RT, FERRUS SP, FERRUS SP RT:** protocol **Megtec**, Uart, Port A, 2400 baud, address 1. Normally nothing needs to be set on the UPS.
- **RADIANT, RADIANT-IB, CIRRO-IB, CIRRO:** protocol **ACM(10-600KVA)**, Uart, Port A, and the baud rate, address and Modbus mode set on the UPS touchscreen (Section 5.2.1).

5.2 Set the UPS's communication port

The card talks to the UPS through the UPS's RS-232 line, which it shares with the intelligent slot. On the UPS, set that line's protocol, baud rate and address. Then use the same values on the card (Section 5.3).

> ⚠ ***WARNING · One at a time***
>
> The RS-232 port and the intelligent (SNMP) slot cannot be used at the same time: unplug any RS-232 cable while the card is fitted. On the touchscreen, if the MEGA (Megatec) protocol is selected the line does not work with the card: choose MODBUS_ASCII or MODBUS_RTU, never MEGA.

5.2.1 RADIANT · RADIANT-IB · CIRRO-IB · CIRRO — color touchscreen

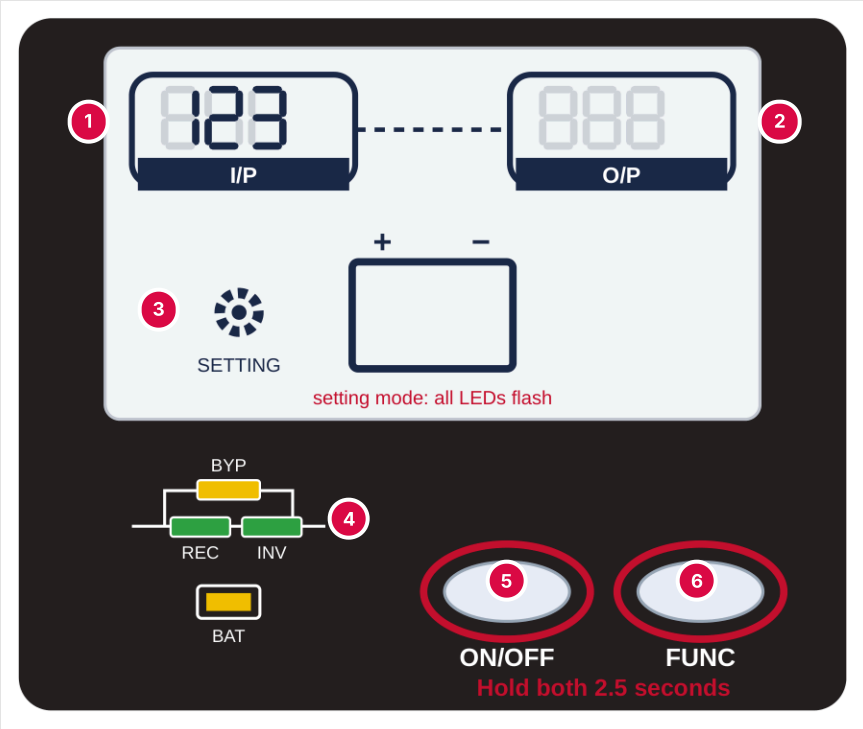


1	**Set** in the left menu	4	R232 Baud Rate
2	**Comm Set** tab	5	R232 Address
3	R232 Protocol	6	**Set**: saves the values

FIGURE 5-1 UPS touchscreen: Set › Comm Set — Protocol, Baud Rate and Address of the R232 line

1. Tap **Set** in the left menu (Figure 5-1, item 1), then the **Comm Set** tab (item 2).
2. In the **R232** (RS-232) column, set **Protocol** to MODBUS_ASCII or MODBUS_RTU (item 3).
3. Set **Baud Rate**, for example 9600 (item 4).
4. Set **Address** to 1 (item 5).
5. Tap **Set** to save (item 6). If Comm Set asks for a password, it is reserved to AEC service: call +1 786 553 2100.
6. Write the three values down. The card's Modbus Mode (ASCII or RTU), Baud Rate and Modbus Addr must be the same (Section 5.3).

5.2.2 FERRUS · FERRUS RT · FERRUS SP · FERRUS SP RT — small LCD with ON/OFF and FUNC keys



1	Left number field: menu number or value	4	LED mimic: BYP, REC, INV, BAT
2	Right number field: value	5	ON/OFF key
3	Gear and SETTING: setting mode	6	FUNC key

FIGURE 5-2 FERRUS family control panel in setting mode

The panel is on the front of the UPS: the LCD on top, the LED mimic (BYP, REC, INV, BAT) below it on the left, and the two keys ON/OFF and FUNC on the right (Figure 5-2). In setting mode FUNC changes the value shown and ON/OFF confirms it and goes to the next page.

FERRUS models: normally there is nothing to set on the UPS. With the card set to Megtec, it reads the UPS automatically. Do the steps below only if the card still shows *UPS communication failure* after you have added the UPS on the card (Section 5.3): they check the UPS's SNMP-card port (2400 baud, address 1).



FIGURE 5-3 Step 2: SNMP card menu, 234

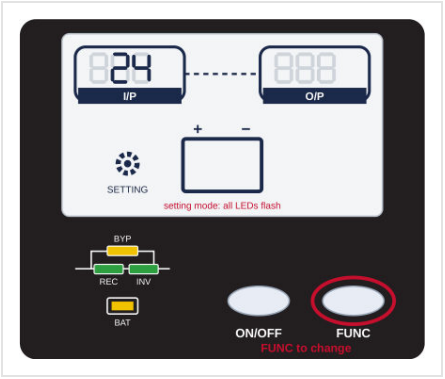


FIGURE 5-4 Step 3: baud rate 24 (2400 baud)

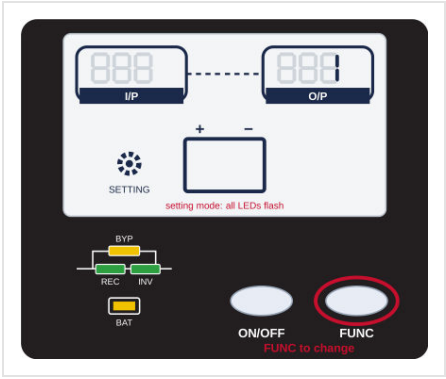


FIGURE 5-5 Step 4: address (ID) 1

1. **Enter setting mode.** Hold ON/OFF and FUNC together for 2.5 s (Figure 5-2, items 5 and 6). The gear and SETTING appear (item 3) and all LEDs flash.
2. **Choose the SNMP card menu.** Press FUNC until the number shows **234** (FERRUS, FERRUS RT) or **345** (FERRUS SP, FERRUS SP RT) (Figure 5-3). Then press ON/OFF.
3. **Baud rate.** Check that it reads **24** (2400 baud, the card's Megtec setting) (Figure 5-4). If not, press FUNC until it reads 24 (96 = 9600 · 48 = 4800 · 12 = 1200 · 192 = 19200). Press ON/OFF.
4. **Address (ID).** FUNC changes it (1 to 32). Use **1** (Figure 5-5). Press ON/OFF to confirm.
5. **Protocol.** Leave it as it is — the card's Megtec setting works with it automatically (Figure 5-6). Press ON/OFF.
6. **Summary.** Check the values and press ON/OFF to leave (Figure 5-7).
7. **Restart the UPS.** The new settings work only after a restart — plan it, and protect or move the connected load first.

To leave without saving: hold FUNC and ON/OFF together for 2.5 s on any setting page.

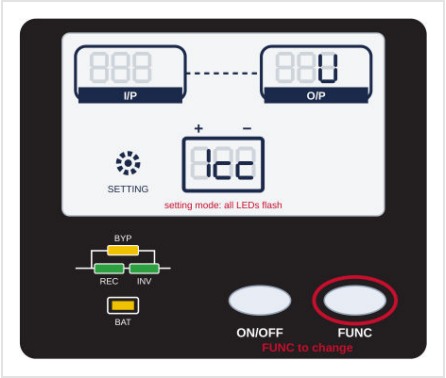


FIGURE 5-6 Step 5: protocol, left as it is

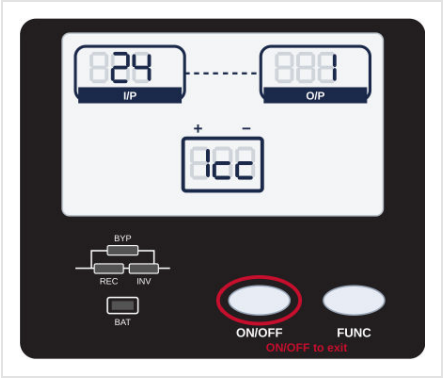
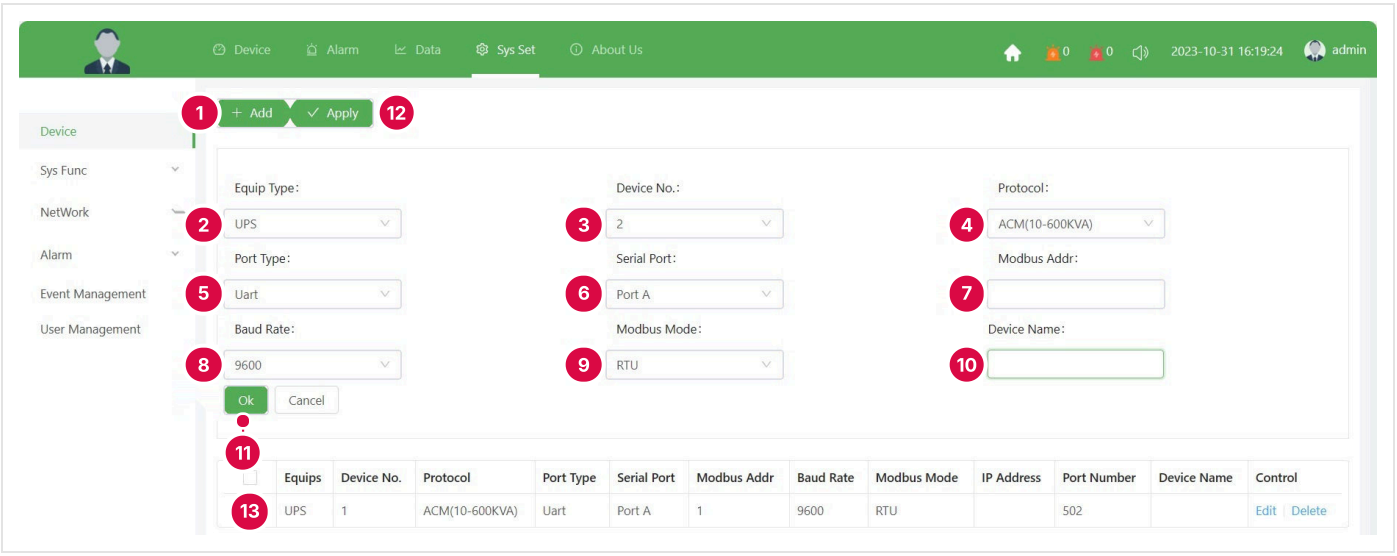


FIGURE 5-7 Step 6: summary of the values — ON/OFF to exit

i NOTE Whatever the UPS uses — baud rate, address, protocol — set the card the same in Section 5.3. A mismatch shows as *UPS communication failure* and a flashing DATA LED. Ask AEC service if you are unsure which protocol your UPS is set to.

5.3 Adding the UPS



1. **+ Add**: opens the form
2. Equip Type
3. Device No.
4. Protocol
5. Port Type
6. Serial Port
7. Modbus Addr
8. Baud Rate
9. Modbus Mode
10. Device Name (optional)
11. **Ok**: adds the UPS to the list
12. **Apply**: the card starts reading the UPS
13. Device list: the UPS once added

FIGURE 5-8 Sys Set › Device › + Add: the UPS settings — here a RADIANT/CIRRO: ACM(10-600KVA), Uart, Port A, 9600, RTU

1. Click **Sys Set** in the top menu, then **Device** in the left menu.
2. Click **+ Add** (Figure 5-8, item 1).
3. Fill in the form with the values of Table 5-1 (items 2 to 10).
4. Press **Ok** (item 11). The UPS appears in the device list (item 13).
5. Press **Apply** (item 12).

TABLE 5-1 UPS settings on the card (items of the figure)

Item	Field	Value
2	Equip Type	UPS
3	Device No.	1 (any number, not repeated)
4	Protocol	**Megtec** — FERRUS, FERRUS RT, FERRUS SP, FERRUS SP RT **ACM(10-600KVA)** — RADIANT, RADIANT-IB, CIRRO-IB, CIRRO
5	Port Type	Uart
6	Serial Port	Port A
7	Modbus Addr	1 (1–247, as on the UPS)
8	Baud Rate	As on the UPS (Table 2-2)

Item	Field	Value
9	Modbus Mode	RTU or ASCII, as on the UPS
10	Device Name	Optional — for example the UPS location

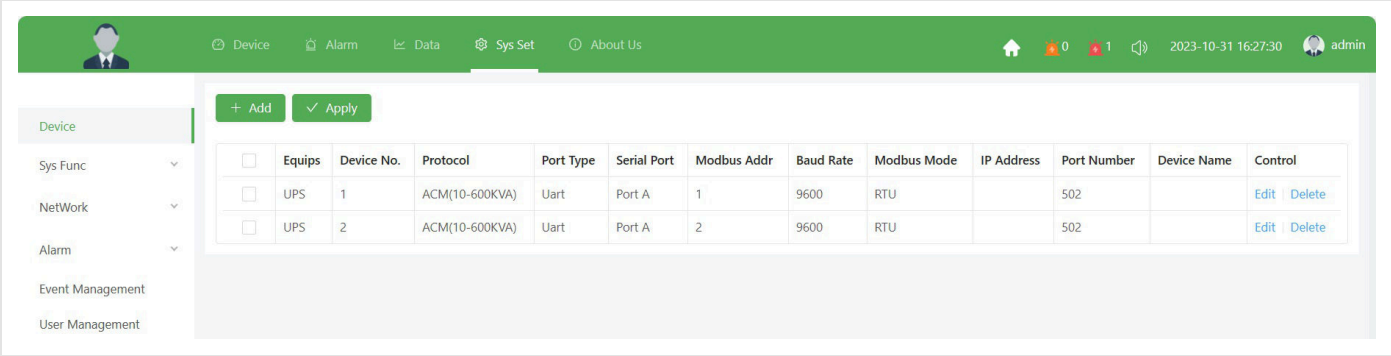


FIGURE 5-9 Devices in the list after Apply — here two UPS

5.4 Verification

1. Refresh the page.
2. Open **Alarm › Current Alarm** (Section 6.4). No communication failure means that the card reads the UPS.
3. Check the home page: it shows the energy flow and live values (Figure 5-10).
4. Check the card: the DATA LED is off (Table 2-10).

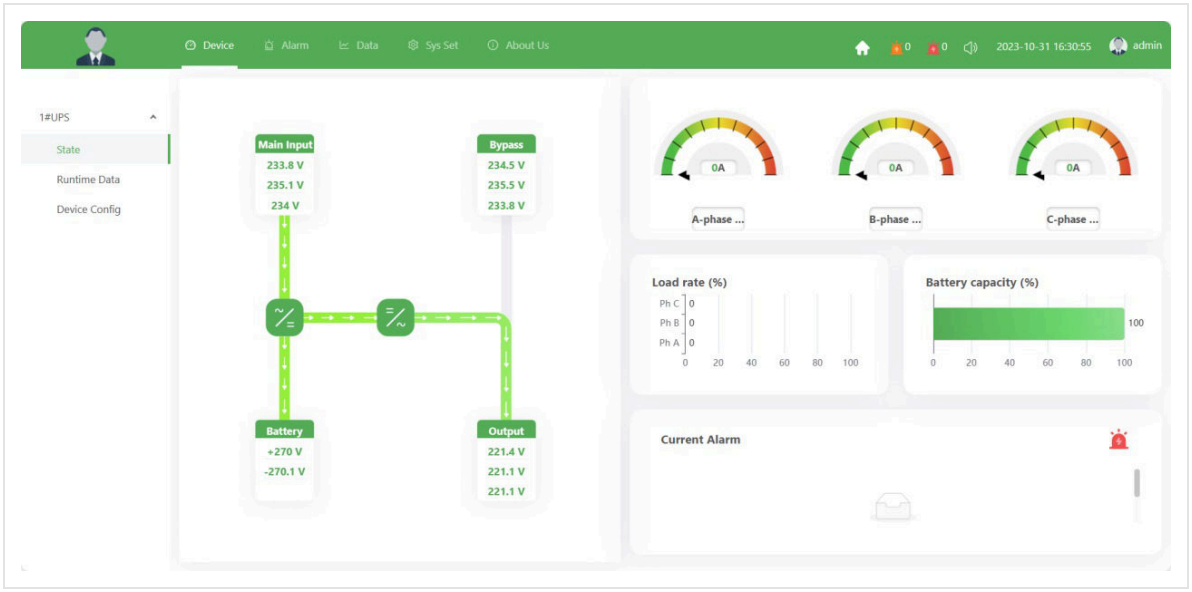


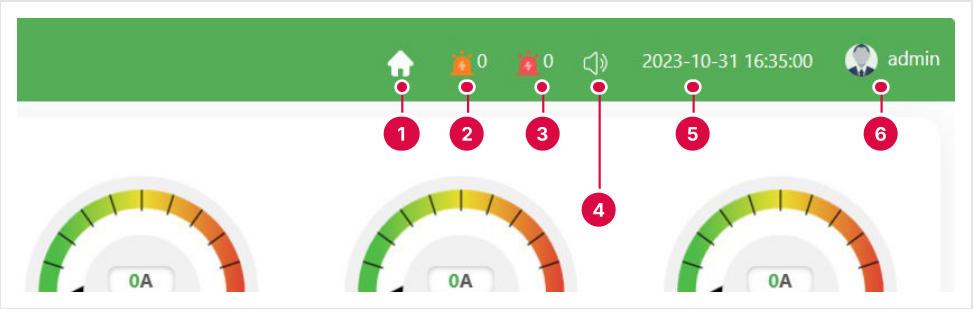
FIGURE 5-10 Home page with the UPS communicating

CHAPTER 6

06 Web interface: monitoring

The menu, the accounts, the home page and the Device, Alarm and Data pages.

6.1 Menu, users and rights



1	Home	4	Alarm sound on/off
2	General alarms (yellow): click to open them	5	Date and time of the card
3	Serious alarms (red): click to open them	6	User logged in

FIGURE 6-1 The bar at the top right of every page

The top menu has **Device · Alarm · Data · Sys Set · About Us**. At the top right: home, the number of general and serious alarms (click to open them), sound on/off, date and time, and the user (Figure 6-1).

TABLE 6-1 Accounts

Account	Default password	Rights
admin	Given by AEC technical service	Full administrator: all settings, users, configuration
user	Given by AEC technical service	View data only

⚠ CAUTION

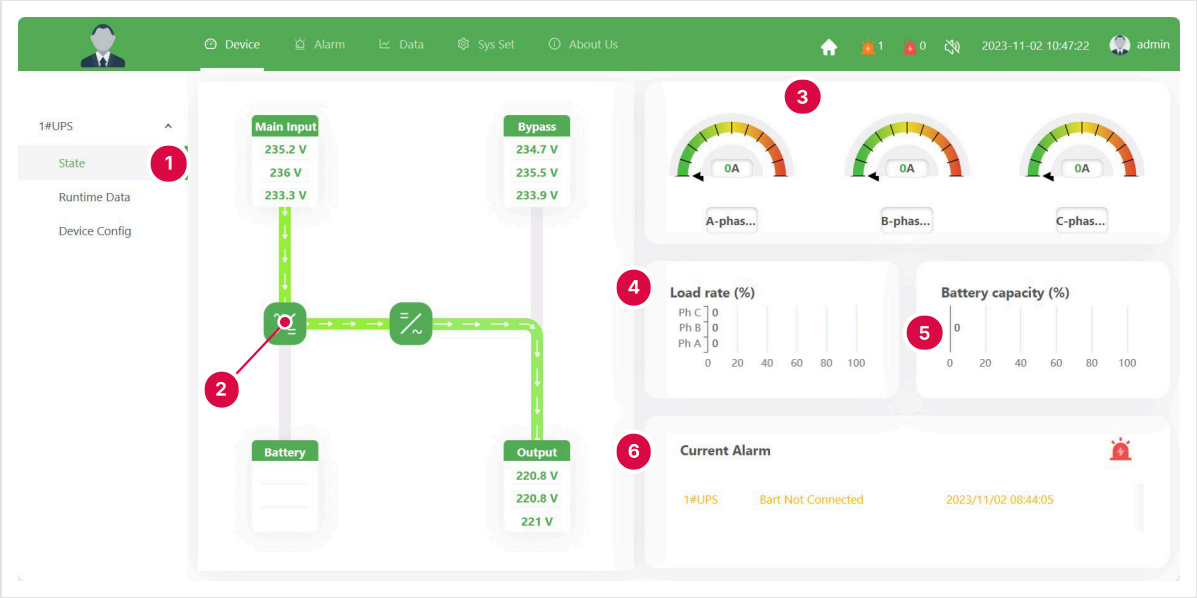
Change both default passwords at the first login (Section 7.11).

The page language follows your computer; change it under **Sys Set › Sys Func › Language** (Section 7.4).

i NOTE The screenshots in this manual were taken on a test unit. The values on your UPS (voltages, frequency, number of phases) differ.

6.2 Home page

After login the card opens **Device › 1#UPS › State**.



1. Left menu: State · Runtime Data · Device Config
2. Energy flow diagram
3. Running status meters: output current per phase
4. Load rate per phase
5. Battery capacity
6. Current alarms

FIGURE 6-2 Device › 1#UPS › State: the home page

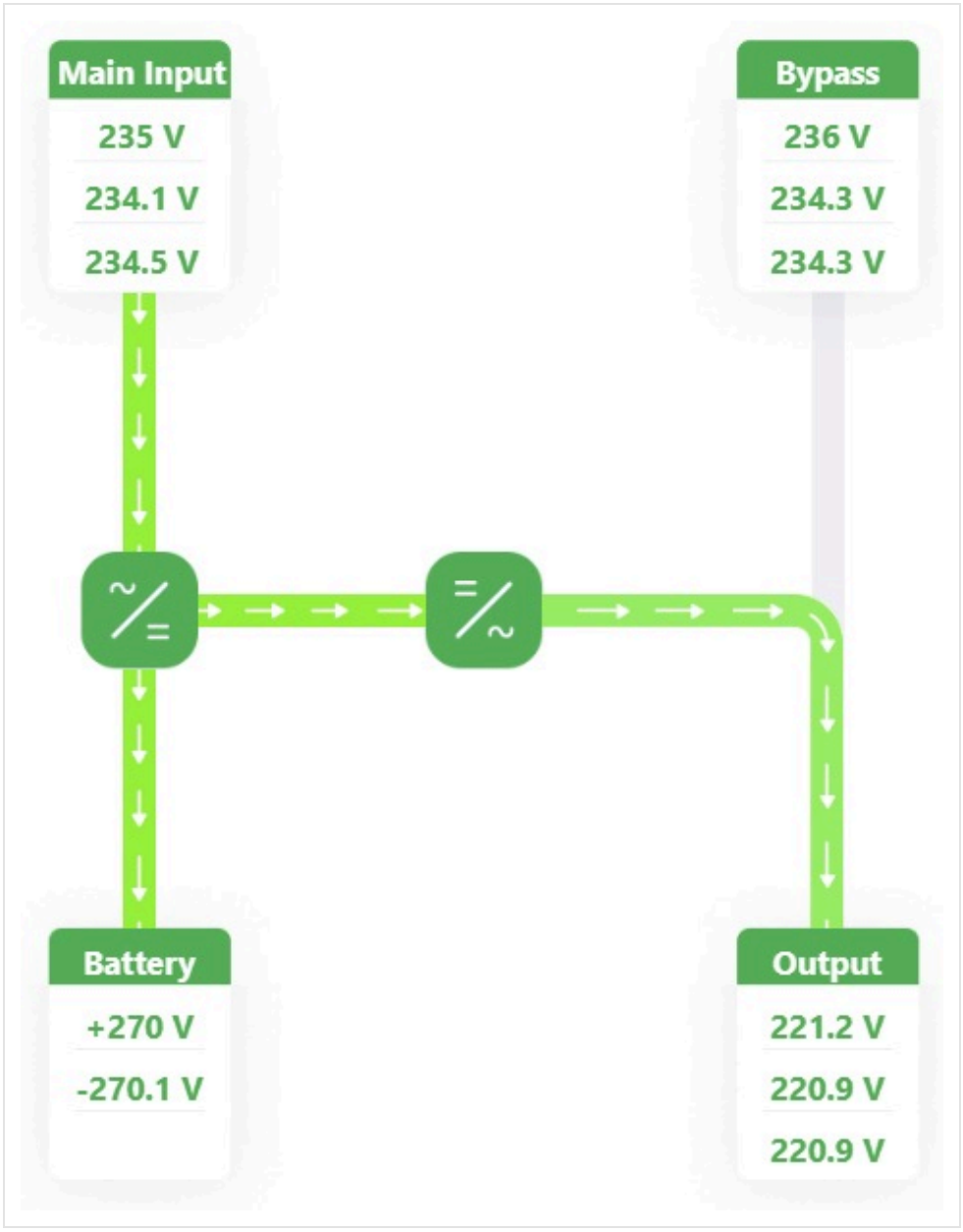


FIGURE 6-3 Energy flow diagram

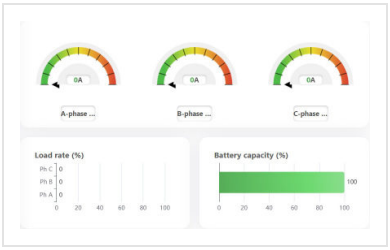


FIGURE 6-4 Running status meters

- **Energy flow diagram** (Figure 6-2, item 2): main input, bypass, battery and output values, and how the power flows through the rectifier, inverter, bypass and battery.
- **Running status** (items 3 to 5): three meters for the output current of each phase, the load of each phase and the remaining battery capacity. Green = light load, yellow = heavy load, red = overload.
- **Current alarm** (item 6): the active alarms by level — general (yellow) and serious (red). The alarm count is also shown at the top of every page (Figure 6-1); click it to open the alarm list.

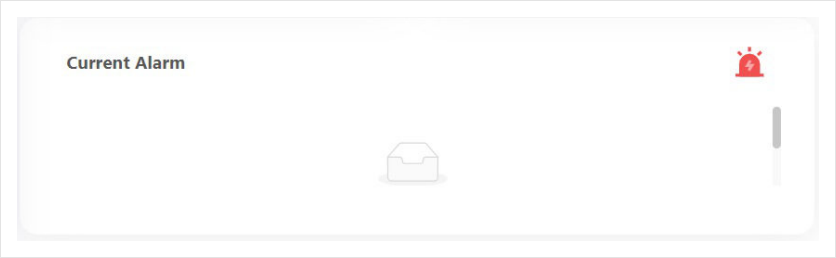
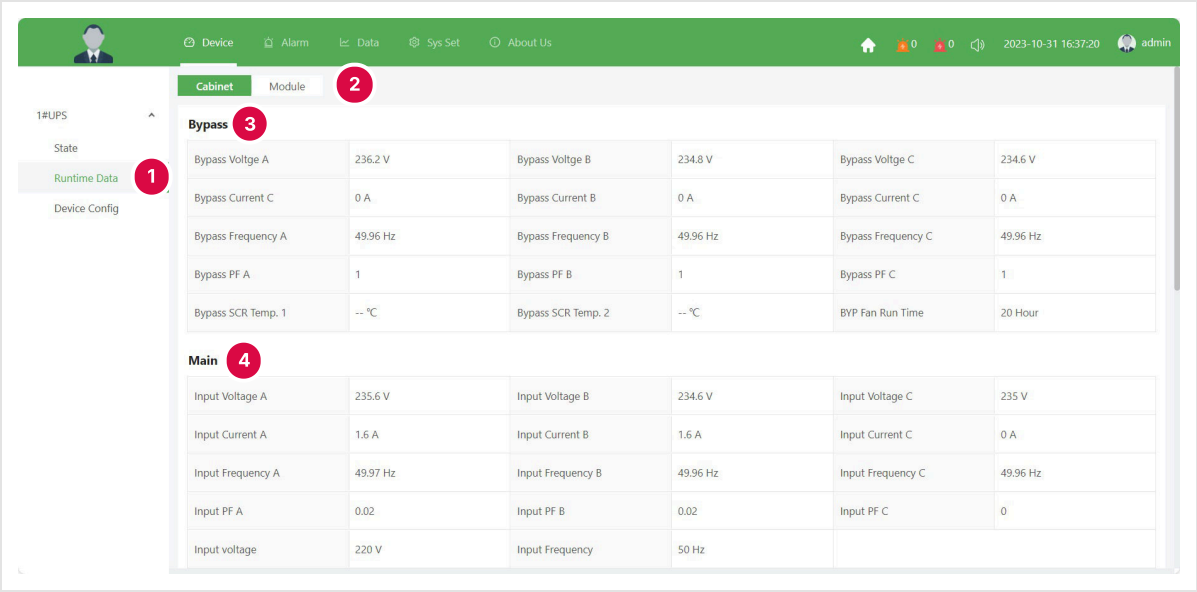


FIGURE 6-5 Home page: current alarms — none here

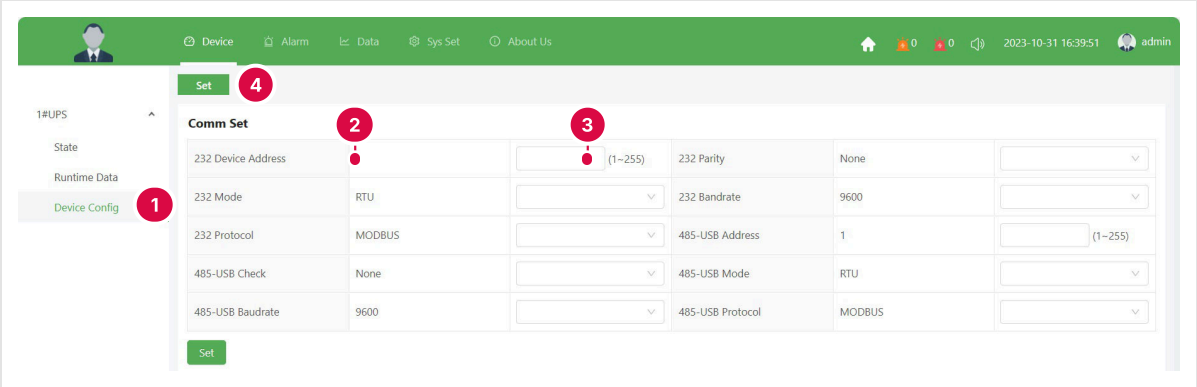
6.3 Device



1. Runtime Data
2. Cabinet and Module tabs
3. Bypass values
4. Main input values

FIGURE 6-6 Device › 1#UPS › Runtime Data

Runtime Data: bypass, main input, output, load and battery — voltage, current, frequency and power factor, per phase (A/B/C) on three-phase UPS, phase A only on single-phase UPS.

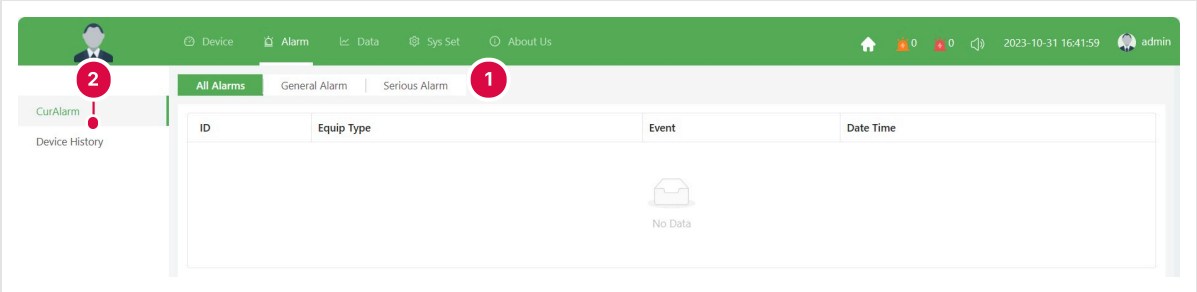


1. Device Config
2. Current value
3. New value
4. **Set**

FIGURE 6-7 Device › 1#UPS › Device Config

Device Config: view and set the UPS communication parameters (not available while the communication has failed).

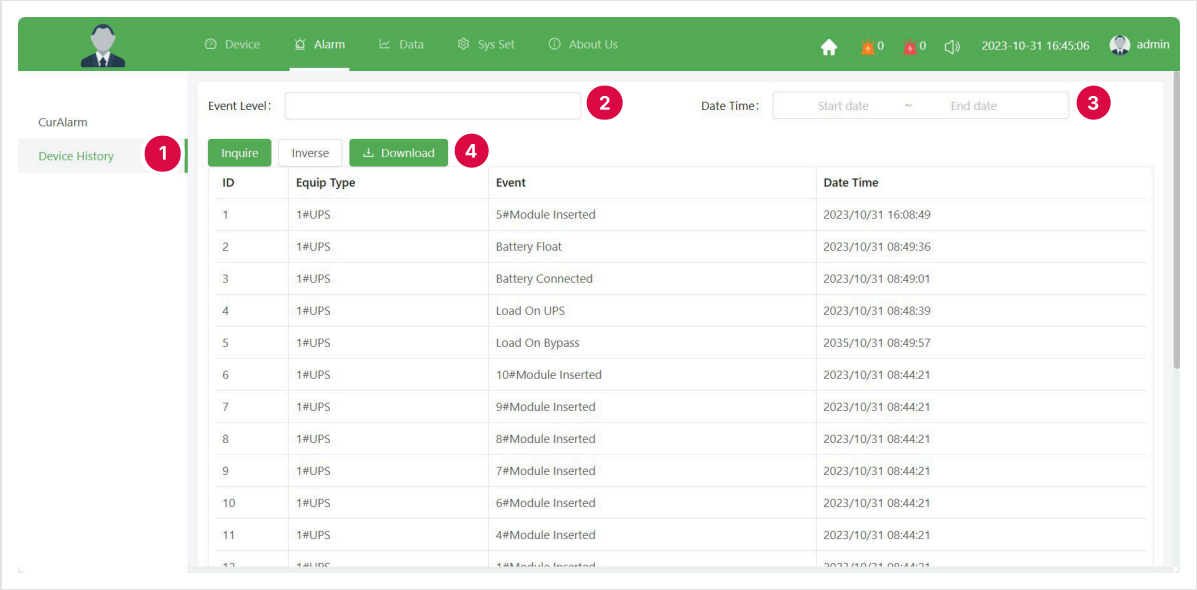
6.4 Alarm



1. All Alarms · General Alarm · Serious Alarm
2. CurAlarm

FIGURE 6-8 Alarm › Current Alarm

Current Alarm: all active alarms with device type, event, date and time; filter general or serious alarms.



1. Device History
2. Event Level
3. Date Time: start and end
4. **Inquire · Inverse · Download**

FIGURE 6-9 Alarm › Device History

Device History: past events by level (all, general events, general alarms, serious alarms) and by start and end time. Choose them (Figure 6-9, items 2 and 3), press **OK**, then **Inquire** (item 4).

> **i NOTE** At 10 MB of free memory or less the card raises the serious alarm *Insufficient remaining memory space*; at 5 MB it stops storing history. Delete history that is no longer needed (Section 7.6).

6.5 Data

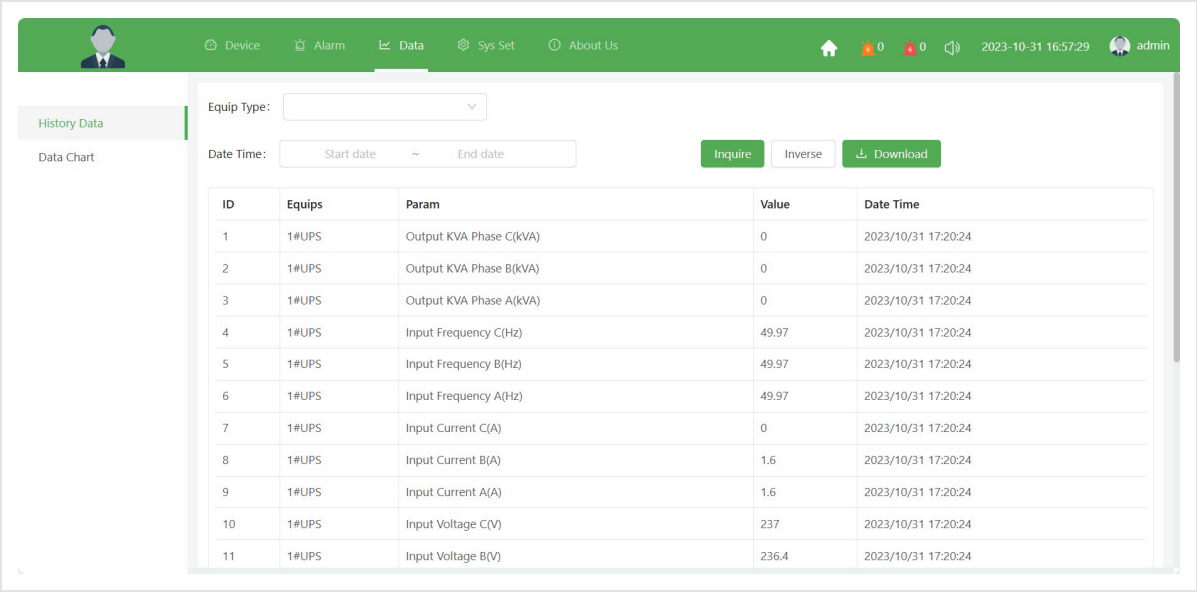
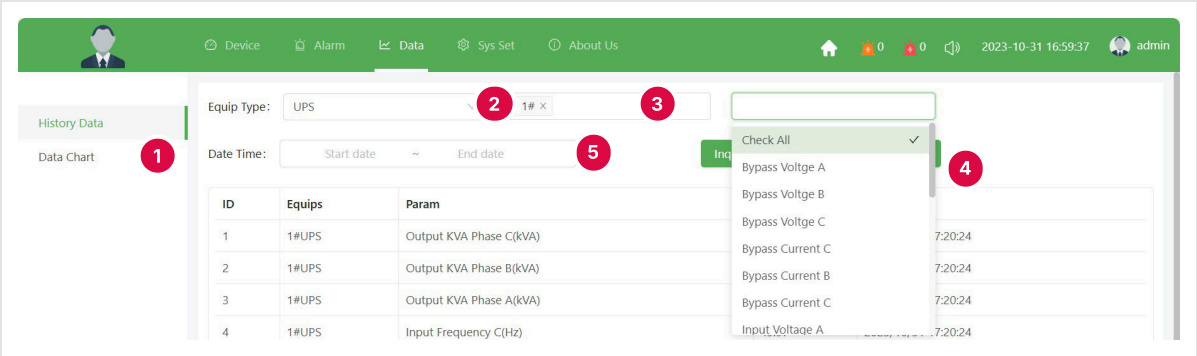


FIGURE 6-10 Data › History Data

History Data: the recorded values as a table.



1. Data Chart
2. Equip Type
3. Device
4. Values to draw
5. Date Time

FIGURE 6-11 Data › Data Chart: choose the device and the values

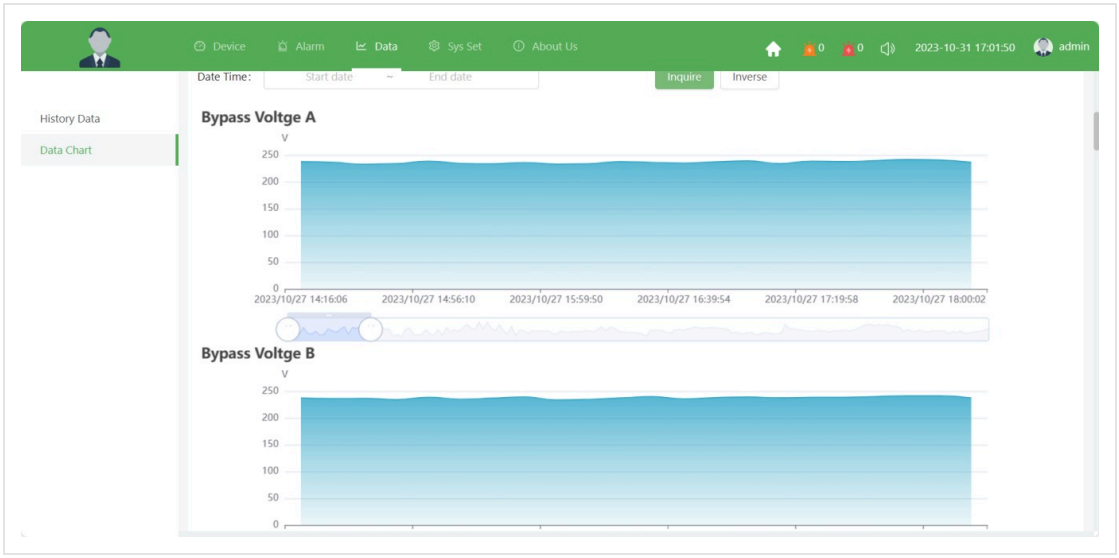


FIGURE 6-12 The chart drawn

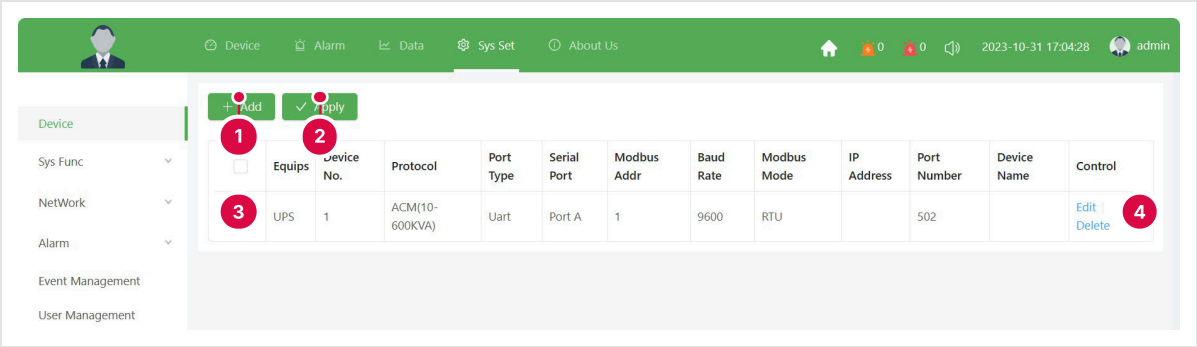
Data Chart: choose the equipment (UPS or an expansion device, Figure 6-11, items 2 and 3), the values (item 4) — input voltage and frequency, output voltage, current and frequency, bypass voltage and current... — and a start time (item 5), then press **Inquire**.

CHAPTER 7

07 Web interface: Sys Set

Available to administrators. The left menu: Device · Sys Func · NetWork · Alarm · Event Management · User Management.

7.1 Device



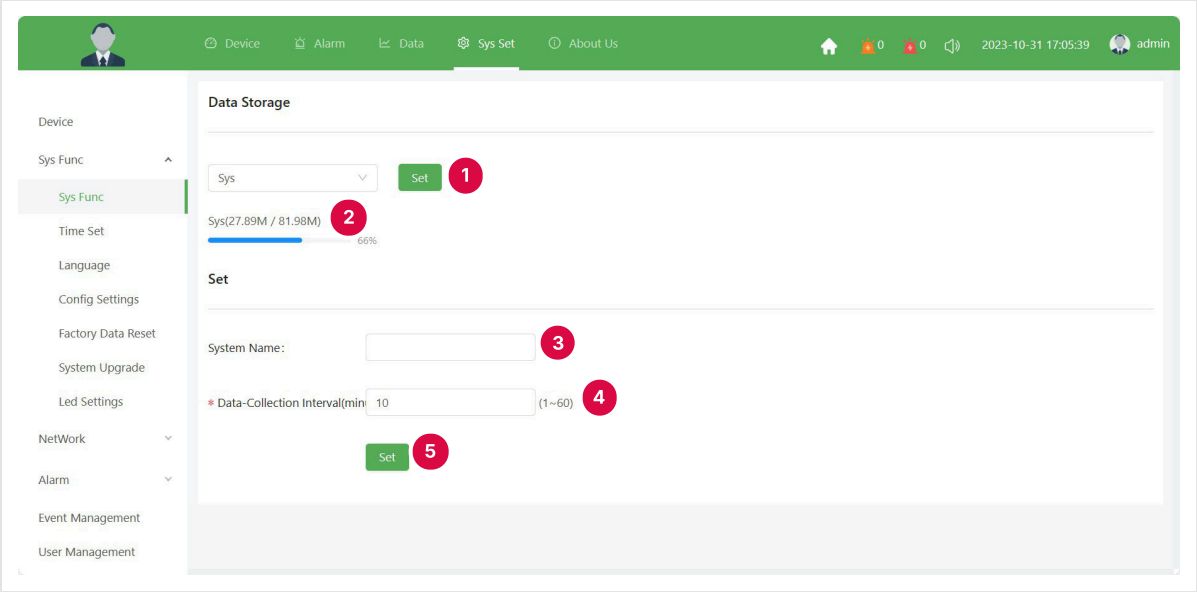
1. **+ Add**
2. **Apply**
3. A device in the list
4. **Edit · Delete**

FIGURE 7-1 Sys Set › Device: the devices the card talks to

Add, remove or change the devices the card talks to — the UPS (Chapter 5) and the expansion devices (sensors, SMS module). Know each device's protocol, port, serial port and baud rate before you add it: wrong values cause a communication failure.

1. Press **+ Add** (Figure 7-1, item 1).
2. Set the parameters (Figure 5-8).
3. Press **Ok**.
4. Press **Apply** (item 2).

7.2 Sys Func

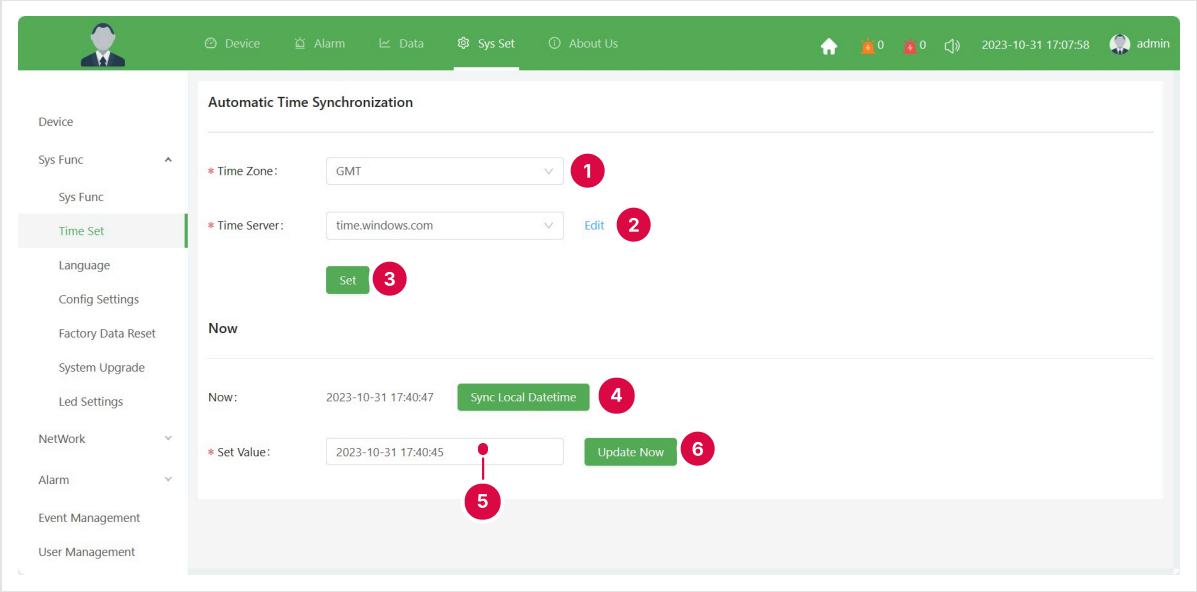


1. Storage: choose and **Set**
2. Total and remaining storage
3. System Name
4. Data-Collection Interval, 1–60 min
5. **Set**

FIGURE 7-2 Sys Set › Sys Func › Sys Func

The page shows the total and remaining storage (Figure 7-2, item 2). Set the history saving interval (default 10 minutes, item 4) and the system name (item 3), then press **Set** (item 5). The system name is the sender of e-mail and SMS alarms: name the card after the UPS location so that alarms are easy to place.

7.3 Time Set



1. Time Zone
2. Time Server and **Edit**
3. **Set**
4. **Sync Local Datetime**
5. Set Value
6. **Update Now**

FIGURE 7-3 Sys Set › Sys Func › Time Set

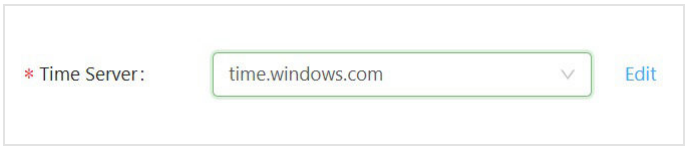


FIGURE 7-4 Time server: Edit, enter, Add

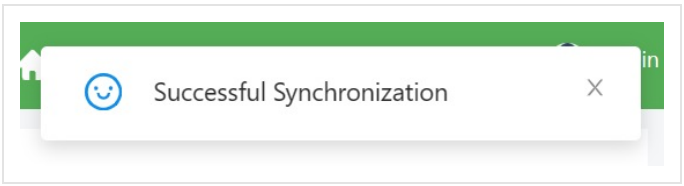


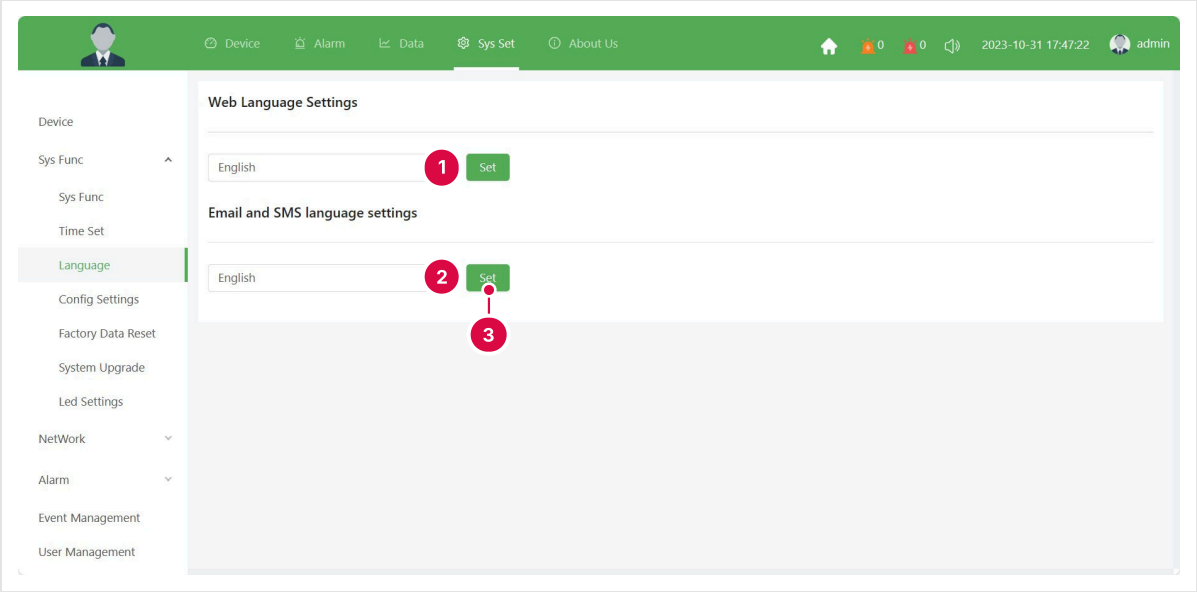
FIGURE 7-5 Confirmation

Automatic synchronization (NTP):

1. Choose the time zone relative to GMT (Figure 7-3, item 1). Miami: GMT-5, GMT-4 in summer.
2. Press **Edit** (item 2), enter a time server (for example time.windows.com) and press **Add** (Figure 7-4).
3. Select the server, set the synchronization period and press **Set** (item 3). The network must reach the server (gateway and DNS, Section 7.7).

Manual: enter the time in **Set Value** (item 5) and press **Update Now** (item 6), or press **Sync Local Datetime** (item 4) to copy the PC's time. “Successful Synchronization” confirms (Figure 7-5).

7.4 Language

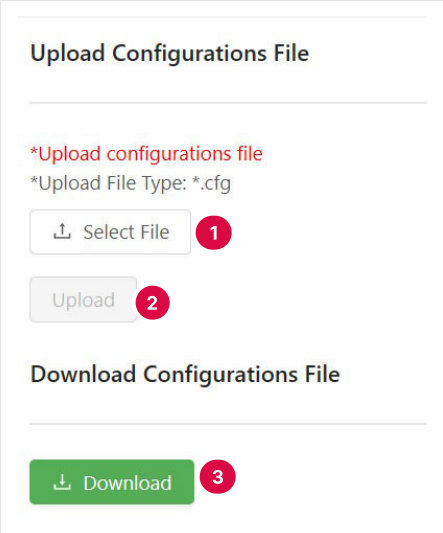


1. Web Language Settings: language of the web pages
2. Email and SMS language settings
3. **Set** (one for each setting)

FIGURE 7-6 Sys Set › Sys Func › Language

Set the web page language and the language of the e-mail and SMS alarms (Figure 7-6, items 1 and 2): English, Spanish, French, Russian or Chinese. Choose, then press **Set** (item 3).

7.5 Config Settings



1. **Select File**
2. **Upload**
3. **Download**

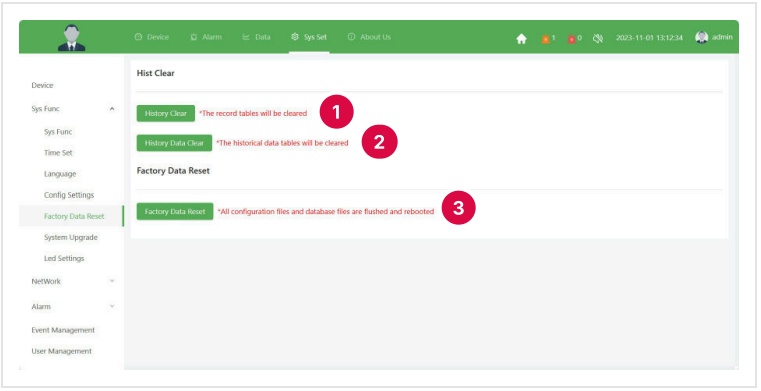
FIGURE 7-7 Sys Set › Sys Func › Config Settings: upload and download

Only the admin account can use this page.

- **Download Configurations File** (Figure 7-7, item 3) saves all settings except the e-mail settings and the SMS events and recipients.
- **Upload Configurations File** loads a .cfg file: **Select File** (item 1), then **Upload** (item 2). The card restarts.

Use it to set up several cards the same way, and to keep a copy of the settings (Section 10.5).

7.6 Factory reset and upgrade



1. History Clear
2. History Data Clear
3. Factory Data Reset

FIGURE 7-8 Sys Func › Factory Data Reset

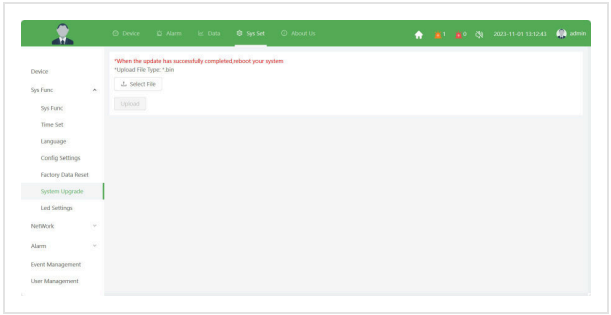
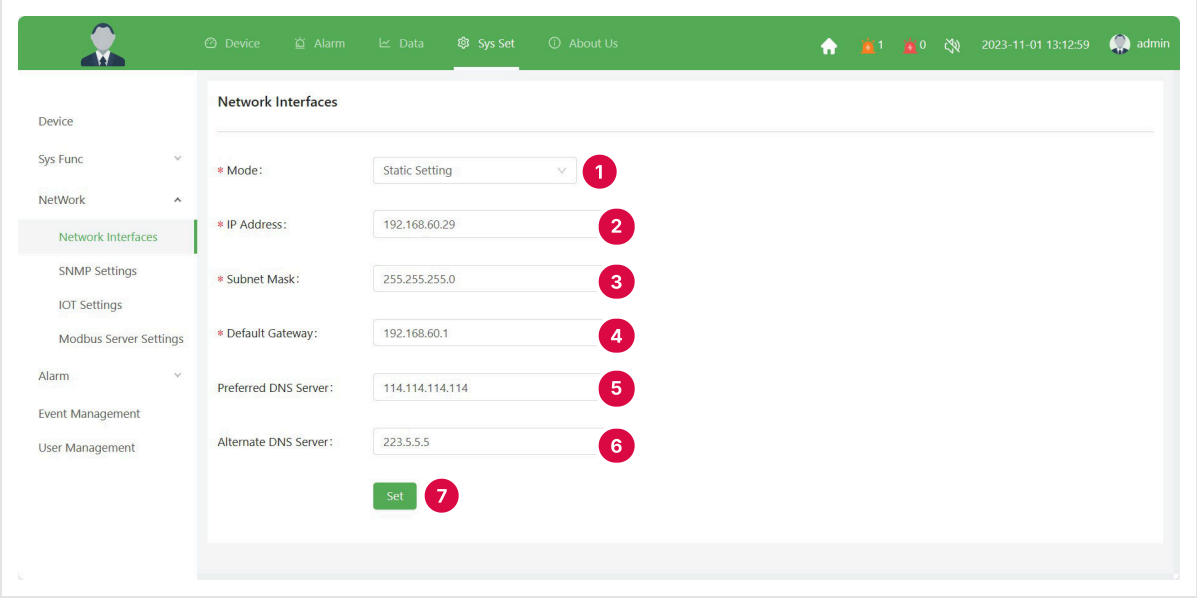


FIGURE 7-9 Sys Func › System Upgrade

- **History Clear** and **History Data Clear** (Figure 7-8, items 1 and 2) delete the record tables and the historical data.
- **Factory Data Reset** (item 3) returns every setting to the factory values, including the IP address and the passwords.
- **System Upgrade**: AEC cards ship with the current software — do not upgrade the card; contact AEC service if you think an update is needed.
- **Led Settings** sets the card's LED behavior.

7.7 Network interfaces



1. Mode: Static Setting or DHCP
2. IP Address
3. Subnet Mask
4. Default Gateway
5. Preferred DNS Server
6. Alternate DNS Server
7. **Set**

FIGURE 7-10 Sys Set › NetWork › Network Interfaces — Static Setting

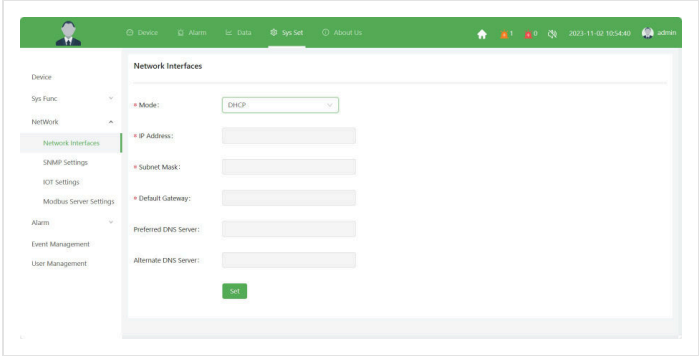
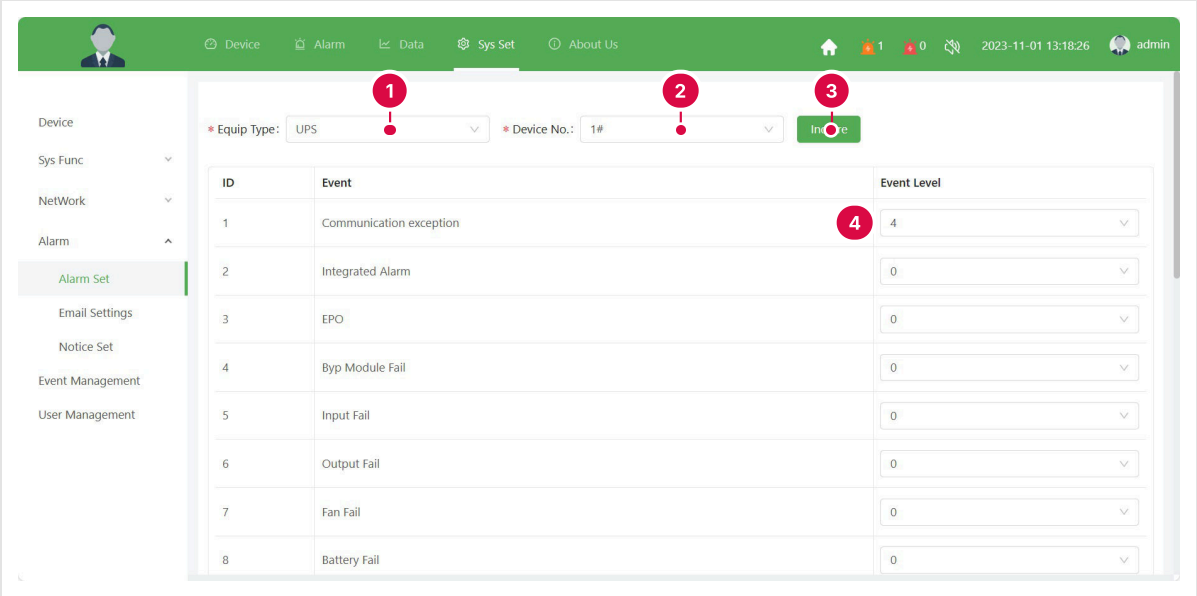


FIGURE 7-11 Network Interfaces — DHCP

Choose **Static Setting** (Figure 7-10, item 1) and enter the IP address, subnet mask, gateway, and preferred and alternate DNS (items 2 to 6), or choose **DHCP** (Figure 7-11). Press **Set** (item 7). The gateway and DNS are needed for e-mail, NTP and MQTT.

7.8 Alarm Set



1. Equip Type
2. Device No.
3. **Inquire**
4. Event Level

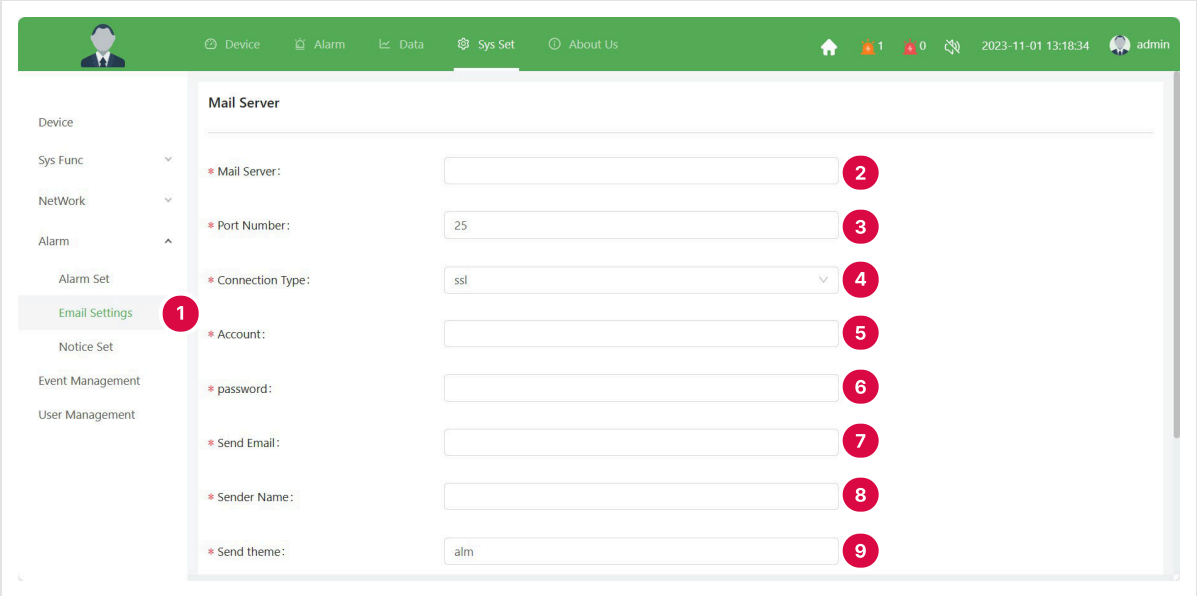
FIGURE 7-12 Sys Set › Alarm › Alarm Set: a level for each event

Choose the equipment and device and press **Inquire** (Figure 7-12, items 1 to 3). Give each event a level from 0 to 15 (item 4):

TABLE 7-1 Event levels

Level	Behavior
0	Normal event: not recorded, no alarm
1	Occurrence recorded, no alarm
2	Occurrence and end recorded, no alarm
3	General alarm (yellow): recorded and notified
4–15	Serious alarm (red): recorded and notified

7.9 Email Settings



1. Email Settings
2. Mail Server
3. Port Number (default 25)
4. Connection Type (SSL)
5. Account
6. password
7. Send Email: sender address
8. Sender Name
9. Send theme: subject

FIGURE 7-13 Sys Set › Alarm › Email Settings

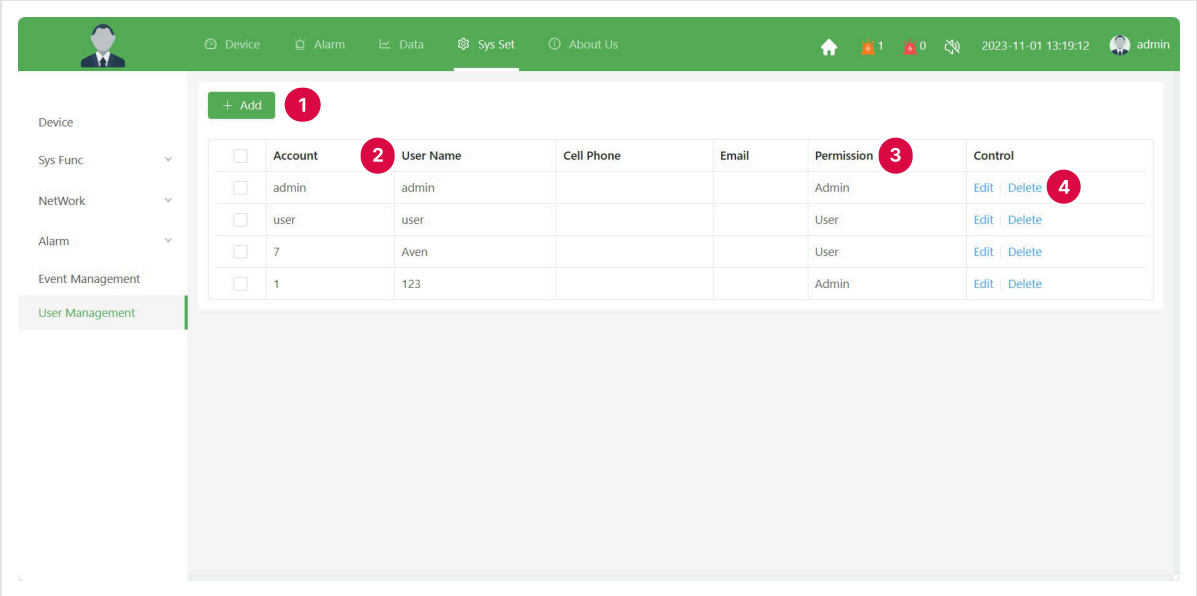
1. **Mail server.** Enter the SMTP server address (IP or name, Figure 7-13, item 2) and choose SSL if your server requires it (item 4).
2. **Port.** Default 25 (item 3); your provider may require 465 or 587.
3. **Sender, account and password.** Enter the address the card sends from and its login (items 5 to 8). Most providers need an app password and SMTP enabled on the account.
4. **Recipient.** Further down the page, enter an address and press **Send test email**. When the e-mail arrives, the server works.
5. **Save.** Press the settings button at the bottom of the page after any change.

Up to 20 addresses can receive alarm e-mails. If the test fails: check the server and port, the account and password, and that the card's network can reach the mail server (Section 7.7).

7.10 Notice Set

Sys Set › Alarm › Notice Set: up to 20 people, each notified by e-mail, SMS or voice call for events at or above the level you choose (Table 7-1). SMS and voice need the SMS alarm module (Section 3.3.2).

7.11 User Management



1. **+ Add**: new user
2. Accounts
3. Permission: Admin or User
4. **Edit** (password, rights) · **Delete**

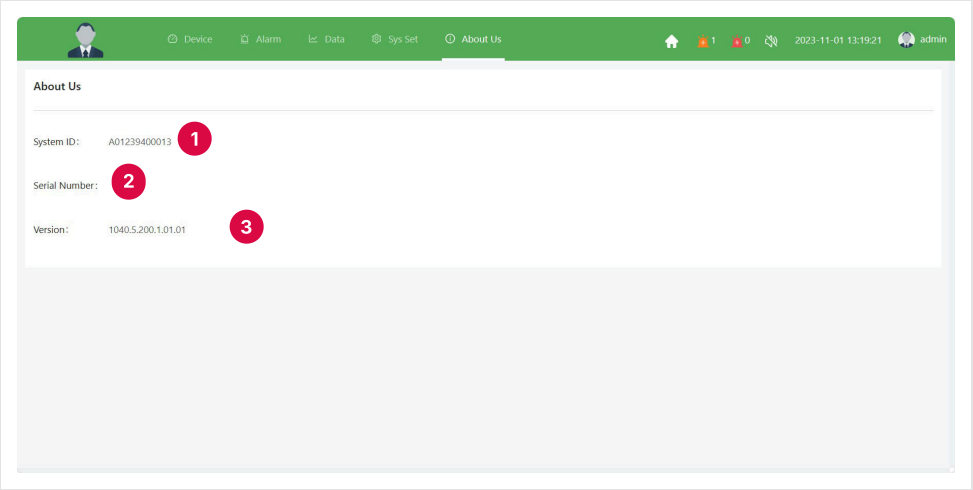
FIGURE 7-14 Sys Set › User Management

Only admin can use this page:

- Add users with **+ Add** (Figure 7-14, item 1) and delete them with **Delete** (item 4).
- Change passwords and rights with **Edit** (item 4). The admin can change another user's password without knowing it.
- The admin account cannot be deleted. User names may contain letters and underscores.

To change a default password: press **Edit** on the admin line, enter the new password, confirm. Do the same for the user line. Write the new passwords on the record sheet kept in a safe place (Appendix A).

7.12 About Us



1. System ID
2. Serial Number
3. Version: the card's software

FIGURE 7-15 About Us (top menu)

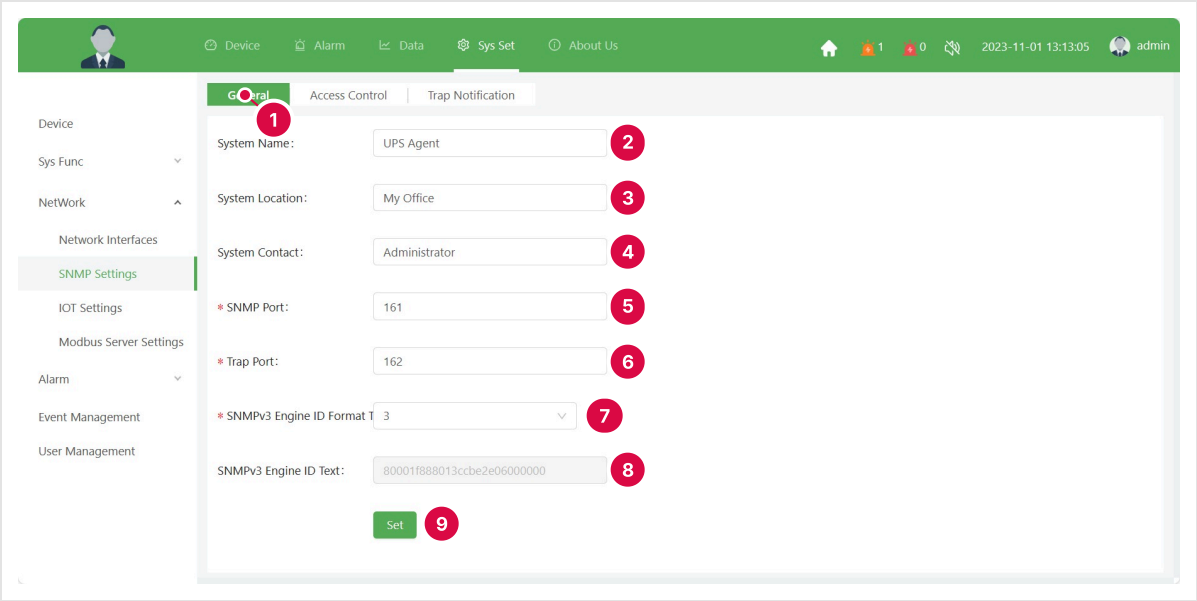
System ID, product serial number and the card's software version (Figure 7-15) — have them ready when you call AEC service.

CHAPTER 8

08 SNMP, Modbus TCP and MQTT

Connect the UPS to a network management system, a building management system or an IoT platform.

8.1 SNMP general settings



1. **General** tab
2. System Name
3. System Location
4. System Contact
5. SNMP Port
6. Trap Port
7. SNMPv3 Engine ID Format
8. SNMPv3 Engine ID Text
9. **Set**

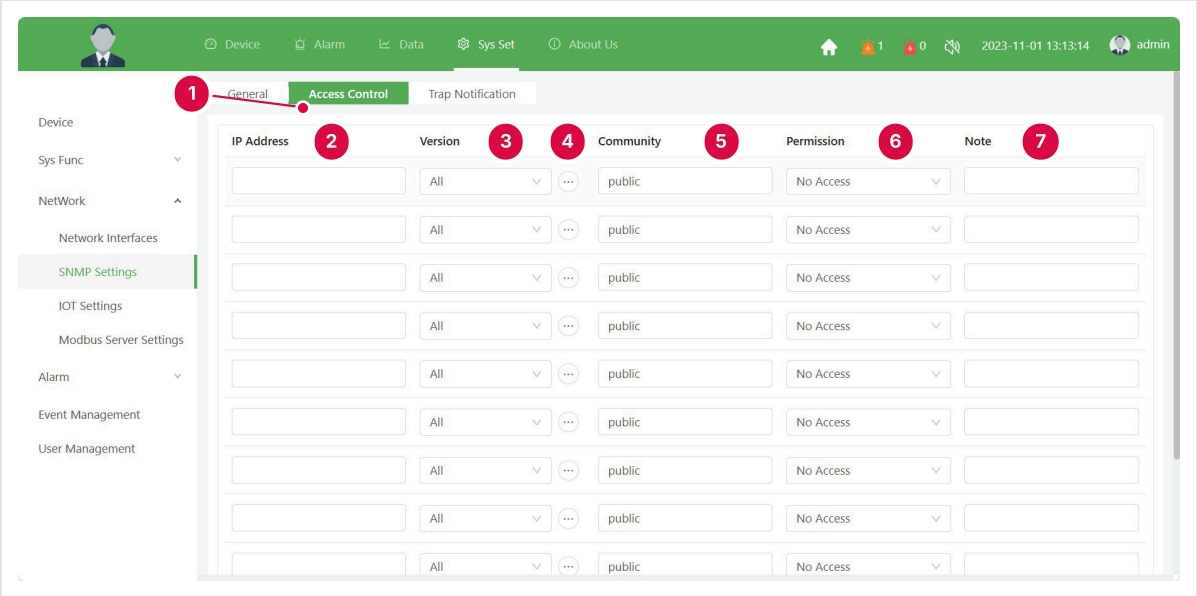
FIGURE 8-1 Sys Set › NetWork › SNMP Settings › General

TABLE 8-1 SNMP general settings

Item	Value
System Name (item 2)	Your name for the card (default UPS Agent)
System Location (item 3)	Where the UPS is, so that an alarm leads straight to it
System Contact (item 4)	Who looks after it
SNMP Port (item 5)	161
Trap Port (item 6)	162
SNMPv3 Engine ID (items 7 and 8)	From the MAC address, IPv4, IPv6 or set manually

Press **Set** (item 9): “Set Successfully” confirms.

8.2 Access control



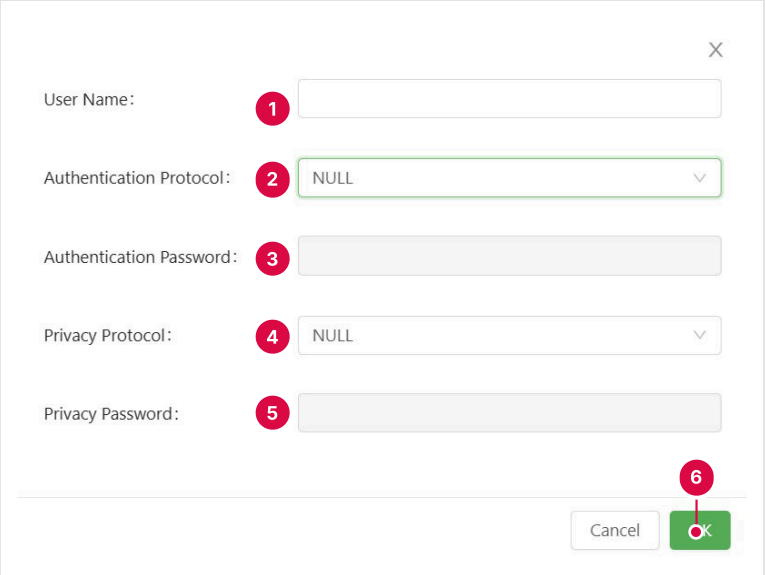
1. **Access Control** tab
2. IP Address of the manager
3. Version
4. ··· : SNMP V3 user
5. Community
6. Permission
7. Note

FIGURE 8-2 SNMP Settings › Access Control

TABLE 8-2 Access control

Item	Value
Manager IP address (item 2)	Up to ten managers. If none is set, any IP address can manage the card.
Version (item 3)	All · SNMP V1 & V2 · SNMP V3
Community (item 5)	Default public; the manager must use the same
Permission (item 6)	No access · Read · Read & write
Note (item 7)	A description for your records

8.3 SNMP V3



1. User Name
2. Authentication Protocol: MD5 or SHA
3. Authentication Password
4. Privacy Protocol: DES or AES
5. Privacy Password
6. **OK**

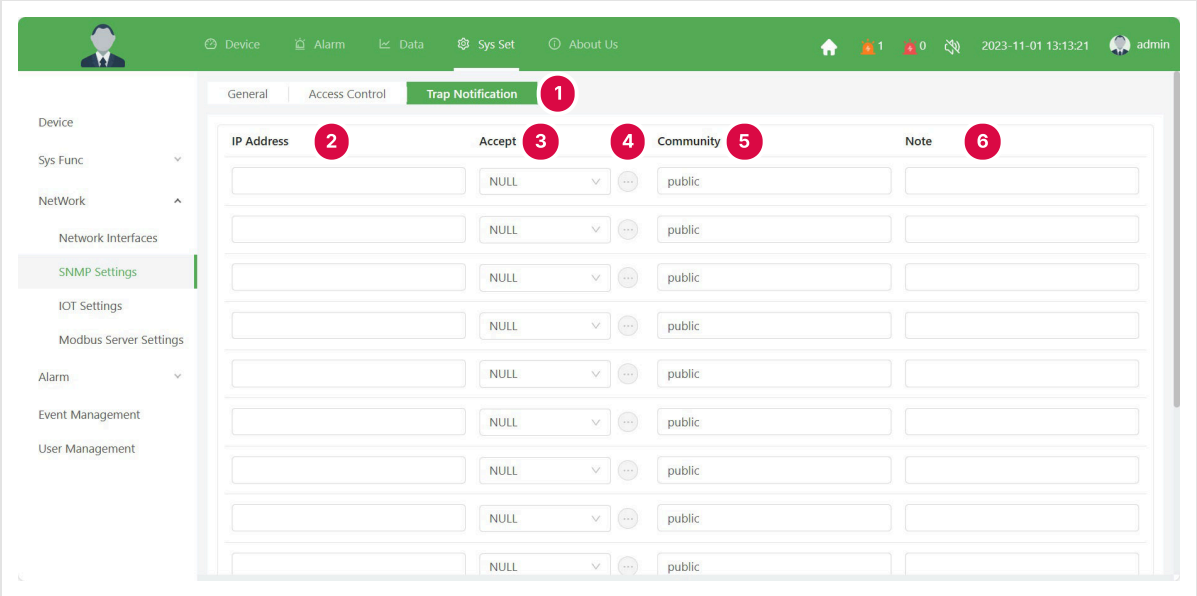
FIGURE 8-3 SNMP V3 user: authentication and privacy

With version All or SNMP V3, press the ··· button of each manager (Figure 8-2, item 4) and set:

1. A user name (Figure 8-3, item 1).
2. An authentication protocol, MD5 or SHA, and its password (items 2 and 3).
3. A privacy protocol, DES or AES (or none), and its password, 8 characters or more (items 4 and 5).
4. Press **OK** (item 6).

The manager must use the same values.

8.4 Traps



1. **Trap Notification** tab
2. IP Address of the receiver
3. Accept: trap type
4. ··· : SNMP V3 settings
5. Community
6. Note

FIGURE 8-4 SNMP Settings › Trap Notification

TABLE 8-3 Trap notification

Item	Value
Trap receiver IP (item 2)	Up to ten receivers
Type (item 3)	SNMPv1 Trap · SNMPv2 Trap · SNMPv2 Inform · SNMPv3 Trap · SNMPv3 Inform (V3: set the user, authentication and encryption with item 4)
Community (item 5)	Default public
Inform retries	3 times, 5 seconds apart by default

The receiving computer needs trap-viewing software.

8.5 MIB browser

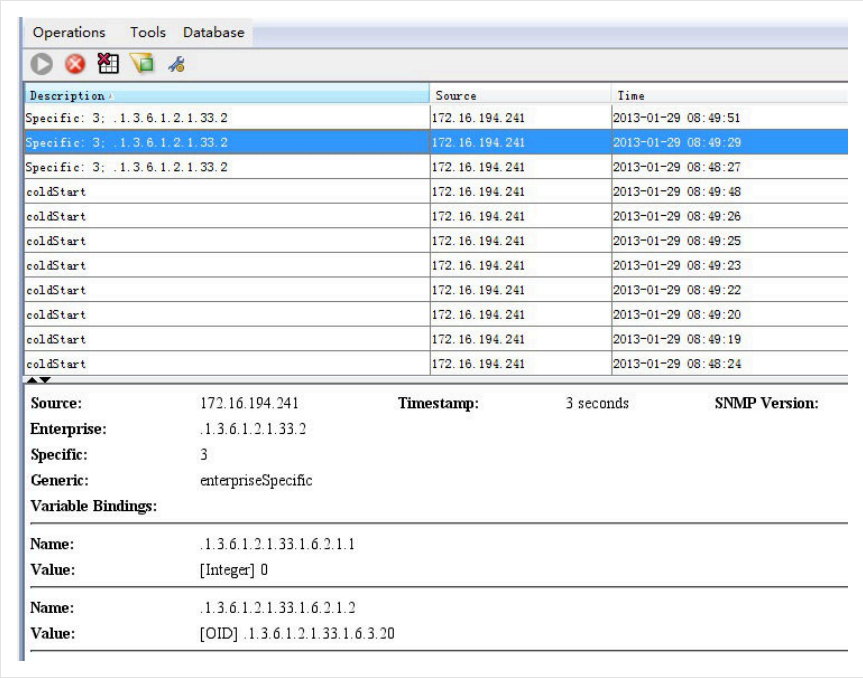
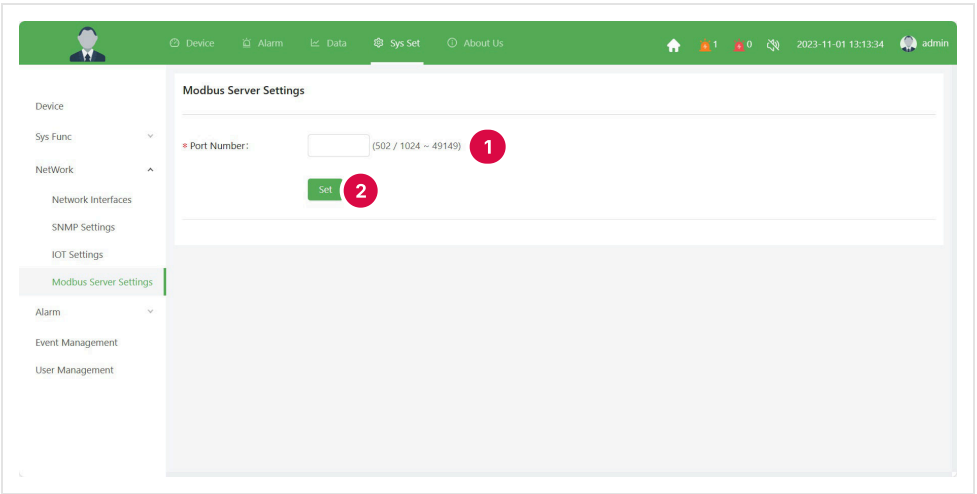


FIGURE 8-5 Traps received in a MIB browser

To read the card from a MIB browser: load the card's MIB file (ask AEC service), enter the card's IP address, and read or set the MIB objects. Received traps appear in the browser's trap window (Figure 8-5).

8.6 Modbus TCP

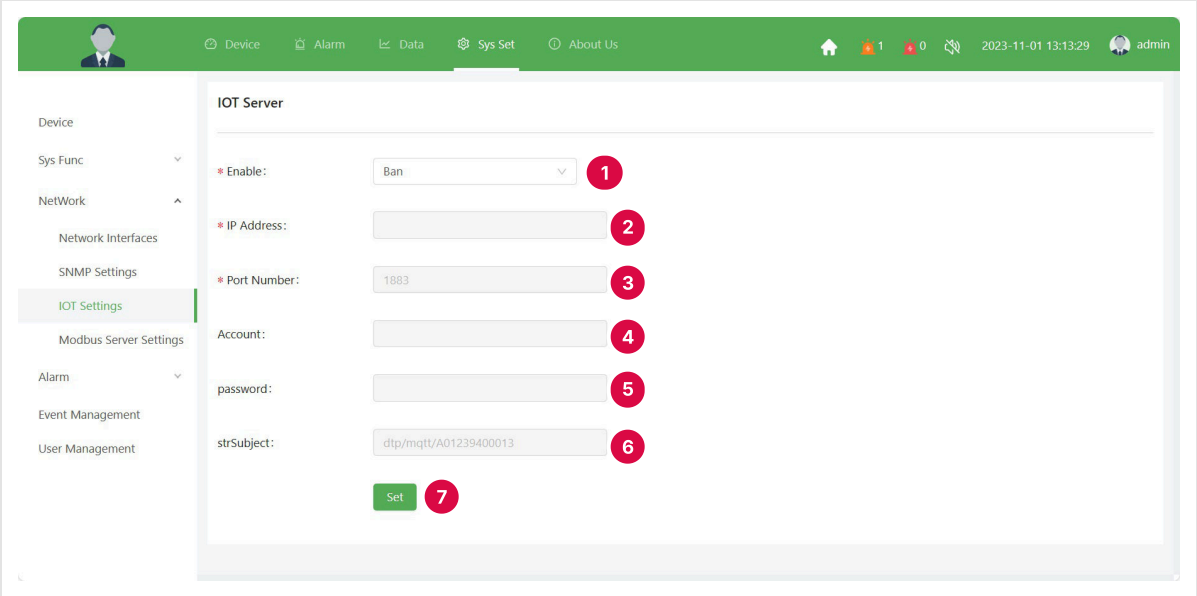


1. Port Number: 502, or 1024–49149
2. **Set**

FIGURE 8-6 Sys Set › NetWork › Modbus Server Settings

Set the port (Figure 8-6, item 1; 502 is the standard) and press **Set** (item 2). Ask AEC service for the register list.

8.7 MQTT (IoT)



1. Enable
2. IP Address of the MQTT server
3. Port Number (1883 standard)
4. Account
5. password
6. strSubject: the card's MQTT topic
7. **Set**

FIGURE 8-7 Sys Set › NetWork › IOT Settings

1. Set **Enable** (Figure 8-7, item 1).
2. Enter the MQTT server IP address and port (items 2 and 3).
3. If the server requires it, enter its account and password (items 4 and 5).
4. Press **Set** (item 7).

Ask AEC service for the MQTT topic description.

CHAPTER 9

09 UPS View

UPS View monitors and sets up one UPS from a Windows PC through a direct cable — RS-232, RS-485 or USB. It does not use the network card.

> ⚠ ***CAUTION · Card or cable — not both***
>
> On these UPS the RS-232 port and the intelligent (SNMP) slot share the same communication line: they cannot be used at the same time. Use UPS View for service or set-up with the card removed, or monitor through the SNMP-M card — not both together.

9.1 Install

1. **Download** UPSView_V2.0.7.rar from the AEC app: **Support › Downloads › SNMP › SNMP-M › Programs to install**.
2. **Unpack** it: right-click › Extract (for example with 7-Zip). UPS View needs no installation: run the program in the folder.

9.2 Connect the cable

The ports are on the UPS: Figure 3-1, Figure 3-6 and Figure 3-7 show where they are.

TABLE 9-1 Connecting UPS View

Connection	How
RS-232	A serial cable from the UPS's RS-232 port to the PC's serial (COM) port — pin 2 TXD, pin 3 RXD, pin 5 GND. A USB-to-serial adapter can be used on PCs without a COM port.
RS-485	The UPS's RS-485 port to a 485-232 adapter with the special serial cable supplied with the UPS (its pins differ from a normal serial cable), then a normal serial cable from the adapter to the PC.
USB	The UPS's USB Type-B port to the PC with a standard USB cable; some PCs need a driver. USB and RS-485 cannot be used at the same time.

9.3 Settings and use

UPS View does not use the card's protocol names (Megtec, ACM(10-600KVA)): it talks Modbus, ASCII or RTU, and you choose the equipment type. Equip type, Baud rate and Modbus mode can be left on Auto; set them by hand if the connection does not start.

TABLE 9-2 UPS View Equip Type for each AEC UPS

AEC UPS	Equip Type in UPS View
FERRUS · FERRUS RT	1/1(1-3kVA)
FERRUS SP · FERRUS SP RT	1/1(6-20kVA)
RADIANT · RADIANT-IB · CIRRO-IB · CIRRO	M(10-600kVA)

1. **Equip type.** Choose it from Table 9-2.
2. **Address.** 1 — the same as the UPS. With several UPS on one RS-485 line, each UPS needs its own address.

3. **Baud rate and Modbus mode.** The same as the UPS (for example 9600, RTU); the mode is ASCII or RTU. The RS-232 port does not answer while the UPS protocol is set to Megatec (MEGA) (Section 5.2.1).
4. **Serial port.** The PC's COM port the cable is on (Windows Device Manager › Ports).
5. **Start.** UPS View shows the UPS's live data, status and alarms, and its settings.

✓ **TIP** Every UPS View page — Home, Cabinet, Module, Data, Log, Set and Control — is described in the AEC UPS View Monitor User Manual (AEC-UM-UPSV-US), in the AEC app: **Support › Downloads › SNMP › SNMP-M**.

i **NOTE** To watch several UPS from one place over the network, use the SNMP-M card in each UPS with an SNMP or Modbus TCP manager (Chapter 8), or open each card's web page.

CHAPTER 10

10 Network planning and security

The network ports the card uses, how to keep it secure, which alarms to send to whom, and routine checks.

10.1 Planning the address

- Give each card a fixed IP address — static, or a DHCP reservation on the server — so that managers, alarms and bookmarks always find it.
- Name each card after its place (system name, location): an alarm then says at once which UPS it is about.
- Keep the card in the same local network as the PC used for the first set-up: IPSearch does not search across routers.
- Write every card on the record sheet (Appendix A).

10.2 Network ports

Ask your IT department to allow these connections between the card and the systems that use it.

TABLE 10-1 Network ports

Service	Port	Direction
Web interface (browser to card)	TCP 80 (HTTP)	Your PCs → card
IPSearch discovery	Local broadcast	PC → card, same local network only
SNMP get / set	UDP 161	Manager → card
SNMP traps / informs	UDP 162	Card → manager
Modbus TCP	TCP 502 (settable)	BMS / SCADA → card
E-mail alarms (SMTP)	TCP 25, 465 or 587	Card → mail server
Time (NTP)	UDP 123	Card → time server
MQTT	The broker's port (1883 standard, 8883 with TLS)	Card → MQTT broker
DNS	UDP 53	Card → DNS server

10.3 Security checklist

⚠ CAUTION

The card controls and reports a UPS that feeds critical loads. Treat it like any other network device: change its defaults before it goes into service.

- Change the default passwords of admin and user and keep the new ones safe (Section 7.11).
- Give view-only accounts to people who only need to read the UPS.
- Restrict SNMP to your managers: in **Sys Set › NetWork › SNMP Settings › Access Control** list your managers by IP address (up to ten, Section 8.2). With no manager listed, any address can manage the card.
- Replace the community public with your own, or use SNMP V3 with SHA authentication and AES encryption (Section 8.3).

- Do not expose the card directly to the internet. For remote access use your VPN.
- Where possible put the UPS cards on a management network (VLAN) separate from user traffic.
- Do not upgrade the card's software yourself: AEC cards ship with the current version; contact AEC service.

10.4 Recommended alarms

TABLE 10-2 Who should know what

Event	Why it matters	Send to
Utility failure · UPS on battery	The load is running on battery: the runtime is limited	IT and facility staff, at once
Battery low	Shutdown is close: save work, shut servers down	IT staff, at once
UPS on bypass	The load is not protected by the UPS	IT and maintenance staff
UPS fault or alarm	The UPS needs service	Maintenance staff and AEC service
Overload	The load exceeds the UPS rating	IT staff
Card cannot read the UPS (communication failure)	No monitoring until it is fixed	IT staff
Temperature, humidity or water-leak sensor	Room conditions put the UPS or the batteries at risk	Facility staff

Set the level of each event so that the important ones are notified (Section 7.8), and send a test e-mail after any change (Section 7.9).

10.5 Routine checks

TABLE 10-3 Routine checks

Interval	Check
Monthly	Send a test e-mail; open the alarm history; check the date and time of the card.
After any change	Check that the card still reads the UPS (home page, no communication failure).
Every 6 months	Review the users and the recipients of alarms; remove people who have left.
Yearly	Change the passwords; check that the SNMP manager still receives traps; update the record sheet.

After every change, save the settings with **Download Configurations File** (Section 7.5) and keep the file with the record sheet.

CHAPTER 11

11 Troubleshooting

What to check when the card, the network or the alarms do not work as expected.

✓ **TIP** WhatsApp and phone +1 786 553 2100, always available · e-mail service.us@aecups.com. Send the model, the serial number and a photo of the display and of the alarm: it is the fastest way to a solution.

TABLE 11-1 Troubleshooting

Symptom	Possible cause	Remedy
PWR LED off	Card not seated · UPS off	Re-seat the card and tighten its screws (Section 3.2); switch the UPS on.
IPSearch finds nothing	Cable, switch or VLAN · firewall	Check the cable and the switch; connect the PC to the same switch; allow IPSearch in the Windows firewall.
Web page does not open	Card in another subnet · browser	Set the IP address (Chapter 4); check with `ipconfig` (Section 4.5); try another browser.
Login refused	Password changed	Use the recorded password. A lost admin password cannot be recovered from the web page: contact AEC service with the card's MAC address and serial number.
DATA LED flashing · *UPS communication failure*	UPS not added, or wrong protocol, baud rate, address or mode · RS-232 cable plugged in	Compare each value with the UPS display (Chapter 5); unplug any RS-232 cable.
Red SYS LED	Serious alarm	Open **Current Alarm** (Section 6.4).
Test e-mail fails	Server, port, account or network	Section 7.9; check the gateway and DNS (Section 7.7).
Wrong time in logs	Time zone or NTP	Section 7.3.
SNMP manager gets no answer	Community, version or manager IP	Section 8.1 to Section 8.3: the same values on both sides; port 161 open.

Still not working? Contact AEC service with the card's MAC address, serial number and software version (Section 7.12) and the UPS model and serial number.

APPENDIX A

A Record sheet

Fill in one line per card and keep the sheet with the configuration files.

TABLE A-1 Record sheet

Unit description	UPS model / serial	Card MAC	IP address	System name	Physical location

APPENDIX B

B Glossary

The network terms used in this manual.

TABLE B-1 Glossary

Term	Meaning
SNMP	Simple Network Management Protocol: the standard way network managers read and control devices.
Trap / Inform	A message the card sends by itself when an event occurs; an Inform asks for a reply.
Modbus TCP	Industrial protocol used by building and energy management systems.
MQTT	Lightweight publish/subscribe protocol used by IoT platforms.
DHCP	Automatic assignment of IP addresses by a network server.
DNS	Turns names such as smtp.example.com into IP addresses.
MAC address	The fixed hardware address of the card.
NTP	Network Time Protocol: keeps the card's clock correct.
RTU / ASCII	The two Modbus serial modes; the card and the UPS must use the same.

C

APPENDIX C

Support

How to reach AEC technical support.

AEC UPS USA LLC · 4872 SW 72nd Ave, Miami, FL 33155 · technical support 24/7, WhatsApp and phone: +1 786 553 2100 · service.us@aecups.com · aecups.com

Have ready: the card's serial number, MAC address and software version, its IP address, and the UPS model and serial number (the record sheet, Appendix A).

APPENDIX D

D Quick reference

Where to find each task in the web interface.

TABLE D-1 Quick reference

Task	How
Factory accounts	admin (full) · user (view only); passwords given by AEC technical service — change both at the first login
Find the card and set its IP	IPSearch › select › **NetWork set** (Section 4.3)
Open the web page	IPSearch › **Web page**, or http://card-IP
Tell the card which UPS it is in	**Sys Set › Device › + Add** — Megtec (FERRUS family) · ACM(10-600KVA) (RADIANT, RADIANT-IB, CIRRO-IB, CIRRO) (Section 5.3)
UPS live data	**Device › 1#UPS › State**
Alarms	**Alarm › Current Alarm** · **Device History**
E-mail alarms	**Sys Set › Alarm › Email Settings** · **Notice Set**
Network settings	**Sys Set › NetWork › Network Interfaces**
SNMP · Modbus TCP · MQTT	**Sys Set › NetWork**
Time	**Sys Set › Sys Func › Time Set**
Users and passwords	**Sys Set › User Management**
Save / load all settings	**Sys Set › Sys Func › Config Settings**
Card serial and version	**About Us**

APPENDIX E

Frequently asked questions

Short answers to the questions AEC service hears most.

TABLE E-1 Frequently asked questions

Question	Answer
Does fitting the card stop the UPS?	No. The card is hot-swappable and can be fitted with the UPS running — beware of the risk of electric shock.
Can I use the UPS's RS-232 port at the same time?	No. The RS-232 port and the SNMP slot share one line: unplug any RS-232 cable while the card is fitted.
What is the card's factory IP address?	IPSearch shows it on the first search. Give the card your own fixed address before use (Section 4.3).
I lost the admin password.	It cannot be recovered from the web page. Contact AEC service with the card's MAC address and serial number.
How many people can receive alarms?	Up to 20 e-mail addresses; Notice Set notifies up to 20 people by e-mail, SMS or voice call (SMS and voice need the SMS alarm module).
Can I watch several UPS from one place?	Yes: from an SNMP or Modbus TCP manager reading every card, or by opening each card's web page.
Can I reach the card from outside the building?	Use your VPN. Do not open the card to the internet.
Which SNMP versions does the card support?	V1, V2c and V3.
Where is the MIB file?	Ask AEC service.
Should I upgrade the card's software?	No. AEC cards ship with the current software; contact AEC service if you think an update is needed.

Service and support

AEC technical support is available 24 hours a day, 7 days a week. For help with installation, start-up, alarms, settings, spare parts, warranty claims and service visits, contact us by WhatsApp, phone or e-mail.

TECHNICAL SUPPORT · 24/7	**+1 786 553 2100**	WhatsApp and phone — always available
SERVICE E-MAIL	**service.us@aecups.com**	Technical questions, service requests, warranty claims
SALES	**sales@aecups.com**	
ADDRESS	**AEC UPS USA LLC**	4872 SW 72nd Ave, Miami, FL 33155
WEB	**aecups.com**	

When you contact us, have ready: the card's serial number, MAC address and software version (About Us page), its IP address, and the UPS model and serial number — the record sheet in Appendix A has them all.