SNMP NETWORK CARD · WEB · SNMP · WISEINSIGHT · WISECLOSE

SNMP-L

Network card

Puts an AEC UPS on your network: web monitoring, mail alarms, SNMP, multi-UPS monitoring and safe shutdown. For LUMINA, ETHERNO, AUREON and INFINITE 480 V.



User Manual

Installation · Operation · Maintenance

LUMINA | ETHERNO | AUREON | INFINITE 480 V

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AEC-UM-SNMP-L-US · Rev. C · November 2026. Rev. C corrects the INFINITE range to 480 V 80–200 kVA, removes the UPS service password, explains the protocol labels once, adds call-out pictures for the card, the slots, the UPS display and every set-up screen, and adds the FCC statement.

BEFORE YOU START

About this manual

Thank you for choosing the AEC SNMP-L network card. This manual describes the card, its installation, the network set-up, the connection to the UPS, every page of the web interface, e-mail alarms, SNMP, WiseInsight and WiseClose, network planning and security, and troubleshooting. Keep it for future reference.

MODELS COVERED
The SNMP-L card for LUMINA 1–3 kVA, ETHERNO 10–30 kVA, AUREON 10–30 kVA and INFINITE 480 V 80–200 kVA. Compatibility and settings per UPS: Table 2-1.

WHO THIS MANUAL IS FOR
IT staff, network administrators and installers who put the UPS on the network. Fitting the card: qualified personnel.

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. **Install WiseFind** on a Windows PC in the UPS's network. Section 4.1, page 19.
2. **Fit the card** and plug in the network cable. Section 3.2, page 17.
3. **Set the IP with WiseFind** — the card does not work at 192.168.0.100. Section 4.3, page 22.
4. **Set the baud rate and protocol of your UPS** in WiseWay (account admin, password given by AEC technical service — change it at first login). Section 5.1, page 26.
5. **Secure the card and set e-mail alarms.** Section 11.3, page 65, Chapter 7, page 46.

Web	SNMP	E-mail	1,000 UPS
monitoring in any browser	V1 · V2c · V3	alarms	in WiseInsight

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CHAPTER 1

01 Introduction

The SNMP-L card connects an AEC UPS to your network so you can watch it, control it and be alerted from anywhere on the network.

1.1 About this manual

This manual covers installation, network set-up and every function of the AEC SNMP-L card and of its software: WiseFind, the WiseWay web interface, WiseInsight and WiseClose. For a short installation procedure, use the SNMP-L Quick Installation Guide. Keep this manual for future reference.

TABLE 1-1 Where to read

You want to...	Read	
Put the card on the network and make it read the UPS	Chapter 2, Chapter 3, Chapter 4 and Chapter 5	**Required**
Receive an e-mail when the UPS has a problem	Chapter 7	**Recommended**
Know every page of the card's web interface	Chapter 6	
Connect a network management system (SNMP)	Chapter 8	Optional
Watch several UPS from one PC, with a map	Chapter 8 and Chapter 9	Optional
Shut a PC or server down safely in a long outage	Chapter 10	Optional
Fix a problem	Chapter 12	

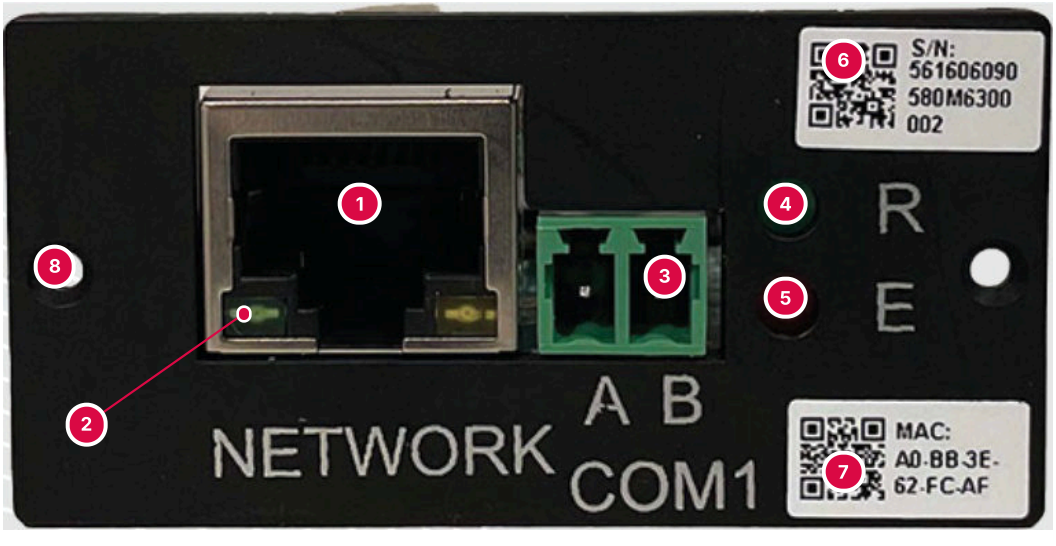
1.2 The SNMP-L card

The SNMP-L card fits the intelligent slot of AEC LUMINA, ETHERNO, AUREON and INFINITE 480 V UPS. It reads the UPS over its internal serial port and publishes the data on your Ethernet network through:

- its own **web interface** (WiseWay), in any browser;
- **SNMP** V1, V2c and V3, with the RFC 1628 UPS MIB and traps, for any network management system;
- **e-mail alarms** through your mail server or AEC's;
- AEC PC programs for multi-UPS monitoring and safe shutdown.

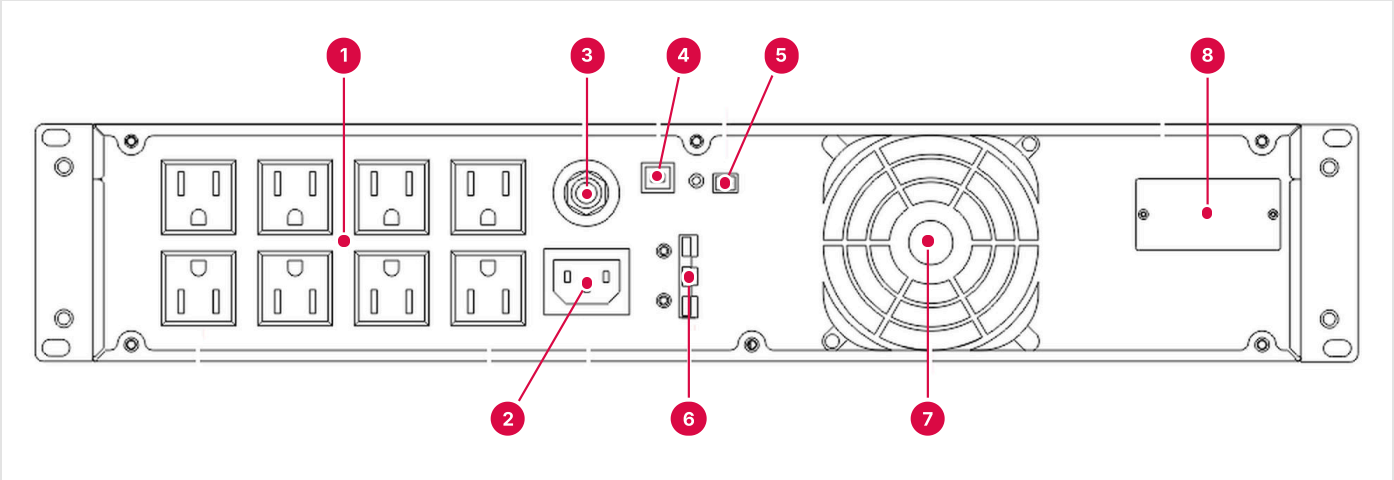


FIGURE 1-1 AEC SNMP-L card



1. NETWORK — RJ45 Ethernet port, to your network switch
2. Link and activity LEDs of the network port
3. COM1 — two-pole terminal A / B (RS-485)
4. R — green indicator
5. E — red indicator
6. Serial number label (S/N)
7. MAC address label
8. Fixing hole, one on each side (screws of the slot cover)

FIGURE 1-2 The card plate



1	Output receptacles	5	EPO connector
2	AC INPUT inlet	6	DC INPUT — battery connector
3	CIRCUIT PROTECTOR	7	Cooling fan
4	USB port	8	INTELLIGENT SLOT — standard cover, or the SNMP-L card

FIGURE 1-3 Rear panel of a LUMINA 1K — the card fits the intelligent slot (item 8) behind the cover

1.3 Before you start

- The AEC SNMP-L card (already fitted in LUMINA -NC models).
- A network cable, RJ45 Cat5e or better.
- A Windows PC on the same local network as the UPS, for WiseFind.
- WiseFind from the AEC app (**Support › Downloads › SNMP › SNMP-L**).
- A free, fixed IP address for the card, its subnet mask and gateway — ask your IT department.
- The UPS model label: rated power, battery capacity, number of batteries (Section 2.1).

1.4 Software

TABLE 1-2 AEC SNMP-L programs

Program	File	What it does
WiseFind	AEC WiseFind_Setup.exe	Finds the SNMP cards on the network, sets their IP address, opens the card's web interface.
WiseWay	— (built into the card)	The card's web interface: monitoring, control, alarms, e-mail and SNMP settings. Opens in any browser.
WiseInsight	AEC WiseInsight_Setup.exe	Monitors one or many UPS from a PC (up to 1,000): live data, events, e-mail alerts, site map.
WiseClose	AEC WiseClose_Setup.exe	Shuts a Windows PC or server down safely during a long power outage.

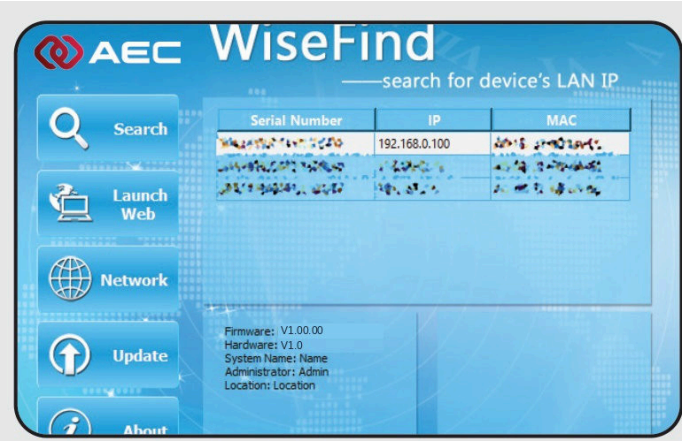


FIGURE 1-4 WiseFind — find the card, set its IP

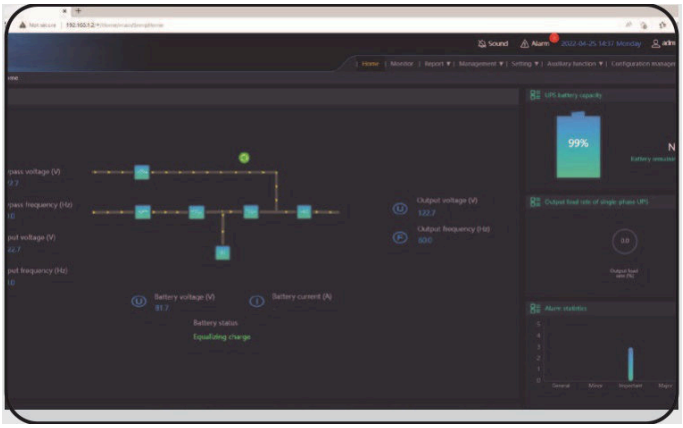


FIGURE 1-5 WiseWay — the card's web interface

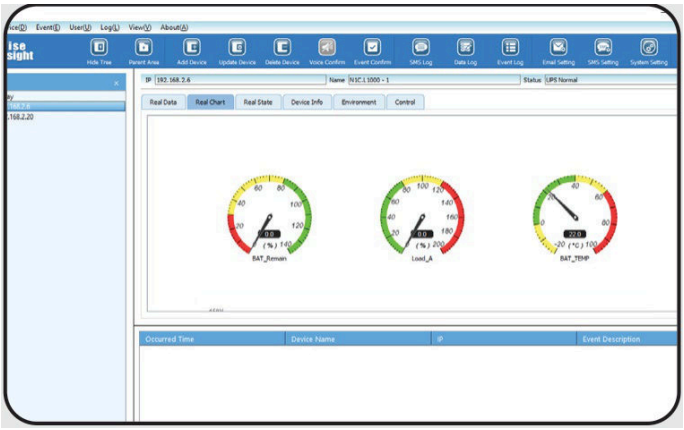


FIGURE 1-6 WiseInsight — monitor many UPS

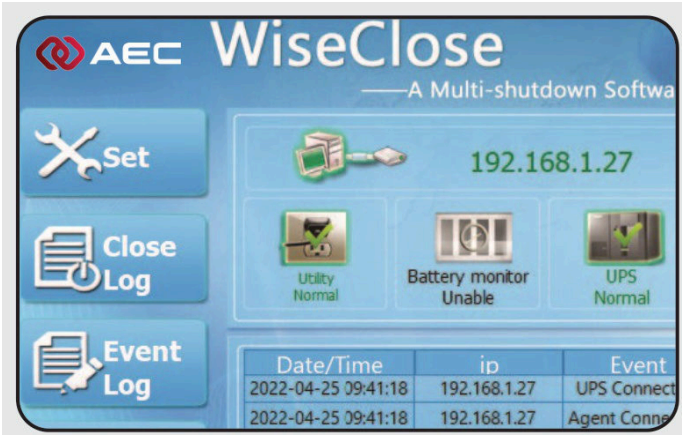


FIGURE 1-7 WiseClose — safe shutdown

All programs are available in the AEC app: **AEC app › Support › Downloads › SNMP › SNMP-L › Programs to install**. They are license-free and may be installed on as many computers as needed.

1.5 Requirements

- A 10/100 Mbps Ethernet network and one free IP address per card.
- A PC with Windows 10 or 11 (Windows 7 and 8, Windows Server 2008 R2 and 2012 are also supported), for WiseFind, WiseInsight and WiseClose. WiseWay needs only a web browser (Chrome, Edge, Firefox, Safari, Opera) on any system, including macOS and Linux.
- On Windows 10/11, the Win10Pcap plug-in supplied with WiseFind and WiseInsight.

1.6 Safety and advisories

WARNING · Safety

Only qualified personnel should fit the card. Follow the safety instructions of the UPS user manual. Never open the UPS: the card fits the external intelligent slot.

i NOTE **On-premises software.** All AEC SNMP software runs on your own local network and needs no cloud service. The only traffic that leaves your network is the alarm e-mail, sent through the mail server set in the card (AEC's pre-filled server or your own).

CAUTION · Programs run as applications

WiseInsight and WiseClose run as Windows applications, not as services: leave them open for monitoring and protection, and set them to start with Windows.

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

Compatibility and default settings

The settings that differ from one AEC UPS to another. Keep this chapter at hand during set-up.

2.1 Compatible AEC UPS



FIGURE 2-1 LUMINA



FIGURE 2-2 ETHERNO



FIGURE 2-3 AUREON



FIGURE 2-4 INFINITE 480 V

TABLE 2-1 Compatible AEC UPS

UPS	Range
LUMINA	1–3 kVA, single phase 120 V, lithium (LUM1000RT, LUM1500RT, LUM2000RT, LUM2200RT, LUM3000RT; the -NC models ship with the card fitted)
ETHERNO	10–30 kVA, three phase 208 V, lithium
AUREON	10–30 kVA, three phase 208 V, VRLA
INFINITE 480 V	80–200 kVA, three phase 480 V, modular

i NOTE FERRUS, FERRUS RT, FERRUS SP, RADIANT, RADIANT-IB, CIRRO and CIRRO-IB do not take the SNMP-L card: they use the AEC SNMP-M card, described in its own manual.

2.1.1 Communication settings

Three settings make the card read the UPS: the baud rate of the serial ports, the communication protocol and, on INFINITE only, one setting on the UPS display. The protocol list of the card shows internal code names. You never type them: select in the list the one given here for your UPS. The rest of this manual calls it "the protocol of your UPS".

TABLE 2-2 Communication settings per UPS

AEC UPS	Range	Communication protocol (select in the list)	Baud rate (COM1 and COM2)	On the UPS display
LUMINA	1–3 kVA · single phase	WRWF-1101-15338-01_1P	2400 (factory value)	Nothing to change
ETHERNO	10–30 kVA · three phase	WRWF-1201-04_3I3O	9600	Nothing to change
AUREON	10–30 kVA · three phase	WRWF-1201-04_3I3O	9600	Nothing to change
INFINITE 480 V	80–200 kVA · modular	WRWF-1201-06_3I3O	9600	SNMP protocol type: Modbus (Section 5.3)

2.2 Factory defaults

TABLE 2-3 Factory defaults of the card

Item	Value
Factory IP address	192.168.0.100 · mask 255.255.255.0
WiseWay user name	admin
WiseWay password	Given by AEC technical service — change it at the first login
WiseInsight login	admin; the password is given by AEC technical service — change it at the first login
SNMP	Port 161 (get/set) · 162 (traps). No SNMP manager can read the card until you add a permission in WiseWay (**Configuration management › Northbound configuration**, Section 8.1). WiseInsight's default community is public.

> ⚠ ***CAUTION · Change and keep the admin password***
>
> Change the admin password at the first login (**Management › User management**, Section 6.5.3) and record it in Appendix A. It cannot be recovered if lost.

2.3 Device parameters per model

Under **Management › Device management › UPS › Edit** (Section 5.2), the **Device parameters** must describe your UPS. Wrong values give wrong battery and autonomy readings.

2.3.1 LUMINA — Device management default settings

Every LUMINA card leaves AEC with these values. If one has been changed and the card no longer reads the UPS correctly, set it back to this table.

TABLE 2-4 LUMINA battery parameters per model

LUMINA model	Rated power (kVA)	Rated capacity (Ah)	Battery type (V)	Battery groups	Batteries per group
LUM1000RT	1	10.2	12	1	2
LUM1500RT	1.5	10.2	12	1	4
LUM2000RT	2	10.2	12	1	4
LUM2200RT	2.2	13.6	12	1	6
LUM3000RT	3	10.2	12	1	6

TABLE 2-5 LUMINA Device management fields

Field	Default value (all LUMINA models)
Name	UPS (can be changed)
Device number	1
Manufacturer	AEC
Communication method	Serial port
Communication protocol	The LUMINA protocol of Table 2-2
Command polling time (s)	1 (can be changed)

Field	Default value (all LUMINA models)
Communication address	1
Data storage interval time (min)	5 (can be changed)
Serial port number	COM2
Device brand	User defined — recommended AEC
Device type	User defined — recommended Online UPS
Device model	User defined — the model on the UPS label
Serial number	User defined — the UPS serial number
Installed time	User defined — date of installation or first start-up
Installed position	User defined — e.g. tower, rack, server room
Expiry date of guarantee	User defined — from your AEC warranty registration
Rated power (kVA) · Rated capacity (Ah)	Per model, Table 2-4
Battery installed / replaced time	User defined — date of installation or first start-up
Next battery maintenance time	User defined — e.g. 10 years after installation (lithium)
Battery type (V) · groups · batteries per group	Per model, Table 2-4
Display battery capacity	Yes
Battery capacity data source	Software valuation
Single battery floating charge voltage	13.65 (shown as 13.7 after saving)
Single battery depletion voltage	11.65 (shown as 11.7 after saving)
Battery health	90%
Recalibrate SOC	No
Enable remote discharge module	No
Battery low potential	11.7

2.3.2 ETHERNO, AUREON and INFINITE 480 V

TABLE 2-6 Battery parameters of the three-phase UPS

Item	Value
Rated power (kVA)	From the UPS label (10, 20, 30 ... kVA)
Rated capacity (Ah)	From the battery label: 9, 26, 40, 60, 80 or 100 Ah. AUREON internal batteries: 9 Ah. ETHERNO lithium modules: 50 Ah each — confirm the value to enter with AEC service.
Battery type (V)	12
Number of battery group	Battery input voltage on the label ÷ 12 — e.g. 480 V ÷ 12 = 40
Batteries in a single group	1 for the UPS alone · 2 with one battery cabinet · 3 with two

✓ TIP **A UPS with one battery cabinet, battery input 480 V on the label:** Number of battery group = 480 ÷ 12 = 40; Batteries in a single group = 2 (UPS + one cabinet). Total 40 × 2 = 80 batteries — use 80 for the alarm thresholds in Section 2.4 (e.g. very low = 80 × 10.5 = 840).

2.3.3 Recommended user-defined fields (all models)

TABLE 2-7 Recommended user-defined fields

Item	Value
Device brand	AEC
Device type	Online UPS
Device model / Serial number	As on the UPS label
Installed time / Battery installed time	Date of installation or first start-up
Installed position	Where the UPS stands, e.g. Server room, rack 2
Expiry date of guarantee	From your AEC warranty registration

2.4 Battery alarm thresholds

Under **Management › Alarm management › Threshold setting** (Figure 6-20), the four battery-voltage alarms are the number of 12 V batteries multiplied by the value per battery. The table shows the common cases; for any other, multiply your total number of batteries (Section 2.3) by the value in the second column.

TABLE 2-8 Battery voltage alarm thresholds (V)

Alarm (Battery voltage)	Per 12 V battery	LUMINA 1 kVA (2)	LUMINA 2 kVA (4)	LUMINA 3 kVA (6)	ETHERNO / AUREON (40)
Battery voltage under (very low)	10.50	21.00	42.00	63.00	420.00
Battery voltage under limit (low)	11.25	22.50	45.00	67.50	450.00
Battery voltage over limit (high)	13.70	27.40	54.80	82.20	548.00
Battery voltage over high limit (very high)	13.90	27.80	55.60	83.40	556.00

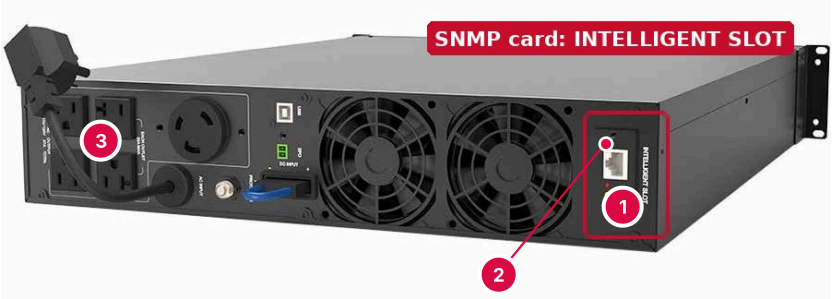
LUMINA 1.5 kVA and 2.2 kVA use the LUMINA 2 kVA (4 batteries) and LUMINA 3 kVA (6 batteries) columns (Table 2-4).

CHAPTER 3

03 Hardware installation

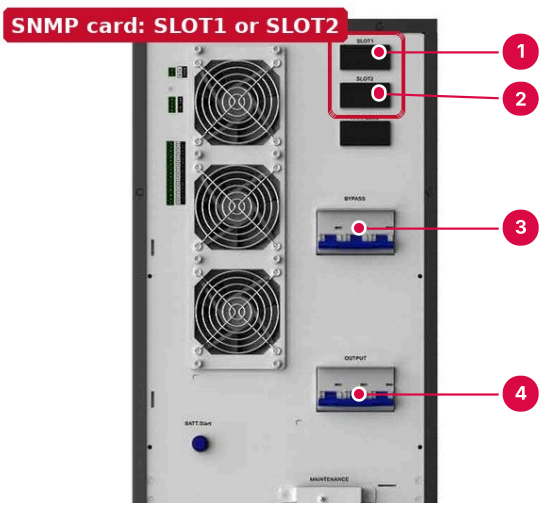
Where the slot is on each UPS, fitting the card and connecting it to the network.

3.1 Where the slot is on your UPS



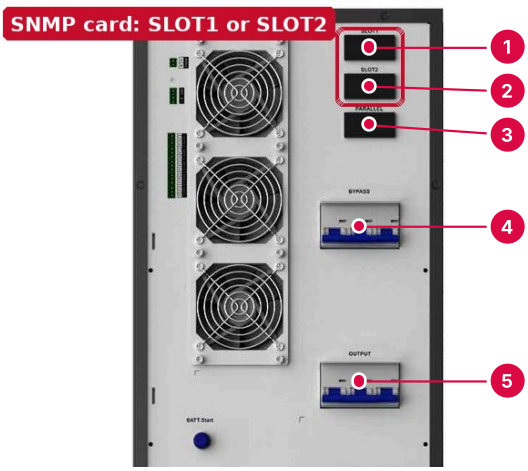
1. INTELLIGENT SLOT
2. NETWORK port of the card
3. Output receptacles

FIGURE 3-1 LUMINA — INTELLIGENT SLOT at the right of the rear panel (on -NC models the card is already there)



1. SLOT1
2. SLOT2
3. BYPASS breaker
4. OUTPUT breaker

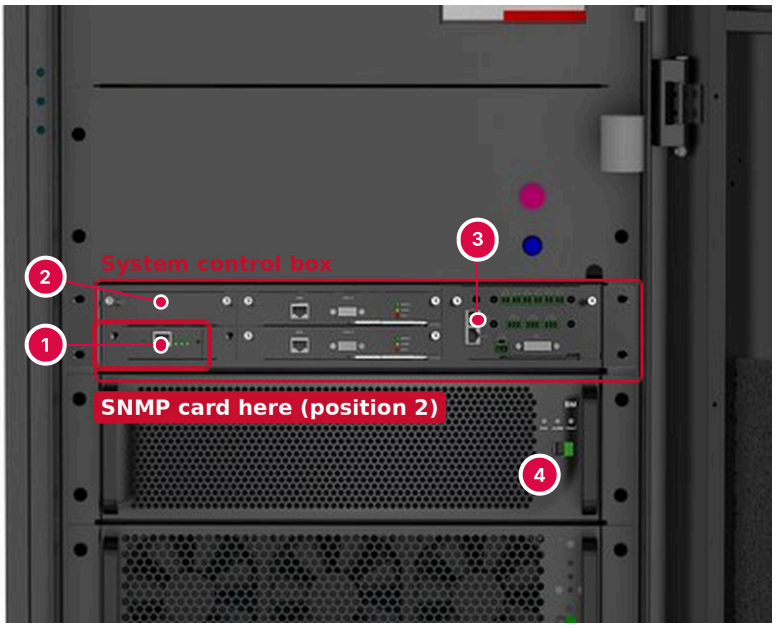
FIGURE 3-2 ETHERNO — SLOT1 or SLOT2, top right of the rear panel



1. SLOT1
2. SLOT2
3. PARALLEL port (not for the card)
4. BYPASS breaker
5. OUTPUT breaker

FIGURE 3-3 AUREON — SLOT1 or SLOT2, top right of the rear panel

INFINITE 480 V: open the front door. The SNMP card goes in the **system control box**, the row of cards just above the power modules, at **position 2** (bottom left). The cards are hot-swappable. The system control box is described in the INFINITE 480 V user manual.



1. Position 2 — the SNMP-L card goes here
2. Position 1
3. Other cards of the system control box
4. First power module

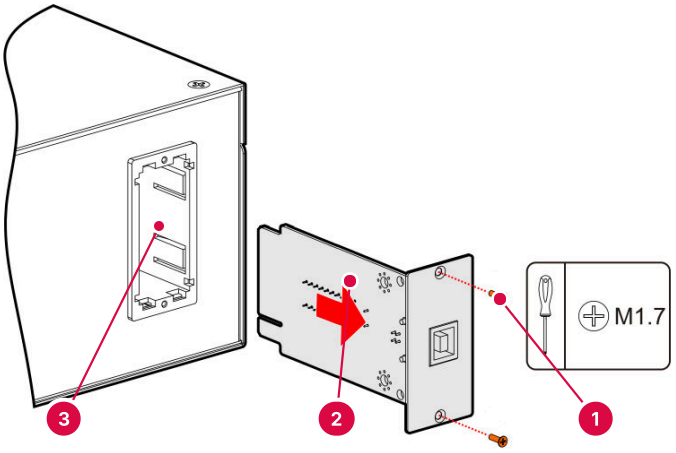
FIGURE 3-4 INFINITE 480 V — system control box behind the front door

3.2 Fitting the card

Hold the card by its metal plate: the NETWORK port and the LEDs face out (Figure 1-2).

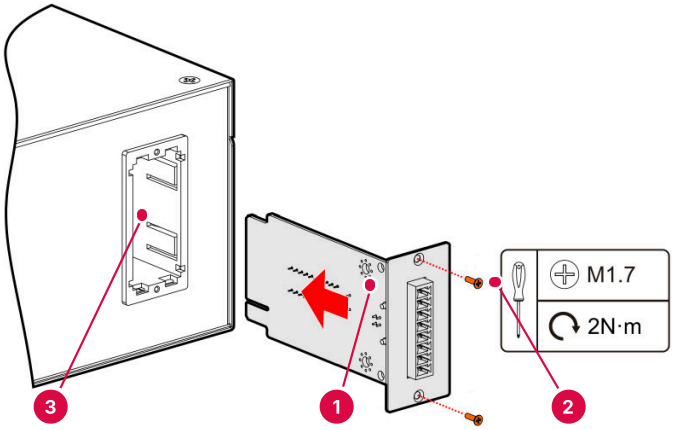
> ⚠ ***CAUTION***
>
> Fit or remove the card with the UPS in a safe state, as described in the UPS user manual. Touch the UPS chassis first to discharge static electricity.

1. **Locate the intelligent slot** on the UPS (Section 3.1 for your model): a small cover held by two screws.
2. **Remove the cover.** Keep the screws (Figure 3-5).
3. **Insert the card.** Hold it by its metal plate, line its edges up with the two guides inside the slot and slide it in until the connector at the back is fully seated (Figure 3-6). Do not force it: if it stops, pull it out and line it up again.
4. **Fix the plate** with the two screws of the cover.
5. **Check the LED.** With the UPS on, the card's power LED lights within a few seconds. The card starts in about one minute.



1. Screws — keep them
2. Slot cover
3. Slot guides

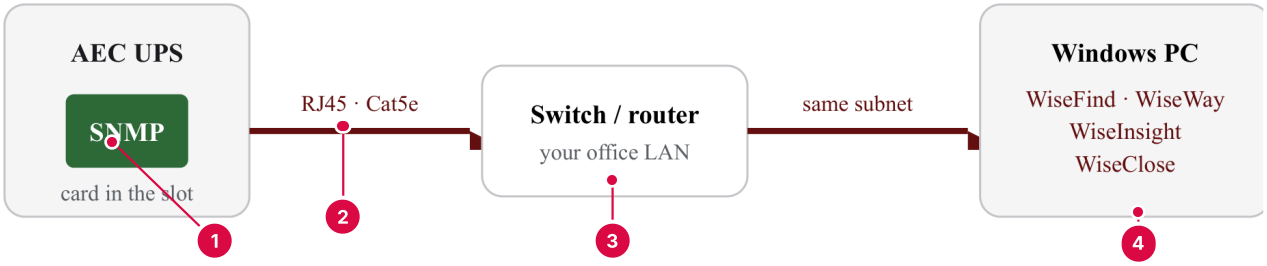
FIGURE 3-5 Removing the slot cover (LUMINA shown)



1. Card, held by its plate
2. Screws M1.7
3. Slot guides

FIGURE 3-6 Sliding a card into the slot (plate drawn generic)

3.3 Network connection



1. SNMP-L card in the UPS slot
2. Network cable, RJ45 Cat5e or better
3. Switch or router of your office LAN
4. Windows PC with the AEC programs, in the same subnet

FIGURE 3-7 Network connection of the SNMP-L card

Connect a standard RJ45 cable (Cat5e or better, up to 328 ft / 100 m) from the card's NETWORK port (item 1 in Figure 1-2) to a switch or wall socket of the network your PC uses. The link LED by the port lights; the activity LED flashes with traffic (item 2 in Figure 1-2).

i NOTE **Same network.** For the first set-up the PC and the card must be on the same local network (the same switch or VLAN). After the card has its own IP, it can be reached across routers like any other network device.

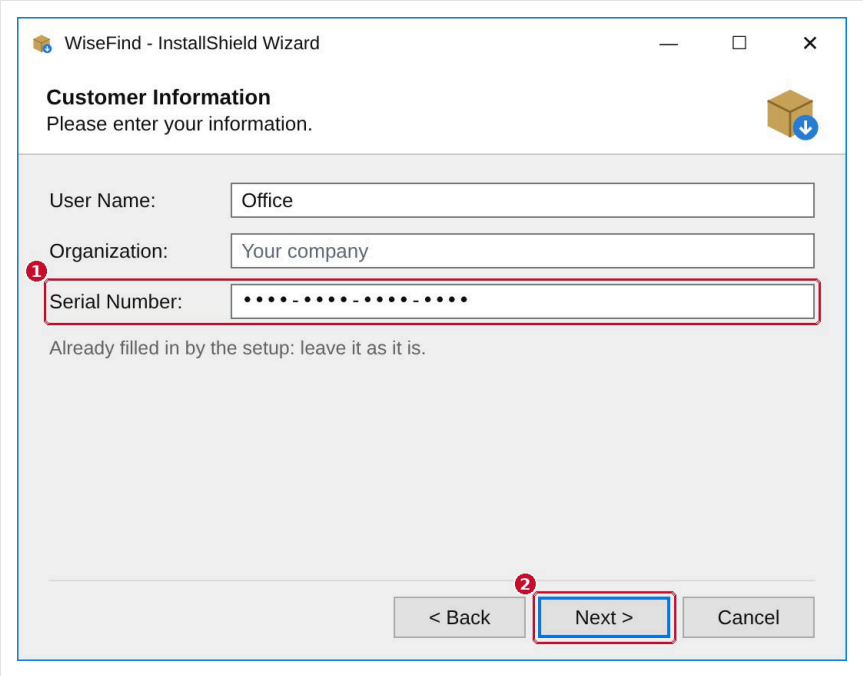
CHAPTER 4

04 Network set-up with WiseFind

WiseFind finds AEC SNMP cards on your network and gives each its own IP address.

4.1 Install

1. **Download** AEC WiseFind_Setup.exe (20 MB) from **AEC app › Support › Downloads › SNMP › SNMP-L › Programs to install**.
2. **Run the setup:** Welcome › **Next**.
3. **User Information:** enter your name and company if you wish. **Do not change the serial number** (already filled in, item 1 in Figure 4-1). **Next** › **Install**.
4. **Win10Pcap:** on Windows 10/11 keep **Install Win10Pcap** ticked and follow its wizard to the end (Section 4.1.1).
5. **Finish** with **Launch WiseFind** ticked. WiseFind opens by double-clicking its icon.

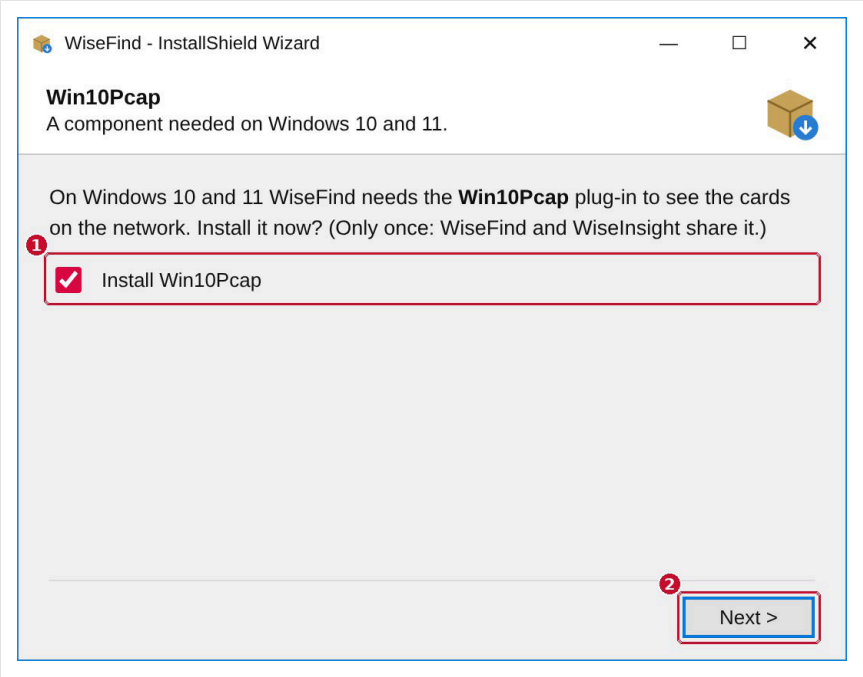


1. Serial Number — already filled in: leave it as it is
2. Next

FIGURE 4-1 User Information: keep the serial number

4.1.1 Windows 10 and 11: Win10Pcap

During the installation the Win10Pcap Setup Wizard opens by itself: follow it to the end. Without it WiseFind cannot find any card. It is needed only once per PC: if WiseFind installed it, WiseInsight does not ask again, and the other way round.

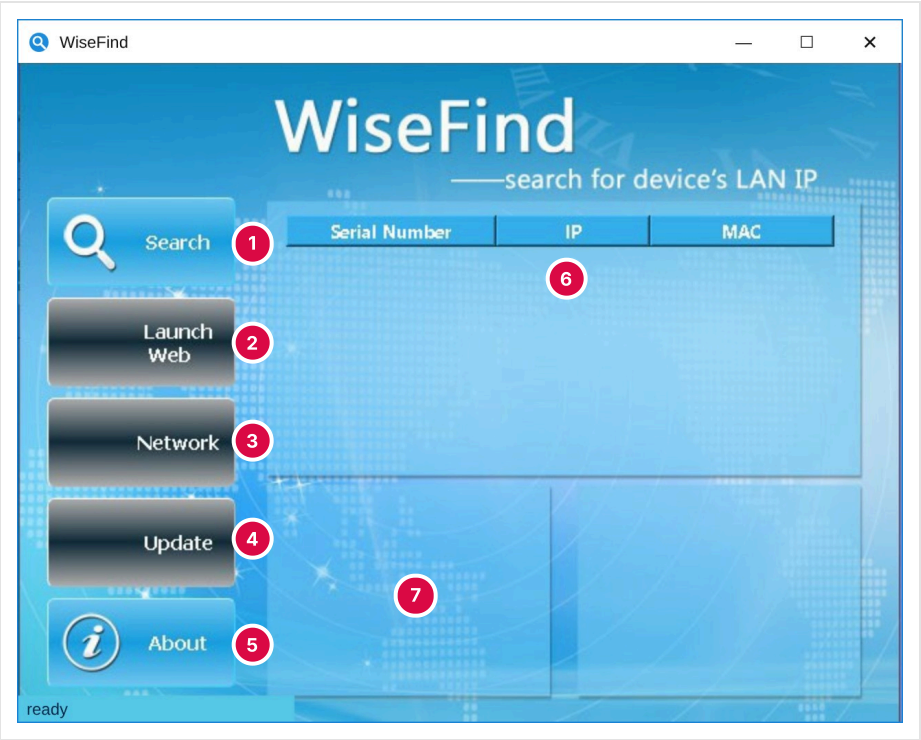


1. Install Win10Pcap — keep it ticked
2. Next

FIGURE 4-2 Win10Pcap in the WiseFind setup

4.2 Main window and search

The main window has the buttons **Search**, **Launch Web**, **Network**, **Update** and **About** on the left and the device table on the right: Serial Number, IP, MAC. Under the table, the selected card's firmware, hardware, system name, administrator and location (Figure 4-3).



1. Search — search the network now
2. Launch Web — open the selected card's web page
3. Network — set the selected card's IP address
4. Update — not used: AEC cards ship with the current firmware
5. About
6. Device table: Serial Number, IP, MAC
7. Details of the selected card

FIGURE 4-3 WiseFind main window

WiseFind searches when it opens and again every 20 seconds; press **Search** to search now. Every card on the network appears. A new card shows the factory address 192.168.0.100 (Figure 4-4).



1. Search
2. The new card, with the factory IP address 192.168.0.100

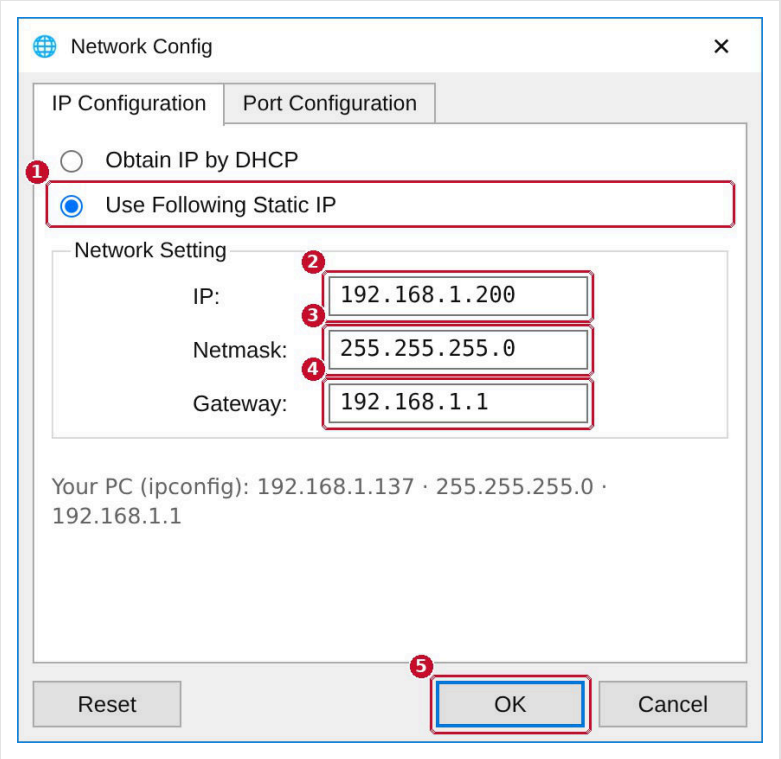
FIGURE 4-4 A new card at 192.168.0.100

Record each card's serial number and MAC — also printed on the labels of the card (items 6 and 7 in Figure 1-2) — with the UPS location in Appendix A. You will need them to tell the UPS apart in WiseInsight.

4.3 Set the IP address

First note your PC's network: in Command Prompt type `ipconfig` and note the IPv4 Address, Subnet Mask and Default Gateway.

1. **Select the card:** click its row once (it turns blue, item 2 in Figure 4-4).
2. **Network:** press **Network** (item 3 in Figure 4-3). The IP Configuration window opens (Figure 4-5).
3. **Static IP:** choose **Use Following Static IP** (item 1). IP (item 2): the PC's first three numbers with a free last number (e.g. PC 192.168.1.137 → card 192.168.1.200). Netmask and Gateway (items 3 and 4): as the PC. If your Subnet Mask is not 255.255.255.0, ask your IT department for the address.
4. **Or DHCP:** choose **Obtain IP by DHCP** only if your network has a DHCP server; reserve the address so it does not change.
5. **OK** (item 5): the card restarts its network and the table shows the new IP.



1. Use Following Static IP (or Obtain IP by DHCP just above)
2. IP — a free address in the PC's network
3. Netmask — as the PC
4. Gateway — as the PC
5. OK

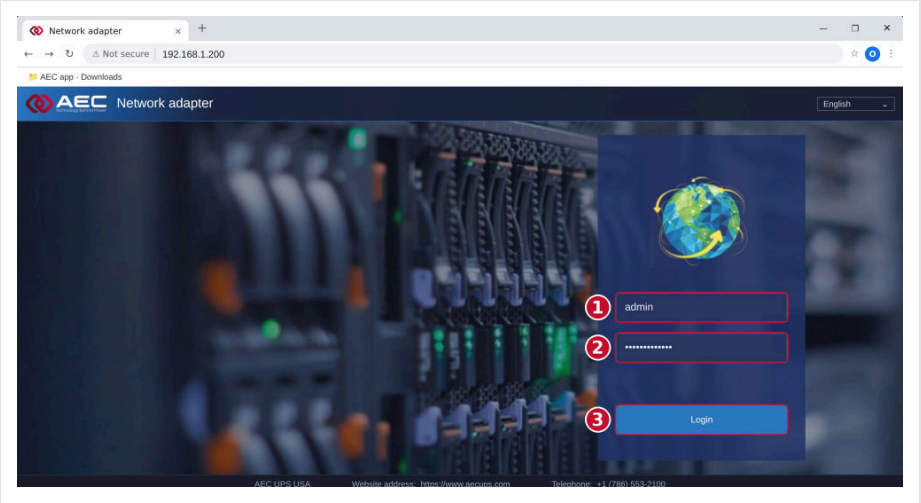
FIGURE 4-5 IP Configuration

> ***WARNING · Unique address***
>
> The address must not be used by any other device. Ask your IT department for a free fixed address. WiseWay and WiseInsight do not work with the factory address 192.168.0.100.

4.4 Open WiseWay

Select the card and press **Launch Web**, or double-click the row. The default browser opens http://<card IP>; you can also type the address in any browser on the network.

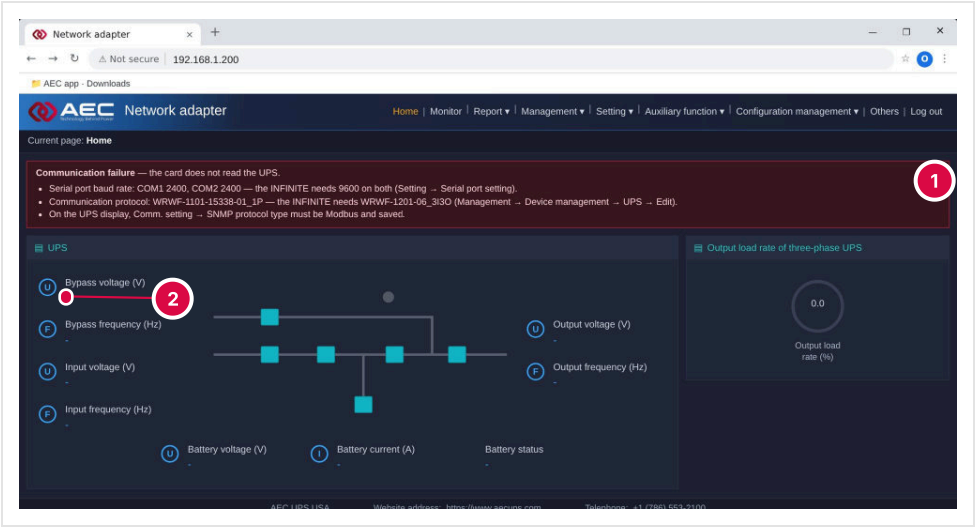
1. **User name:** admin (item 1 in Figure 4-6).
2. **Password:** the one given by AEC technical service (item 2).
3. **Login** (item 3). Change the password at the first login (Section 6.5.3).



1. User name — admin
2. Password — given by AEC technical service; change it at the first login
3. Login

FIGURE 4-6 WiseWay login page

On ETHERNO, AUREON and INFINITE, Home shows "Communication failure" at the first login. This is normal until Chapter 5 is done. A LUMINA card already reads its UPS.



1. Communication failure banner: it lists the settings that do not match yet
2. Dashes instead of values: the card does not read the UPS

FIGURE 4-7 Communication failure at the first login (ETHERNO, AUREON, INFINITE)

WiseWay works in any current browser — Chrome, Edge, Firefox, Safari, Opera — on Windows, macOS and Linux. No program needs to be installed for it.



FIGURE 4-8 WiseWay works in any current browser

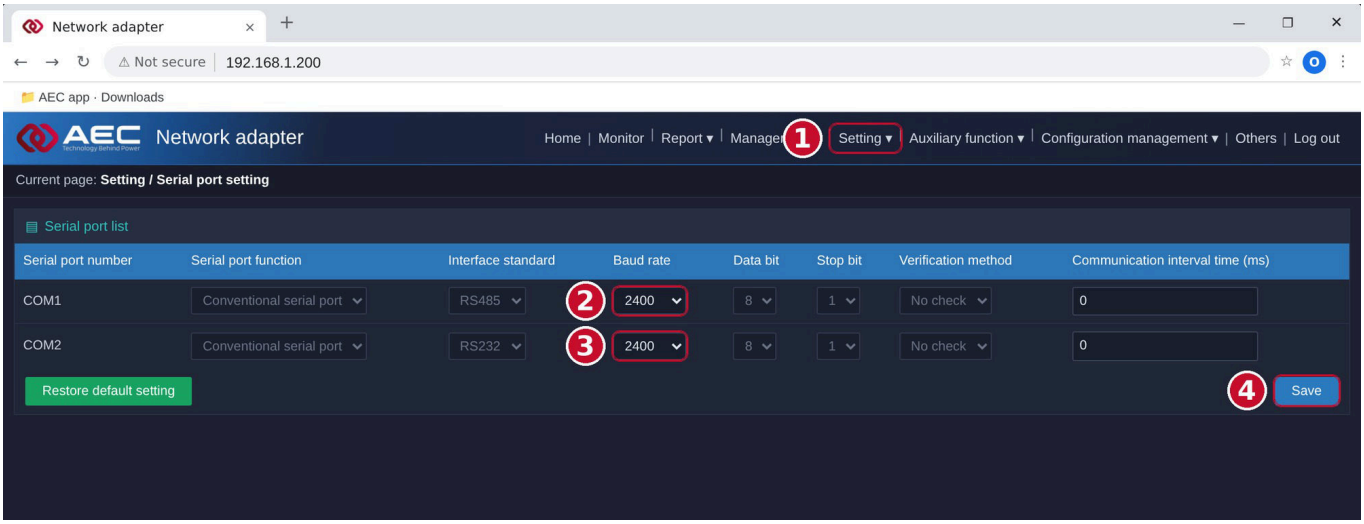
CHAPTER 5

05 Configuring the card for your UPS

Three settings make the card read the UPS. On ETHERNO, AUREON and INFINITE, Home shows "Communication failure" until they match; a LUMINA card already matches from the factory.

5.1 Baud rate

1. Open **Setting › Serial port setting** (item 1 in Figure 5-1). The list shows COM1 (RS485) and COM2 (RS232).
2. Set the **Baud rate** of COM1 (item 2) and COM2 (item 3) for your UPS (Table 2-2): 2400 for LUMINA, 9600 for ETHERNO, AUREON and INFINITE.
3. Change nothing else. Press **Save** (item 4).



1. Setting menu › Serial port setting
2. COM1 baud rate
3. COM2 baud rate
4. Save

FIGURE 5-1 Setting › Serial port setting

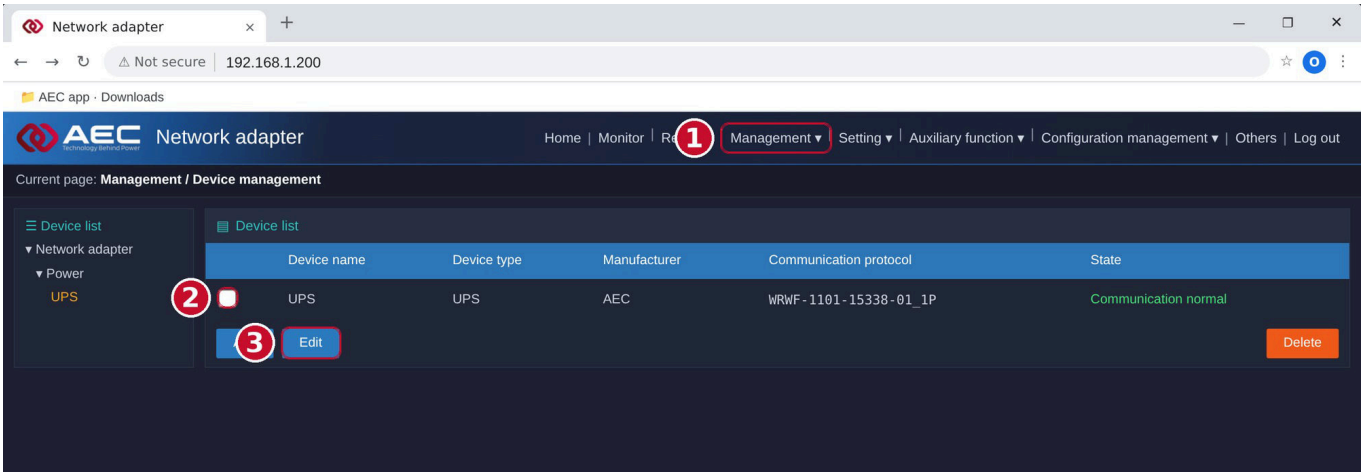
TABLE 5-1 Serial port values

Port	Function	Interface	Baud rate	Data bit	Stop bit	Verification	Interval (ms)
COM1	Conventional serial port	RS485	2400 LUMINA · 9600 others	8	1	No check	0
COM2	Conventional serial port	RS232	2400 LUMINA · 9600 others	8	1	No check	0

5.2 Protocol and device parameters

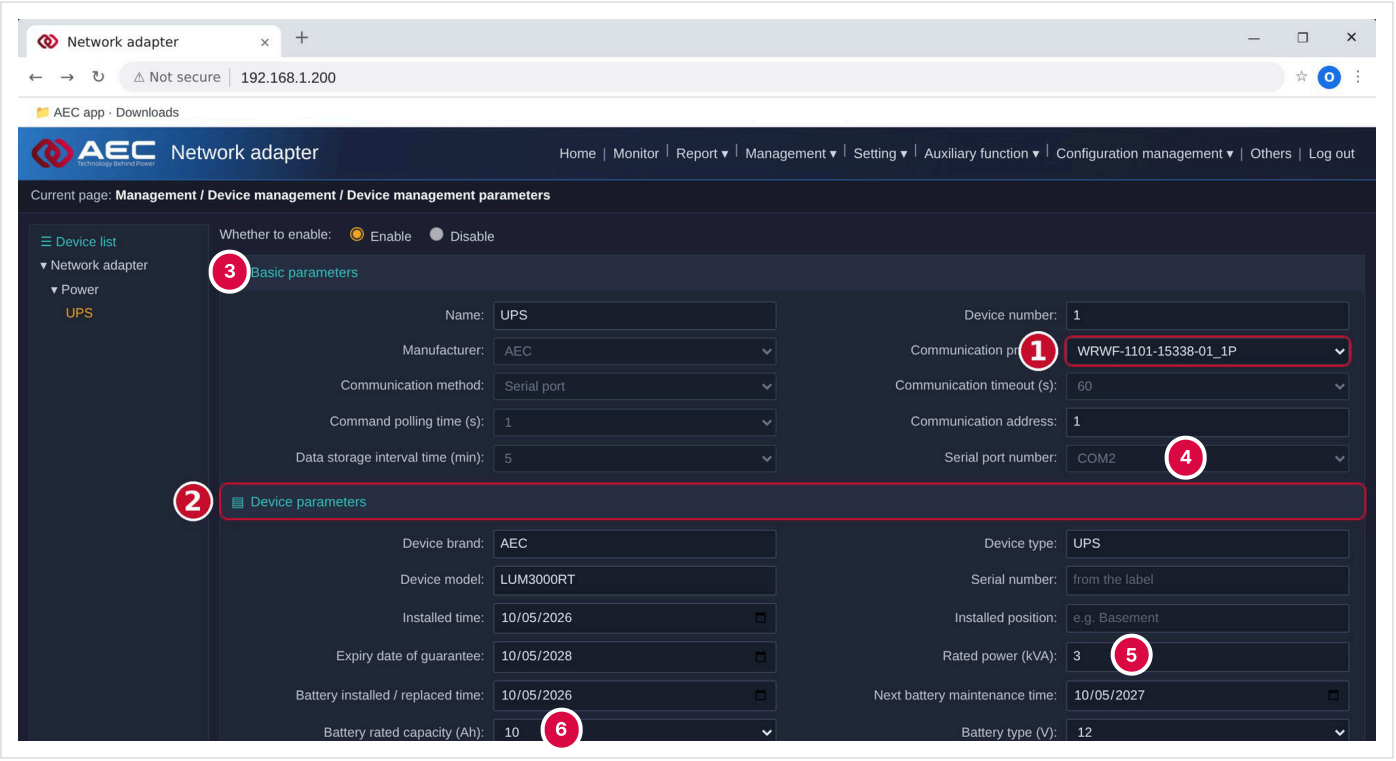
1. **Open the UPS: Management › Device management** (item 1 in Figure 5-2). In the tree: Device list ▸ Network adapter ▸ Power ▸ UPS. Tick **UPS** (item 2) and press **Edit** (item 3).

2. **Communication protocol:** select the protocol of your UPS (Table 2-2; item 1 in Figure 5-3).
3. **Leave the basic parameters** (item 3): Name UPS, Manufacturer AEC, serial port, polling 1 s, address 1, storage 5 min, timeout 60, serial port number COM2 (item 4).
4. **Device parameters** (item 2): fill them from the UPS label as in Section 2.3 — for example Rated power (item 5) and Battery rated capacity (item 6).
5. **Save** at the bottom of the page.



1. Management menu › Device management
2. Tick UPS
3. Edit

FIGURE 5-2 Management › Device management: tick UPS, then Edit



1. Communication protocol — the protocol of your UPS
2. Device parameters — from the UPS label
3. Basic parameters — leave them as they are
4. Serial port number — COM2
5. Rated power (kVA)
6. Battery rated capacity (Ah)

FIGURE 5-3 Device management parameters: basic parameters, device parameters and battery parameters

5.3 INFINITE 480 V: the UPS display

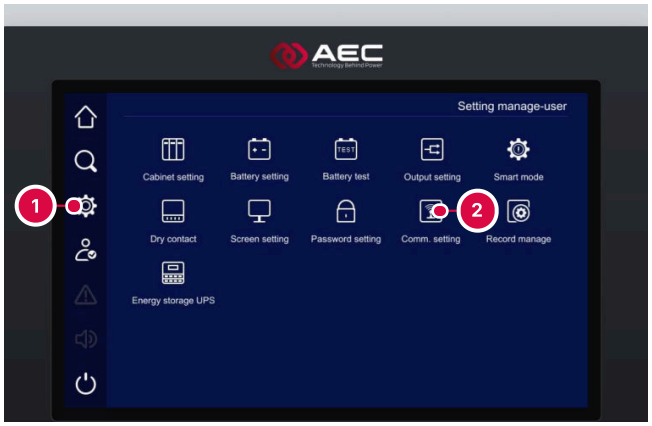
INFINITE must also be told to talk to the card. This setting is made on the INFINITE touchscreen with the user password. The password is reserved to AEC service: call AEC service, +1 786 553 2100, to have the setting made or to receive the password.

1. **Log in:** on the UPS touchscreen tap the user icon (item 1 in Figure 5-4), enter the password (item 2) and tap **ENTER** (item 3).
2. **Settings:** tap the gear (item 1 in Figure 5-5) › **Comm. setting** (item 2).
3. **SNMP protocol type:** tap it until it reads **Modbus** (item 3 in Figure 5-6 and Figure 5-7). Leave **Modbus address** 1 and **Modbus baud rate** 9600 (items 1 and 2).
4. **SNMP control function** (item 4): **On** if the card should be able to switch the UPS on and off; otherwise **Off**.
5. **Save** (item 5).



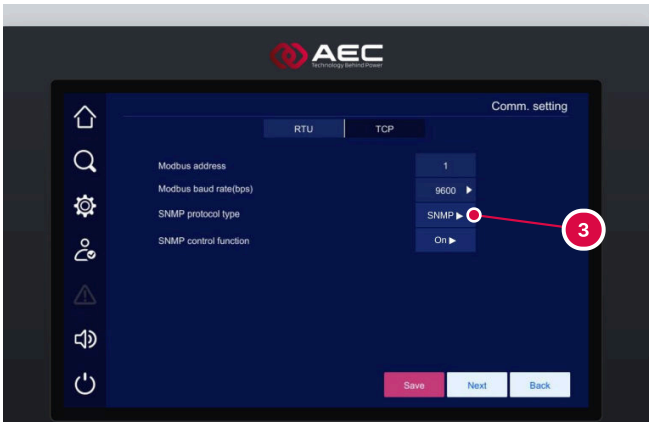
1. User icon
2. Password field (the password is reserved to AEC service)
3. ENTER

FIGURE 5-4 1 · User icon › password › ENTER



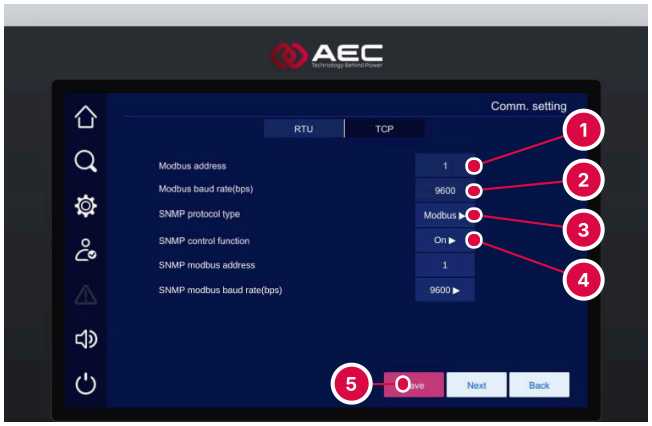
1. Gear — setting manage
2. Comm. setting

FIGURE 5-5 2 · Gear › Comm. setting



3. SNMP protocol type — SNMP: tap to change

FIGURE 5-6 3 · SNMP protocol type reads SNMP at delivery

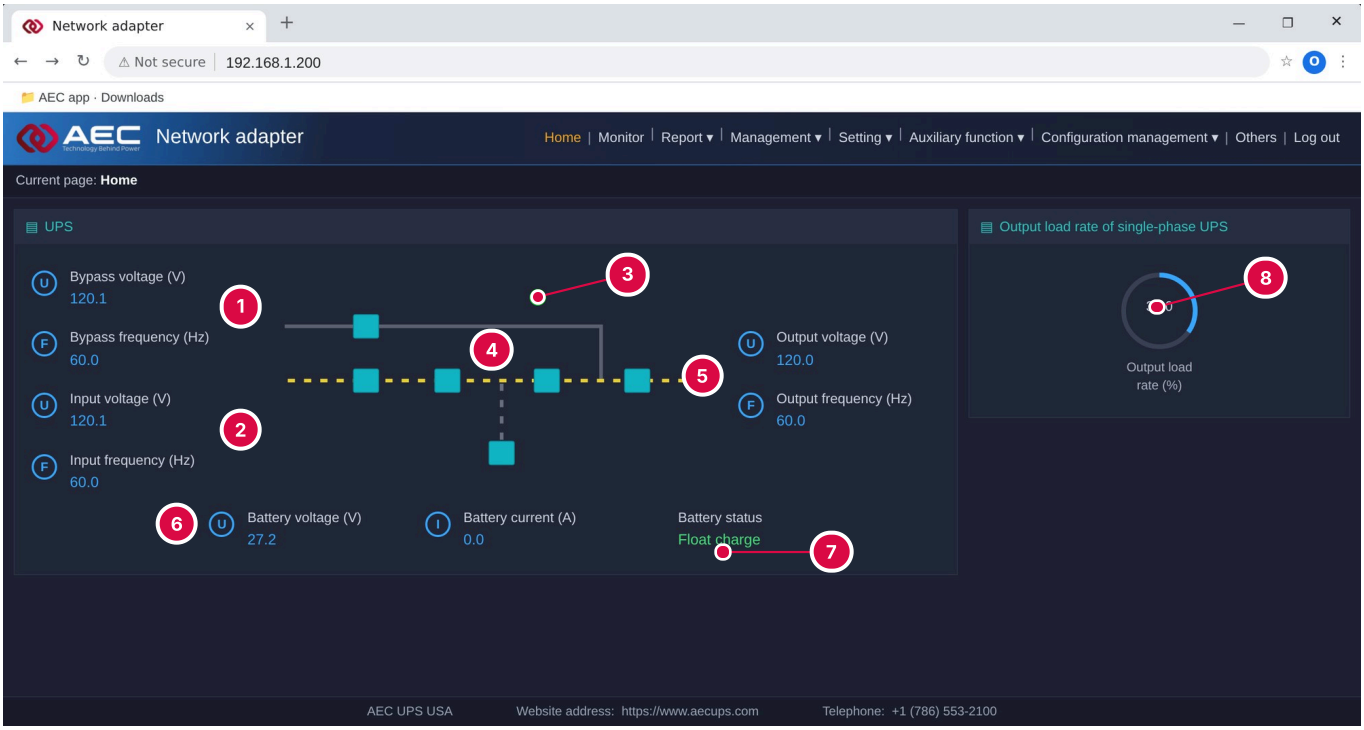


1. Modbus address — 1
2. Modbus baud rate — 9600
3. SNMP protocol type — Modbus
4. SNMP control function — On or Off
5. Save

FIGURE 5-7 4 · Set to Modbus, then Save

5.4 Verification

Open **Home** (Figure 5-8). The UPS diagram shows input, bypass, output, battery and load values, and the alarm box is clear. Dashes or **Communication failure** mean one of the settings above does not match the UPS.



1. Bypass voltage and frequency
2. Input voltage and frequency
3. Status indicator — green when the card reads the UPS
4. Energy flow: rectifier, inverter, battery and output
5. Output voltage and frequency
6. Battery voltage and current
7. Battery status
8. Output load rate (%)

FIGURE 5-8 Home reading the UPS: values on every branch, battery voltage and status

✓ **TIP** Every step of Chapter 4 and Chapter 5 can be practiced for each UPS in **AEC app › Simulators › SNMP card**.

CHAPTER 6

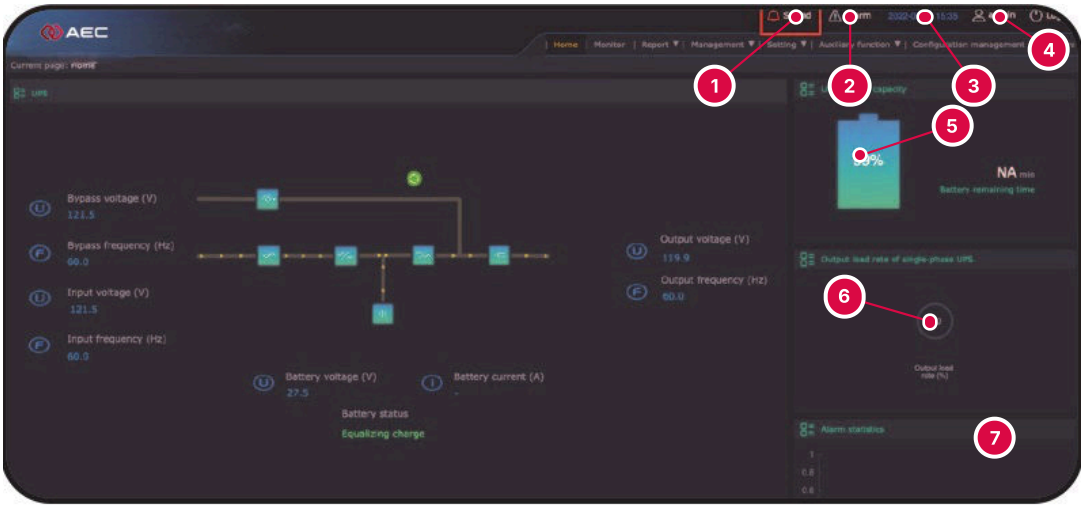
06 WiseWay web interface

WiseWay is the card's own web interface: one UPS at a time, from any browser.

6.1 Menu

After login the menu runs across the top: **Home · Monitor · Report · Management · Setting · Auxiliary function · Configuration management · Others**.

At the top right: the alarm count, date and time, the user and **Logout**. The bell (**Sound**) switches the browser's audible alarm on (red) or off (white, crossed) — it sounds only while the page is open. The card sends e-mails whether or not the page is open.



1. Sound — browser audible alarm on or off
2. Alarm — number of active alarms
3. Date and time of the card
4. User and Logout
5. Battery capacity and remaining time
6. Output load rate
7. Alarm statistics

FIGURE 6-1 Audible alarm control and status bar on Home

6.2 Home

Live data of the UPS: bypass and input voltage and frequency, output voltage and frequency, battery voltage, current and status, battery capacity and remaining time, output load and the alarm statistics (Figure 5-8). The modules shown are chosen in **Configuration management › Layout configuration** (Section 6.8.1).

i NOTE **Load reading.** On small UPS the load may read 0.0% while it is below about 15% of the rated power.

6.3 Monitor

6.3.1 Real time curve

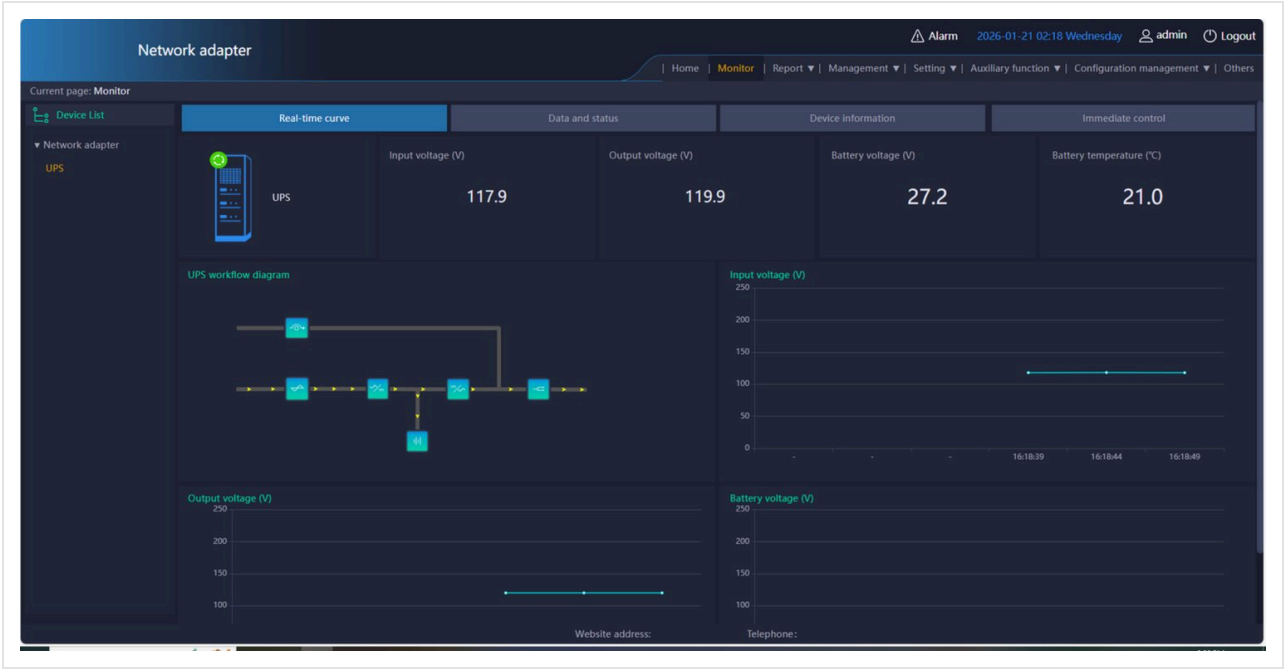
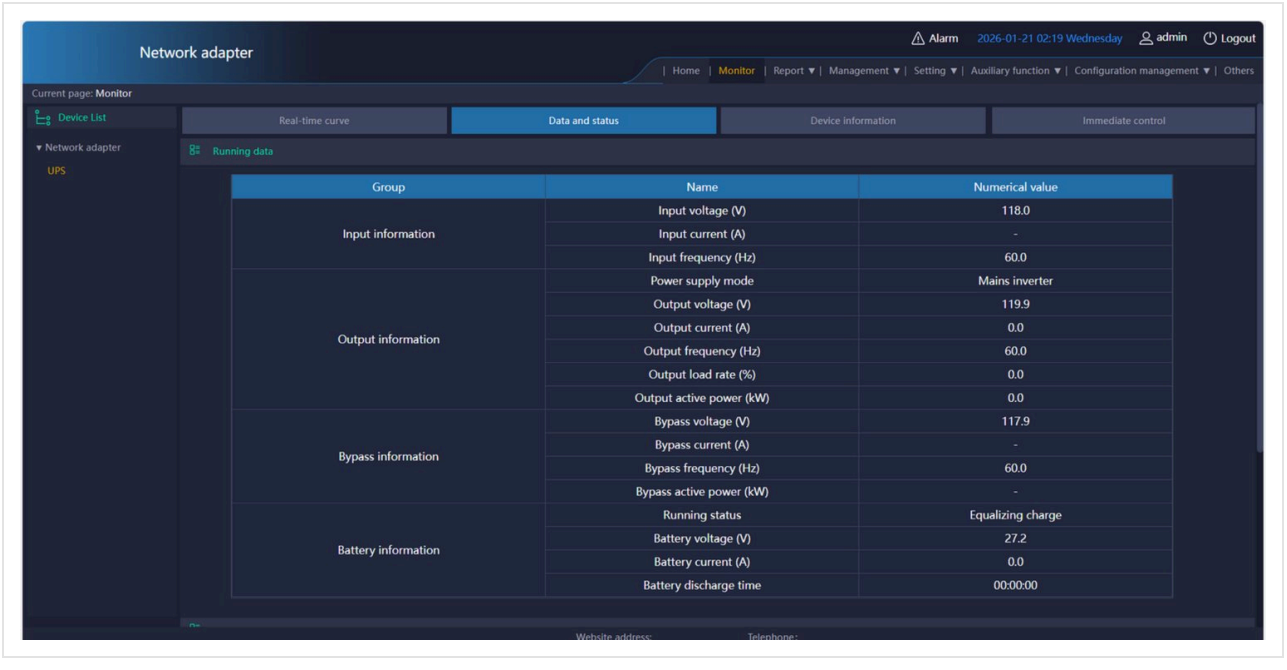


FIGURE 6-2 Monitor › Real time curve: AC input, AC output and battery voltages, temperature

6.3.2 Data and status

All live values as a table. The running-status messages at the bottom turn from green to red when the UPS is not in normal online mode (on battery, bypass, fault…).



Group	Name	Numerical value
Input information	Input voltage (V)	118.0
	Input current (A)	-
	Input frequency (Hz)	60.0
Output information	Power supply mode	Mains inverter
	Output voltage (V)	119.9
	Output current (A)	0.0
	Output frequency (Hz)	60.0
	Output load rate (%)	0.0
	Output active power (kW)	0.0
Bypass information	Bypass voltage (V)	117.9
	Bypass current (A)	-
	Bypass frequency (Hz)	60.0
	Bypass active power (kW)	-
Battery information	Running status	Equalizing charge
	Battery voltage (V)	27.2
	Battery current (A)	0.0
	Battery discharge time	00:00:00

FIGURE 6-3 Monitor › Data and status: every live value and the running status

6.3.3 Device information

A summary of what was entered in **Management › Device management**: name, model, kVA, voltage, installation date and more.

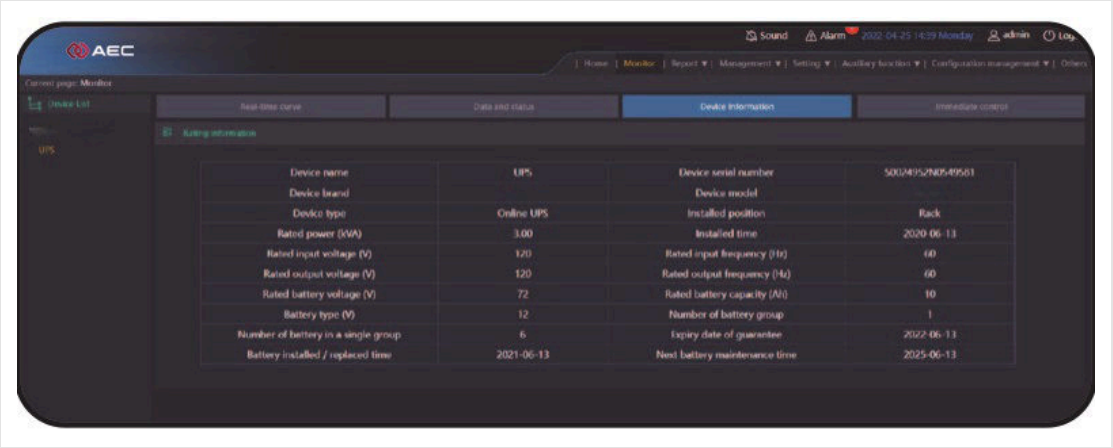
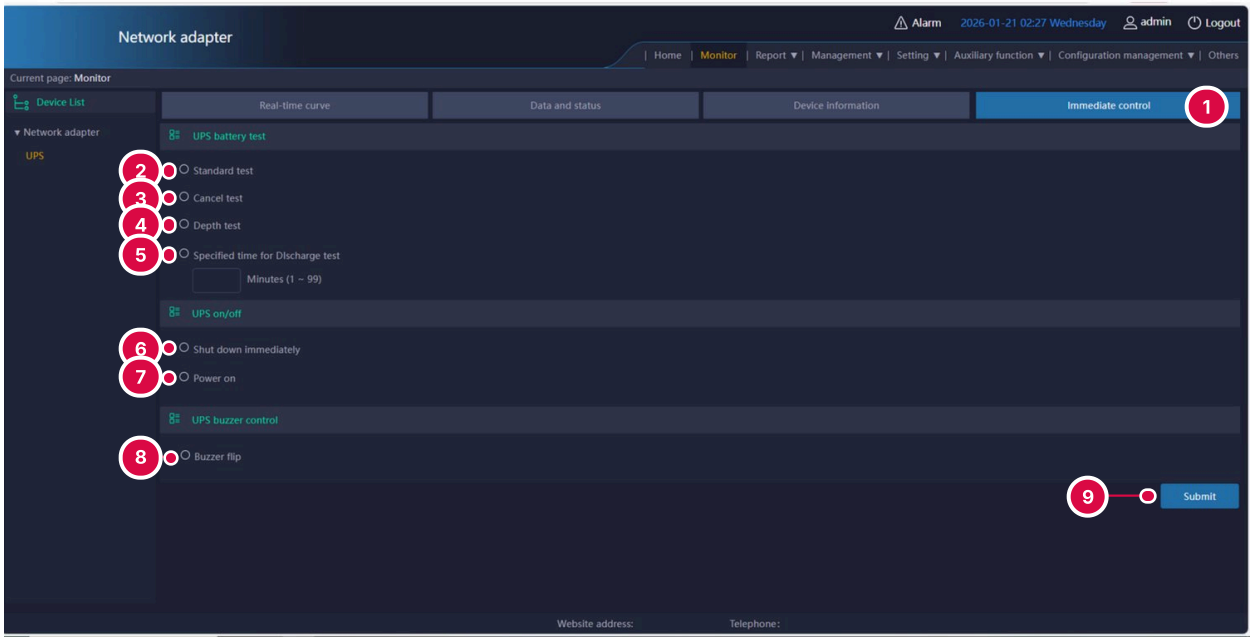


FIGURE 6-4 Monitor › Device information

6.3.4 Immediate control

Commands sent now: battery test (standard, for a set time, depth test, cancel), UPS on/off and buzzer. Select a command and press **Submit** (Figure 6-5).



1. Immediate control tab
2. Standard test — short battery test
3. Cancel test
4. Depth test — discharge to low battery (see the warning)
5. Specified time for discharge test, with its minutes (1–99)
6. Shut down immediately
7. Power on
8. Buzzer flip — mute or unmute the UPS buzzer
9. Submit

FIGURE 6-5 Monitor › Immediate control

> **⚠ WARNING · Deep discharge test on lithium UPS**
>
> Lithium batteries hold their voltage almost to the end and then drop very fast. A test "until low voltage" can let the UPS lose power before it returns to utility. Do not use it where the load cannot accept an interruption.

6.4 Report

6.4.1 Event record



FIGURE 6-6 Report › Event record: every event with its level, start, end and status

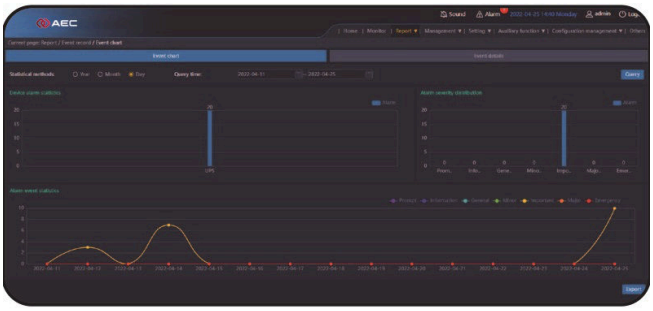


FIGURE 6-7 Event chart

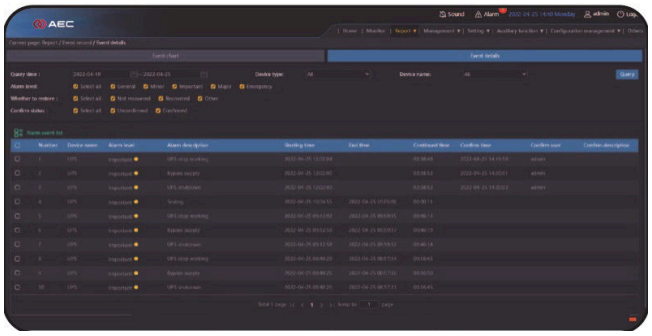


FIGURE 6-8 Event details

Event chart: alarm statistics by year, month or day and date range. **Event details:** every alarm by level (general, minor, important, major, emergency) and date range; tick handled alarms and press **Confirm** with a note; **Export** saves a CSV with the confirmation time and notes.

6.4.2 Data record

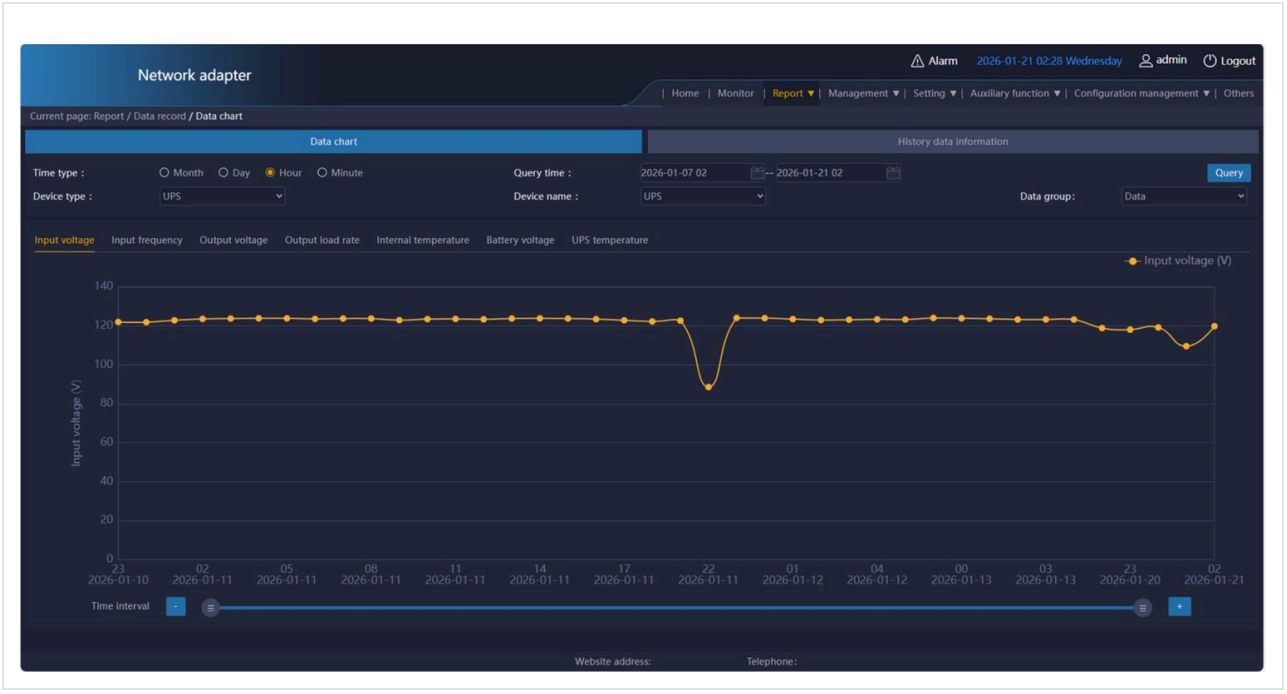


FIGURE 6-9 Report › Data record › Data chart: input and output voltage over a chosen period



FIGURE 6-10 Data chart

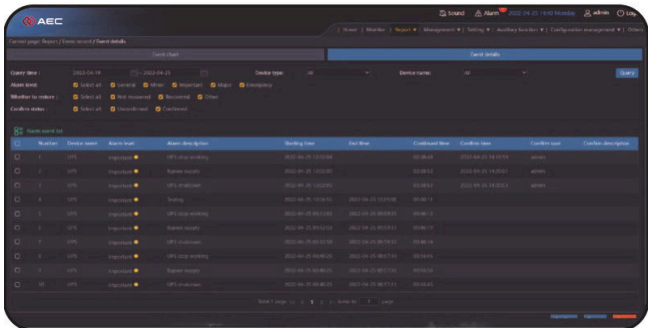


FIGURE 6-11 History data information

Data chart: input voltage and frequency, output voltage and load, battery temperature by month, day, hour or minute; with Device type **System**, the card's CPU, memory and network traffic. **History data information:** the same values as a table, exportable to CSV.

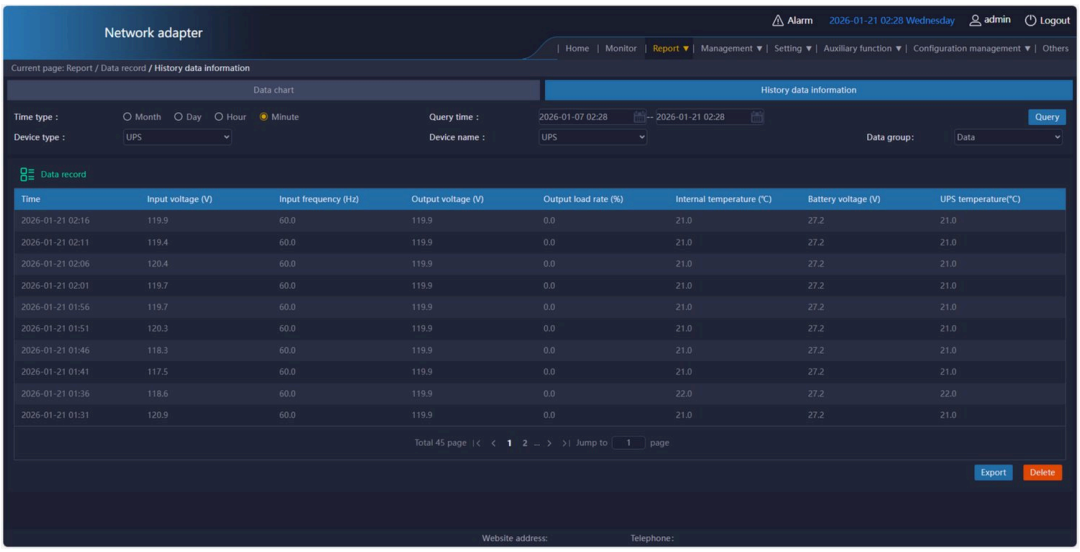


FIGURE 6-12 History data: the recorded values, ready to export

6.4.3 Discharge control record and notification record

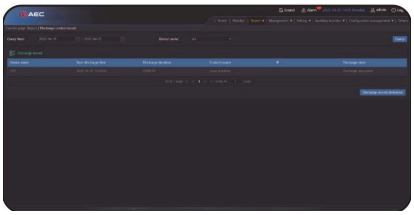


FIGURE 6-13 Discharge control record

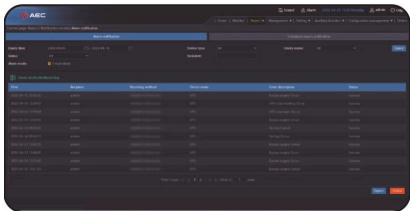


FIGURE 6-14 Alarm notification

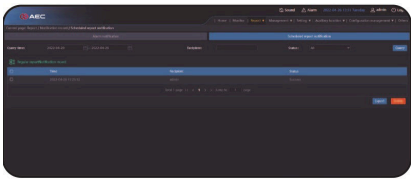


FIGURE 6-15 Scheduled report notification

Discharge control record: every battery test started from Immediate control (power outages are in Event details). **Notification record:** every alarm e-mail and scheduled report sent, by date, status and recipient.

6.4.4 System log

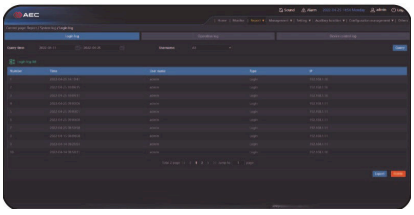


FIGURE 6-16 Login log

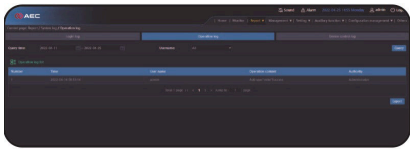


FIGURE 6-17 Operation log

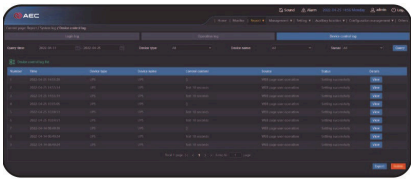


FIGURE 6-18 Device control log

Logins (date, user, IP), operations (every change made to the card) and device control commands with success or failure; filter by date and user, export to CSV.

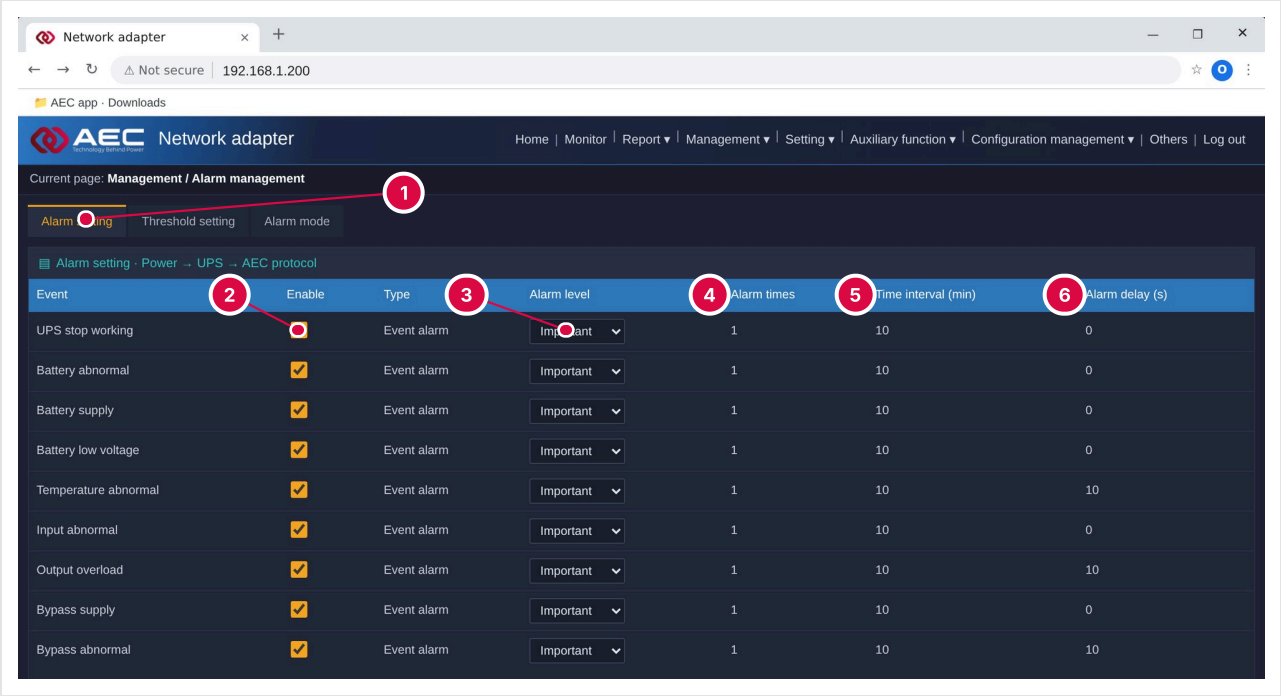
CAUTION · Deleting records

Records deleted from Report pages cannot be recovered. Export them first if they may be needed.

6.5 Management

6.5.1 Alarm management

Alarm setting: open your UPS protocol in the list and enable each alarm with its level (General, Minor, Important, Major, Emergency), how often it repeats, the delay before the first notice and escalation if nobody responds. Handling suggestions lets you write what to do; it is shown with the alarm.

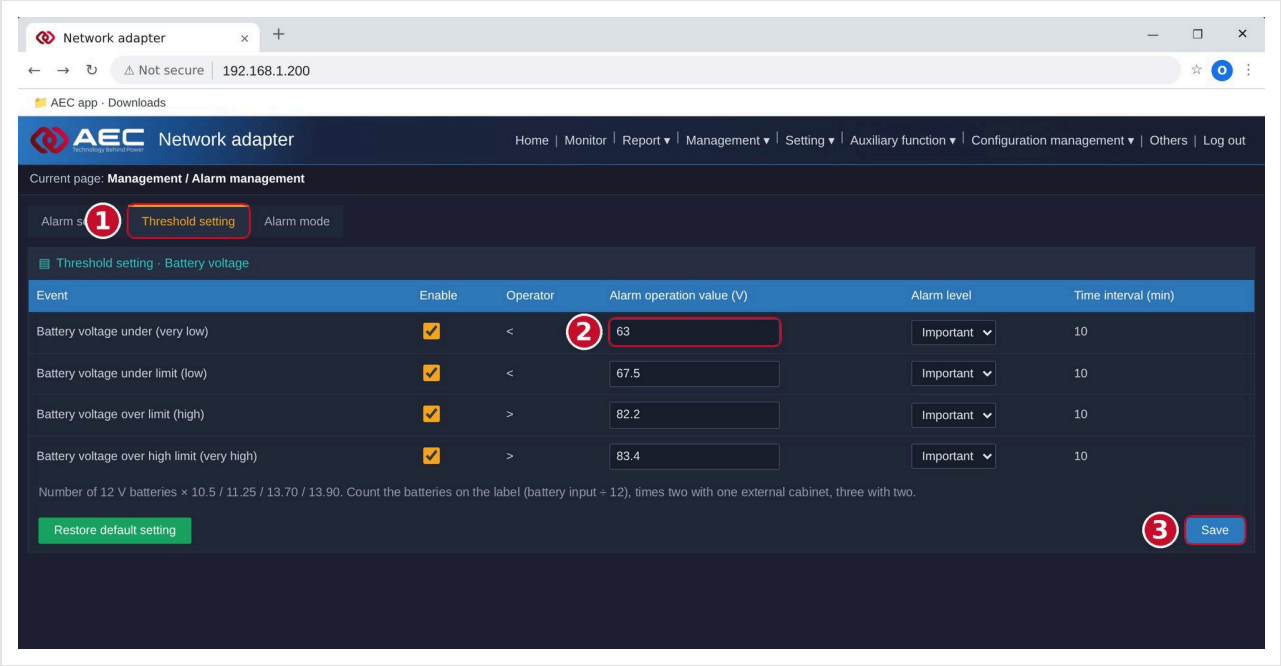


1. Alarm setting tab
2. Enable — tick each alarm to report
3. Alarm level
4. Alarm times — how often it repeats
5. Time interval between repeats (min)
6. Alarm delay before the first notice (s)

FIGURE 6-19 Alarm management › Alarm setting

Threshold setting: limits for battery voltage (Section 2.4), temperature, input and output voltage and frequency and load, each with its level — e.g. load over 70% Important, over 90% Major.

1. Open the **Threshold setting** tab (item 1 in Figure 6-20).
2. Type each **Alarm operation value** (item 2) from Table 2-8.
3. Press **Save** (item 3).



1. Threshold setting tab
2. Alarm operation value (V) — one line per alarm, from Table 2-8
3. Save

FIGURE 6-20 Alarm management › Threshold setting — battery voltage

Alarm mode: the e-mail server and its test (Chapter 7) and the browser's audible alarm.

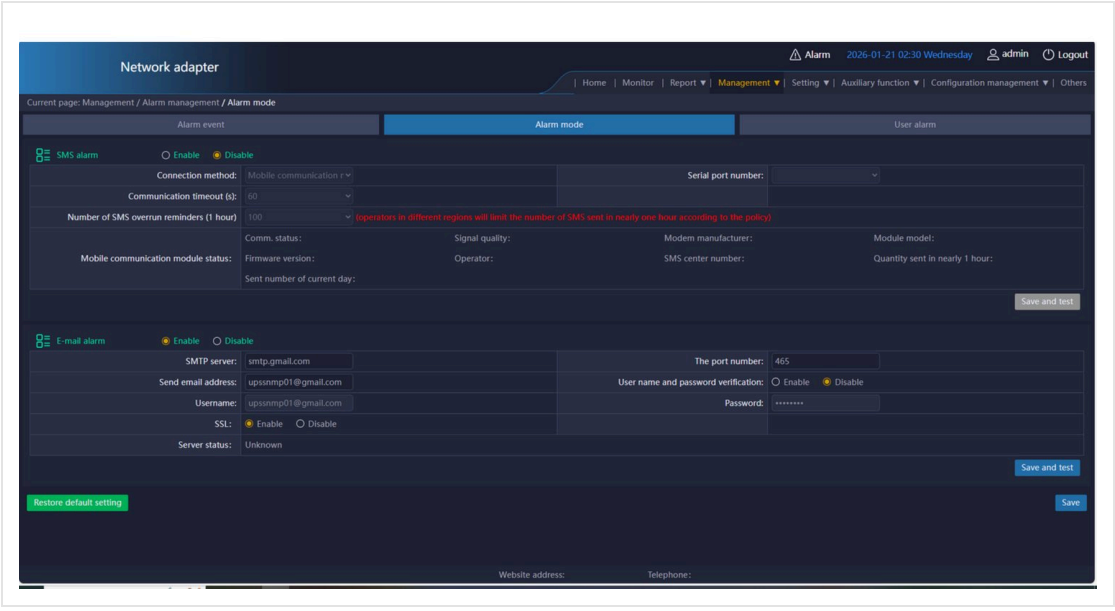


FIGURE 6-21 Alarm management › Alarm mode

User alarm: which alarm levels each user receives — select a user › **Edit event alarm** › UPS › tick prompt, information, general, minor, important, major, emergency.

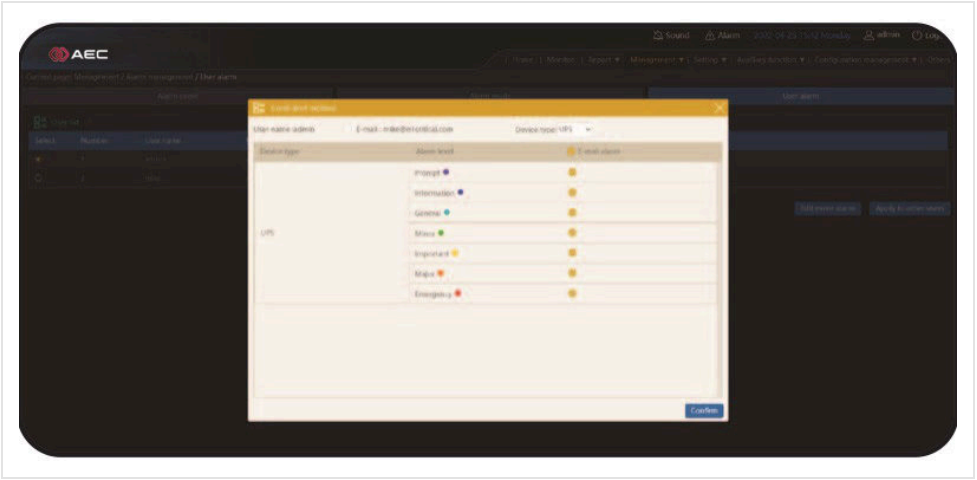


FIGURE 6-22 User alarm

6.5.2 Device management

The communication protocol and device parameters of the UPS (Chapter 5). Change them only as described there: a wrong value stops the card reading the UPS.

6.5.3 User management

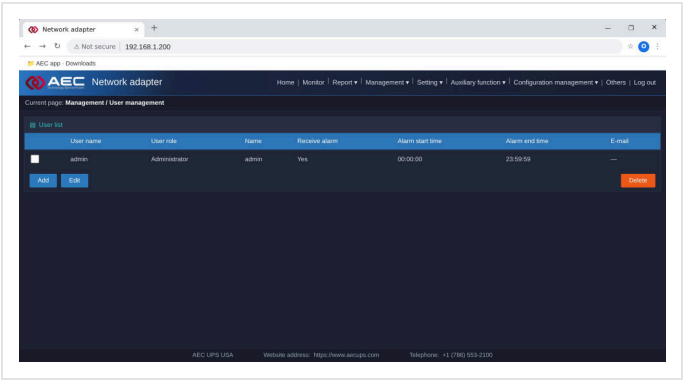


FIGURE 6-23 User management

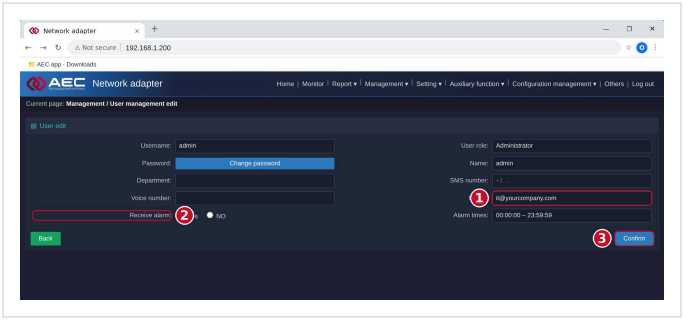


FIGURE 6-24 Add / edit a user

TABLE 6-1 User roles

Role	Configuration	Remote control
Administrator	Read / write	Yes
System operator	Read only	Yes
General user	Read only	No

Each user has a user name, password and name; e-mail is used for alarms, with the hours alarms may be sent (default all day). Select a user and press **Edit** or **Delete**. Passwords cannot be displayed or recovered.

To change the admin password: **Management › User management**, tick **admin**, **Edit**, **Change password**. Record the new password in Appendix A.

6.5.4 Scheduled tasks

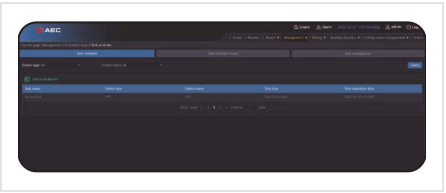


FIGURE 6-25 Task reminder

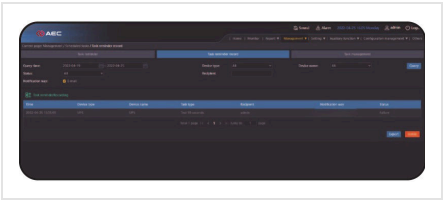


FIGURE 6-26 Task reminder record

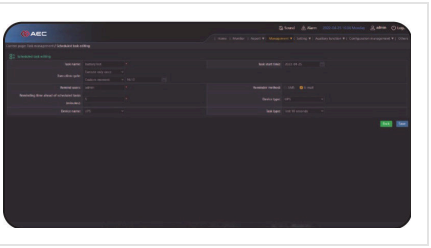


FIGURE 6-27 Task management

Task management › Add: task name, start time and repeat cycle, the command (10-second test, test for a set time, power on from bypass, shutdown to bypass), who is reminded by e-mail and how long before. **Task reminder** and **Task reminder record** list planned tasks and reminders sent.

> ⚠ ***CAUTION · Lithium UPS***
>
> Do not schedule "test to battery under voltage" on lithium UPS: the UPS can switch off before the test is cancelled.

6.5.5 Regular report

An e-mail to chosen users on a schedule, with CSV files of history data, alarm data or both, for the same day or the previous week. **Add** › name, enable, execution cycle, content, data cycle › **Save**.

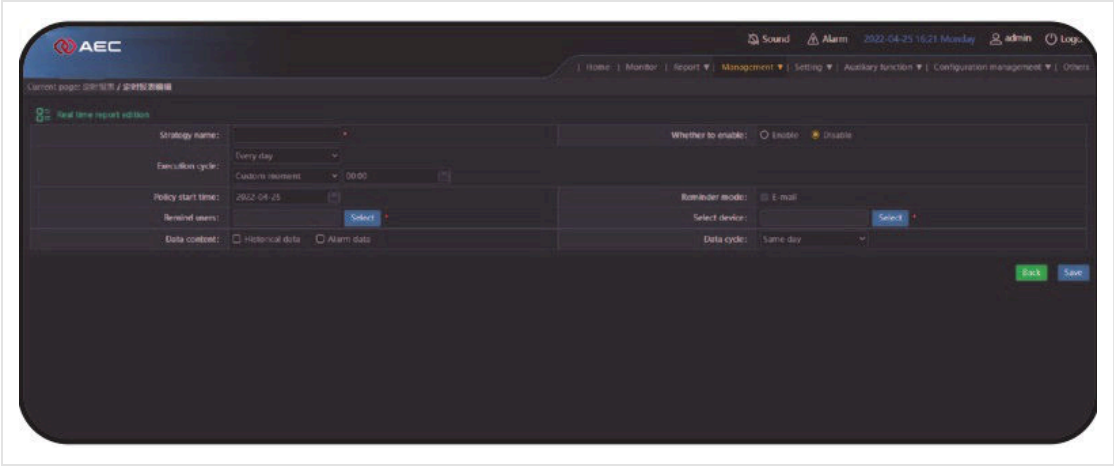


FIGURE 6-28 Scheduled tasks › Regular report by e-mail

6.6 Setting

6.6.1 Parameter setting

UPS name, administrator name and phone, physical location — used in e-mails and reports.

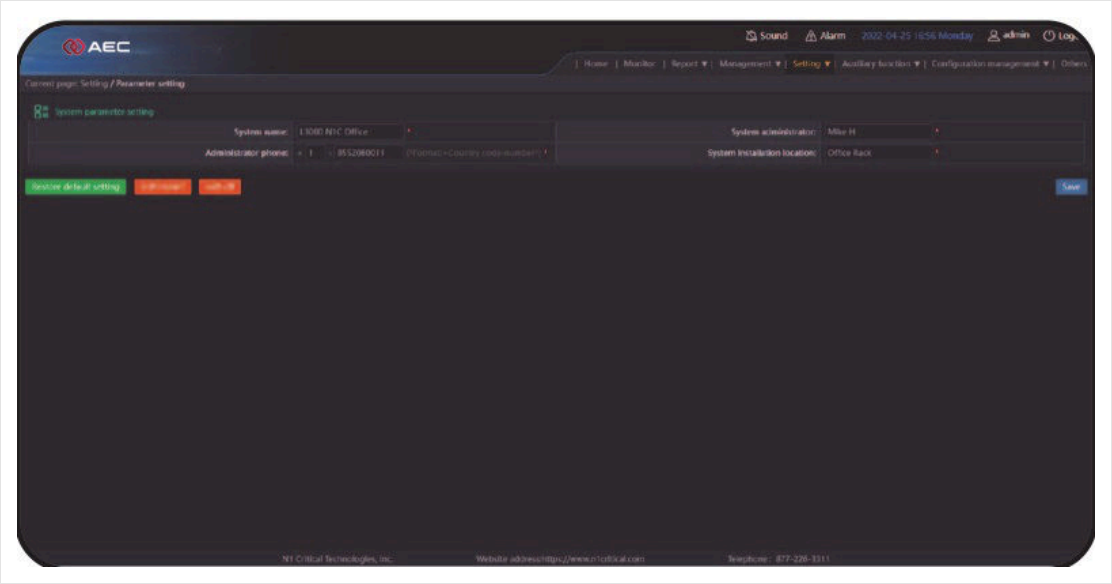
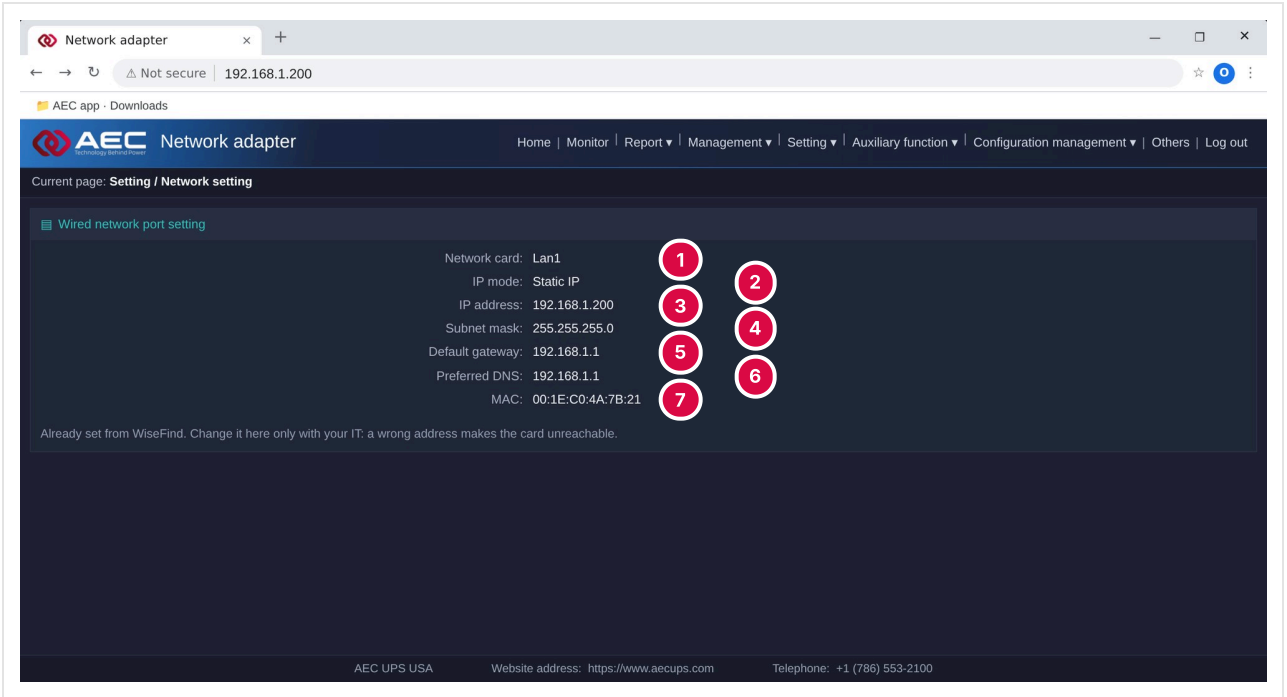


FIGURE 6-29 Setting › Parameter setting

6.6.2 Network setting

Wired network port setting: IP by DHCP or static IP, subnet mask, gateway and DNS. The main port is always Lan1. The address is normally set with WiseFind (Section 4.3); change it here only with your IT department.



1. Network card — Lan1
2. IP mode — Static IP or DHCP
3. IP address
4. Subnet mask
5. Default gateway
6. Preferred DNS — needed for e-mail and NTP
7. MAC address of the card

FIGURE 6-30 Setting › Network setting › Wired network port setting

6.6.3 Web setting

Log-in by HTTP or HTTPS, upload of an SSL certificate, and automatic logout after 10 or 30 minutes, a custom time or never.

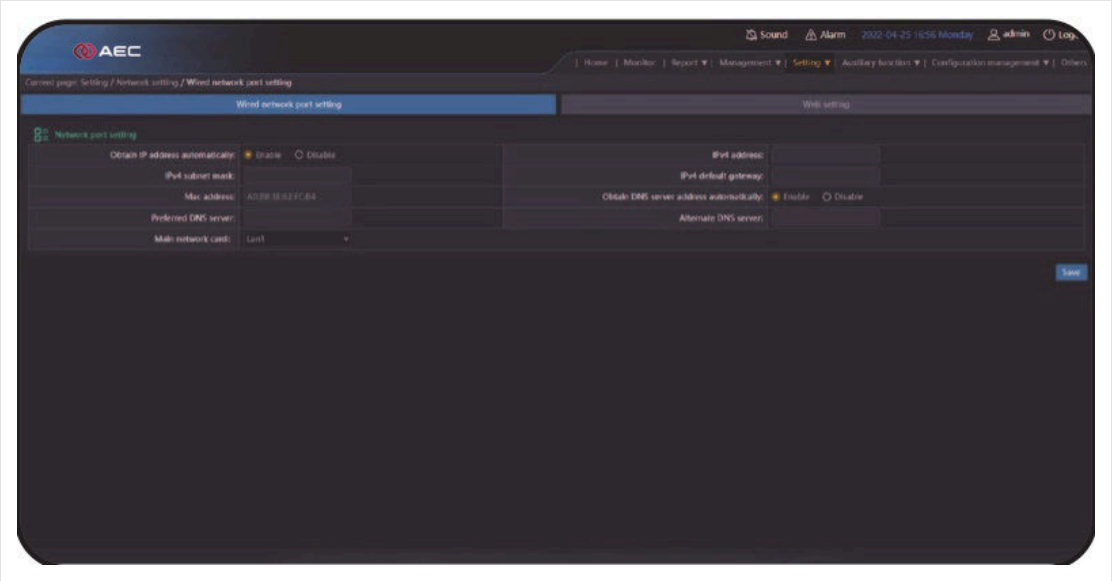


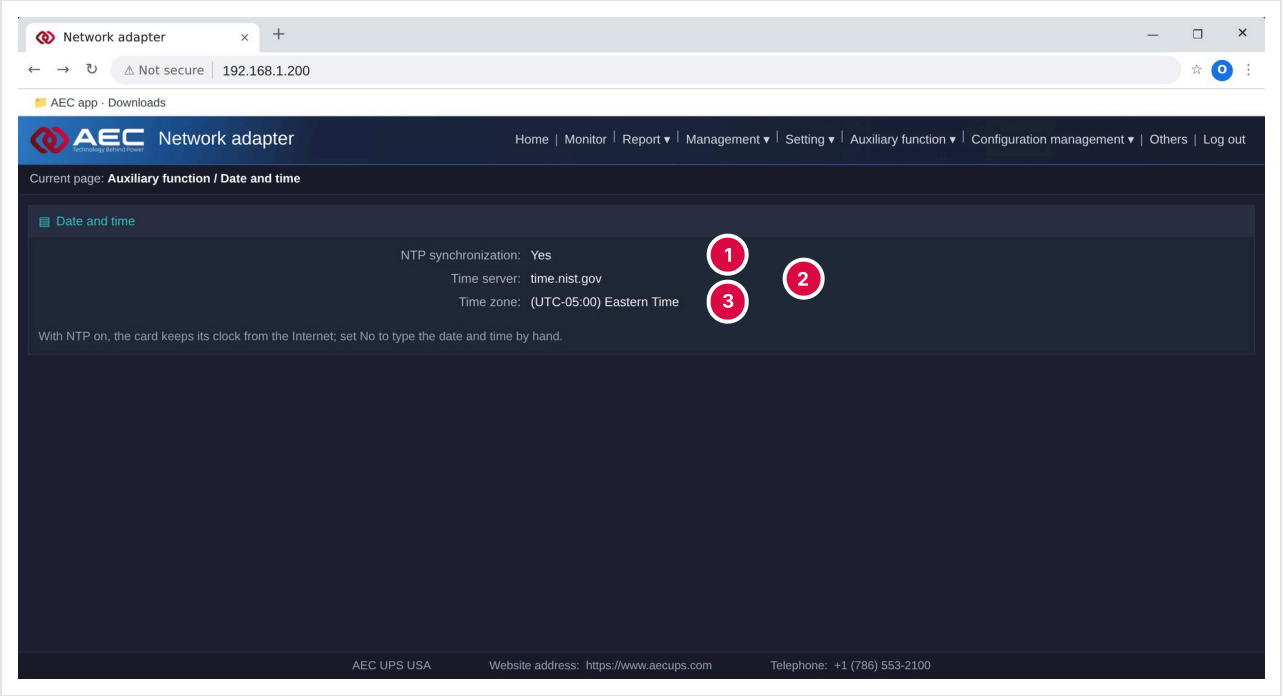
FIGURE 6-31 Setting › Web setting

Serial port setting: COM1 / COM2 parameters (Section 5.1).

6.7 Auxiliary function

6.7.1 Date and time

NTP synchronization **Yes** with a time server (e.g. time.nist.gov, time.windows.com), or **No** to set it by hand. Correct time is needed for logs and reports.

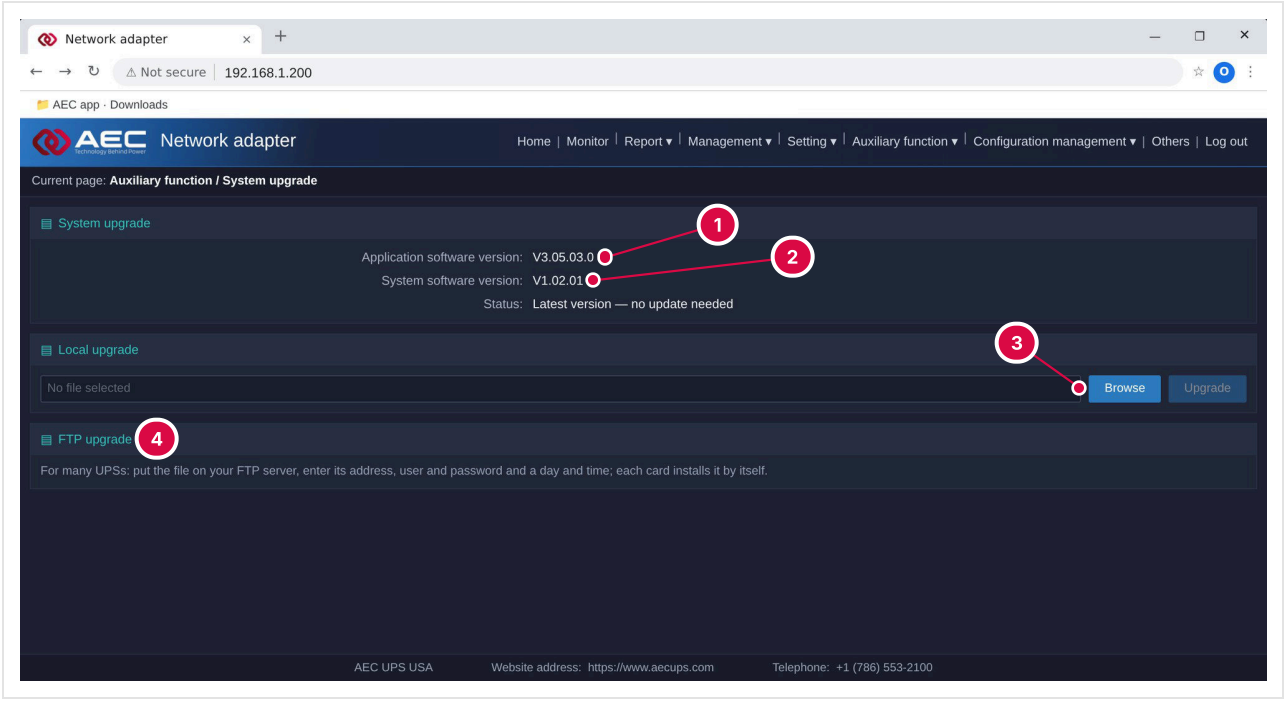


1. NTP synchronization — Yes or No
2. Time server
3. Time zone

FIGURE 6-32 Auxiliary function › Date and time

6.7.2 System upgrade

Shows the card's firmware version. AEC cards ship with the current firmware. Do not upgrade the card and do not set an FTP update: if you think an update is needed, contact AEC service.



1. Application software version
2. System software version
3. Local upgrade — do not use: contact AEC service
4. FTP upgrade — do not use

FIGURE 6-33 Auxiliary function › System upgrade

6.8 Configuration management

Northbound configuration: SNMP function setting, trap notification setting, northbound point setting and MIB setting (Chapter 8).

6.8.1 Layout configuration

What Home shows: the main module (Single in single out UPS on LUMINA) and up to three sub-modules — by default UPS battery capacity, output load rate and alarm statistics.

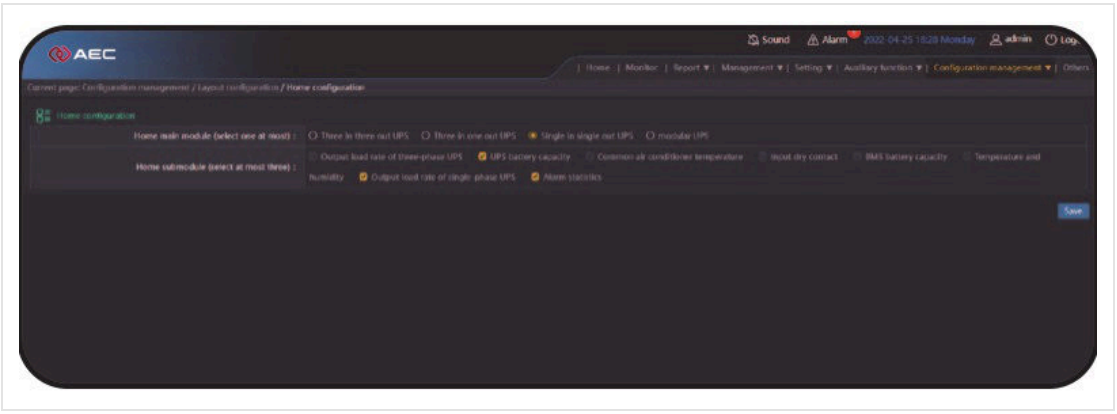


FIGURE 6-34 Configuration management › Layout configuration

6.8.2 Engineering configuration

For AEC service only: AEC engineers may ask you to download debugging data from here.

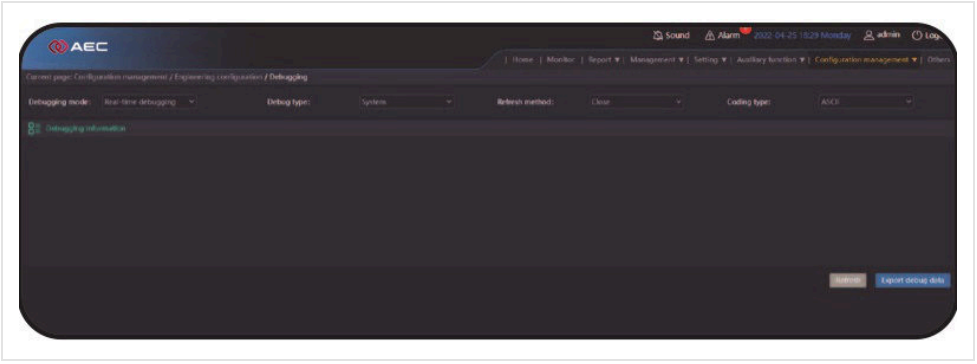
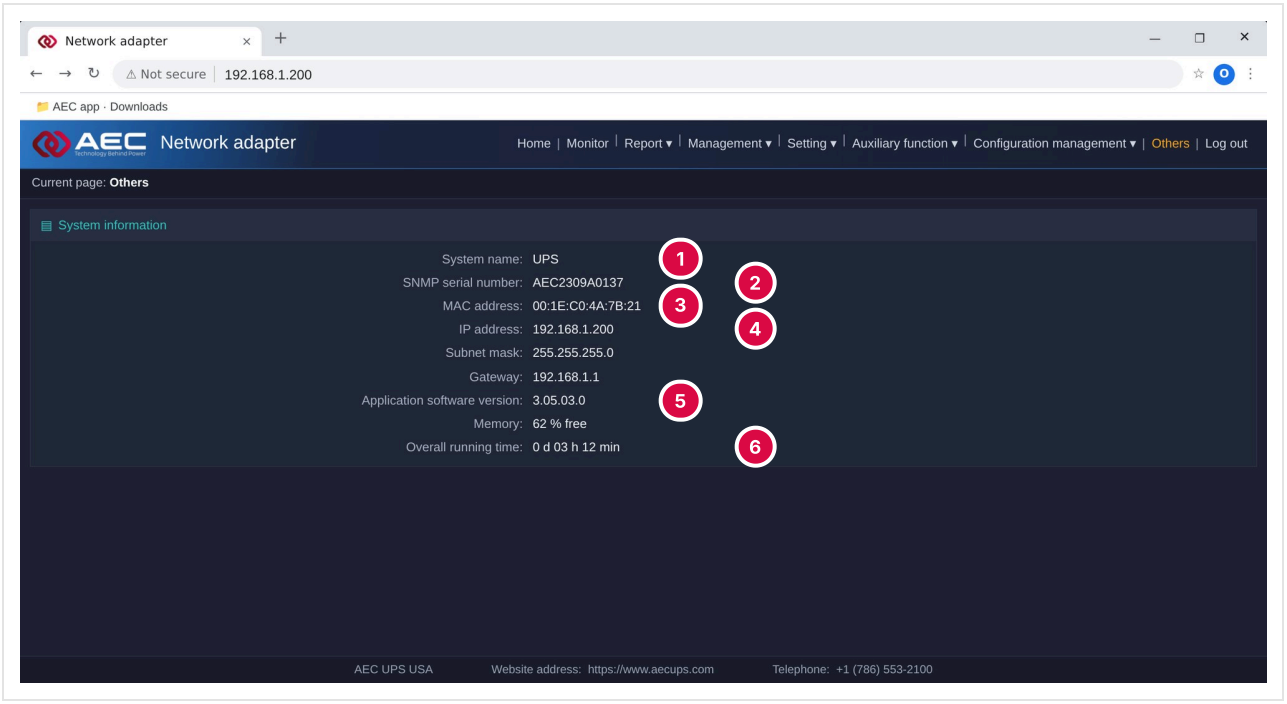


FIGURE 6-35 Engineering configuration (AEC service only)

6.9 Others

Summary of the system: name, administrator, card serial number, network addresses, memory and running time (the time since the UPS was last completely off — not a lifetime counter).



1. System name
2. SNMP serial number — for the record sheet
3. MAC address
4. IP address, subnet mask, gateway
5. Application software version
6. Overall running time

FIGURE 6-36 Others › System information

07

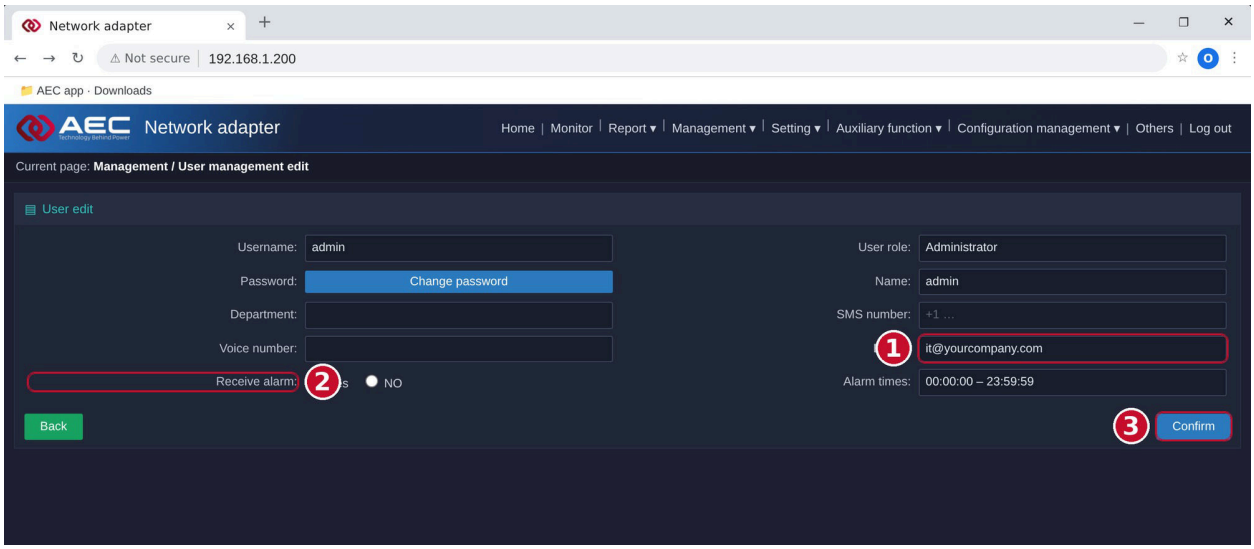
CHAPTER 7

E-mail alarms

The card sends an e-mail when the UPS goes on battery, into bypass or into alarm.

7.1 Recipients

1. **User management: Management › User management**: tick a user (or **Add** one) › **Edit**.
2. **E-mail:** the address to receive the alarms (item 1 in Figure 7-1).
3. **Receive alarm: Yes** (item 2). Alarm times 00:00:00 – 23:59:59 for all day.
4. **Confirm** (item 3).

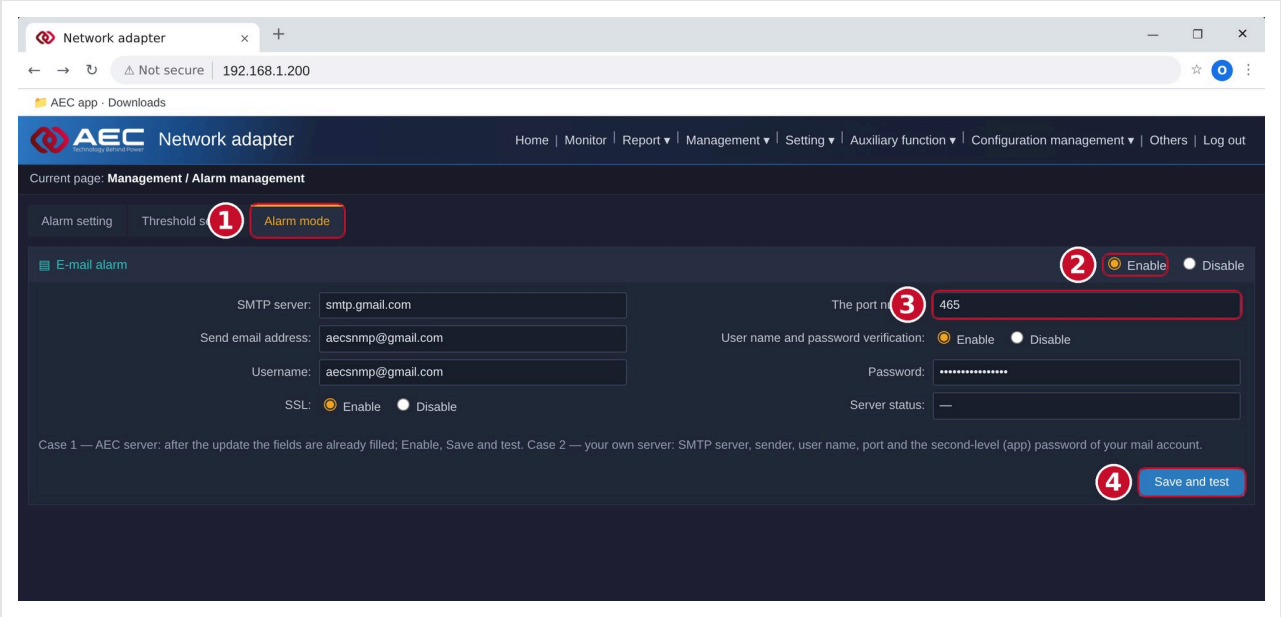


1. E-mail address that receives the alarms
2. Receive alarm — Yes
3. Confirm

FIGURE 7-1 Management › User management: edit a recipient

7.2 Mail server

1. Open **Management › Alarm management › Alarm mode** (item 1 in Figure 7-2).
2. **E-mail alarm: Enable** (item 2).
3. Set the server as below, with the **port** (item 3).
4. Press **Save and test** (item 4).



1. Alarm mode tab
2. E-mail alarm — Enable
3. Port — 465 (or 587, then 25)
4. Save and test

FIGURE 7-2 Alarm management › Alarm mode: e-mail alarm settings

AEC mail server (pre-filled). SMTP server, sender, user name and password are already filled in on AEC cards. Leave them, set port 465 and press **Save and test**. No test e-mail? Try 587, then 25.

Your own mail server. Enter your SMTP server, sender address, user name, port and password. Most providers require an app password (second-level password) and SMTP access enabled on the account.

> i NOTE **Network.** The card's network must be allowed to reach the mail server on the chosen port, and its gateway and DNS must be set (Section 4.3, Section 6.6.2).

7.3 Which alarms

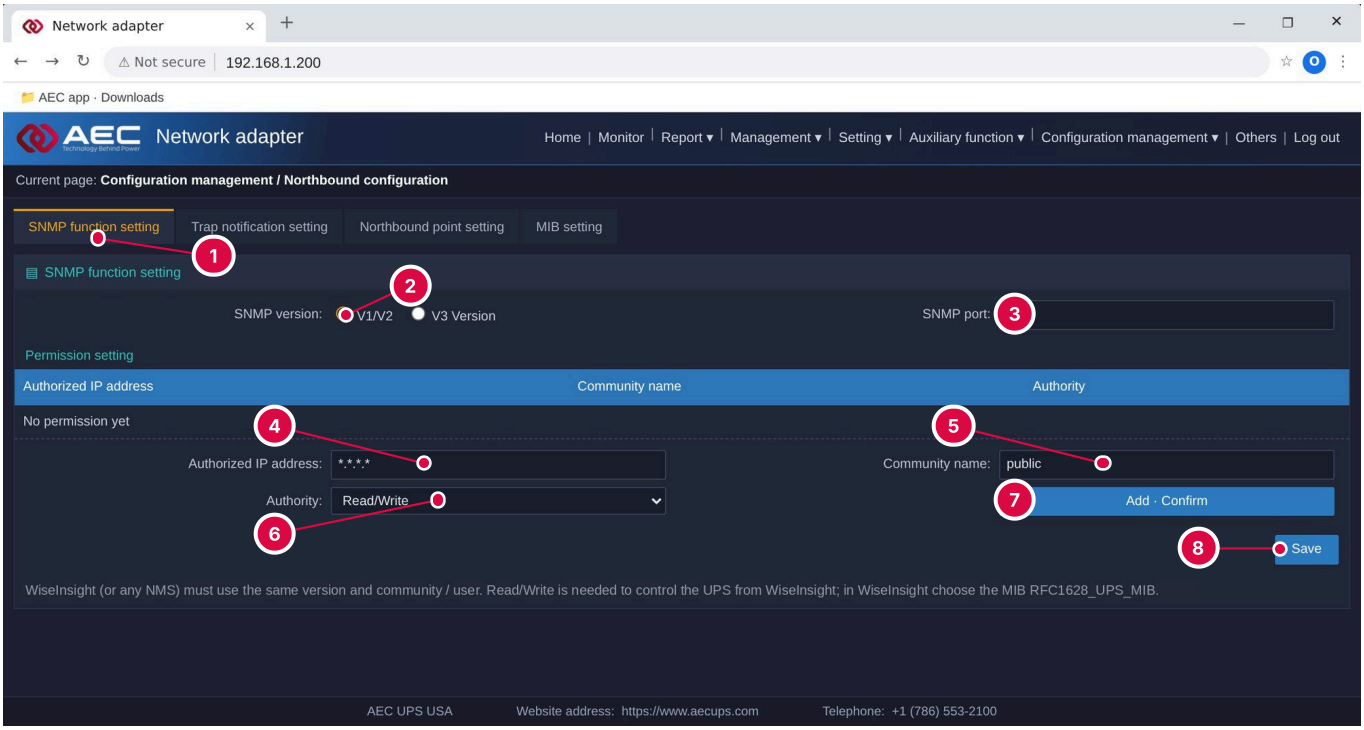
Each user receives the alarm levels ticked in **User alarm** (Section 6.5.1); each alarm's level, repetition and delay are set in **Alarm setting**; the battery and load limits in **Threshold setting**.

CHAPTER 8

08 SNMP and network management

Monitor and control the UPS from WiseInsight or any SNMP manager.

Open **Configuration management › Northbound configuration › SNMP function setting** (Figure 8-1). Choose the SNMP version and the SNMP port (default 161). WiseInsight needs a Read/Write permission to send commands to the UPS.

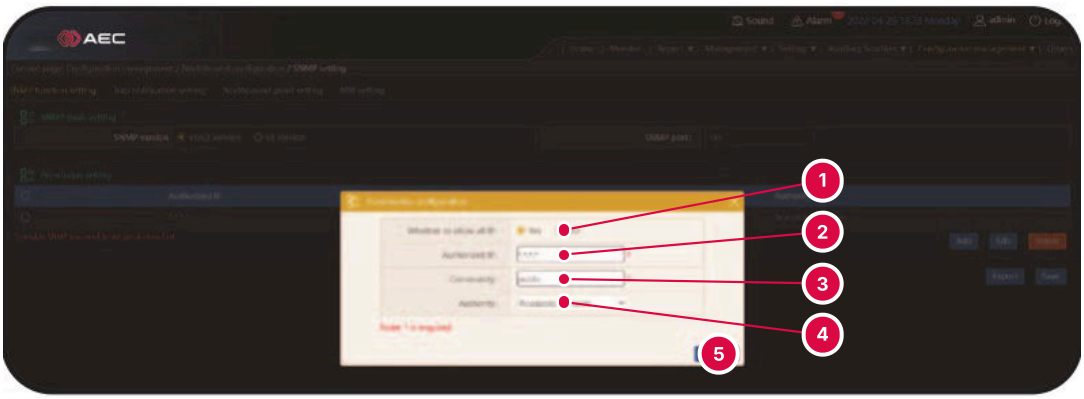


1. SNMP function setting tab
2. SNMP version — V1/V2 or V3
3. SNMP port — 161
4. Authorized IP address — the manager, or ... for any
5. Community name — public, or your own
6. Authority — Read only, Read/Write or No permission
7. Add · Confirm
8. Save

FIGURE 8-1 Northbound configuration › SNMP function setting

8.1 SNMP V1/V2c

1. **Permission setting › Add:** Authorized IP (item 4 in Figure 8-1): the manager's address, or `*.*.*.*` for any.
2. **Community** (item 5): public (or your own; the manager must use the same).
3. **Authority** (item 6): Read only, Read/Write or No permission › **Confirm** (item 7) › **Save** (item 8).



1 Whether to allow all IP
2 Authorized IP
3 Community
4 Authority
5 Confirm

FIGURE 8-2 Adding a permission (community configuration window)

8.2 SNMP V3

1. **SNMP version: V3** (item 2 in Figure 8-1). A user must be configured.
2. **User configuration › Add:** user name; authorization (No permission, Read only, Read/Write).
3. **Verification:** MD5 or SHA, with its password (8 characters or more).
4. **Encryption:** None, DES or AES, with its password.
5. **Context:** add a context configuration if your manager uses one › **Confirm** › **Save**.

8.3 Traps

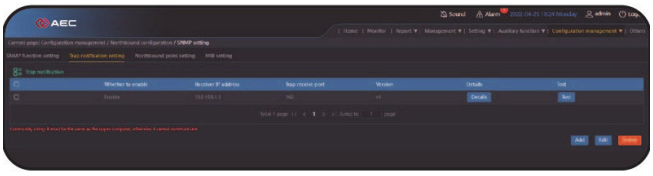


FIGURE 8-3 Trap notification setting

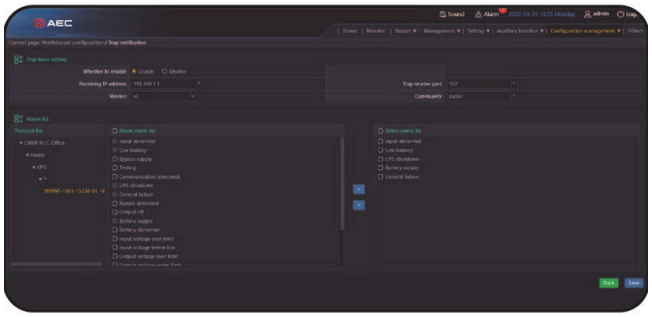


FIGURE 8-4 Adding a trap receiver

Trap notification setting › Add: enable, receiver IP and port (162), SNMP version and community. Open your UPS protocol in the list, tick the alarm events to send (or all) and move them across with **>**. **Save**. Traps follow the RFC 1628 UPS standard.

8.4 Northbound point and MIB

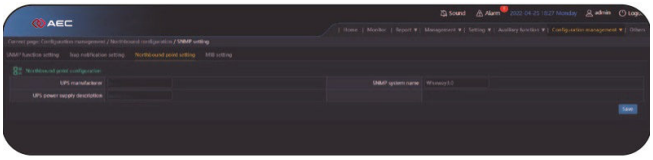


FIGURE 8-5 Northbound point setting

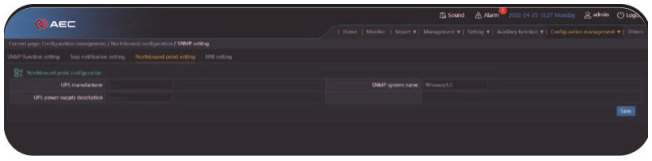


FIGURE 8-6 MIB setting

Northbound point setting sets the manufacturer (AEC), system name and power supply description read by managers. The card uses the standard RFC 1628 UPS MIB. The list under **MIB setting** holds one fixed entry: there is nothing to select or change.

09

CHAPTER 9

WiseInsight

Monitor one or many AEC UPS from a Windows PC — up to 1,000 — with e-mail, pop-up and audible alerts.

9.1 Install and log in

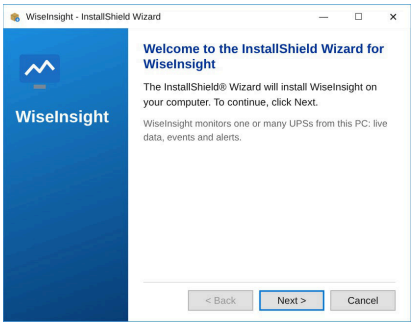


FIGURE 9-1 Welcome › Next

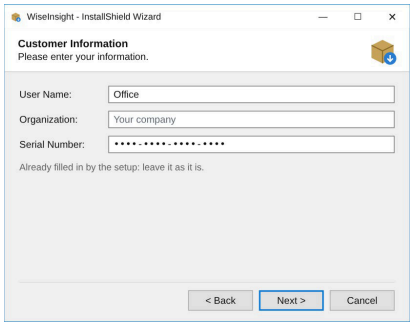


FIGURE 9-2 Keep the serial number › Next › Install

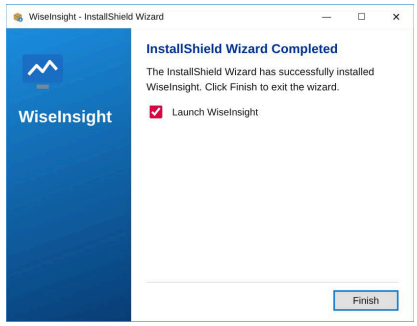


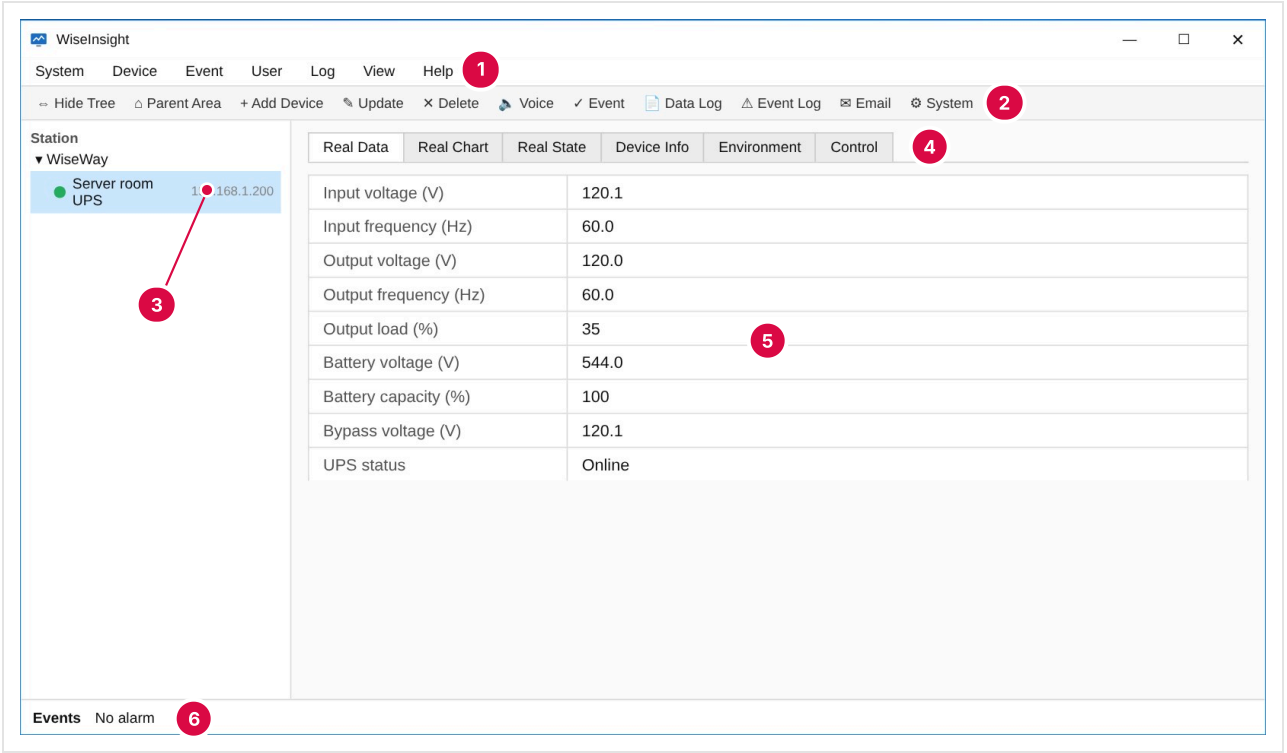
FIGURE 9-3 Finish

1. **Download and run** AEC WiseInsight_Setup.exe from the AEC app (Figure 9-1).
2. **User information:** keep the serial number (already filled in, Figure 9-2). Win10Pcap is needed once per PC (Section 4.1.1).
3. **Finish** with **Launch WiseInsight** ticked (Figure 9-3); later, double-click the WiseInsight icon.
4. **Log in:** account **admin** and the password given by AEC technical service (Figure 9-4). Change it under **User › Change password** and keep it: it cannot be recovered. **Automatic login** logs in with the last account next time.



1 Account — admin
2 Password — ask AEC technical service
3 Automatic login
4 Login

FIGURE 9-4 WiseInsight login



1 Menu bar: System, Device, Event, User, Log, View, Help
2 Toolbar (Table 9-3)
3 Station tree — the UPS added, with their status
4 Dashboard tabs (Table 9-2)
5 Live data of the selected UPS
6 Events bar — the latest alarm

FIGURE 9-5 WiseInsight main window: station tree on the left, UPS data on the right

The station tree on the left lists the UPS added. Double-click one for its live data; right-click to update it or **Launch device** (its WiseWay page).

9.2 System settings

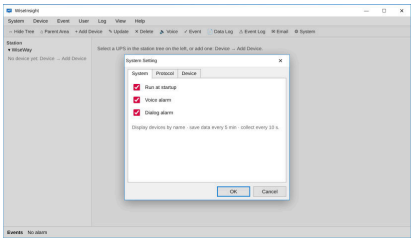
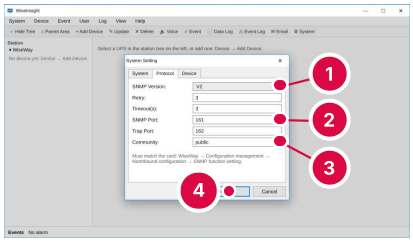


FIGURE 9-6 System tab



1. SNMP Version — V2
2. SNMP Port 161 · Trap Port 162
3. Community — public
4. OK

FIGURE 9-7 Protocol tab

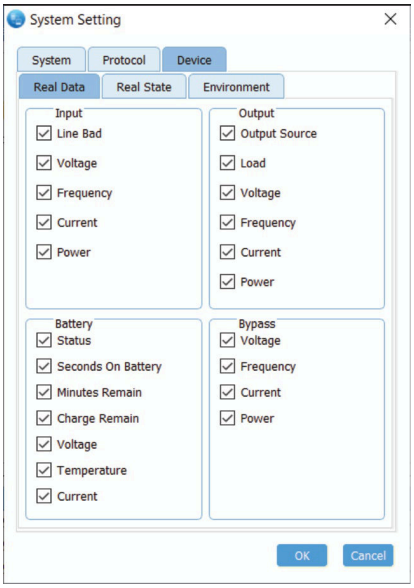


FIGURE 9-8 Device tab

TABLE 9-1 WiseInsight System Setting

Tab / menu	Settings
System	Show devices by name or IP, data saving and collecting intervals, auto-login, run at Windows start-up, time server, audible (voice) alarm, pop-up dialog alarm.
Protocol	Must match the card (Chapter 8): SNMP version V2, retry 3, timeout 3 s, SNMP port 161, trap port 162, community public.
Device	Which values the dashboard tabs show (e.g. untick Environment when no sensor is fitted).

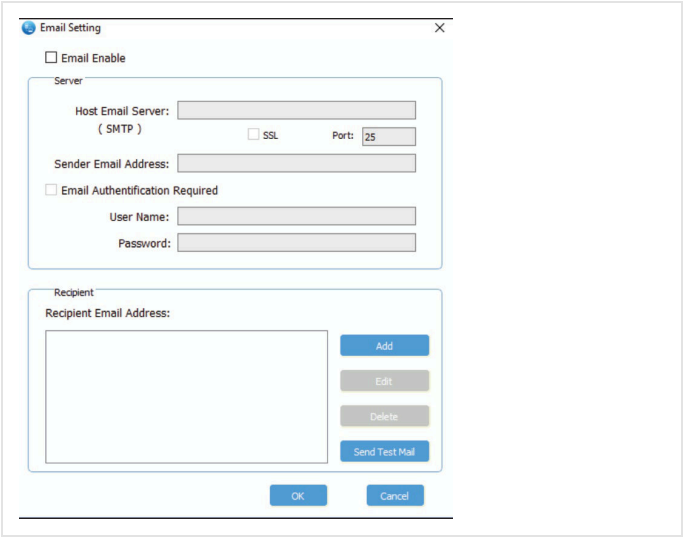


FIGURE 9-9 Email setting

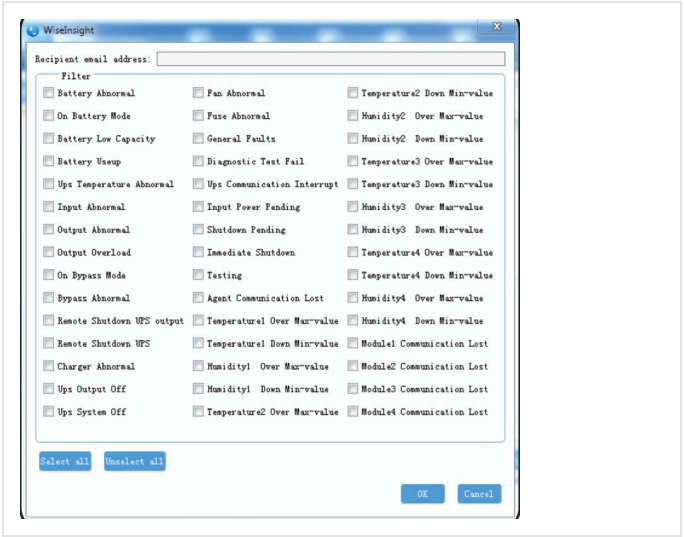


FIGURE 9-10 Events that e-mail each recipient (45)

Email setting: your SMTP server, then add recipients, each with the events that e-mail them (select all, or one by one); send a test. **SMS setting** is not used with AEC UPS. **Export / Import setting** saves the configuration to a .wicf file to load it on another PC.

9.3 Adding UPS

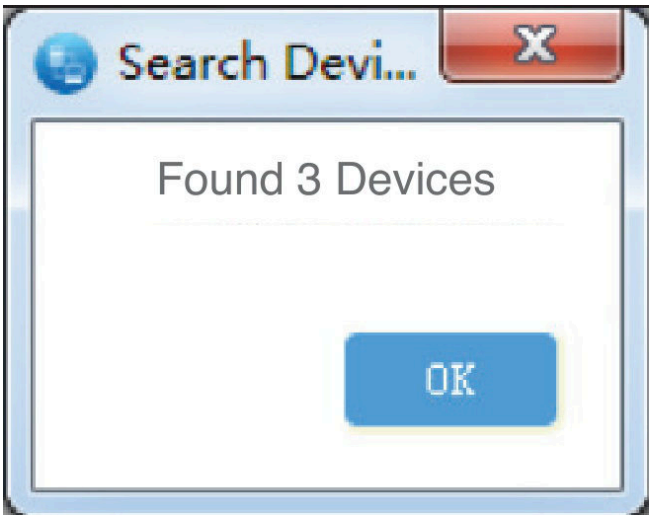


FIGURE 9-11 Device › Search Device

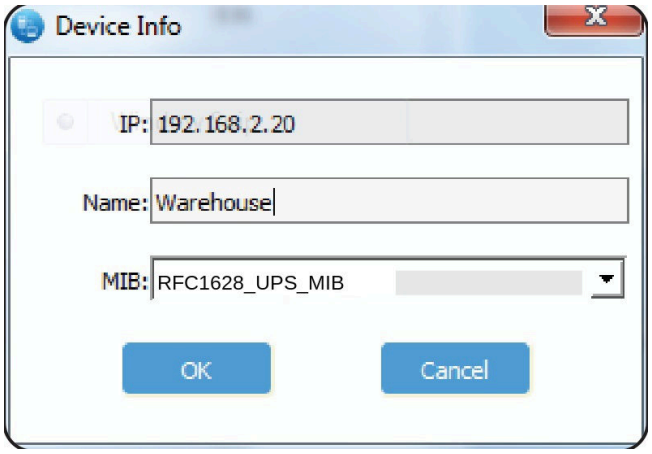
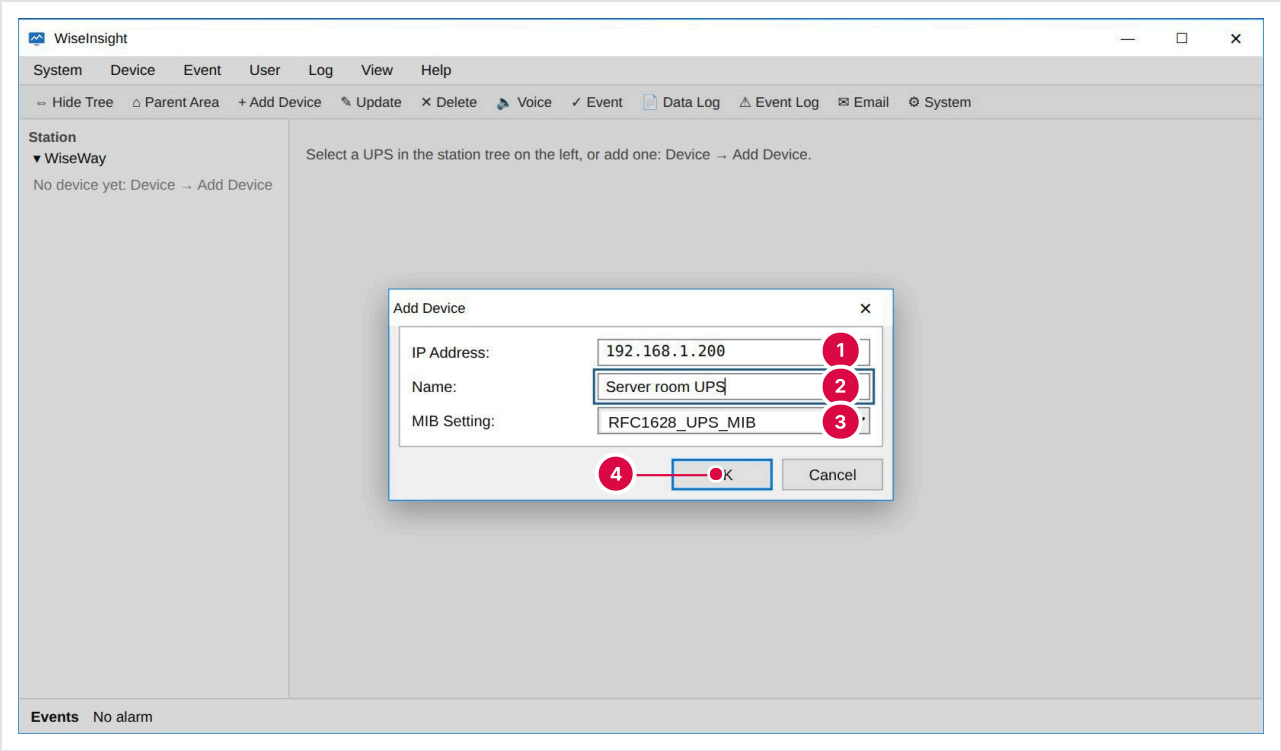


FIGURE 9-12 Device › Update Device

Search Device finds the cards on the local network (it may also list other SNMP devices; only AEC cards are supported). **Add Device** adds one by address, also across routers:

1. **Device › Add Device.**
2. **IP Address** (item 1 in Figure 9-13): the card's IP (Chapter 4).
3. **Name** (item 2): where the UPS is, e.g. Server room UPS.
4. **MIB Setting** (item 3): the entry ending in RFC1628_UPS_MIB.

5 **OK** (item 4).



1 IP Address — the card's IP
2 Name — where the UPS is
3 MIB Setting — RFC1628_UPS_MIB
4 OK

FIGURE 9-13 Device › Add Device

i NOTE **Card settings first.** Set the card's SNMP function setting (Chapter 8) before adding it, with the same version and community as WiseInsight.

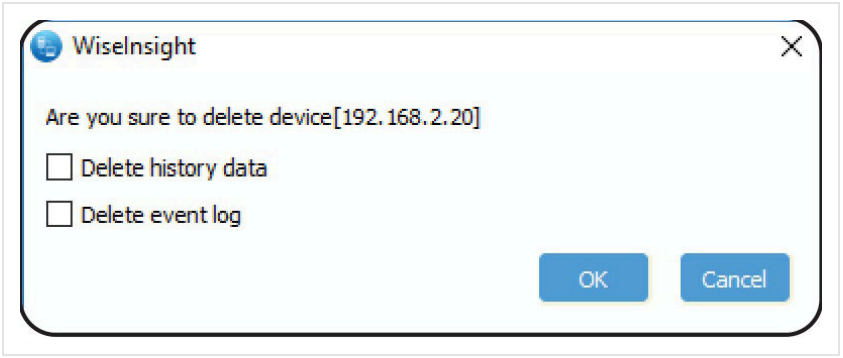


FIGURE 9-14 WiseInsight: delete a device

Update Device renames a UPS or changes its MIB. **Delete Device** removes it — tick to delete its history data and event log too (irreversible). **Export / Import Device** saves the list as a .db file for another PC.

9.4 Dashboard



FIGURE 9-15 Dashboard tabs

TABLE 9-2 Dashboard tabs

Tab	Shows
Real Data	Input, output, battery, load and bypass values (Figure 9-5).
Real Chart	Dials for battery %, load % and temperature; live voltage curve (input, output, bypass).
Real State	Every alarm state: green No when normal, red Yes when active.
Device Info	Name, model, location as set in WiseWay.
Environment	Temperature and humidity when a sensor is fitted.
Control	Commands (self-test, remote shutdown...). The card must give the WiseInsight PC Read/Write permission (Section 8.1): add the PC's IP (or ...) with community public.

On single-phase UPS such as LUMINA the input and bypass voltages in Real Chart are the same value.

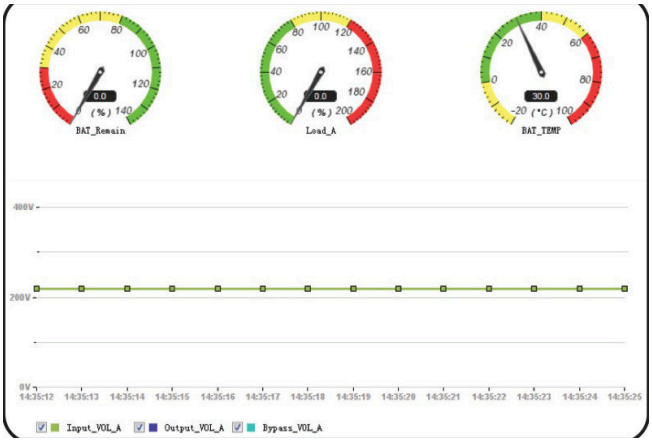


FIGURE 9-16 Real Chart

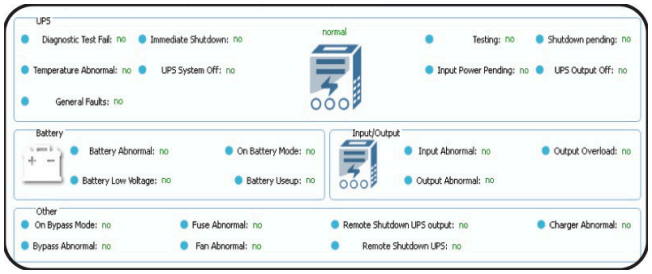


FIGURE 9-17 Real State

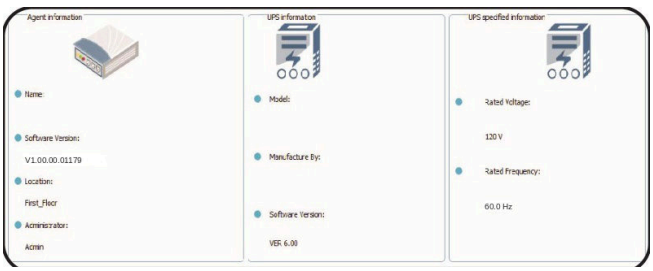


FIGURE 9-18 Device Info



FIGURE 9-19 Environment

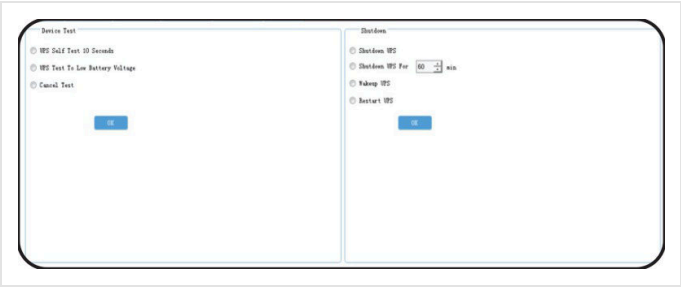


FIGURE 9-20 Control

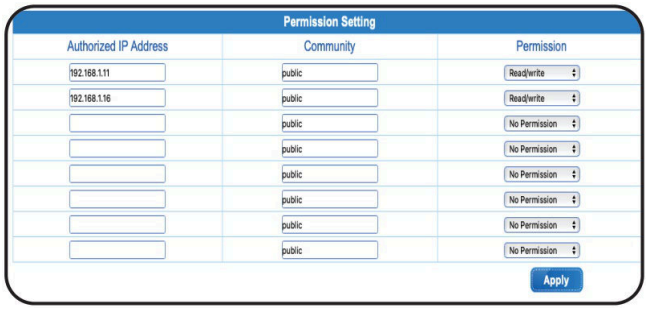


FIGURE 9-21 Card permission for the WiseInsight PC

9.5 Views and map

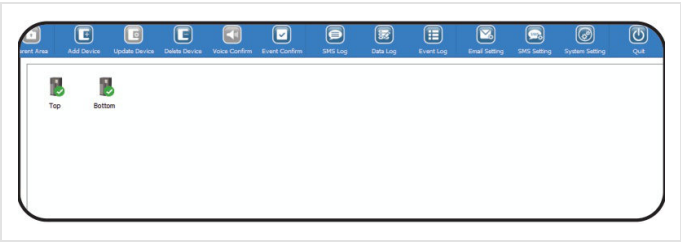


FIGURE 9-22 View › Icon

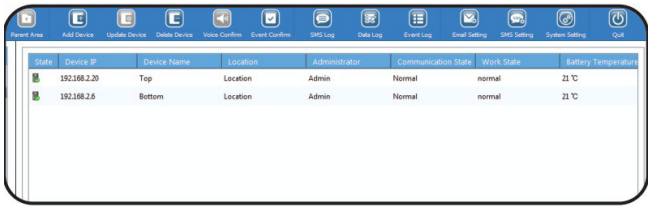


FIGURE 9-23 View › Table

Icon shows each UPS as an icon (double-click for its data); **Table** lists them with their values — select the top folder in the station tree to see all UPS, or a sub-folder to see only its UPS; scroll right for more columns.

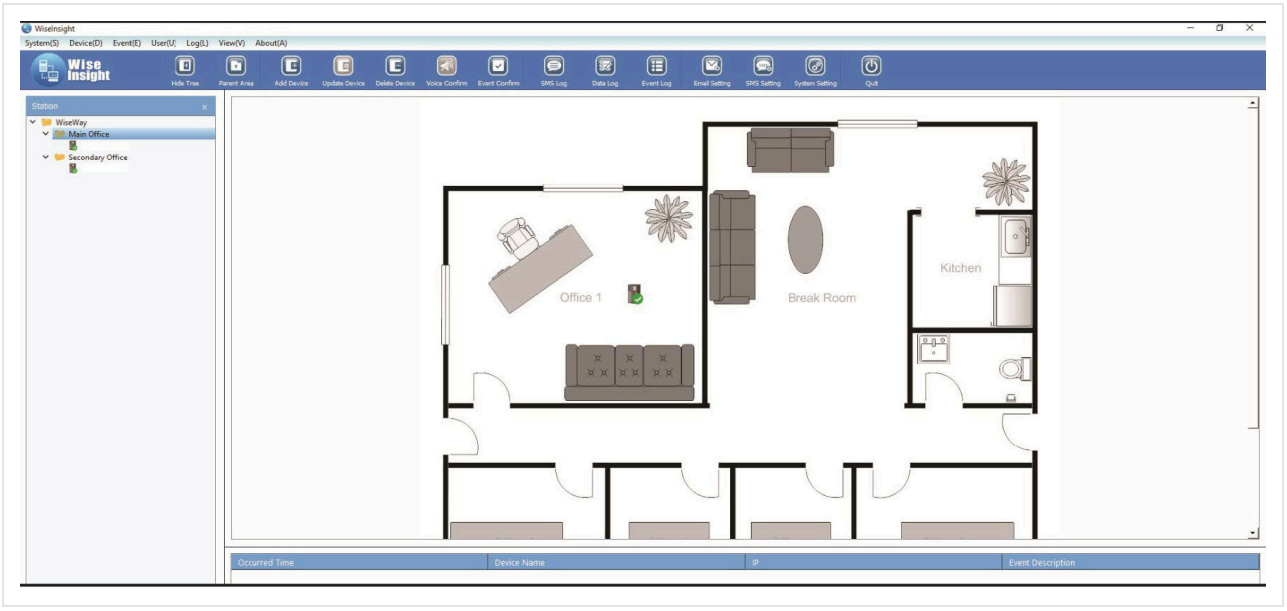


FIGURE 9-24 View › Map: the UPS placed on a floor plan



FIGURE 9-25 Areas in the station tree

Map: right-click the root folder › **Add Area** (a building, a floor…), drag each UPS into its area, right-click the area › **Set map** and choose a .jpg plan, then drag each icon to its place. Icons are green normal, amber alarm, red offline or no communication.

9.6 Events, logs and users

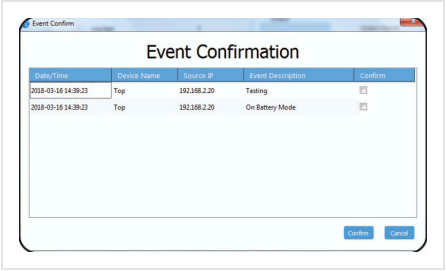


FIGURE 9-26 Event › Event confirm

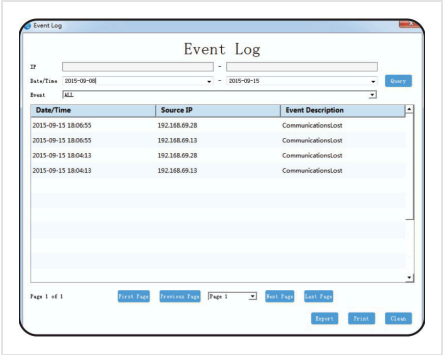


FIGURE 9-27 Log › Event log

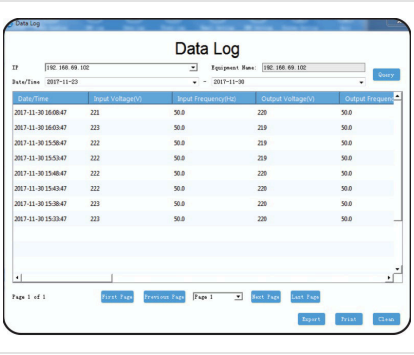


FIGURE 9-28 Log › Data log

Event › Voice confirm silences the audible alarm; **Event confirm** acknowledges alarms. **Log › Data log** and **Event log**: query by UPS and dates, export to CSV, print. **Clean** deletes permanently.



FIGURE 9-29 User › Change password

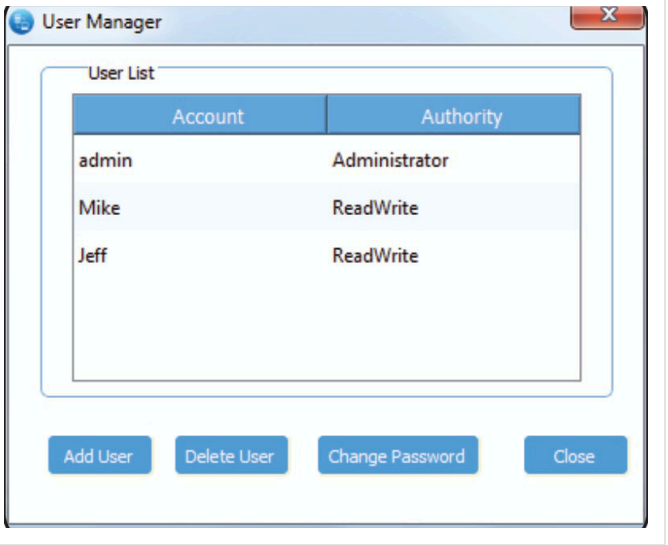


FIGURE 9-30 User › User manager

User manager (admin only): add users with Read only or Read/Write. The admin account cannot be deleted and its password cannot be recovered — if it is lost, WiseInsight must be reinstalled and set up again.

Log › SMS log and **System › SMS setting** are not used with AEC UPS. **System › Quit** closes WiseInsight (monitoring stops).

9.7 Toolbar

The icons under the menu (item 2 in Figure 9-5) are shortcuts:

TABLE 9-3 WiseInsight toolbar

Icon	Does
Hide / Show tree	Hides or shows the station tree on the left
Parent area	Back to the main view
Add / Update / Delete device	As in the Device menu (Section 9.3)
Voice confirm	Silences the audible alarm
Event confirm	Opens the alarm events to acknowledge them
SMS log	Not used with AEC UPS
Data log · Event log	Query and export logs of the selected UPS
Email setting · SMS setting · System setting	Open those settings windows
Quit	Closes the program

CHAPTER 10

10 WiseClose

Shuts a Windows PC or server down safely before the UPS battery runs out.

10.1 Install

On the computer the UPS protects, run AEC WiseClose_Setup.exe from the AEC app. Keep the serial number (already filled in). Finish with **Launch WiseClose** ticked; it opens by double-clicking its icon.

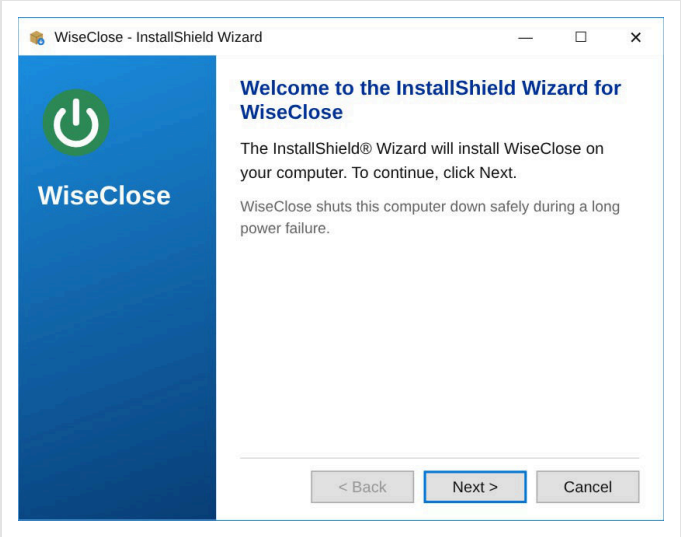


FIGURE 10-1 Install — Welcome › Next

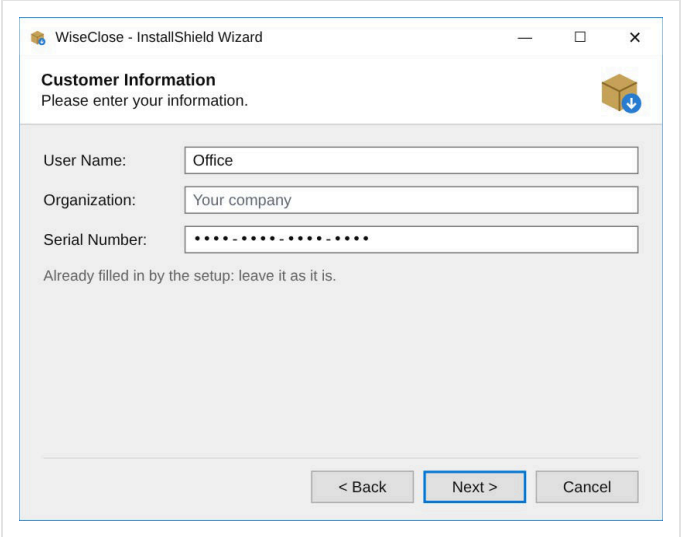
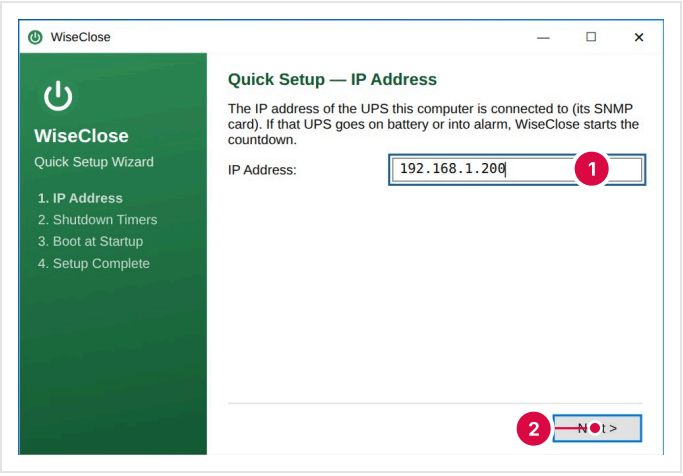


FIGURE 10-2 Keep the serial number

10.2 Quick setup wizard

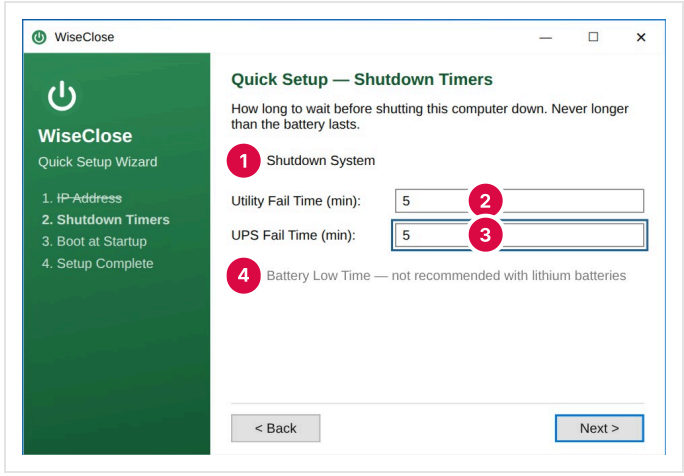
1. **IP address:** the IP of the SNMP card of the UPS that feeds this computer (item 1 in Figure 10-3). **Next**.
2. **Shutdown timers:** tick **Shutdown System** (item 1 in Figure 10-4). Enter **Utility Fail Time** and **UPS Fail Time** in minutes, e.g. 5 (items 2 and 3). **Next**.
3. **Boot at startup:** tick it (item 1 in Figure 10-5), so the computer is protected after every restart; set how long the countdown window shows (item 2). **Next**.
4. **Finish:** the window shows the IP with **Utility Normal** and **UPS Normal** in green (Figure 10-7).



1 IP Address — the SNMP card

2 Next

FIGURE 10-3 1 · IP address of the UPS



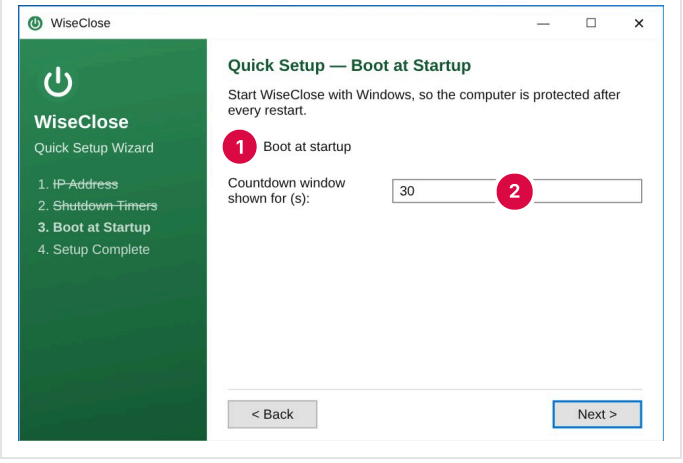
1 Shutdown System

2 Utility Fail Time (min)

3 UPS Fail Time (min)

4 Battery Low Time — not with lithium UPS

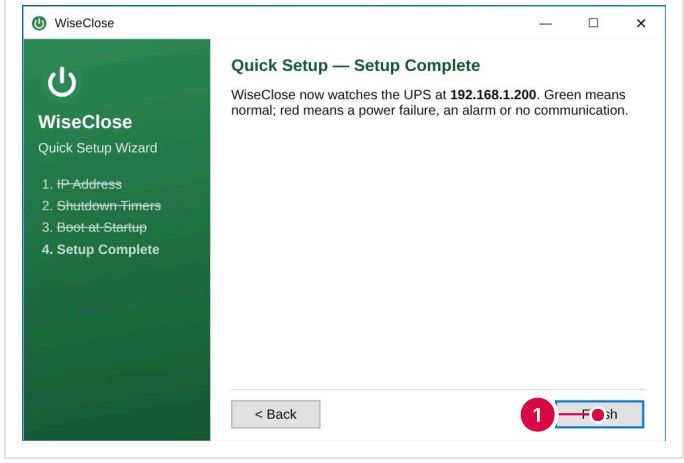
FIGURE 10-4 2 · Shutdown timers



1 Boot at startup

2 Countdown window shown for (s)

FIGURE 10-5 3 · Boot at startup



1 Finish

FIGURE 10-6 4 · Setup complete

⚠ *WARNING · Timers*

Never set a time longer than the battery lasts at your load. Do not use **Battery Low Time** with lithium UPS (LUMINA, ETHERNO, INFINITE): the battery voltage drops too fast at the end for a safe shutdown.

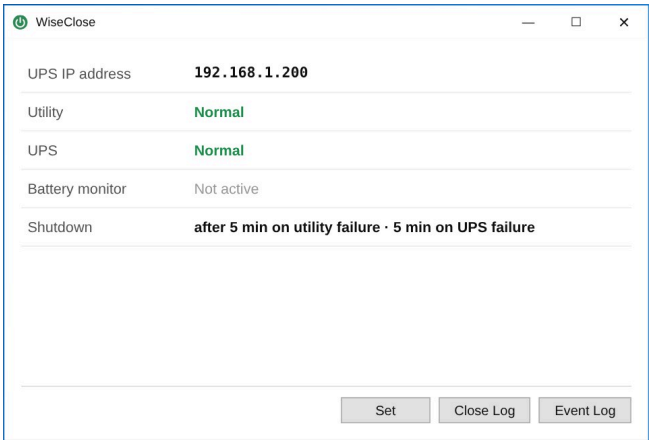
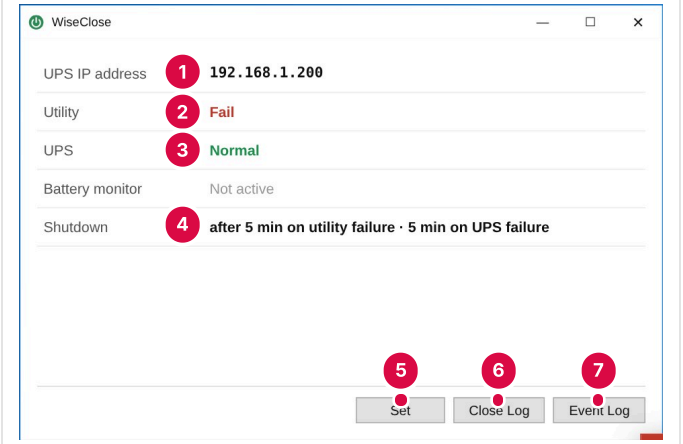


FIGURE 10-7 WiseClose watching the UPS — all Normal



1. UPS IP address
2. Utility — Fail in red
3. UPS — Normal
4. Shutdown timers in use
5. Set
6. Close Log
7. Event Log

FIGURE 10-8 Power cut — Utility Fail — the countdown starts

Green **Normal**: all is well. Red **Fail**: utility failure, UPS alarm or no communication — the shutdown countdown runs. Grey: not monitored.

10.3 Settings

Set (item 5 in Figure 10-8) reopens every setting. **General set:** the timers and, under **Other set**, save open files before shutdown and run a program or script first. **Network set:** change the UPS address after a network change.

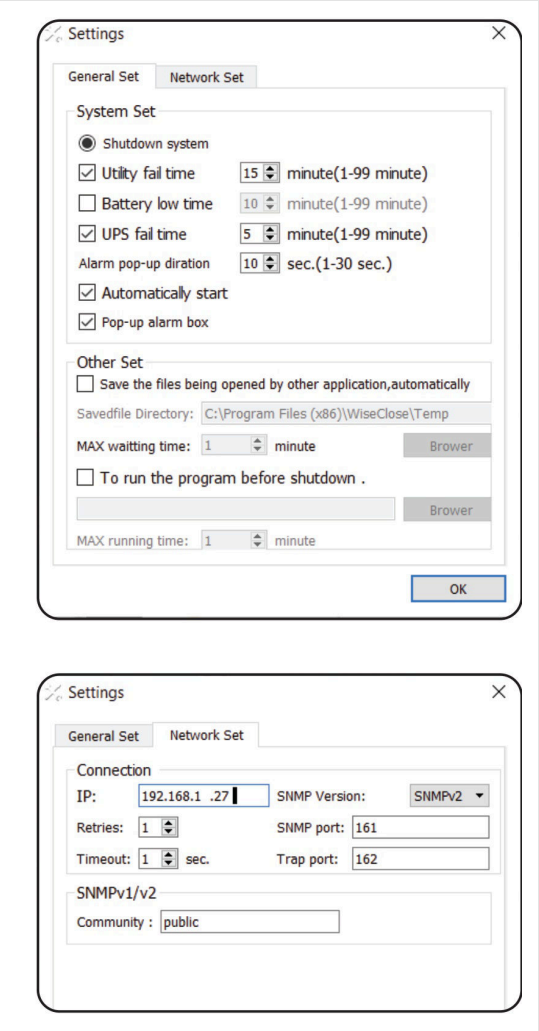


FIGURE 10-9 Settings: General set and Network set

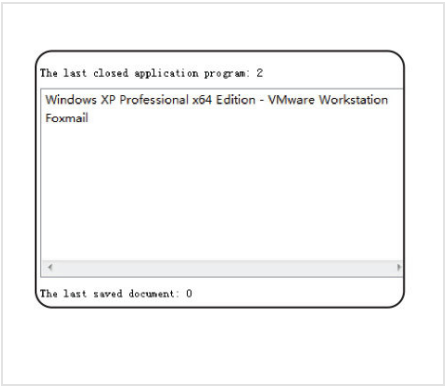


FIGURE 10-10 Close log

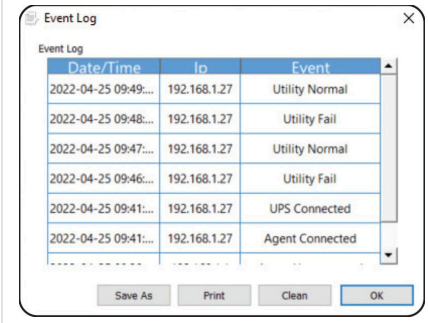


FIGURE 10-11 Event log

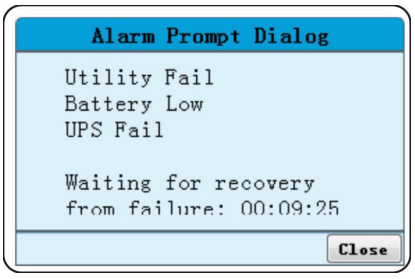


FIGURE 10-12 Alarm prompt dialog with the countdown

Close log shows the last closed system and saved documents; **Event log** the power events (save as CSV, print, clean). When power fails, the **alarm prompt dialog** in the lower-right corner counts down to the shutdown.

10.4 Testing

1. Choose a time outside working hours and warn the users.
2. Switch off the UPS utility input.
3. Check that WiseClose turns **Utility** red and starts the countdown (Figure 10-8).
4. Switch the utility back on before the countdown reaches 00:00: the countdown stops.

CHAPTER 11

11 Network planning and security

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

11.1 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: WiseFind does not search across routers.
- Write every card on the record sheet (Appendix A).

11.2 Network ports

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

TABLE 11-1 Network ports

Service	Port	Direction
Web interface WiseWay (browser to card)	TCP 80 (HTTP); TCP 443 when HTTPS is set in Web setting	Your PCs → card
WiseFind discovery	local network only	PC → card
SNMP get / set (WiseInsight, managers)	UDP 161	Manager → card
SNMP traps	UDP 162	Card → manager
E-mail alarms (SMTP)	TCP 465, 587 or 25	Card → mail server
Time synchronization (NTP)	UDP 123	Card → time server
WiseClose	allow WiseClose in the Windows firewall	Protected PC ↔ card
DNS	UDP 53	Card → DNS server

11.3 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 (WiseWay admin, Section 6.5.3; WiseInsight admin, Section 9.1) and keep the new ones safe.
- Give view-only accounts to people who only need to read the UPS.
- Restrict SNMP to your managers: in **Permission setting**, enter the manager's IP as Authorized IP instead of `*.*.*.*`.
- Replace the community public with your own, or use SNMP V3 with SHA authentication and AES encryption (Section 8.2).
- Do not expose the card directly to the internet. For remote access use your VPN.
- Where possible put 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.

11.4 Recommended alarms

TABLE 11-2 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
Battery voltage out of limits	Battery fault or wrong threshold setting	Facility staff

Set the level of each event so that the important ones are notified (Section 7.3), and send a test e-mail after any change.

11.5 Routine checks

TABLE 11-3 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, update the record sheet (Appendix A) with the card's address and settings.

CHAPTER 12

12 Troubleshooting

What to check when the card does not light, cannot be found, does not read the UPS or does not send alarms.

✓ 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 12-1 Troubleshooting

Symptom	Possible cause	Remedy
Card LED off	Card not seated · UPS off	Re-seat the card and fix its plate (Section 3.2); switch the UPS on.
WiseFind finds nothing	Cable or switch · Win10Pcap missing · firewall · other network	Check the link LED; reinstall WiseFind with Win10Pcap; allow WiseFind in the Windows firewall; connect the PC to the same switch.
Web page does not open	Card still on 192.168.0.100 or in another subnet · browser cache	Set the IP (Section 4.3); clear the browser cache or try another browser; ping the card.
Login refused	Wrong password · password changed and lost	Use the password given by AEC technical service. A changed admin password cannot be recovered on the card: contact AEC service with the card's serial number and MAC.
Home: Communication failure	Baud rate, protocol or (INFINITE) display setting	Chapter 5: check each setting against Table 2-2.
Wrong battery % or autonomy	Device parameters	Check Section 2.3 against the UPS label.
No e-mails	Recipient, server, port or network	Chapter 7; test ports 465, 587, 25; check gateway and DNS.
WiseInsight shows the UPS offline	SNMP version or community differ · no permission	Same version and community on the card and in WiseInsight (Section 8.1, Section 9.2); permission Read/Write.
WiseClose does not count down	Wrong IP · program closed	Check the IP (Section 10.3); set Boot at startup.

Still not working? Contact AEC service with the card's serial number, MAC, IP and the UPS model and serial number (Appendix A).

A

APPENDIX A

Record sheet

Keep a record of each UPS: it makes WiseInsight set-up and service calls much faster.

TABLE A-1 Record sheet

Unit description	UPS model	UPS serial	SNMP card serial	SNMP MAC	IP address	Physical location

Admin password changed on: _____ by: _____ (keep the password itself in a safe place, not on this sheet).

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.
HTTP / HTTPS	The protocol of web pages; HTTPS is the encrypted form.
DNS	Domain Name System: turns names such as smtp.example.com into IP addresses.
MAC address	The fixed hardware address of the card, printed on its label.
MIB	Management Information Base: the list of values a device publishes over SNMP. AEC cards use RFC 1628 (UPS MIB).
Trap	A message the card sends by itself to a manager when an event occurs.
DHCP	Automatic assignment of IP addresses by a network server.
Subnet mask / Gateway	Define which addresses are local and where traffic for other networks goes.
SMTP	The protocol used to send e-mail.
NTP	Network Time Protocol: keeps the card's clock correct.

APPENDIX C

Support

Who to call and what to have ready.

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

The settings and menu paths you use most.

TABLE D-1 Quick reference

Task	How
Factory address	192.168.0.100 · mask 255.255.255.0
Factory login	WiseWay admin · WiseInsight admin; passwords given by AEC technical service — change both at the first login
Find the card and set its IP	WiseFind › Search › select › Network
Open the web page	WiseFind › Launch Web, or the card's IP in a browser
Baud rate	Setting › Serial port setting — 2400 LUMINA · 9600 ETHERNO, AUREON, INFINITE
Protocol and UPS data	Management › Device management › UPS › Edit — the protocol of your UPS (Table 2-2)
INFINITE display	Comm. setting › SNMP protocol type: Modbus (AEC service)
E-mail alarms	Management › User management · Alarm management › Alarm mode
Battery voltage alarms	Alarm management › Threshold setting
SNMP permission	Configuration management › Northbound configuration
Watch many UPS	WiseInsight
Safe shutdown of a PC	WiseClose

E

APPENDIX E

Frequently asked questions

Short answers to the questions AEC service hears most.

TABLE E-1 Frequently asked questions

Question	Answer
Does the card work at its factory address?	No. It must get an address in your network (Section 4.3).
Do I need the internet or a cloud service?	No. Everything runs on your local network; only the alarm e-mails leave it, through the mail server you set.
Is the software licensed?	No. WiseFind, WiseInsight and WiseClose are license-free and can be installed on as many computers as needed.
How many UPS can WiseInsight watch?	Up to 1,000.
Does WiseInsight run as a Windows service?	No, as an application: leave it open and set it to start with Windows.
Can I use Battery Low Time in WiseClose?	Not with lithium UPS (LUMINA, ETHERNO, INFINITE): use the utility-fail and UPS-fail timers.
Which MIB does the card use?	The standard RFC 1628 UPS MIB.
Can I open WiseWay on a Mac?	Yes: WiseWay needs only a web browser.
I lost the admin password.	A changed admin password cannot be recovered on the card. Contact AEC service with the card's serial number and MAC.
Can I reach the card from outside the building?	Use your VPN. Do not open the card to the internet.
Which UPS take the SNMP-L card?	LUMINA, ETHERNO, AUREON and INFINITE 480 V (Table 2-1). The other AEC UPS use the SNMP-M card.

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, its IP address, and the UPS model and serial number — the record sheet in Appendix A has them all.