



Forge MDC 3K-24U

Standard Single Rack 3K-24U

DCMAA0A0AYN1M0DB1B

User Manual



Contents

EN

● About this manual	6
1. Safety precautions	7
2. Product overview	9
2.1 Introduction to the MDC	9
2.2 Monitoring system	11
2.3 Environment requirements	12
3. Installation preparation	12
3.1 Transportation and unpacking	12
3.1.1 Transportation	12
3.2 Unpacking	13
3.3 Requirements about installation site	14
4. Cabinet installation and electrical wiring	14
4.1 Connect external cables	15
5. Turn on/off the MDC	16
5.1 Check before turning on the MDC	16
5.1.1 Check the system settings	16
5.1.2 Check electrical connections	16
5.2 Turn on the MDC	16
5.3 Turn off the MDC	17
6. General operations on the computer	18
6.1 User interface overview	18
6.2 Log in to/Log out of the MDC system	19
6.2.1 Log in to the MDC through a computer (wireless connection)	19
6.2.2 Log in to the MDC through a computer (wired connection)	21
6.3 Change IP address of the system	22
6.3.4 Log out of the MDC	22
6.4 View system information	23
6.5 View UPS details and control UPS	24
6.5.1 View UPS alarms	25
6.5.2 Stop the UPS by EPO button	25
6.5.3 View real-time UPS data	26
6.5.4 View UPS information	26
6.5.5 Perform inspection on the UPS	27
6.5.6 View environment alarms	28
6.5.7 View real-time data of ambient lights	28
6.5.8 View and export current alarms	29
6.6 View and export historical alarms	29
6.6.1 View historical alarm charts	29
6.6.2 View and export historical alarm report	30
6.6.3 View and export historical signal report	31
6.7 Manage accounts	32
6.7.1 Create an account	32
6.7.2 Modify account permissions	33
6.7.3 Modify an account	34
6.7.4 Delete an account	35
6.8 Configure the SNMP interface	36
6.9 Set alarm notifications	38

6.9.1 Set mobile numbers for receiving alarm notifications through SMS	38
6.9.2 Set email addresses for receiving alarm notifications	39
6.9.3 Set an SMS message filter	42
6.9.4 Set a mail filter	45
6.10 Shut down the MDC.....	47
6.11 Restart the MDC.....	47
6.12 Modify password	48
6.13 Set system time.....	48
6.14 Set automatic logout interval.....	49
6.15 Set screen off interval.....	50
6.16 Check MDC version and SN	50
6.17. Local backup/restore (USB stick)	51
6.17.1 Local backup copy (USB stick).....	51
6.17.2 Local restore (USB stick).....	52
7. Functional modules.....	53
7.1 Cabinet.....	54
7.2 PDM - Power Distribution Module.....	55
7.3 UPS - Uninterruptible Power Source / 3K	57
7.3.1 Technical features.....	57
7.3.2 Display functions	63
7.3.3 User settings	63
7.4 PDU - Power Distribution Unit.....	64
7.5 Monitor.....	65
7.6 Sensors	66
8. Maintenance.....	69
8.1 Periodic maintenance of the power distribution system	69
8.1.1 Periodic cleaning.....	69
8.1.2 Fan maintenance.....	69
8.1.3 Battery maintenance.....	70
8.1.4 Check the UPS status.....	71
8.2 Periodic maintenance of monitoring system	71
9. Troubleshooting.....	72
9.1 Alarms and solutions	72
9.2 Typical alarms and faults	74
9.2.1 Replace a temperature and humidity sensor.....	76
9.2.2 Replace a water leakage detector.....	77
9.2.3 Replace a smoke sensor	78
9.2.4 Replace illuminating lights	78
9.2.5 Replace the UPS	79
9.2.6 Replace internal components of the PDM.....	81
9.2.6.1 Replace the DC module.....	81
9.2.6.2 Replace a PDM switch	82
A. Acronyms and abbreviations.....	82

● Despre acest manual.....	83
1. Avertizari de siguranta.....	84
2. Prezentare generala a produsului.....	86
2.1 Introducere In MDC.....	86
2.2 Sistemul de monitorizare.....	89
2.3 Cerinte de mediu.....	89
3. Pregatirea instalarii.....	90
3.1 Transport si despachetare.....	90
3.1.1 Transport.....	90
3.2 Despachetarea.....	91
3.3 Cerinte privind locul de instalare.....	92
4. Instalarea si cablajul electric.....	93
4.1 Conectarea cablurilor externe.....	93
5. Pornire/oprire MDC.....	95
5.1 Verificare Inainte de pornirea MDC.....	95
5.1.1 Verificarea setarilor sistemului.....	95
5.1.2 Verificarea conexiunilor electrice.....	95
5.2 Pornirea MDC.....	95
5.3 Oprirea MDC.....	96
6. Operatiuni generale pe computer.....	97
6.1 Prezentare generala a interfetei cu utilizatorul.....	97
6.2 Conectarea la/iesirea din sistemul MDC.....	97
6.2.1 Conectati-va la MDC prin intermediul unui computer (conexiune fara fir).....	98
6.2.2 Conectati-va la MDC prin intermediul unui computer (conexiune prin cablu).....	99
6.2.3 Deconectarea din MDC.....	100
6.3 Modificarea adresei IP a sistemului.....	101
6.4 Vizualizati informatiile despre sistem.....	102
6.5 Vizualizati detaliile UPS si controlati UPS.....	103
6.5.1 Vizualizarea alarmelor UPS.....	103
6.5.2 Opriti UPS-ul cu ajutorul butonului EPO.....	104
6.5.3 Vizualizarea datelor UPS In timp real.....	104
6.5.4 Vizualizati informatiile UPS.....	105
6.5.5 Efectuati inspectia UPS-ului.....	106
6.5.6 Vizualizarea alarmelor de mediu.....	106
6.5.7 Vizualizati datele In timp real ale luminilor ambientale.....	107
6.5.8 Vizualizarea si exportul alarmelor.....	107
6.6 Vizualizarea si exportul alarmelor istorice.....	108
6.6.1 Vizualizarea graficelor de alarme istorice.....	108
6.6.2 Vizualizati si exportati raportul de semnal istoric.....	108
6.6.3 Vizualizarea si exportul raportului istoric al semnalelor.....	109
6.7 Gestionarea conturilor.....	110
6.7.1 Creati un cont.....	110
6.7.2 Modificarea permisiunilor contului.....	111
6.7.3 Modificarea unui cont.....	112
6.7.4 Stergeti un cont.....	113
6.8 Configurati interfata SNMP.....	114
6.9 Setarea notificarilor de alarma.....	116
6.9.1 Setati numerele de telefon mobil pentru primirea notificarilor de alarma prin SMS.....	116
6.9.2 Seteaza adresele de email pentru a primi notificari de alarma.....	117

6.9.3 Stabileste un filtru pentru mesaje SMS	120
6.9.4 Stabileste un filtru pentru mail	123
6.10 Oprirea MDC	124
6.11 Repornirea MDC	125
6.12 Modificarea parolei	125
6.13 Setarea orei sistemului	126
6.14 Setarea intervalului de deconectare automata	127
6.15 Setarea intervalului de dezactivare a ecranului	128
6.16 Verificarea versiunii MDC si a SN	129
6.17 Copie de rezerva si restaurare locala (USB stick)	129
6.17.1 Copie de rezerva locala (USB stick)	129
6.17.2 Restaurare locala (USB disk)	130
7. Module functionale	132
7.1 Cabinet	133
7.2 PDM - Power Distribution Module (Modul de distributie a energiei)	135
7.3 UPS - Uninterruptible Power Source / 3K	136
7.3.1 Caracteristici tehnice	137
7.3.2 Functii de afisare	143
7.3.3 Setari utilizator	144
7.4 PDU - Power Distribution Unit	145
7.5 Monitor	145
7.6 Senzori	147
8. Intretinere	149
8.1 Intretinerea periodica a sistemului de distributie a energiei electrice	149
8.1.1 Curatarea periodica	149
8.1.2 Intretinerea ventilatorului	149
8.1.3 Intretinerea bateriei	149
8.1.4 Verificati starea UPS-ului	151
8.2 Intretinerea periodica a sistemului de monitorizare	151
9. Depanarea	152
9.1 Alarmeri si solutii	152
9.2 Alarmeri si defectiuni tipice	154
9.2.1 Inlocuirea unui senzor de temperatura si umiditate	156
9.2.2 Inlocuirea unui detector de scurgeri de apa	157
9.2.3 Inlocuirea unui senzor de fum	158
9.2.4 Inlocuirea luminilor	158
9.2.5 Inlocuiti UPS-ul	159
9.2.6 Inlocuiti componentele interne ale PDM	161
9.2.6.1 Inlocuirea modului DC	161
9.2.7 Inlocuirea unui comutator PDM	164
Acronime si abrevieri	164

Thank you for purchasing our products!

Please read this manual before using the product.

nJoy is a brand of power and backup protection products that create solutions for multiple levels of environment complexity, residential to industrial.



About this manual

Thank you for choosing our micro data center (MDC).

This user manual introduces how to install the MDC cabinets, components, and cooling units and how to control the MDC using the web UI. Commissioning and troubleshooting information is also provided.

NOTE!

The web UI may vary with versions. The web UI actually displayed shall prevail.

Conventions

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

Symbol	Definition
 WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
NOTE!	Information notes call attention to important features or instructions. Ignoring this type of note may result in ineffective configuration, loss of data or damage to device.



1 Safety precautions

General requirements

- Read this manual carefully before operating the product.
- The “caution” and “warning” sections in this manual do not represent all the safety precautions. These sections only highlight some points for safety precautions.
- This product is recommended for commercial or other professional use.
- This product is to be used for its design purposes only and we will not accept any responsibility of misuse.
- The areas inside the product cabinet are restricted areas. We recommends that access to restricted areas be given to authorized employees only.
- The product password must be kept by the designated person-in-charge.
- For the safety precautions of the uninterruptible power systems (UPS) and air-conditioners, refer to their user manuals and maintenance manuals.

Electrical safety

- For electrical connections, insulating tools must be used.
- After the product emits a warning through the monitoring floor, locate and eliminate the cause promptly to avoid further problems or failures.

Risk of electric shock

An electric shock can cause personal injury or even death. Therefore, pay attention to the following points:

- Before working on components inside the product, disconnect the control box and the remote power supply.
- Before installation, read all the operating instructions, verify that all the components are received at the installation site and check the nameplate to ensure that the voltage matches the mains supply.
- Comply with the on-site or local laws and regulations.

Safety precautions

- When maintaining or replacing components, pay attention to high-temperature components (such as the compressor, refrigerant pipe, and electric heater) to prevent scalds and to prevent the refrigerant system from being cracked or exploded due to misoperations.
- Refrigerant leakage may cause frostbite. Take protective measures (for example, wear antifreeze gloves) when handling refrigerant.

Installation environment requirements

Pay attention to the following when working at least 2 meters above the ground:

- Comply with local laws and regulations.
- The operator must be trained and qualified.
- Before working at heights, check the climbing tools and safety gears such as safety helmets, safety belts, ladders, springboards, scaffolding, and lifting equipment. If they do not meet the requirements, take corrective measures or disallow working at heights.
- Wear personal protective equipment such as the safety helmet and safety belt or waist rope and fasten it to a solid structure. Do not mount it on an insecure moveable object or metal object with sharp edges. Make sure that the hooks will not slide off.
- Set a restricted area and eye-catching signs for working at heights to warn away irrelevant personnel.
- Carry the operation machinery and tools properly to prevent them from falling off and causing injuries.
- Personnel involving working at heights are not allowed to throw objects from the height to the ground, or vice versa. Objects should be transported by tough slings, hanging baskets, highline trolleys, or cranes.
- Ensure that guard rails and warning signs are set at the edges and openings of the area involving working at heights to prevent falls.
- Do not pile up scaffolding, springboards, or other sundries on the ground under the area involving working at heights. Do not allow people to stay or pass under the area involving working at heights.
- Inspect the scaffolding, springboards, and workbenches used for working at heights in advance to ensure that their structures are solid and not overloaded.

- Any violations must be promptly pointed out by the site manager or safety supervisor and the involved personnel should be prompted for correction. Personnel who fail to stop violations will be forbidden from working.

Potential risks

- Operate the product only after disconnecting it from all power sources.
- Before opening internal components for maintenance, disconnect the mains switch and all power supplies to the UPS.

2 Product overview

2.1 Introduction to the MDC

An MDC (Micro Data Center) is a data processing unit that includes all the necessary resources (both IT and infrastructure) to satisfy IT needs. Thus, if we consider the IT needs of a small/medium sized enterprise, this would imply the existence of servers (domain, file, internet servers for the enterprise website), possibly data storage and networking equipment. They should be placed in a temperature-controlled room, protected against power outages by a UPS (Uninterruptible Power Source) system, and possibly protected against unforeseen situations that may affect the servers' operation (fire, flood or infiltration of liquids). An MDC includes all these functionalities, moreover, it allows real time monitoring of the operating conditions of the components and notification by various means when events occur that could adversely affect the computer components.

Constructively, an MDC takes the form of an ordinary rack with frames for mounting various computer units (servers, storage units, etc.). In addition, it may also comprise:

- UPS to ensure operation during power outages.
- external battery module for a long backup time.
- sensors (temperature, humidity, liquid leakage, smoke).
- management and monitoring unit with possibility of network connection (wired or wireless).
- power distribution unit with automatic fuses.
- interior lighting.

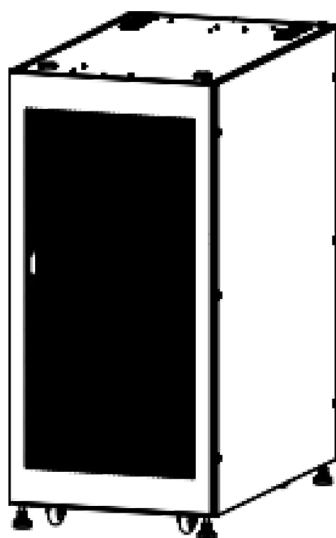
Consequently, the advantages of using an MDC are:

- Low latency: having all the computer modules (servers, storage modules, network connection, etc.) in one place will significantly reduce the response and data access time.
- Increased reliability: due to the presence of the infrastructure sub-assemblies (air conditioning, UPS, sensors, etc.) in the same enclosure as the IT sub-assemblies, their operating conditions will be greatly improved and malfunctions will be largely prevented, increasing system reliability.
- Reduced installation and commissioning time as the MDC can be delivered fully or partially assembled.
- Scalability: as IT needs grow, the use of MDCs allows new units to be added to existing ones and integrate naturally into the IT system.
- Reduced costs: the use of MDCs, by their standardized and modular nature, excludes the need to designate and equip a specialized location for the installation of IT systems, while retaining all its advantages (air conditioning, monitoring, reliability, etc.)

As a converged data center infrastructure solution, our new generation of Micro Data Center has the following features:

- Integrating subsystems such as UPS, power distribution, cooling, environmental monitoring, and lighting.
- Available as a single cabinet or as multiple cabinets to accommodate different applications.
- Pre-designed systems with factory validation
- Quick cabinet deployment and flexible configurations:

The MDC is designed for use in environment requiring micro data centers, computers, or server rooms for small and medium businesses and branch offices. It comes with a choice of single cabinet and row or multiple cabinet system. All devices that meet EIA-310-D standards can be installed in the cabinet.

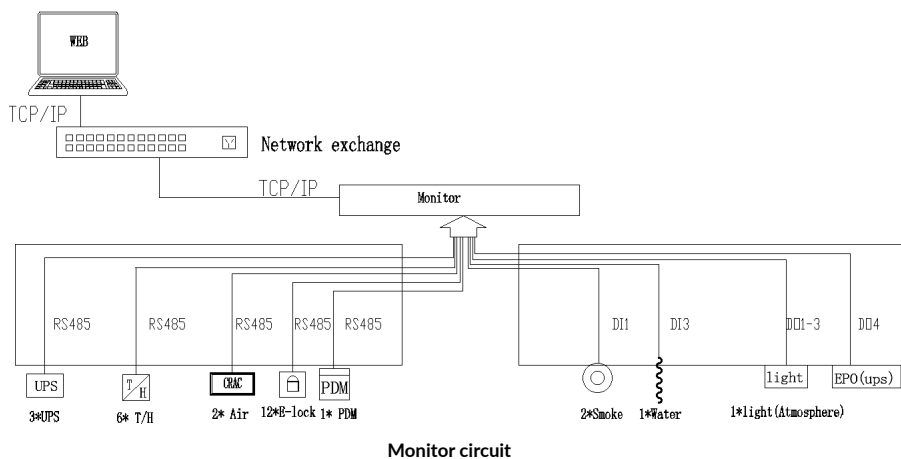


Forge MDC 3K 24U

NOTE!

Two spare terminals, one for mains backup circuit and one for UPS backup circuit, are available to meet additional customer requirements.

2.2 Monitoring system



2.3 Environment requirements

- The equipment will be installed indoors, the surface where it is installed flat and horizontal, away from direct sunlight, with temperatures of 0 - 40 degrees, humidity less than 90% (no condensation) and with sufficient operating space. The site infrastructure must support a weight of 800Kg.
- The connection to the power supply network and the electrical cable used must be able to withstand a current of at least 40A and must be correctly made (L, N, PE connections at the power supply terminal block of the PDM must correspond to the phase, null and grounding of the network).
- it is not recommended to use this equipment in a residential environment.
- the installation of the equipment should be carried out only by specialized/ authorized personnel in compliance with the rules of work protection and the use of electrical protective equipment (insulating gloves, etc.)
- do not carry out installation or maintenance operations with the equipment connected to the mains.

The recommended operating and storage environment are as shown below.

Storage temperature	-25°C to +55°C (battery excluded)
Storage environment	Indoor/clean (no dust, etc.)
Operating temperature	0°C to 40°C
Ambient humidity	5%RH to 95% RH (no condensation)
Altitude	≤ 3000 m (consult us for usage over 1000 m)

3 Installation preparation

3.1 Transportation and unpacking

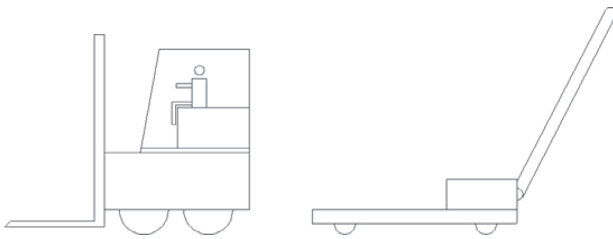
The figure below shows the package of MDC.

CAUTION

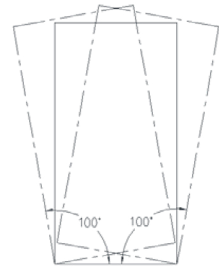
Ask a qualified technician to install infrastructure of the data center room.

3.1.1 Transportation

Because cabinets are heavy, electric forklift or manual forklift is recommended for handling and moving them to the installation site. When transporting, ensure that the inclination angle of the cargo should not exceed 10°, as shown in the following figures.



Transporting tools



Tilt angle range

NOTE!

- All devices must be kept upright all the time.
- Since the device is heavy, the center of gravity of the device must be balanced during transportation.

3.2 Unpacking

For the convenience of unpacking and transporting the MDC, you can move the unit to the nearest flat ground before unpacking.

The unpacking procedure is as follows:

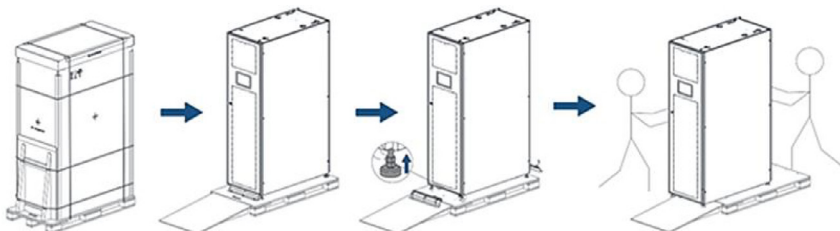
Step 1 Transport the packaged device to an open, flat, and firm ground. Remove the packaging and cushion materials.

Step 2 Place the ramp pallet at the front of the cabinet as shown in figure below.

Step 3 Open the front and rear doors, remove the angle bracket, and screw the feet to ensure smooth movement of casters.

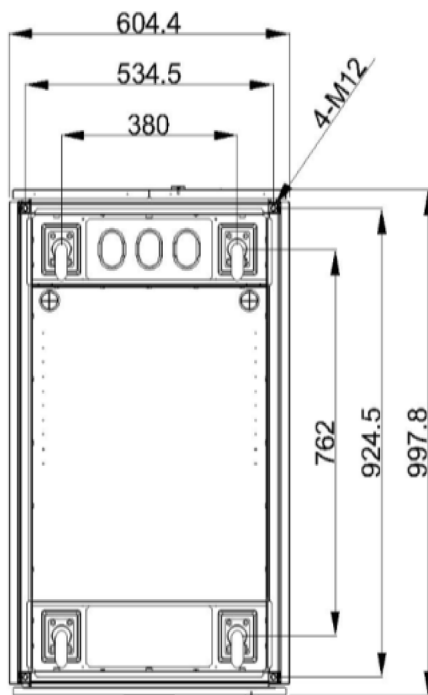
Step 4 Close the front and rear doors. Slowly push the cabinet down along the pallet. It is recommended that at least two operators perform this step to ensure safety.

Installation preparation



3.3 Requirements about installation site

The MDC can be installed on cement floor or raised floors. Ensure sufficient space or height between the cabinet bottom and the ceiling. See the bottom dimensions of the MDC cabinet in the following figures.



(unit: mm)

Bottom of Forge MDC 3K 24U is 600mm

4 Cabinet installation and electrical wiring

Raise the MDC support legs to allow the MDC to be wheeled and, using the ramp provided in the package, lower the MDC from the transportation platform.

Return the MDC to its final position and lower the 4 support legs until they make firm contact with the floor.

NOTE!

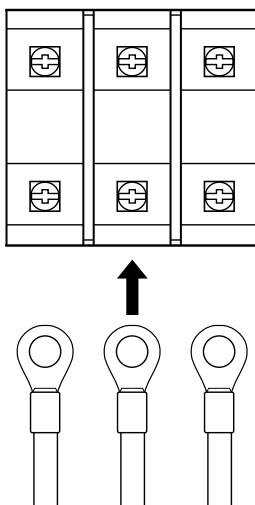
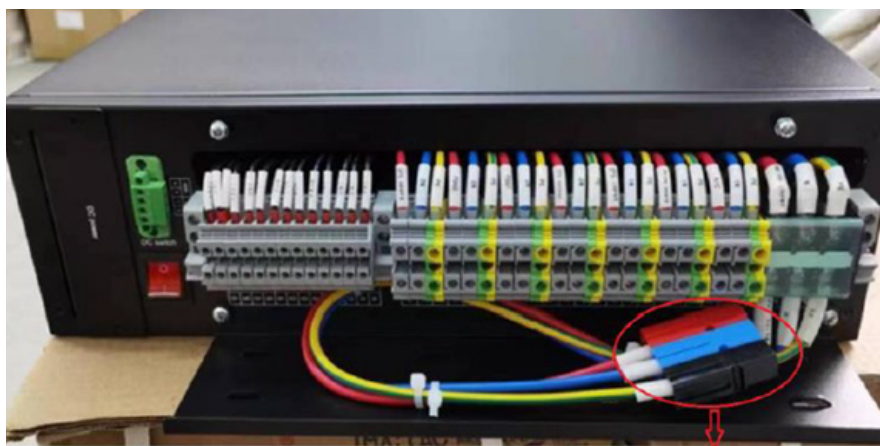
All cables are provided except for an external input cable.

4.1 Connect external cables

For both single cabinet and row (multiple) cabinets, external input cables (single-phase three-wire are required to connect the utility power with internal pre-assembled PDM.

To connect with PDM, the input cables must be configured with OT terminals as shown in the figure below. OT terminals are available in the accessory kit provided, or you can use your own.

Mains input		
L	N	PE



5 Turn on/off the MDC

5.1 Check before turning on the MDC

Before turning on the MDC, check and confirm a few aspects such as the system settings, the power distribution cable connection, and the cooling unit installation.

5.1.1 Check the system settings

- Check that cabinets are installed (including cable tray and side panel) and fixed to the correct location in sequence. You can open the cabinet door and find the cabinet number in lower right corner of the cabinet bottom. Ensure that the leveling feet of the cabinet are adjusted and leveled.
- Check that the cabinets are joined together at equal height, the screws between the cabinets are tightened, and the cabinets are sealed without gaps.
- Check that the protective coil on the cabinet is not loose or dropped.
- Check that the blank plate has been installed in the spare part of the cabinet where no equipment is installed.

5.1.2 Check electrical connections

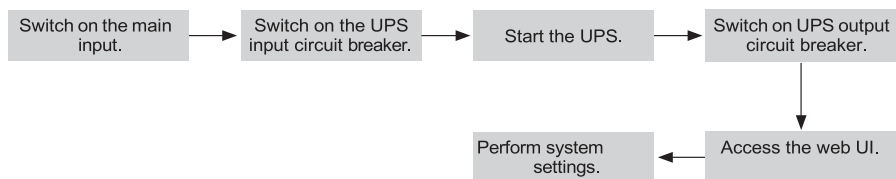
- Check that all cabinets (including battery cabinets) are grounded and the ground cable between the cabinet door and body is connected.
- Check that the number of battery cells is correct, the connections between the batteries are correct and the positive and negative connections of the battery are correct.
- Check that the wiring of the PDM is secured and not loose.
- Confirm that the power supply voltage and frequency meet the conditions and verify that the phase order of the three-phase source is correct by using a multimeter.
- Check that the PDU in each cabinet is connected to the PDM correctly.

5.2 Turn on the MDC

CAUTION

Installation or commissioning of the MDC must be performed by our customer service engineers or authorized specialists.

To turn on the MDC:



Step 1 Switch on the system main input.

Step 2 Switch on the UPS input circuit breaker on the PDM.

Step 3 Switch on the circuit breaker for the UPS's battery.

Step 4 Start the UPS by following its user guide.

Step 5 Switch on UPS's output circuit breakers on the PDM.

Step 6 Switch on PDU input circuit breakers on the PDM to turn on the PDUs.

Step 7 Check that the user screen is on.

If it is off, turn on the DC module switch on the back of the PDM.

Step 8 Access the user interface to set the system language, time and address on the user settings page and set the installation time, serial number, system type on the maintenance page.

The default username/password for the administrator is **admin/admin**. For details, see [6 General operations on the computer](#)

Step 9 Tap **UPS** in the bottom menu bar to check whether the UPS is working properly.

Step 10 Tap **Environment** in the bottom menu bar to check whether any faults are reported.

Step 11 Tap **Alarm** in the left menu bar to check whether there is any alarm reported. If yes, locate the cause and eliminate the alarm.

5.3 Turn off the MDC

CAUTION

- Before shutting down, ensure that the user load has been turned off with authorization.
- Do not turn off the MDC by turning off the power directly to avoid damaging the cooling unit.

To turn off the MDC:

Step 1 Switch off the PDU circuit breaker on the PDM.

Step 2 Turn off the UPS switch and disconnect the UPS's input and output switches on the PDM. Turn off the battery switch.

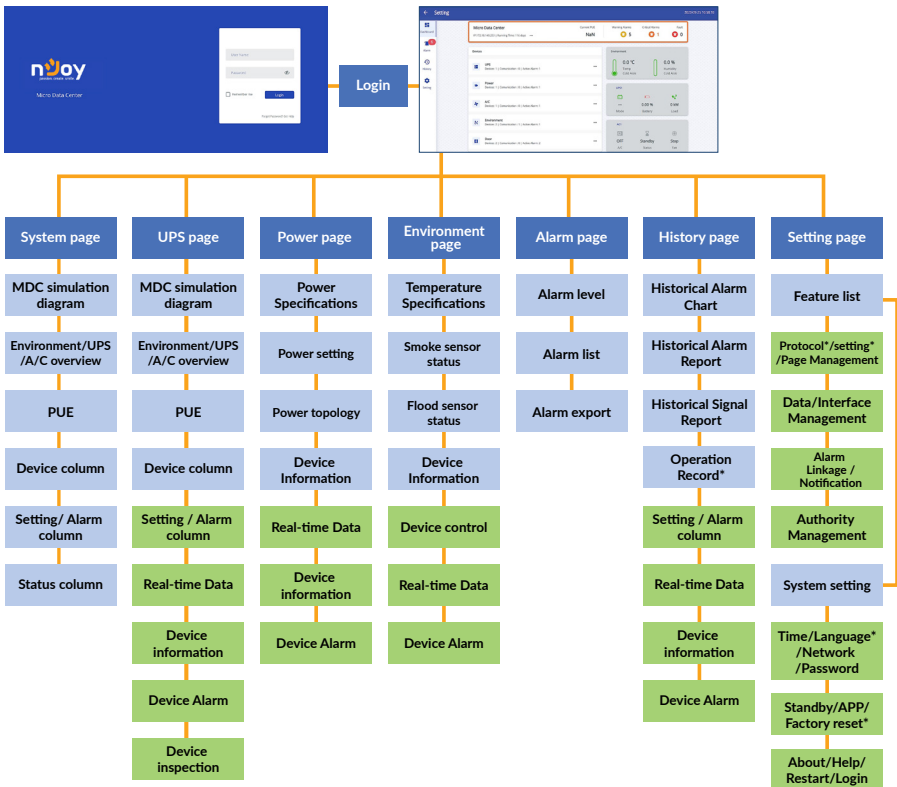
Step 3 Disconnect the main switch controlling the system input.

6 General operations on the computer

This chapter introduces the monitoring method and user interface of the MDC, including local and remote monitoring and display.

6.1 User interface overview

The following figure shows the overview of the user interface.



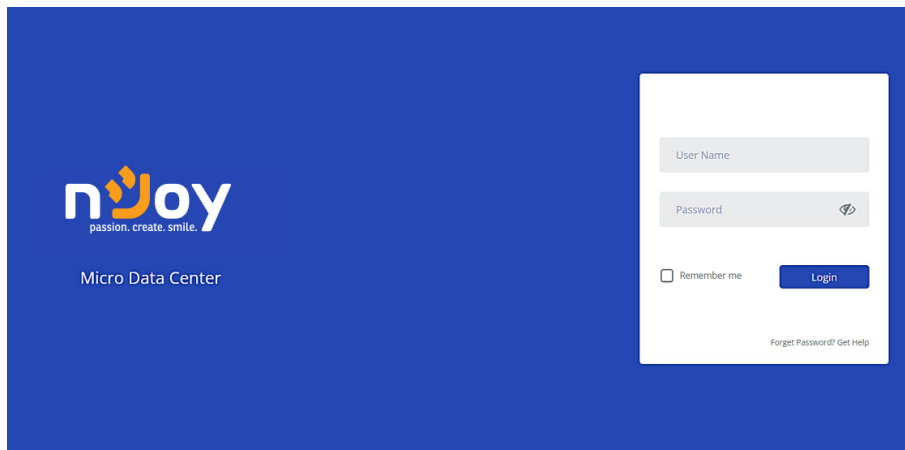
* indicates that the menu can be accessed only by authorized accounts.

6.2 Log in to/Log out of the MDC system

You can log in to the MDC through a computer connected to the same LAN with the MDC.

NOTE!

One account can be used to log in to the MDC on only one client.



6.2.1 Log in to the MDC through a computer (wireless connection)

Step 1 Obtain the IP address that will be used for the MDC in the LAN.

1. Connect your computer to the network cable which will be used to connect to the MDC.
2. Press Win+R, enter cmd, and press Enter.
3. Enter ipconfig and press Enter. Record the values of IPv4 Address, Subnet Mask, and Default gateway. The following figure shows an example.

NOTE!

*The default username/password for the administrator is **admin/admin**, and the default username/password for the common user is **user/user**. You will be required to change the default password when you log in to the MDC system for the first time.*

If you forget your password, contact our service personnel.

```

Microsoft Windows [Version 10.0.19044.2604]
(c) Microsoft Corporation. All rights reserved.

C:\Users\e0504632>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet:

    Link-local IPv6 Address . . . . . : fe80::15c8:96d8:2a4:ab8e%16
    IPv4 Address. . . . . : 172.18.140.50
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.18.140.1

Ethernet adapter Ethernet 3:

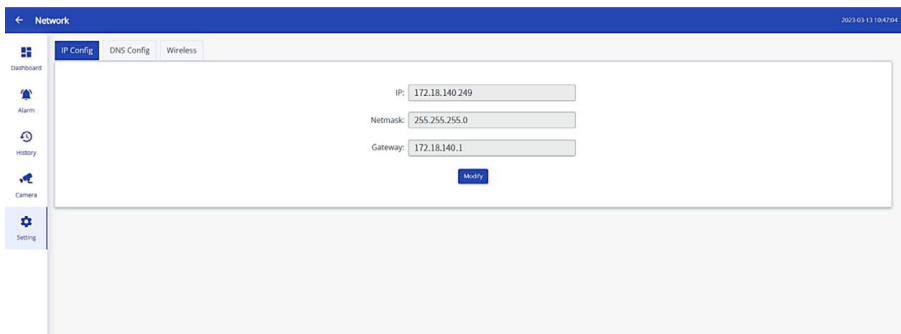
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

C:\Users\e0504632>

```

Step 2 Set the IP address for the MDC.

1. Refer to [6.2.1 to log in to the HMI of the MDC](#), and go to **Setting > Network > IP Config** on the HMI.
2. Set IP, Mask, and Gateway to the values recorded in Step 1, and tap Modify.



Step 3 Connect the MDC and your computer to the same LAN.

1. Disconnect the network cable from your computer, and connect the network cable to the **network** port on the top of the cabinet.
2. Connect your computer to the same LAN with the MDC.

Step 4 Start a browser (Google Chrome recommended) on your computer, enter the IP address of the MDC that you set in Step 2 in the address bar, and press **Enter**.

Step 5 Enter your username and password and click **Login**.

NOTE!

– The default username/password for the administrator is admin/admin, and the default username/password for the common user is user/user. You will be required to change the default password when you log in to the MDC system for the first time.

– If you forget your password, contact our service personnel.

6.2.2 Log in to the MDC through a computer (wired connection)

Step 1 Use a network cable to connect your computer to the **network** port on the top of the cabinet.

Step 2 Change the IP address of your computer to an unoccupied one in the same network segment with the MDC.

1. Go to **Go to Start > Settings > Network & Internet**.
2. Click **Change adapter settings**.
3. Right-click the network adapter and select the **Properties** option.
4. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.
5. Select **Use the following IP address**, and specify **IP address**, **Subnet mask**, and **Default gateway**.

By default, the IP address of the MDC is 192.168.100.100, subnet mask is 255.255.255.0, and gateway is 192.168.100.1. In this case, you can set the IP address of your computer to **192.168.100.X** (X indicates any integer ranging from 2 to 254 except 100).

If you have changed the IP address of the MDC before, [refer to section 6.2.1 to log in the HMI of the MDC](#), and go to **Setting > Network > IP Config** to obtain the IP address.

6. Click **OK**.

Step 3 Start a browser (Google Chrome recommended) on your computer, enter the IP address of the MDC (for example, **192.168.100.100**) in the address bar, and press **Enter**.

NOTE!

Check whether **https://** is automatically added before the IP address you entered. If not, manually add **https://** before the IP address.

Step 4 Enter your username and password and click **Login**.

NOTE!

– The default username/password for the administrator is **admin/admin**, and the default username/password for the common user is **user/user**. You will be required to change the default password when you log in to the MDC system for the first time.

– If you forget your password, contact our service personnel.

6.2.3 Log out of the MDC

After you log in to the MDC, you can tap Setting in the left menu bar and then tap Log out to log out of the MDC.

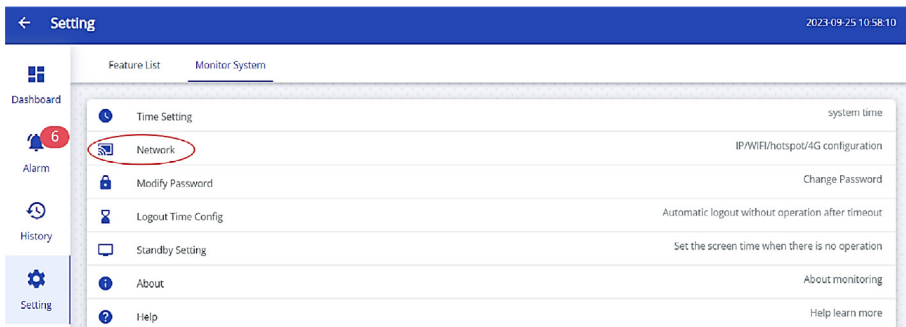
6.3 Change IP address of the system

NOTE!

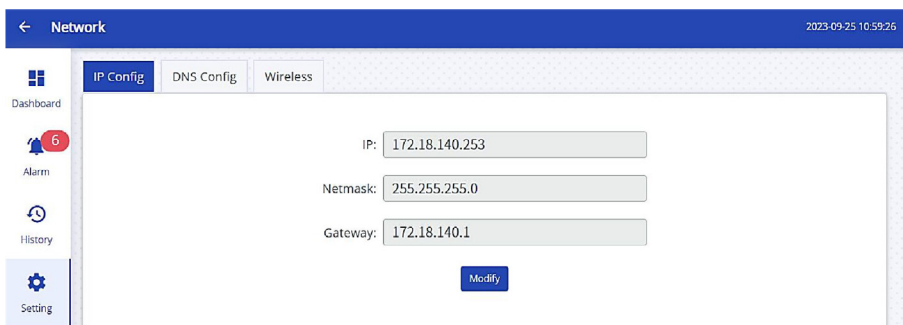
This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap Setting in the left menu bar and then tap **Monitor System > Network**, as shown below.



Step 3 Tap IP config, enter the IP address and gateway, and then tap Modify. Wait for about 10 seconds for the configuration to take effect.

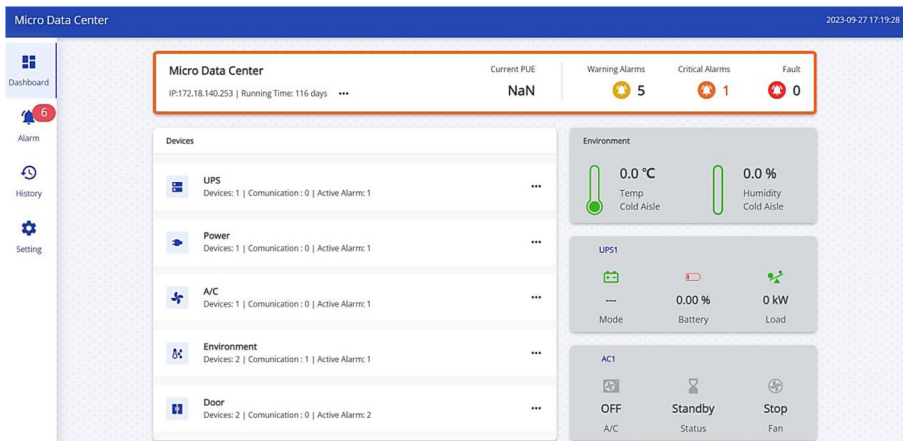


Step 4 Shut down and restart the monitoring server.

Step 3 Tap Wireless, and set parameters as required.

6.4 View system information

After you log in to the system, the following system homepage is displayed.



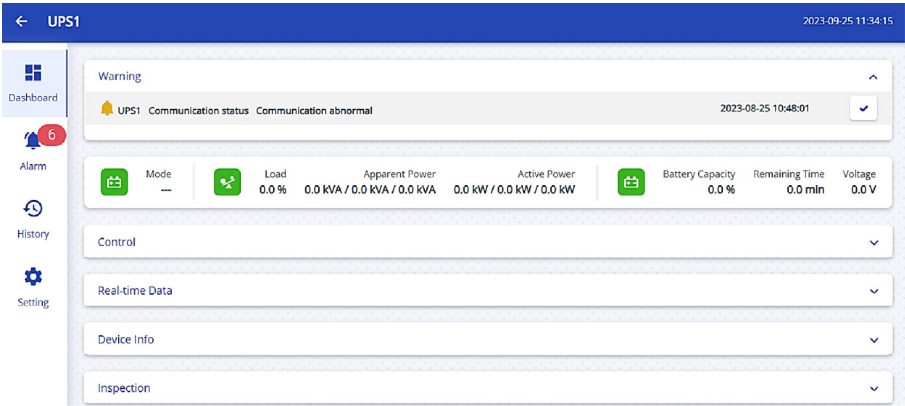
On this page, you can see the following information.

System homepage

MDC information	Displays the system name, IP address, running time, current power usage effectiveness (PUE), and number of alarms of the MDC. You can tap ... to view more MDC data, including the product name, model, serial number, material number, and installation time.
Device information	Displays the device list, which includes the total number of devices, number of online devices, and number of active alarms. You can tap ... to view more device data and control them.
Environment	Displays current temperature and humidity of the cold aisle.
UPS	Displays the current operating mode, battery level and load status of the UPS.
Menu bar	Includes the dashboard, alarm, history, and settings in sequence.

6.5 View UPS details and control UPS

To view overall information about the UPS, [refer to section 6.2 to log in to the system](#), and tap UPS on the Dashboard homepage to access the **UPS** page, as shown below.

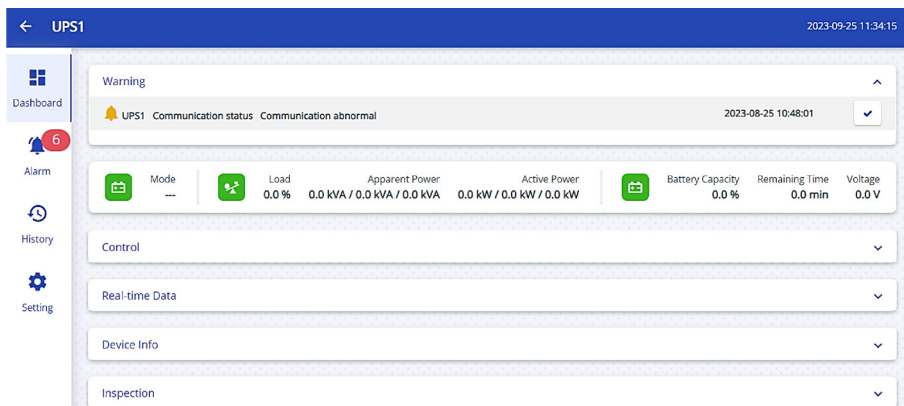


On this page, you can see the working mode, load, apparent power, active power, battery capacity, remaining battery usage time, and battery voltage of the UPS.



6.5.1 View UPS alarms

To view UPS alarms, [refer to section 6.2 to log in to the system](#), and tap **UPS** on the Dashboard homepage. Then you can see the alarms in the **Warning** module, as shown in the following figure.



6.5.2 Stop the UPS by EPO button

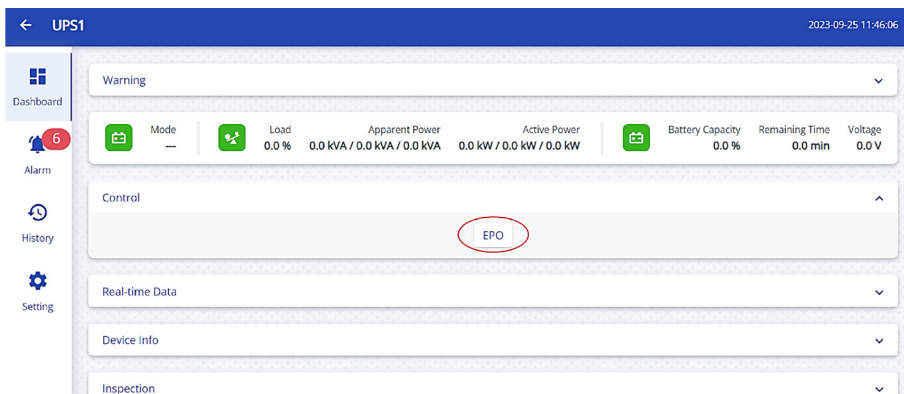
NOTE!

This operation is only available for authorized accounts.

You can stop the UPS remotely by using the EPO button upon emergency.

Step 1 [Refer to section 6.2 to log in to the system](#), and tap **UPS** on the Dashboard homepage.

Step 2 Tap **Control** and then **EPO**.

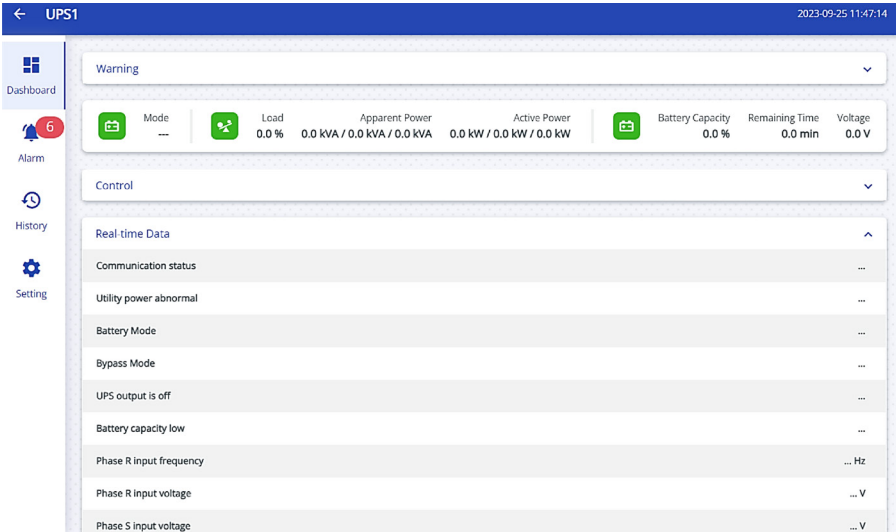


6.5.3 View real-time UPS data

Step 1 [Refer to section 6.2 to log in to the system](#), and tap **UPS** on the Dashboard homepage.

Step 2 Tap **Real-time Data**.

Now you can see the real-time data of UPS. The following figure shows an example.



6.5.4 View UPS information

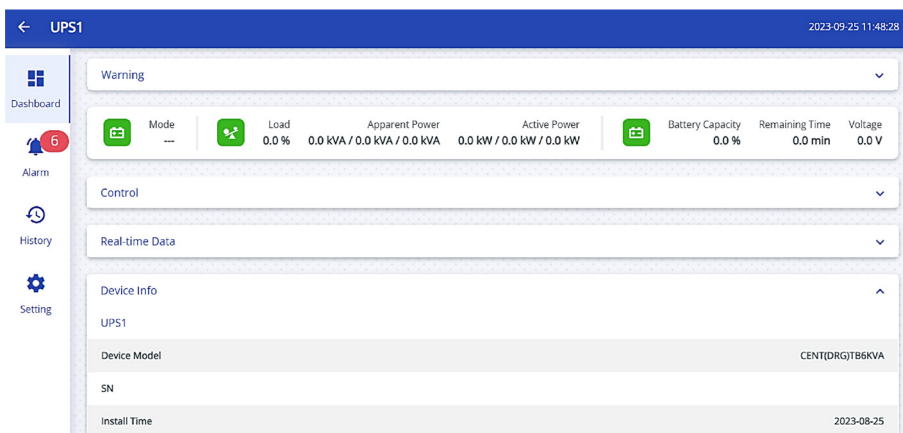
To view information of the UPS, including the model, serial number, installation time, and running time:

Step 1 [Refer to section 6.2 to log in to the system](#), and tap **UPS** on the Dashboard homepage.

Step 2 Tap **Device Info**.

NOTE!

The device information may vary with the presettings. The following figure shows an example.



6.5.5 Perform inspection on the UPS

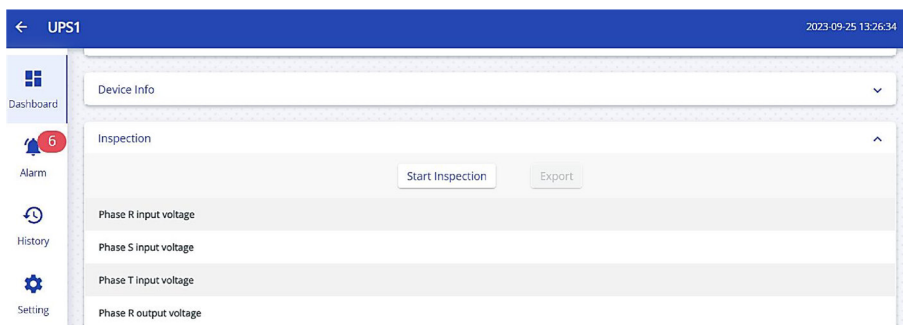
NOTE!

This operation is only available for authorized accounts.

If a UPS fault occurs, you can perform inspection on the UPS and export the result to locate faulty data.

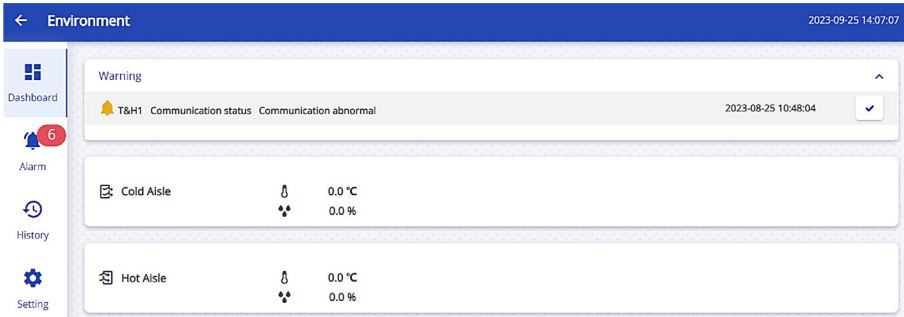
Step 1 [Refer to section 6.2 to log in to the system](#), and tap **UPS** on the Dashboard homepage.

Step 2 Tap **Inspection** and then **Start Inspection**.



6.5.6 View environment alarms

To view environment alarms, [refer to section 6.2](#) to log in to the system, and tap Environment on the Dashboard homepage. Then you can see the alarms in the Warning module, as shown in the following figure.

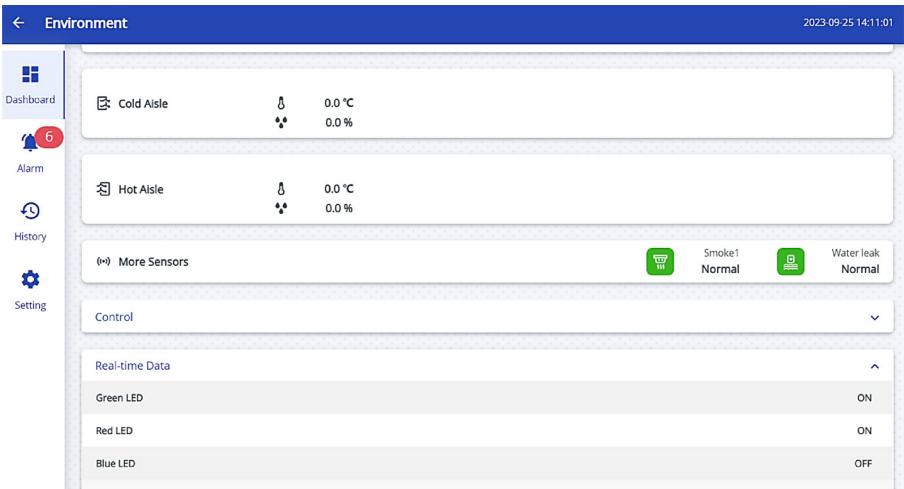


6.5.7 View real-time data of ambient lights

Step 1 [Refer to section 6.2 to log in to the system](#), and tap Environment on the Dashboard homepage.

Step 2 Tap Real-time Data.

Now you can see the real-time data of ambient lights. The following figure shows an example.



6.5.8 View and export current alarms

To view current alarms, [refer to section 6.2 to log in to the system](#), and tap Alarm in the left menu bar to access the **Alarm** page, as shown below.

Device Name	Alarm Name	Description	Trigger Value	Start Time	Confirm	End
DoorLock2	Communication status	Communication abnormal	0	2023-08-25 10:48:13	✓	✓
PDM	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓
T&H1	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓
A/C1	Communication status	Communication abnormal	0	2023-08-25 10:48:03	✓	✓
DoorLock1	Communication status	Communication abnormal	0	2023-08-25 10:48:01	✓	✓
UPS1	Communication status	Communication abnormal	0	2023-08-25 10:48:01	✓	✓

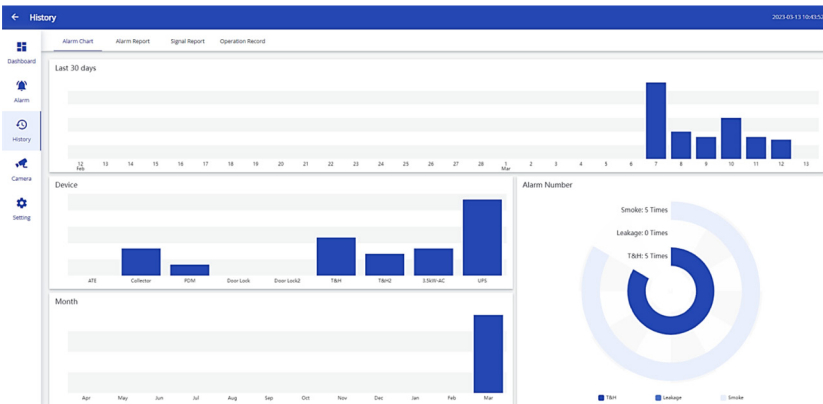
By default, all levels of alarms are displayed on this page. You can select **Notification**, **Warning Alarms**, **Critical Alarms**, and **Fault** to view alarms by level.

If you log in to the system using a computer, you can click **Export** to download the displayed alarms.

6.6 View and export historical alarms

6.6.1 View historical alarm charts

To view historical alarm charts, [refer to section 6.2 to log in to the system](#), tap History in the left menu bar, and select the **Alarm Chart** tab, as shown below. On this page, the numbers of alarms are displayed by days (last 30 days), months, and devices. Devices with maximum number of alarms are also displayed. You can check the data for alarm analysis.



6.6.2 View and export historical alarm report

To view historical alarm report, [refer to section 6.2 to log in to the system](#), tap **History** in the left menu bar, and select the **Alarm Report** tab, as shown below.

By default, information of all alarms is displayed on this page, including the alarm name, device name, description, trigger value, start time, and end time.

You can set filters to display certain alarms.

Filter description

← History

2023-03-13 10:46:21

DashboardAlarm ChartAlarm ReportSignal ReportOperation Record

Start Time2023-02-11End Time2023-03-13AllExport...

NotificationWarning AlarmsCritical AlarmsFault

Alarm Name	Device Name	Description	Trigger Value	Start Time	End Time	Remark
Communication status	TS42	Communication abnormal	0	2023-03-13 09:58:57	2023-03-13 09:59:57	[Super Administrator]
UPS Overload	UPS	Alarm	1	2023-03-13 09:24:51	2023-03-13 09:30:26	
Overload Warning	UPS	Alarm	1	2023-03-13 09:24:51	2023-03-13 09:30:26	
Bypass Mode	UPS	ON Bypass Mode	1	2023-03-13 09:24:48	2023-03-13 09:30:26	
Suction Pressure Sensor Failure	3.5MW-AC	Alarm	1	2023-03-12 13:19:32	2023-03-12 13:21:12	
Suction Pressure Sensor Failure	3.5MW-AC	Alarm	1	2023-03-12 13:17:06	2023-03-12 13:18:23	
Suction Pressure Sensor Failure	3.5MW-AC	Alarm	1	2023-03-12 13:14:37	2023-03-12 13:16:11	
High temperature alarm	TS42	High temperature alarm	33.64	2023-03-12 12:40:01	2023-03-12 12:42:51	
High temperature alarm	TS41	High temperature alarm	35.41	2023-03-12 12:39:58	2023-03-12 12:40:20	
Emergency high temperature warning	TS42	Emergency high temperature warning	35.02	2023-03-12 12:38:09	2023-03-12 12:39:35	

12345678

Page 110CountTotal 60 Count

Start Time2023-08-26End Time2023-09-25

Specifies the time when the alarms were generated.

NotificationWarning AlarmsCritical AlarmsFault

Specifies the type of alarms to be displayed.

All

Specifies the type of devices on which alarms are generated.



6.6.3 View and export historical signal report

To view historical signal report, [refer to section 6.2 to log in to the system](#), tap History in the left menu bar, select the **Signal Report** tab, and set filters as required.



The following table describes the filters available on this page.

Filter	Description
Start Time: 2023-08-26 End Time: 2023-09-25	Specifies the time when the signals were generated.

Filter	Description
<div> <div>Selected</div> <div> <div>DoorLock2</div> <div>DoorLock1</div> <div>T&H1</div> <div>PDM</div> <div>3.5kW-AC</div> <div>UPS1</div> <div>ATE</div> <div>Collector</div> </div> <div> ☐ Lock status </div> </div>	<p>Specifies the type of signals to be displayed.</p>
<div>All History Data</div>	<p>Specifies the type of signals to be displayed by signal value.</p> <ul style="list-style-type: none"> - All History Data: All historical signal data is displayed. - Daily Maximum: Only the historical signal data with the maximum value on each day is displayed. - Daily Minimum: Only the historical signal data with the minimum value on each day is displayed. - Daily Average: Average data on each day is displayed.

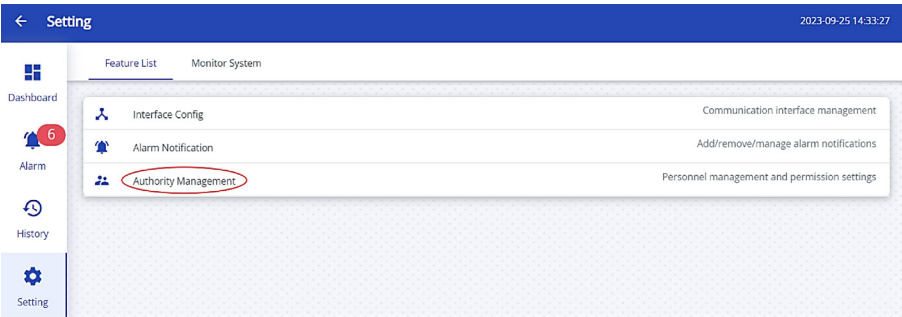
If you log in to the system using a computer, you can click **Export** to download displayed alarms as an Excel file.

6.7 Manage accounts

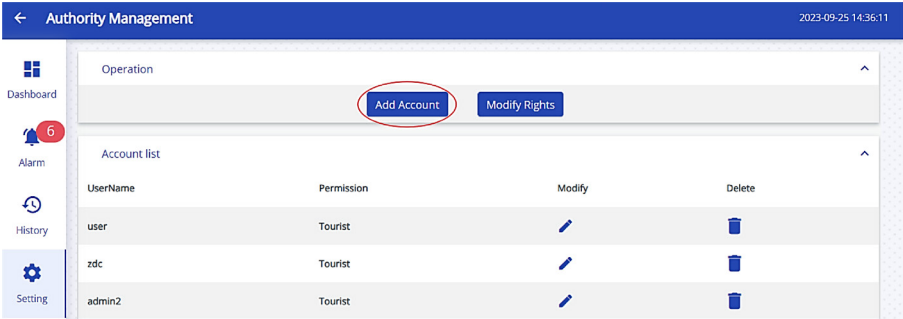
6.7.1 Create an account

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Authority Management**.



Step 3 Tap Add Account.



Step 4 Enter the account name and password, choose the valid time and permission level, and tap **Add**.

The 'Add Account' dialog is shown with a close button (X) in the top right. It contains the following fields: 'Account Name:' with a text input field; 'Password:' with a text input field and an eye icon for toggling visibility; 'Valid Time:' with a date input field showing '2022-12-22'; and 'Permissions:' with a dropdown menu showing 'Tourist'. At the bottom center is a blue 'Add' button.

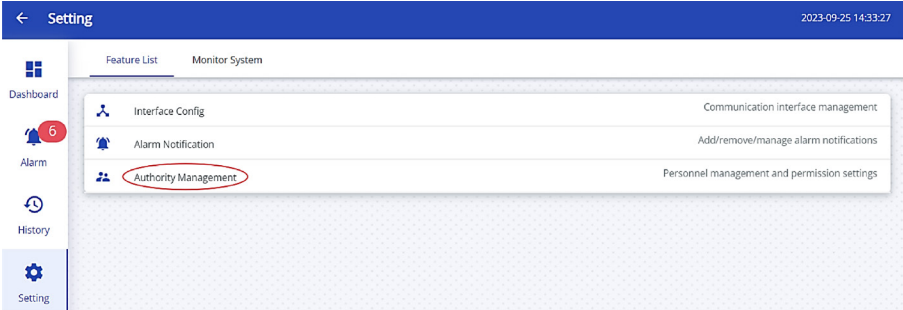
6.7.2 Modify account permissions

NOTE!

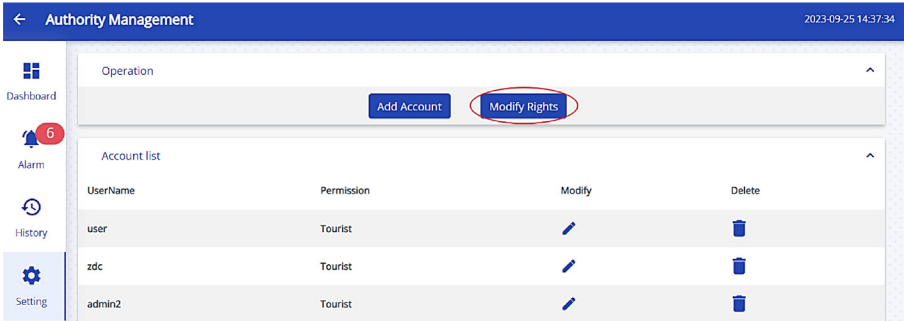
This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

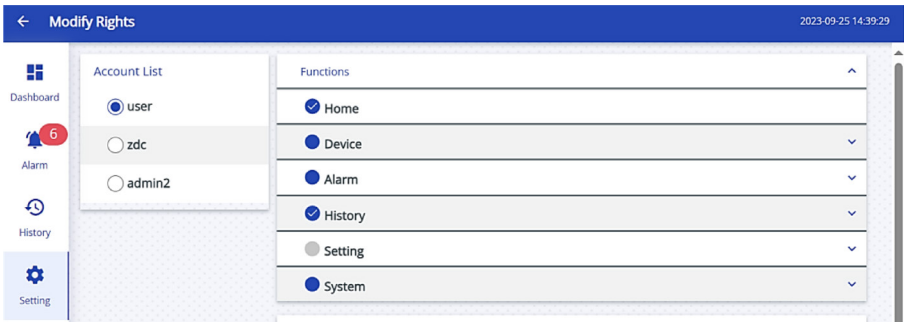
Step 2 Tap **Setting** in the left menu bar and then tap **Authority Management**



Step 3 Tap Modify Rights.



Step 4 Select an account, and then select required permissions for the account, and tap **Save**.



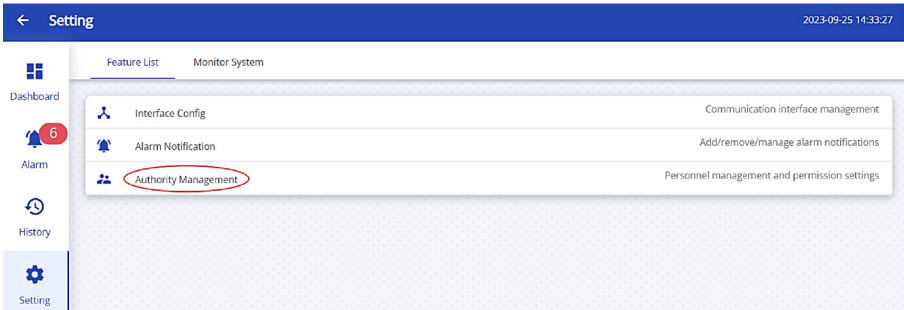
6.7.3 Modify an account

NOTE!

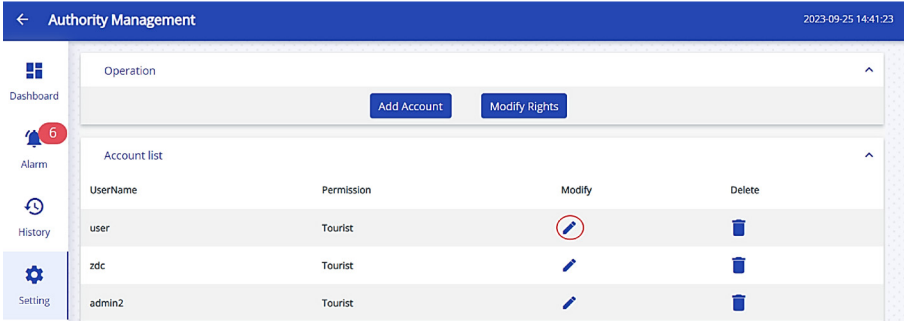
This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

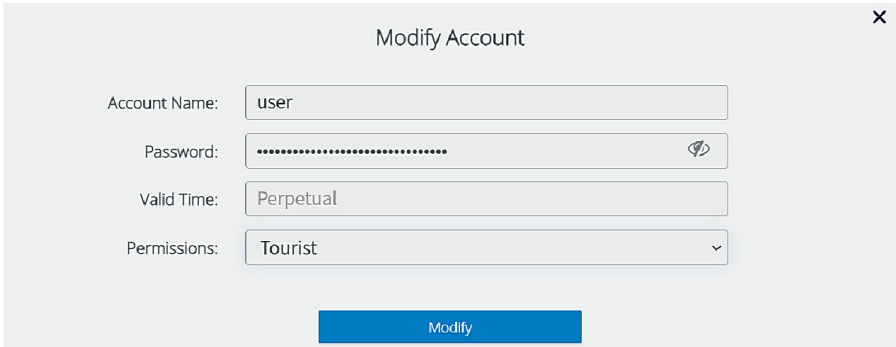
Step 2 Tap **Setting** in the left menu bar and then tap **Authority Management**.



Step 3 Tap  in the line of the account to be modified.



Step 4 Modify **Account Name**, **Password**, and **Valid Time** as required, and tap **Modify**.



The 'Modify Account' dialog box is shown. It has a close button (X) in the top right corner. The fields are: 'Account Name' with the value 'user', 'Password' with a masked password and a toggle icon, 'Valid Time' with the value 'Perpetual', and 'Permissions' with a dropdown menu showing 'Tourist'. A blue 'Modify' button is at the bottom.

6.7.4 Delete an account

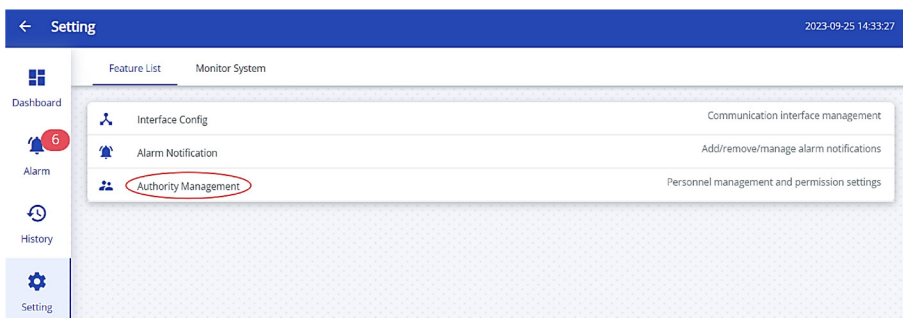
NOTE!

This operation is only available for authorized accounts.

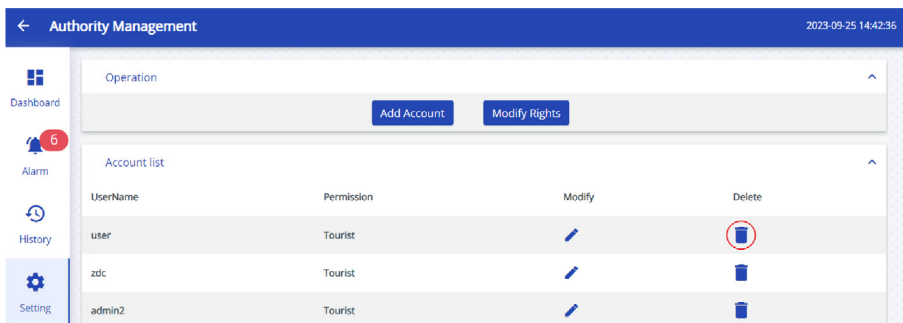
After an account is created, you can delete it as required by following the steps below.

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Authority Management**.



Step 3 Tap  in the line of the account to be modified.



6.8 Configure the SNMP interface

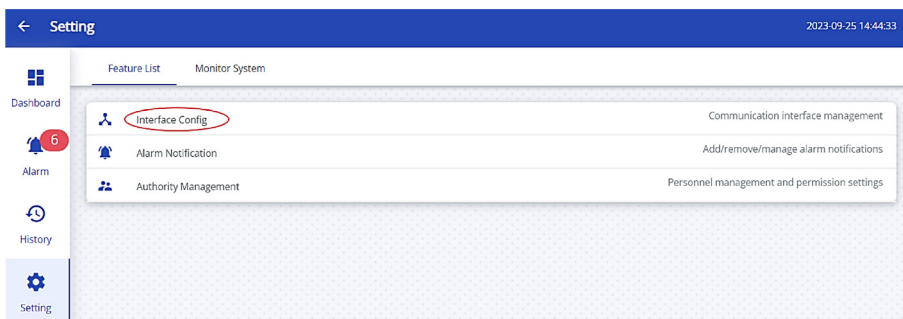
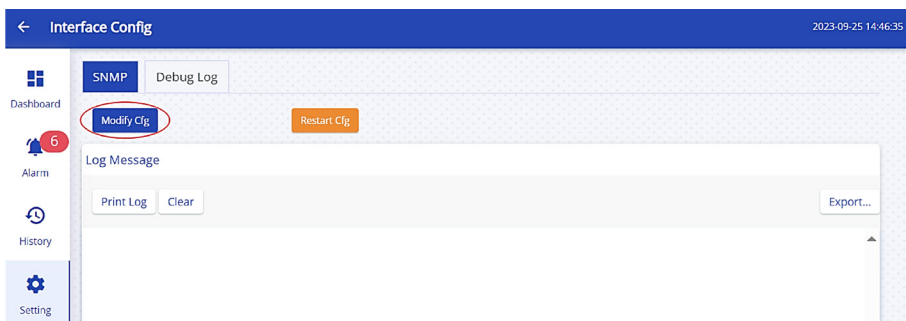
NOTE!

This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Interface Config**.

Step 3 Tap **Modify Cfg** to access the **SNMP Config** page.



Step 4 Select an SNMP version (V1&V2, V3).

V1&V2 are mainly used while V3 features higher security. You can select one as required. In this example, **SNMP v1&v2** is selected. If you select **SNMP v3**, security parameters such as passwords must be set.



Step 5 Tap  to modify IP addresses and permissions as required and tap **Save**. Or, tap  to add another group of read/write/Trap IP addresses and tap **Add**. Then, tap **Save**.



The screenshot shows the 'SNMP Authority IP' configuration window. It has a title bar with a close button (X) on the right. The window contains three input fields for IP addresses: 'Read IP:', 'Write IP:', and 'Trap IP:', all with the value '192.168.100.100'. To the right of these are two 'Authority:' fields with values 'public' and 'private'. At the bottom center is a blue 'Save' button.

Step 6 Tap **Restart Cfg.**

6.9 Set alarm notifications

Alarm notifications can be sent through the SMS and email. You can set the alarm notification channel as required.

6.9.1 Set mobile numbers for receiving alarm notifications through SMS

NOTE!

This operation is only available for authorized accounts.

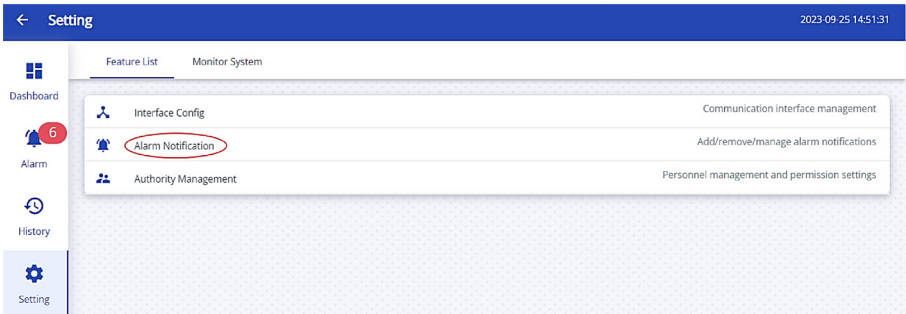
Step 1 Insert a Micro SIM card into the card slot on the top of the HMI by following the direction displayed by the silkscreen beside the card slot.

NOTE!

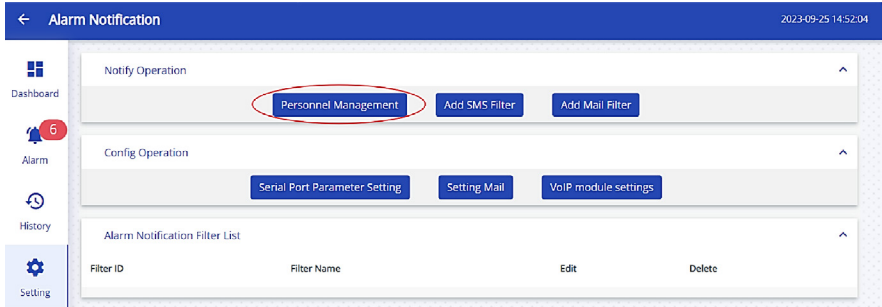
If you want to remove the SIM card, gently press it to pop it out.

Step 2 [Refer to section 6.2 to log in to the system.](#)

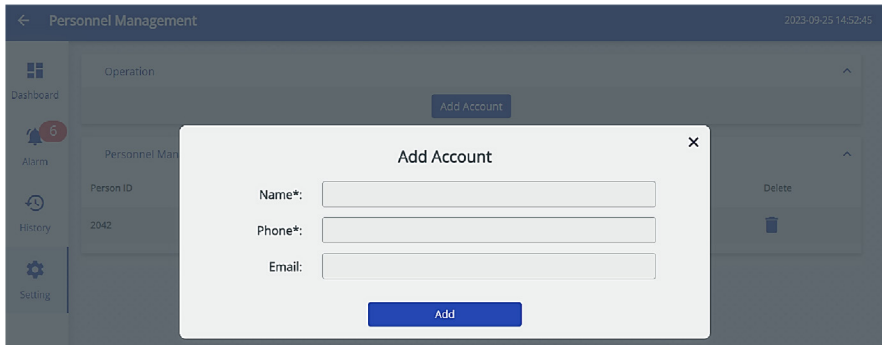
Step 3 Tap **Setting** in the left menu bar and then tap **Alarm Notification**.



Step 4 Tap Personnel Management.



Step 5 Tap Add Account. Then, set Name and Phone and tap Add.



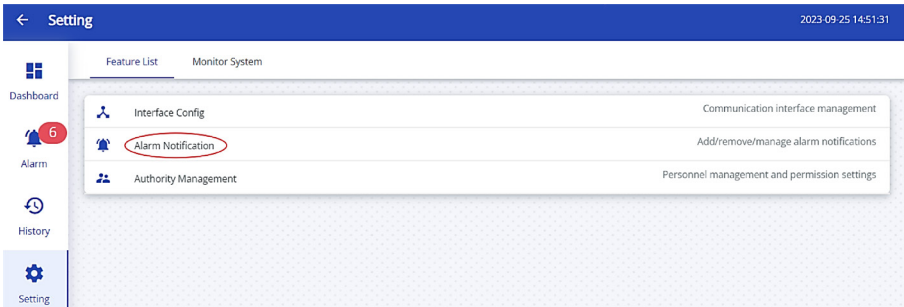
6.9.2 Set email addresses for receiving alarm notifications

NOTE!

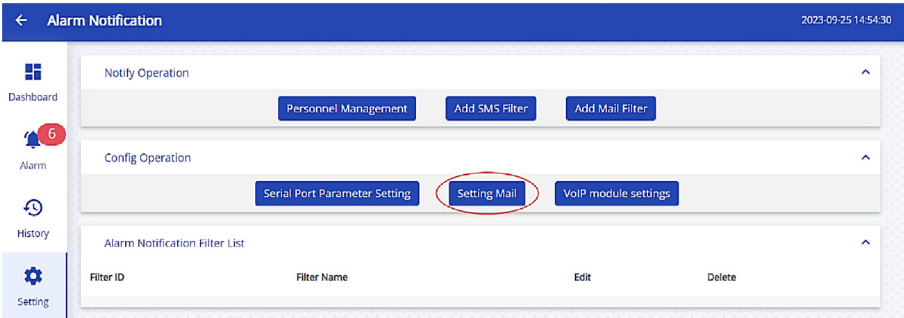
This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

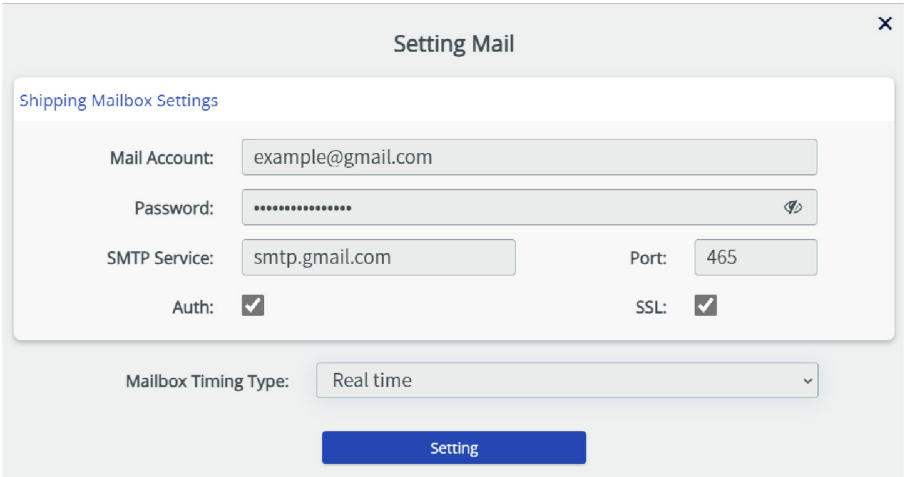
Step 2 Tap **Setting** in the left menu bar and then tap **Alarm Notification**.



Step 3 Tap Setting Mail.



Step 4 Set required parameters in the **Setting Mail** dialog box, and tap **Setting**.

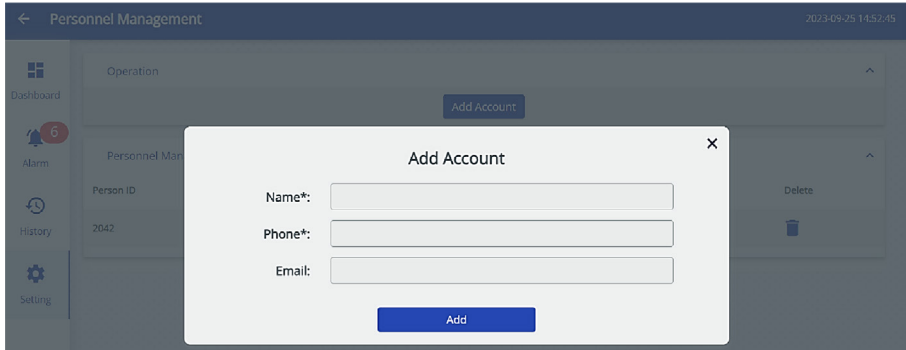


Parameter description

Parameter	Description
Mail Account	Specifies the email address used to send the email notifications.
Password	Specifies your email password (authorization password for some email addresses).
SMTP Service	<p>Specifies the domain name or IP address of the server used for sending mails.</p> <p>If you set it to a domain name, check that the default DNS address of the monitoring host (8.8.8.8) is supported. If not, configure the DNS server that supports resolution of your domain name in Setting > Network > DNS Config.</p> <p>NOTE! SMTP sever is used for sending emails. Therefore, this parameter must be set.</p>



Step 6 Tap Add Account. Then, set **Name**, **Phone**, and **Email**, and tap **Add**.



6.9.3 Set an SMS message filter

NOTE!

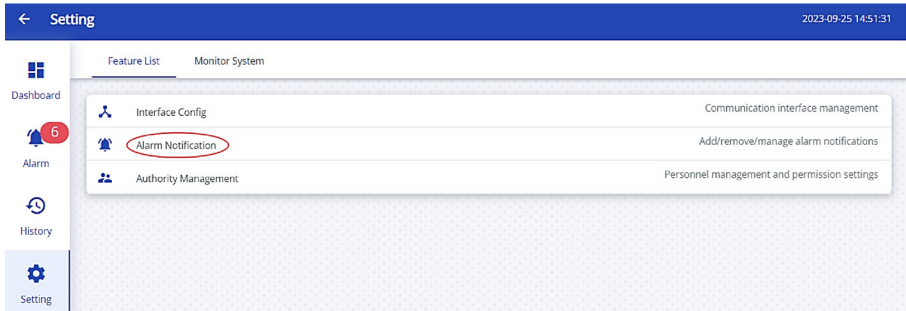
This operation is only available for authorized accounts.

If you want to send SMS messages by status, alarm level, recipient, or equipment to a specified recipient, you can set an SMS filter.

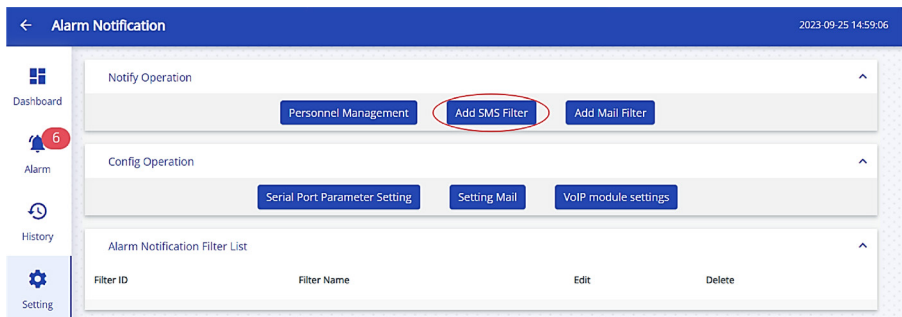
To add a filter:

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap Setting in the left menu bar and then tap **Alarm Notification**.



Step 3 Tap Add SMS Filter.



Step 4 Set Event Status, Event Level, Recipient, and Equipment as required, and tap Add.

Add SMS filter ×

☐ Event Status:

- ☐ (1,Event Start)
- ☐ (2,Event End)

☐ Event Level:

- ☐ (0,Level 4)
- ☐ (1,Level 3)
- ☐ (2,Level 2)
- ☐ (3,Level 1)

☐ Recipient:

☐ Equipment:

- ☐ (Z10107748,DoorLock2)
- ☐ (Z10106008,DoorLock1)
- ☐ (Z10104524,T&H1)
- ☐ (Z10103224,PDM)
- ☐ (Z75611781,3.5kW AC)

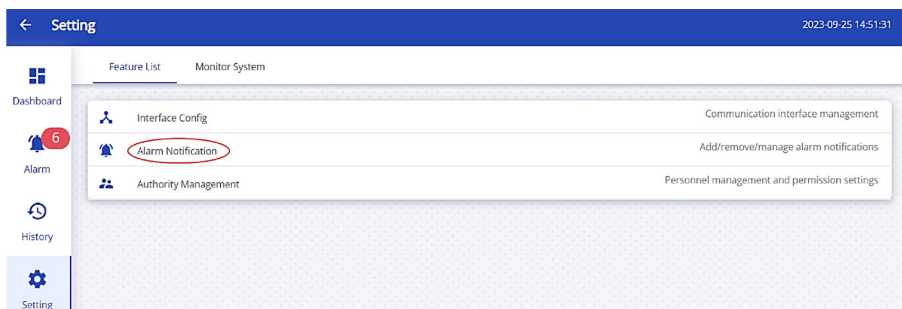
Add

Step 5 Set a filter name and tap Add.

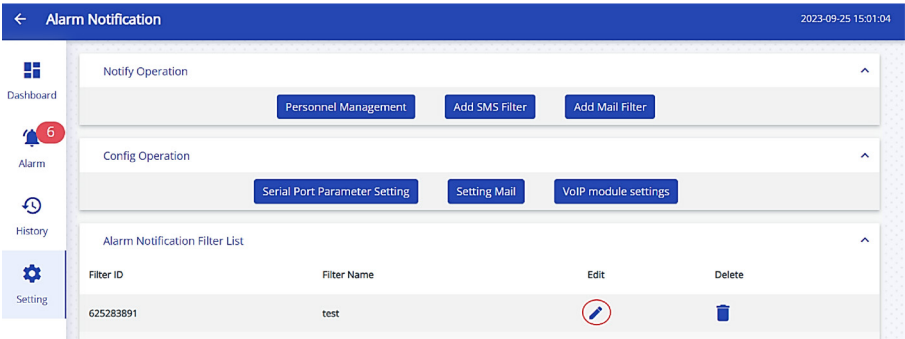
To edit an existing filter:

Step 1 [Refer to section 6.2 to log in to the system.](#)

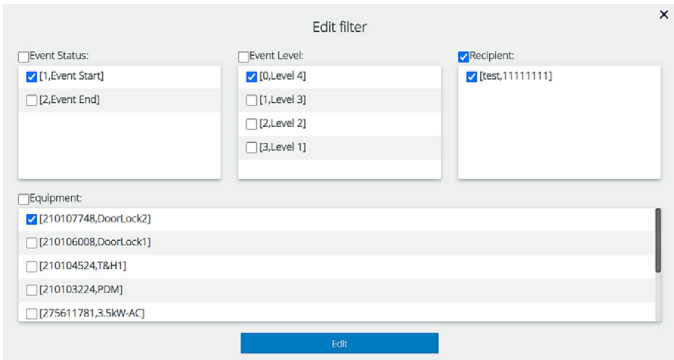
Step 2 Tap **Setting** in the left menu bar and then tap **Alarm Notification**.



Step 3 In the Alarm Notification Filter List, tap  in the line of the filter to be edited.



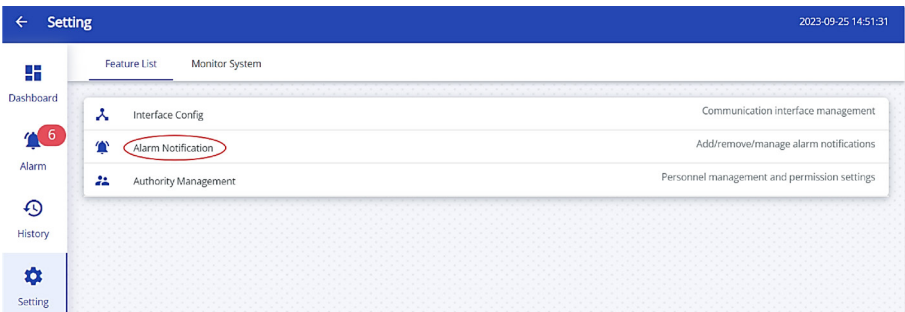
Step 4 Set **Event Status**, **Event Level**, **Recipient**, and **Equipment** as required, and click **Edit**.



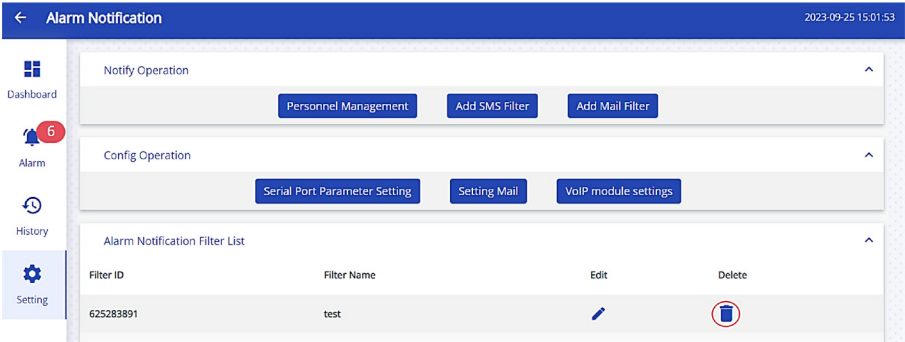
To delete an existing filter:

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Alarm Notification**.



Step 3 In the Alarm Notification Filter List, tap  in the line of the filter to be edited.



Step 4 Tap **OK** in the pop-up dialog box.

6.9.4 Set a mail filter

NOTE!

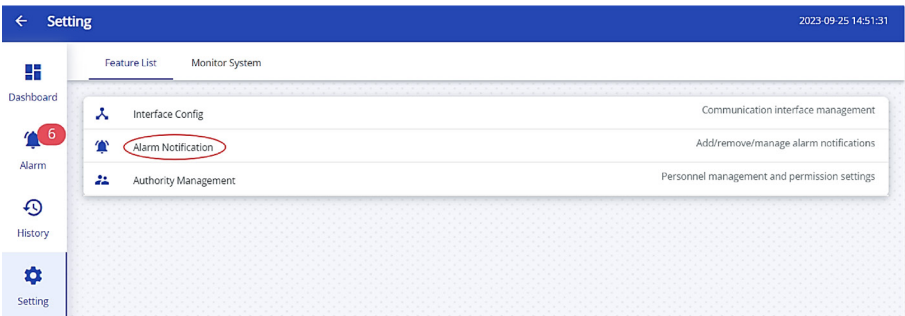
This operation is only available for authorized accounts.

If you want to send mails by status, alarm level, recipient, or equipment to a recipient, you can set a mail filter.

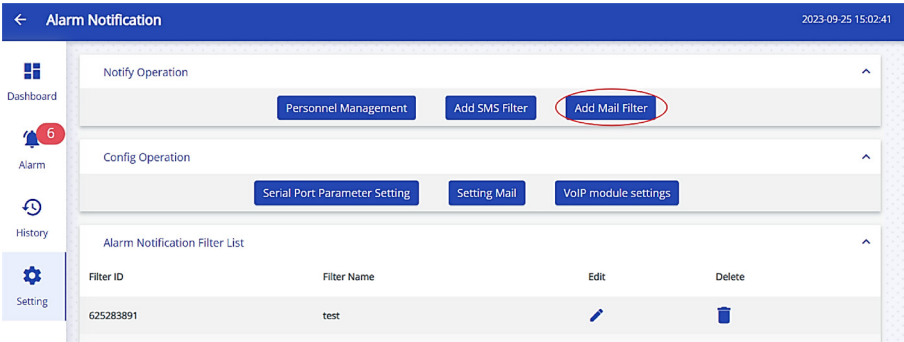
To add a filter:

Step 1 [Refer to section 6.2 to log in to the system.](#)

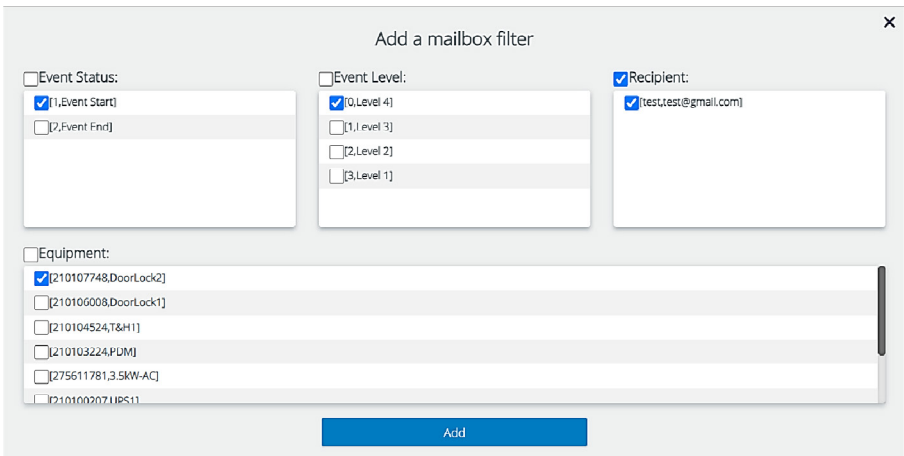
Step 2 Tap **Setting** in the left menu bar and then tap **Alarm Notification**.



Step 3 Tap Add Mail Filter.



Step 4 Set Event Status, Event Level, Recipient, and Equipment as required, and tap Add.



Step 5 Set a filter name and tap Add.



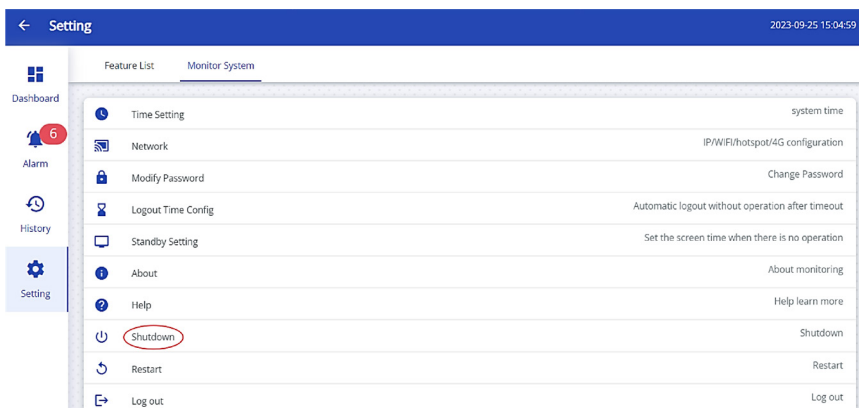
6.10 Shut down the MDC

NOTE!

This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap Setting in the left menu bar and then tap Monitor System > Shutdown.



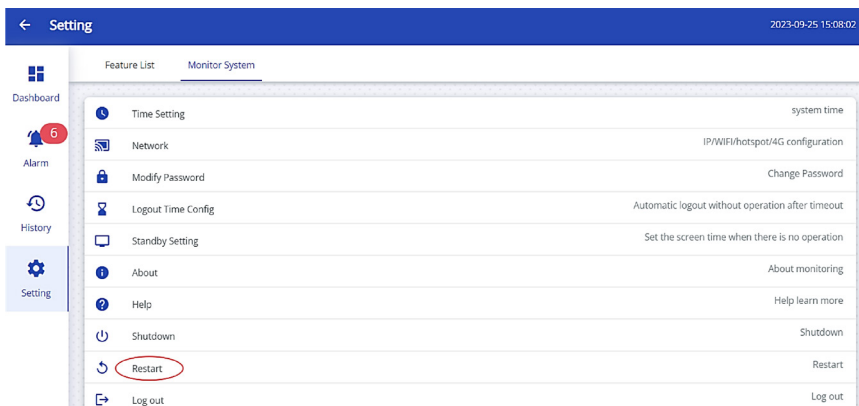
Step 3 Tap OK in the pop-up dialog box.

6.11 Restart the MDC

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Monitor System > Restart**.

Step 3 Tap OK in the pop-up dialog box.

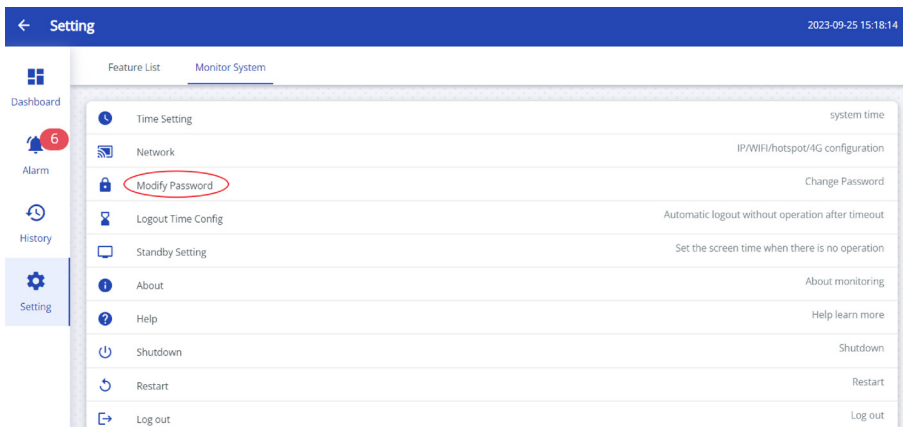


Step 3 Tap OK in the pop-up dialog box.

6.12 Modify password

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap Setting in the left menu bar and then tap Modify Password.



Step 3 Specify Original Password, New Password, and Determine Password. Then, tap **Modify**.

A screenshot of the 'Modify Password' dialog box. The title 'Modify Password' is at the top center, with a close button (X) on the right. Below the title are three input fields, each labeled on the left: 'Original Password:', 'New Password:', and 'Determine Password:'. Each input field has a password strength indicator icon on the right. Below the input fields, there is a text note: 'The new password contains at least the following three characters: lowercase letters, uppercase letters, numbers or special characters'. At the bottom center is a blue button labeled 'Modify'.

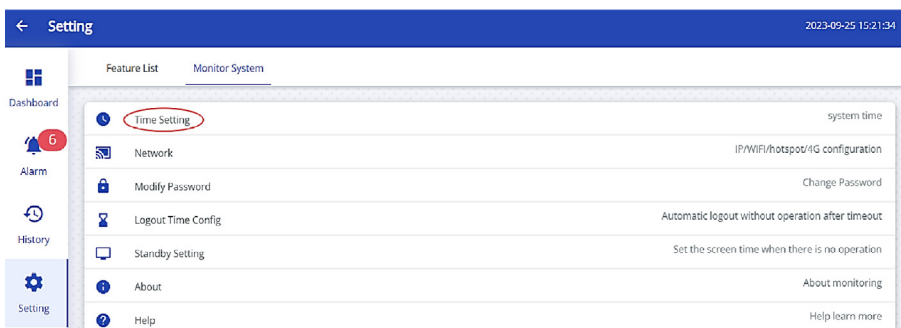
6.13 Set system time

NOTE!

This operation is only available for authorized accounts.

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Monitor System > Time Setting**.



Step 3 Set time and tap OK.

6.14 Set automatic logout interval

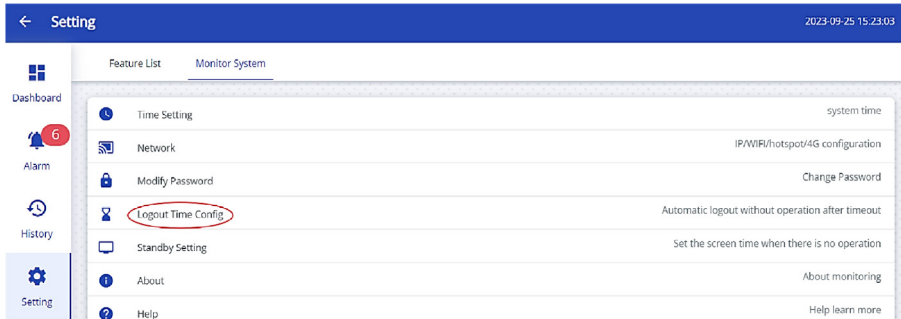
NOTE!

This operation is only available for authorized accounts.

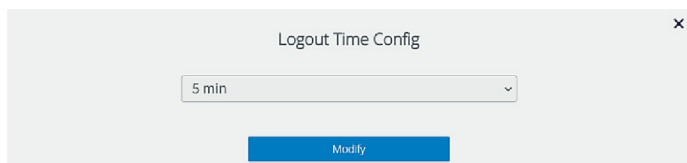
To automatically log users out after they do not perform operations after an interval:

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Monitor System > Logout Time Config.**



Step 3 Select a time interval and tap **Modify**.
If you want to keep users logged in, select **No Logout**.



6.15 Set screen off interval

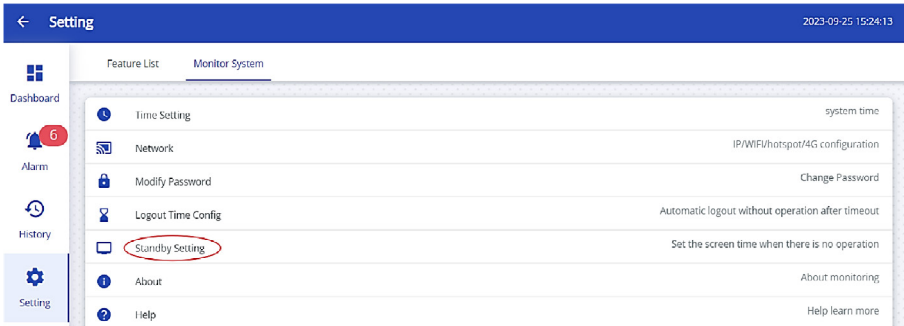
NOTE!

This operation is only available for authorized accounts.

To automatically log users out after they do not perform operations after an interval:

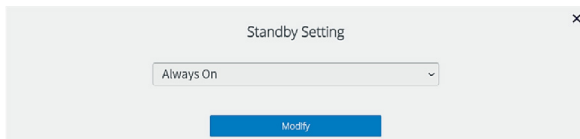
Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Tap **Setting** in the left menu bar and then tap **Monitor System > Standby Setting**.



Step 3 Select a time interval and tap **Modify**.

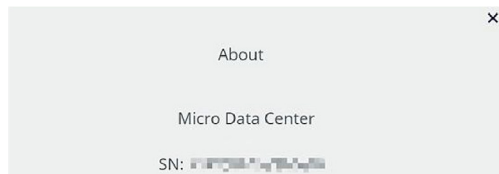
If you want to keep the screen on, select **Always On**.



6.16 Check MDC version and SN

To check the product version, firmware version, and serial number of the MDC, [refer to section 6.2 to log in to the system](#), tap **Setting** in the left menu bar and then tap **Monitor System > About**.

Step 2 Tap **Setting** in the left menu bar and then tap **Monitor System > Standby Setting**.



6.17. Local backup/restore (USB stick)

6.17.1 Local backup copy (USB stick)

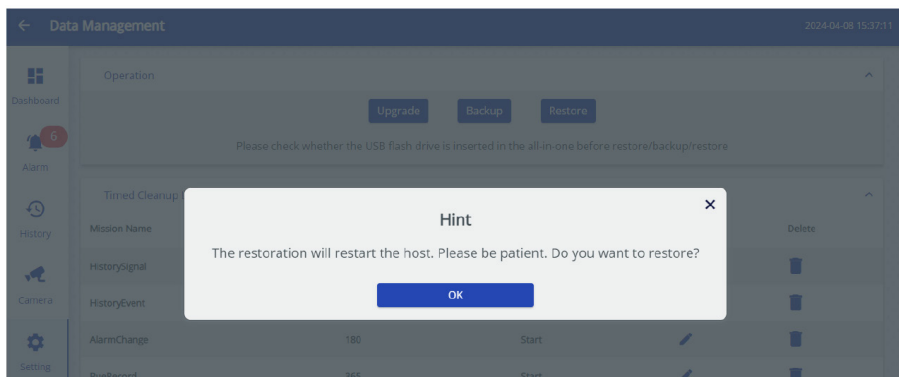
NOTE!

This operation is only available for the super administrator account.

- The USB stick is prepared by the user, and the name of the USB stick must be changed to **IVIEW**.
- If the USB disk is not inserted, a prompt will be displayed.
- If the MDC fails to detect the inserted USB stick, restart the monitor and insert the USB stick again.

Step 1 Create a folder named **backup** under the *USB stick* (format: FAT32, name: **IVIEW**), and save **app.zip** (used for restoration) and **fp.app.chksum** (restoration tag file) in the **backup** folder.

Step 2 Tap **Setting** in the left menu bar and then tap **Data Management**.



Step 3 Tap **Backup** and then **OK**.

Step 4 Enter your password, and tap **OK**.

The system is backing up and will restart automatically, please wait... will be displayed. The MDC will be restarted automatically in 7 to 8 minutes.

After the MDC is restarted, The system is backing up and will restart automatically, please wait... will be displayed again. After the backup is completed, The backup is successful, the file path is **in/backup**, the Backup File is **app.zip** and the MD5 file is **fp.app.chksum** will be displayed.

Step 5 Remove the *USB stick* and restart the monitor.

6.17.2 Local restore (USB stick)

NOTE!

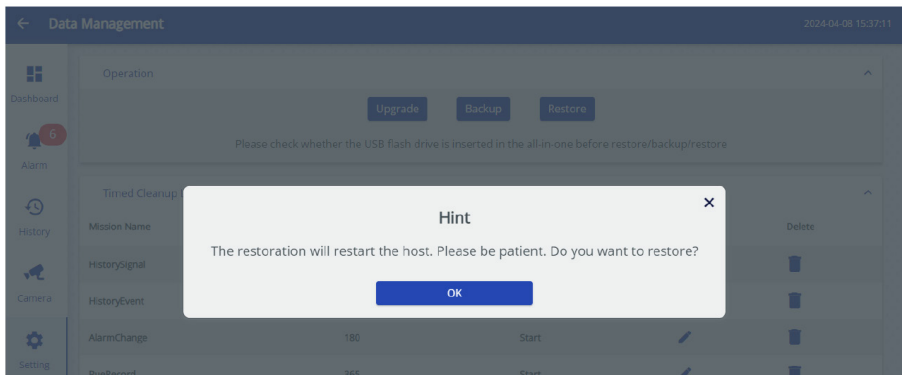
- This operation is only available for the super administrator account.
- The U disk is prepared by the user, and the name of the USB stick must be changed to IVIEW.
- If the USB stick is not inserted, a prompt will be displayed.
- If the MDC fails to detect the inserted USB stick, restart the monitor and insert the USB stick again.

Step 1 Create a folder named **backup** under the USB stick (format: FAT32, name: IVIEW), and save **app.zip** (used for restoration) and **fp.app.chksum** (restoration tag file) in the **backup** folder.

Step 2 Insert the USB stick on the monitor.

Step 3 Tap **Setting** in the left menu bar and then tap **Data Management**.

Step 4 Tap **Restore** and then **OK**.



Step 5 Enter your password, and tap **OK**.

The system is restoring and will restart automatically, please wait... will be displayed. The MDC will be restarted automatically.

After the MDC is restarted, **The system is restoring and will restart automatically, please wait...** will be displayed again. After the restoration is completed, **The restore is successful, please pull off the USB stick and reboot the system!** will be displayed.

Step 6 Enter your password, and tap **OK**.

7 Functional modules

Dimensions: 600(W) x 1000(D) x 1200(H) mm

Power supply: 230V a.c. single-phase (L+N+PE)

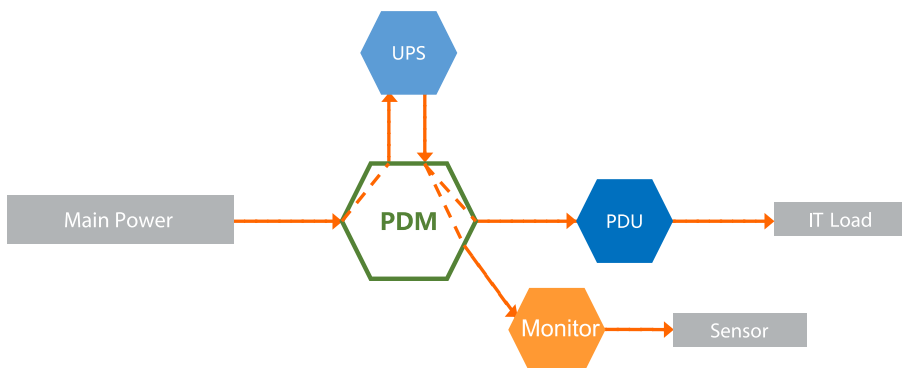
Constructively, the MDC is presented in the form of a metal rack that ensures the mounting of various IT units (servers, storage units, etc.) and includes:

- UPS to ensure operation during power outages.
- external battery module for a long backup time (purchased separately).
- sensors (temperature, humidity, liquid leaks, smoke).
- remote management and monitoring unit by connecting to the network (wired or wireless).
- electric current distribution unit provided with automatic fuses.
- interior lighting.

The supporting and mounting structure is the metal skeleton that ensures the structural integrity and allows the mounting of the other components. Structurally, it is a metal rack with a 24U equipment space (part of this space is already occupied by infrastructure modules).

The components of the 24U MDC are: UPS, PDM, Monitor, PDU and it is provided with interior lighting, smoke sensors, liquid leak detector, temperature and humidity detector.

From the point of view of the circulation of electricity, these modules are electrically interconnected so as to ensure the most precise control of the current distribution between them.

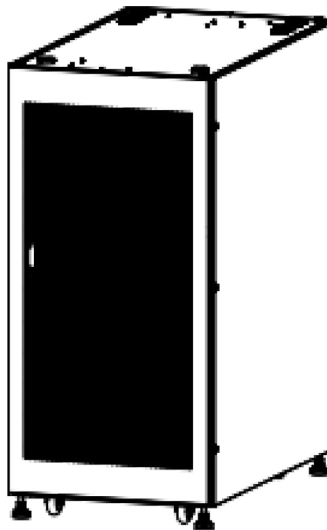


7.1 Cabinet

The supporting and mounting structure is the skeleton that ensures the structural integrity and allows the mounting of the other components. Structurally, it is a equipment space (part of this space is already occupied by the infrastructure modules). The access to the interior is provided in the front with a metal grill door and mechanical locking system with key. At the back there are two doors with metal grating and mechanical key locking system.

The cabinet is suitable for standard MDC single cabinet system with closed hot and cold aisles. It is used to house rack-mounted cooling units, UPS, PDM, and other components required in the system. In addition, its remaining space can be used to place 19" equipment that complies with the industry standard (EIA-310-E) and fits the cabinet.

The cabinet size: 600(W) x 1000(D) x 1200(H) mm



Forge MDC 3K 24U

The cabinet has the following characteristics:

- A 19-inch cabinet with a load capacity of up to 1860 kg is used. It does not have a side door.
- Cold-rolled high-strength carbon steel sheet, class A, with a thickness of 1.2-2.0 mm is used.
- A sealed design is applied.
- Vertical AC PDU can be installed in the back of the cabinet.
- Two shelves for cables are provided in the front and back of the cabinet.
- The exact location of each unit (U) is marked on the vertical uprights of the cabinet.
- The back of the cabinet is equipped with a light that turns on when the door is open.
- The cabinet is equipped as standard with an upper wiring shelf, which can make separate high-voltage and low-voltage cables.

Dimensions (H x W x D): 600(W) x 1000(D) x 1200(H) mm

Available space: 24U.

Structure: The access to the interior is provided in the front with a metal grill door and mechanical locking system with key. At the back there are two doors with metal grating and mechanical key locking system.

Surface: Electrostatically sprayed surface to meet Class A environmental requirements.

Color: black

Material: High-quality cold-rolled carbon steel plate, class A, high strength (0.8-2.0 mm.)

IP rating: IP20.

Grounding and antistatic: Reserved grounding screw.

Environmental requirements: RoHS.

7.2 PDM - Power Distribution Module

The PDM provides power distribution to all other modules mounted in the MDC. At the back it has the electrical connections for powering the modules, and at the front it has the corresponding breaker-e for each connection, so that all other modules can be connected or disconnected individually. Inside there is also a stabilized 12V supply for powering sensors and other equipment that requires this voltage.

The following describes the front panel elements from left to right:



Mains Indicator: green indicator light when the MDC is powered from the mains.

Mains Input: main circuit breaker (bipolar, 40A) connects to the AC mains.

SPD (Surge Protection Device): activates spike protection. Composed of a 32A bipolar breaker and the protection devices on which you will be able to see if they have been activated.

Mains spare: single pole circuit breaker, 16A. This is an additional power connection. An additional UPS or other equipment can be powered from here. Not connected in standard configuration.

UPS Input: single pole switch, 32A. Controls the power supply to the MDC UPS. Connects to the AC IN input of the UPS.

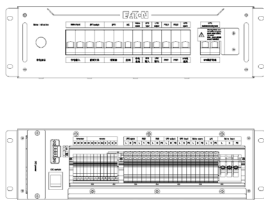
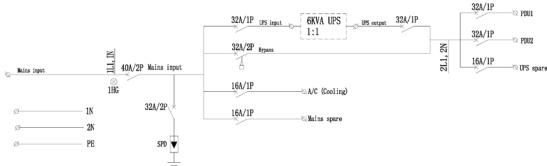
UPS Output: single pole switch, 32A. Controls the power transfer from the UPS output to the other modules in the MDC. Connects to the AC OUT output of the UPS.

PDU1: single pole circuit breaker, 32A. Controls the power supply of the pre-existing PDU (Power Distribution Unit) in the MDC.

PDU2: single pole switch, 32A. Controls the power supply of an additional PDU that can be mounted in the MDC.

UPS Maintenance Bypass: bipolar switch, 32A. This switch is used if for various reasons the UPS must be shut down (maintenance or repair activities, replacement, etc.) without interrupting the power supply to the other modules and equipment mounted in the MDC.

Space occupied in rack: 3U

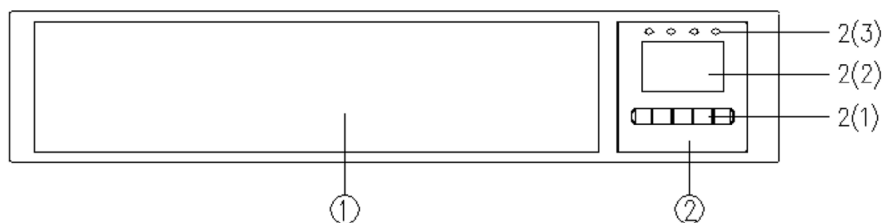


7.3 UPS - Uninterruptible Power Source / 3K

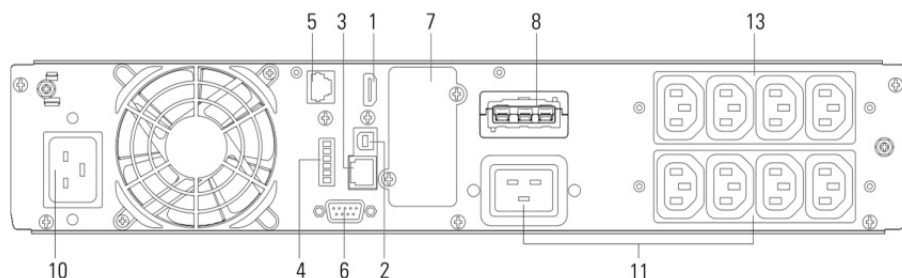
The UPS unit ensures uninterrupted operation of the equipment installed in the MDC in the event of mains power interruptions, as well as providing a clean and stable supply voltage. The UPS is supplied on the UPS Input output of the PDM (controlled by the UPS Input switch), and the UPS output is connected to the PDM on the UPS Output input (controlled by the UPS Output switch) so that the stabilized and filtered current can reach the consumers. The UPS can optionally be remotely monitored and controlled via the WinPower View app available from the Google Play store or Apple app store.

7.3.1 Technical features

- Topology: on-line UPS with double conversion and pure sine wave.
- Nominal voltage: 220V / 230V / 240V a.c. 50Hz / 60H.
- Input voltage: 160V - 276V a.c. (min.110V a.c. with load < 50%).
- Power rating: 3kVA / 3k.
- Overload operation: 5 min. $105\% < P < 125\%$, 30 sec. $125\% < P < 150\%$.
- Full digital control.
- Output power factor: 1.
- Battery charging current adjustable from 1.5A.
- Battery technology: Pb-Acid or AGM, 9Ah.
- Automatic EBM quantity detection.
- Communication ports: RPO, Dry in, Dry out, Smart slot, USB, RS23.
- IoT: Ethernet (default) and wireless (optional).
- Internal batteries: 6 pcs - 12V/9Ah (purchased separately)
- EC mode.

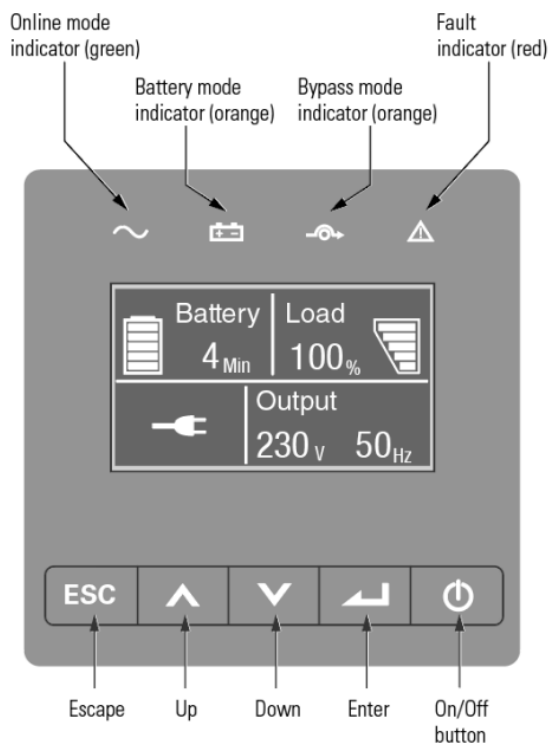


- 1. Ventilation area.
- 2. LCD Modular, including: 2(1)---Button.
- 2(2)---LCD screen.
- 2(3)---LED indicator.



Rear view

- 1. WLAN(HDMI)
- 2. USB
- 3. Ethernet(RJ45)
- 4. RPO/Dry in/Dry out
- 5. EBM auto detection
- 6. RS 232
- 7. Slot Card CMC-G2
- 8. Conector EBM 12VDC/50A
- 10. Input socket / input terminal
- 11. Output socket / output terminal
- 13. Programmable output socket



The following table shows the indicator status and description:

Indicator	Status	Description
 Green	On	The UPS is operation normally on Online or on High Efficiency mode.
 Yellow	On	The UPS is in Battery mode.
 Yellow	On	The UPS is in Bypass mode.
 Red	On	The UPS has an active alarm or a fault. See chap. X for details.

The following table shows the indicator status and description:

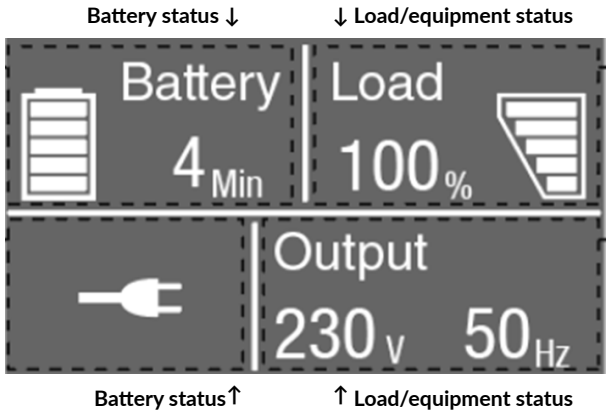
The button	Function	Illustration
	Power on	Press the Button for >100ms & < 1s can power on the UPS without utility input at the condition of battery connected.
	Turn on	When the Unity is powered on, press the button for >3s can turn on the UPS.
	Turn off	Press the button > 4s can turn off the UPS.
	Scroll up	Press to Scroll up the menu option
	Scroll down	Press to Scroll down the menu option
	Enter menu	Press to Scroll down the menu option
	Exit the present menu	Press to exit present menu to Main menu or the higher-level menu without changing a setting
	Mute buzzer	Press the button to mute the buzzer temporarily, once new warning or fault is active, buzzer will work again

The Buzzer

Alarma	Descriere
1 beep every 2 minutes	Load supplied on bypass
1 beep every 4 seconds	Load supplied on battery. If battery low, beep every second
1 beep every second	General warning active
2 beeps every second	Overload warning
Continuous	Fault active

Back Light:

After 10 minutes of inactivity, the LCD backlight will automatically dim. Press any button to restore the screen.



Operation status	Cause	Description
	Standby mode	The UPS is Off without output.
	Online mode	The UPS is operating normally and protecting the equipment.
 1 beep every 4 seconds	Battery mode	An utility failure has occurred, and the UPS is powering the equipment with battery. Prepare your equipment for shutdown.
 1 beep every 1 seconds	Battery mode with battery low	This warning is approximate, and the actual time to shutdown may vary significantly.
	High Efficiency mode	Once the mains are loss or abnormal, the UPS would transfer to Line mode or Battery mode and the load is supplied continuously.

	Converter mode	The UPS would free run with fixed output frequency(50Hz or 60Hz). The output maximum power and maximum charging current should be derating to 60% in converter mode.
	Bypass mode	Overload or fault has occurred, or a command has been received, and the UPS is in Bypass mode.
	Battery test	UPS is executing a battery test.
	Battery fail	The UPS detects bad battery or battery disconnected.
	Overload	Some unnecessary loads should be cut off to reduce the load.
	Fault mode	Some fatal problems happened.
	Parallel mode	UPS is working in parallel mode

7.3.2 Display functions

Use the two middle buttons ( and ) to scroll through the menu structure. Press the Enter () button to select an option. Press the ESC () button to cancel or return to the previous menu.

When starting the UPS, the display is in the default UPS status summary screen.

Main menu	Submenu	Display information or Menu function
UPS status		UPS mode, IoT status, date/time, battery status, parallel information and current alarms
Event log		Displays the events and faults stored
Measurements		[Load] W VA A P?%, [Input L1/Output] V Hz, [Input L2/Input L3] V Hz(if they exist). [Battery] % min V EBM, [DC Bus] V, [Temperature] °C.
Control	Load segment	Load segment enable or disable
	Start battery test(single mode). Single battery test(parallel).	Starts a manual battery test in stand-alone mode or starts a single battery test in parallel mode.
	Parallel UPS battery test (single mode).	Starts a manual battery test test in parallel mode.
	Single UPS turn off (parallel mode).	Operate this machine to exit parallel connection.
	Reset fault state	Clear active fault.
	Reset event list	Clear events and faults.
	Reset com card / Reset IoT	Reset IoT and Modbus TCP function inside UPS.
	Restore factory settings	Restore to default factory settings.
Settings		Refer to User settings.
Identification		[Model name], [Serial number], [firmware version], [comm card firmware], [IP/MAC adress].

7.3.3 User settings

Submenu	Available settings	Default settings
Password	Can be changed by user.	4732
Language	English, Italiano, Français, Deutsch, Español, Русский, Polski, 简体中文.	English
User password	[Enabled, ****], [Disabled]	Enabled
Audible alarms	[Enabled], [Disabled]	Enabled
Output voltage	[200V], [208V], [220V], [230V], [240V]	[230V] [240V] for AU
Output frequency	[Autosensing], [converter 50Hz, 60Hz]	Autosensing

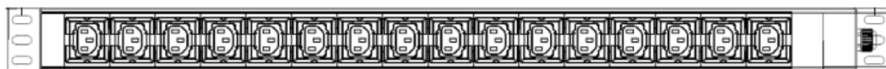
High efficiency	[Disabled], [Enabled]	Disabled
Auto bypass	[Disabled], [Enabled]	Enabled
Start/Auto restart/ Start from bypass	[Disabled], [Enabled]	Cold start/Auto restart: enabled Start from bypass: disabled
Site wiring fault	[Disabled], [Enabled]	Disabled]
Overload pre-alarm	[50% ~105%]	105%
External battery	[Auto detection], [Manual EBM: 0~4], [Manual Ah: 7~144Ah]	Auto detection 0 EBM
Charger current	1.5A	1.5A
Dry in signal	[Disabled], [Remote on], [Remote off], [Forced bypass].	Disabled
Dry out signal	[Load powered], [On bat], [Low bat], [Bat open], [Bypass], [UPS OK].	Bypass
Ambient temperature alarm	[Enabled], [Disabled]	Enabled
Battery remaining time	[Enabled], [Disabled]	Enabled
Date and time	dd/mm/yyyy hh:mm	01/01/2020 00:00
LCD contrast	[-5 ~ +5]	[0]
Modbus TCP	[Enabled], [Disabled]	Disabled
IoT Enable	[Yes], [No]	No

NOTE!

If the utility power is IT system, the site wiring fault function should be disabled.

7.4 PDU - Power Distribution Unit

The PDU module distributes the voltage coming from the UPS to the equipment that is installed in the MDC (servers, networking, storage units, etc.). Constructively, it is a multiple socket equipped with 12 C13 and 4 C19 sockets, as well as a 32A automatic fuse, positioned at the rear of the rack in vertical position. It is powered from the PDU1 output of the PDM module and its power supply is controlled from the PDU1 switch on the front panel.



7.5 Monitor

The monitoring module collects all the data coming from the other modules as well as from the sensors, and through the graphical user interface installed it is possible to configure the MDC operation under different aspects (monitoring, notifications, etc.)

All electrical connections of the monitor are factory default, inside the MDC are mounted several sensors that provide various information on the status of different components, environmental conditions (temperature, humidity) etc.. Thus can be monitored various parameters to improve the operating conditions of the equipment, and will issue alerts or notifications in case of potentially dangerous situations.

Technical data.

Supply voltage: 12V DC 5A.

Data Out (DO) ports: 2, normal signal open or closed

Data In (DI) ports: 9, for Dry Contact UPS, smoke sensors, infrared, liquid leak, door opening.

Powered Data Out (DO) ports: 4, for alarm lights, automatic door buzzers, etc.

RS485 ports: 8. Ports 1 and 2 also support RS232. Ports 3 and 4 have RJ45 connection.

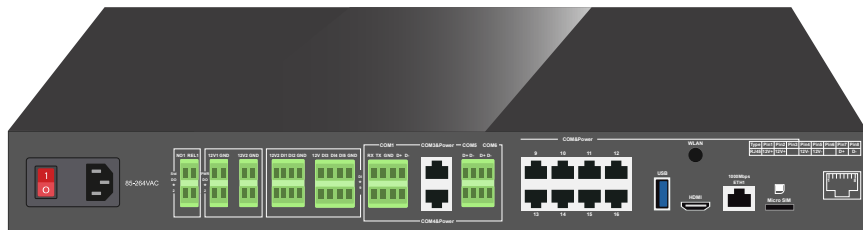
USB ports: 2, type A. Supports USB camera, flash drive, keyboard and mouse.

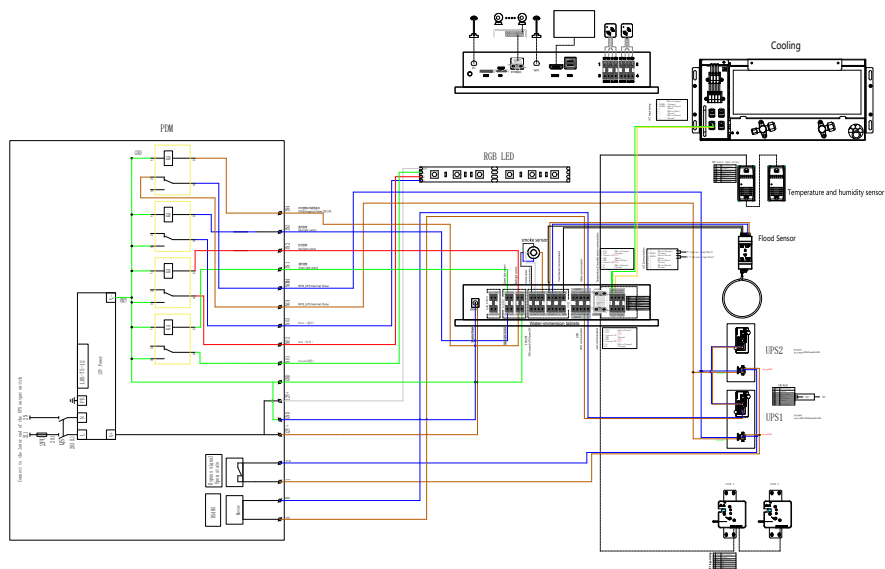
MicroSD Slot: 1, supports max. 64GB.

MicroSIM Slot: 1.

Ethernet port: 1, RJ45, 100/1000Mbps.

HDMI port: 1, for additional display.





7.6 Sensors

The integrated monitoring system can control cabinet doors and monitor the operating status of cooling units and UPS, input power parameters, and environment parameters such as cabinet inlet and outlet air temperature and door status, water leakage, smoke and fire. A temperature and humidity sensor is installed at the front of each IT cabinet, a smoke sensor is installed at the top of the rear of the cooling unit cabinet, and a water leakage detector is installed at the bottom of the rear of the cooling unit cabinet. The following figures show the sensors.

Inside the MDC are mounted several sensors that provide various information on the status of different components, environmental conditions (temperature, humidity), etc. Thus, various parameters can be monitored to improve the operating conditions of the equipment, and alerts or notifications will be issued in case of potentially dangerous situations.

The smoke sensor is used to detect smoke or fire that may occur in the system. If a component in the system is damaged and catches fire, a smoke alarm will be triggered and displayed on the HMI. The internal contact of the smoke sensor must be set to NO, otherwise alarms will be reported by mistake.

A. Temperature and humidity sensor

This sensor monitors and communicates information about temperature and humidity in the MDC.

Technical Data:

Supply voltage: 12V DC.

Power consumption: <1.6W.

Communications: RS485.

Status signaling: green / red flashing LED.



B. Smoke sensor

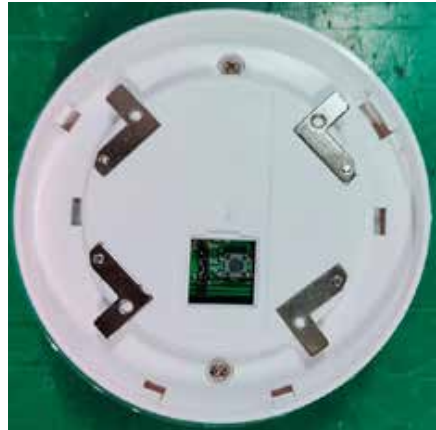
Technical characteristics:

Supply voltage: 9 - 35V DC

Standby current: 12m

Status signaling: Red LED

Connections: 1-2 power supply, 3-4 alarm signal



C. Leak sensor

Via the metal-inserted wire, this sensor signals if liquids are leaking inside the MDC.

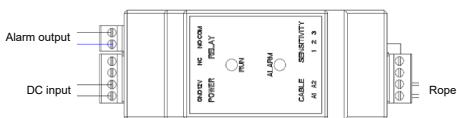
Technical characteristics

Supply voltage: 12V DC

Response time <2

Sensor wire length: 5

Status signaling: green / red LED



8 Maintenance

This chapter introduces how to maintain the MDC, including safety notes and the maintenance of major components such as the power distribution unit, the cooling unit, and the monitor.

CAUTION

- System maintenance must be completed by authorized technical and professional personnel.
- All maintenance must be subject to local electrical, cooling and manufacturing laws and regulations. Otherwise, no warranty will be given.
- Unsuitable parts may cause degradation or damage to the MDC. It is recommended to use original parts when a replacement is required.

8.1 Periodic maintenance of the power distribution system

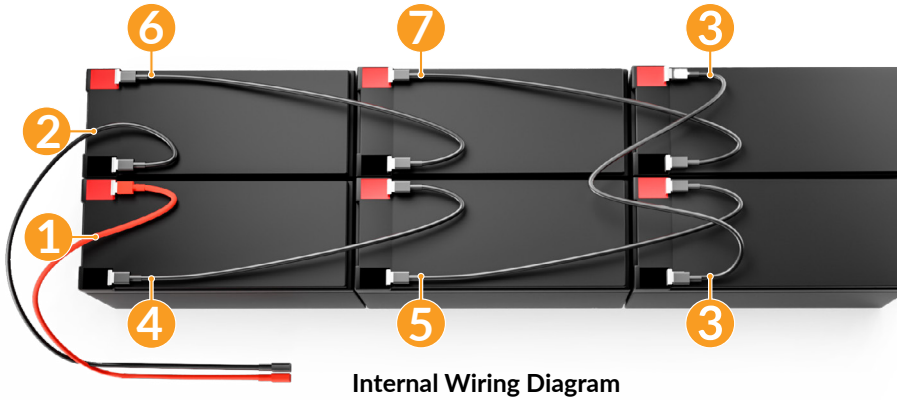
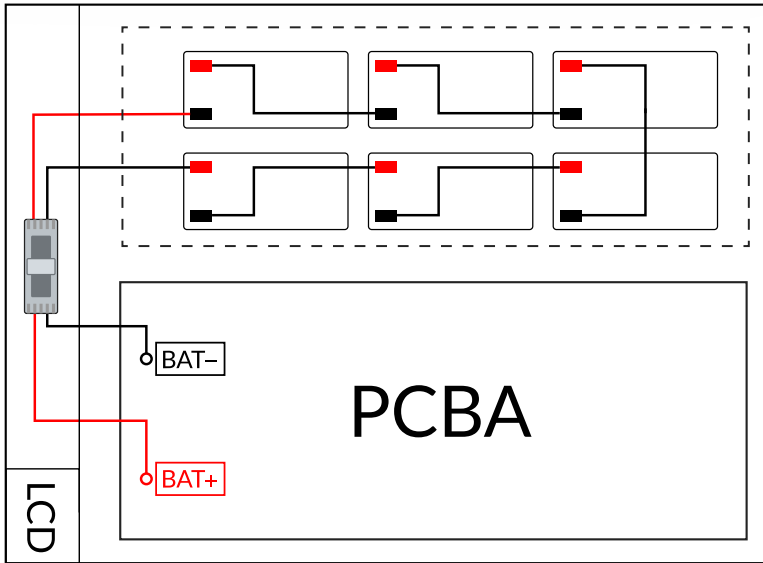
8.1.1 Periodic cleaning

Clean the vents regularly on the front and back of the UPS to keep the airflow inside the UPS unobstructed and confirm that nothing is obstructing the ventilation of the UPS.

8.1.2 Fan maintenance

With the UPS, check every six months to see if all fans are working properly (users should check if the fans are spinning and if there is a fan error information on the LCD of the UPS panel) and replace faulty fans promptly.

8.1.3 Battery maintenance



If the UPS is equipped with battery, the battery must be maintained regularly. Note that:

- Battery life is greatly affected by the ambient temperature and the environment temperature should be kept from 15°C to 25°C.
- When the battery is not used for a long time (more than three months), it needs to be charged once every three months for at least 10 hours.
- If you find that the battery backup time is short, contact the supplier in time to determine whether the battery needs to be replaced.

- Use the same brand and model for battery replacement. If you want to replace with another brand or model, consult our customer service.

8.1.4 Check the UPS status

Perform regular checks on the status of the UPS, including:

- Check whether the UPS faulty light is up, and whether a faulty alarm is generated.
- Check whether the UPS is working in a bypass mode. Under normal circumstances, the UPS will operate in the online mode. If the UPS is operating in a bypass mode, confirm the cause.

Possible causes may include:

- Manual switching
- UPS overload
- UPS error

• Check whether the battery is in an electrical discharge state. Under normal circumstances with mains power, the battery should not be discharging. If the UPS is operating in battery discharge mode, confirm the cause. Possible causes may include:

- Mains power failure
- Manual switching
- Battery test
- UPS failure

8.2 Periodic maintenance of monitoring system

It is recommended to periodically check the working status of the monitoring module and sensors. This includes the following steps:

Step 1 Check whether alarms are reported on the alarm page. If yes, check the corresponding device to clear the alarm.

Step 2 Check that information such as UPS operating status, cooling unit working status, environment, and running parameters are properly displayed on the HMI.

Step 3 Check that input and output parameters, battery and other parameters of the UPS are displayed normally on the UPS page.

Step 4 Check whether the air temperature and humidity of the input and output on the A/C page are displayed normally and whether an overheating alarm occurs. If an alarm is reported, locate and rectify the cause to clear the alarm.

Step 5 Check whether water leakage, smoke and other alarms are displayed on the Environment page. If yes, locate and rectify the cause to clear the alarm.

Step 6 Check whether access control alarms are displayed on the Door page. If yes, locate and rectify the cause to clear the alarm.

Step 7 Check whether the temperature sensor is connected to the cabinet securely.

Step 8 Check whether the location of the water leakage sensor is moved.

Step 9 Check whether the smoke sensor operates normally and the interface functions normally.

Step 10 Check whether the electronic door locks can be opened normally.

9 Troubleshooting

This chapter introduces how to maintain the MDC, including safety notes and the maintenance of major components such as the power distribution unit, the cooling unit, and the monitor.

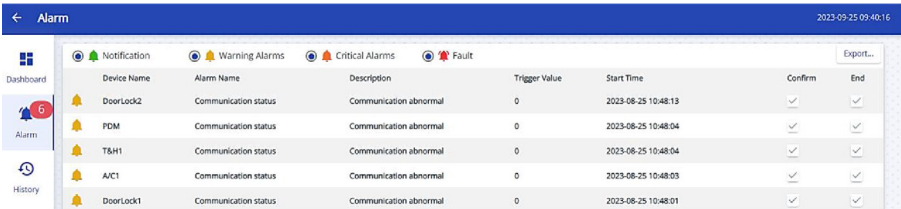
9.1 Alarms and solutions

You can check alarms and faults on the HMI. This chapter describes some alarms and corresponding solutions for your inspection and troubleshooting. If the problem persists, contact our customer service center.

If you need to report bugs, errors, or issues to our customer service center, please take note of and report the following information:

- Serial numbers of the monitoring module, UPS, and cooling unit
- Date of the incident
- Complete problem description

To check alarms on the HMI, [refer to section 6.2 to log in to the system](#), and tap Alarm in the left menu bar.



Device Name	Alarm Name	Description	Trigger Value	Start Time	Confirm	End
DoorLock2	Communication status	Communication abnormal	0	2023-08-25 10:48:13	✓	✓
PDM	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓
T&H1	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓
AIC1	Communication status	Communication abnormal	0	2023-08-25 10:48:03	✓	✓
DoorLock1	Communication status	Communication abnormal	0	2023-08-25 10:48:01	✓	✓

See the following table for common faults and possible solutions. After the faults are rectified, the alarms will be automatically cleared, and the MDC will continue working properly.

Alarm	Possible cause	Solution
Output overload	The load exceeds the allowed range.	Reduce the load.
Water leakage detector alarm	Leakage occurs in the drainpipe of the cooling unit or the connection part.	Repair the drainpipe or interface of the cooling unit.
	The water intrusion sensor is shortcircuited.	Locate and rectify the cause.
Smoke sensor alarm	The load is damaged, which generates smoke.	Repair the load.
	Smoke occurs in the engine room.	Eliminate the source of smoke in the engine room.
	The smoke sensor is faulty and generates the alarm by mistake.	Refer to 9.2.5 Replace a smoke sensor .
Temperature too high (temperature and humidity)	The cabinet load exceeds allowed range.	Reduce or balance the cabinet load.
	There is no shield installed in the cabinet's spare parts.	Assembly the shield in the spare parts of the cabinet.
High humidity in hot chamber	The ambient humidity is too high.	Reduce the ambient humidity.
	The engine room is not sealed properly.	Seal the engine room properly.
	There is a humidifier in the engine room.	Turn off the humidifier in the engine room.
	High humidity alarm threshold of the cooling unit's returned air is set too low.	Increase the high humidity alarm threshold (80% by default) of the cooling unit.
Abnormal communication with the UPS	The UPS's communication cable is not connected properly.	Check the communication interfaces at both ends of the monitoring module and UPS and connect the communication cable properly.
Abnormal communication with the temperature and humidity sensor	The temperature and humidity sensor is not connected properly.	Check and connect the temperature and humidity sensor properly.
	The address of the temperature and humidity sensor is set incorrectly.	Check and set the DIP switch of the temperature and humidity sensor properly.

9.2 Typical alarms and faults

To check the Event log:

1. By pressing  on the menu of “Event log”.
2. Scroll through the listed events or faults.
3. The following table describes typical conditions.

WARNING		
Problem Displayed	Possible cause	Remedy
On Maintain Bypass	Maintain bypass switch is open	Check the maintain bypass switch
Site Wiring Site Wiring alarm	Phase and neutral conductor at input of UPS system are reversed	Reverse mains power wiring.
No battery	Battery pack is not connected correctly	Do the battery test to confirm. Check the battery bank is properly connected to the UPS. Check the battery breaker is turn on or fuse OK.
Battery low	Battery voltage is low	When audible alarm sounding every second, battery is almost empty.
End battery life	The battery has reached the end of its life	Consult dealer if replace the battery
Power overload	Power requirements exceed the UPS capacity	Check the loads and remove somenoncritical loads. Check if some loads are failed
Overload pre-alarm	The load exceeds the preset value	Check the loads or reset the pre-alarm value
Fan Lock	Fan abnormal	Check if the fan is running normally or fan detection cable disconnected
UPS temp. alarm	Inside temperature of UPS is too high	Check the ventilation of UPS and the ambient temperature
Amb. temp. alarm	The ambient temperature is too high	Check the environment ventilation
Imminent shutoff	Insufficient battery backup time	Protect load equipment in time

FAULT		
Problem Displayed	Possible cause	Remedy
Inverter overload	Overload	Check the loads and remove some noncritical loads. Check if some loads are failed.
Bypass overload	Overload	Check the loads and remove some noncritical loads. Check if some loads are failed.
Out. short circuit	abnormally low impedance placed on its output and considers it a short circuit	Remove all the loads. Turn off the UPS. Check if UPS output and loads is short circuit. Ensure short circuit is removed before turning on again.
UPS temp. fault	Inside temperature of UPS is too high	Check the ventilation of UPS and the ambient temperature.
DC bus + or - too high	UPS internal fault, the + or -DC BUS voltage is too high	Consult dealer.
DC bus + or - too low	UPS internal fault, the + or -DC BUS voltage is too low	Consult dealer.
DC bus unbalanced	UPS internal fault, the voltage difference between DC Bus+ and DC bus- is too large	Consult dealer.
DC bus short circ	UPS internal fault	Consult dealer.
Max inverter volt	UPS internal fault, the inverter voltage is too high	Consult dealer.
Min inverter volt	UPS internal fault, the inverter voltage is too low	Consult dealer.
ELSE CASES		
Problem Displayed	Possible cause	Remedy
No indication, no warning tone even though system is connected to mains power supply	No input voltage	Check the building wiring and input cable. Check if the input breaker is closed.
Green LED is not on even though the power supply is available	Inverter not switched on	Press On-Switch to turn on UPS.
Emergency supply period shorter than nominal value	Batteries are not fully charged / batteries defect	Charge the batteries for at least 12 hours and then check capacity

9.2.1 Replace a temperature and humidity sensor

The temperature and humidity sensor is installed in the cold aisle in front of the cabinet. The temperature and humidity sensor is magnetically attached to the metal sheet without screws. It is hot swappable.



To replace a temperature and humidity sensor:

Step 1 Unplug the network cable connected to the temperature and humidity sensor and remove the sensor.

Step 2 Connect the network cable to the new temperature and humidity sensor and attach the sensor to the sheet metal.

9.2.2 Replace a water leakage detector

The water leakage detector is placed at the bottom of the main cabinet's rear rail. When disassembling it, press down on the rail buckle.



To replace a water leakage detector:

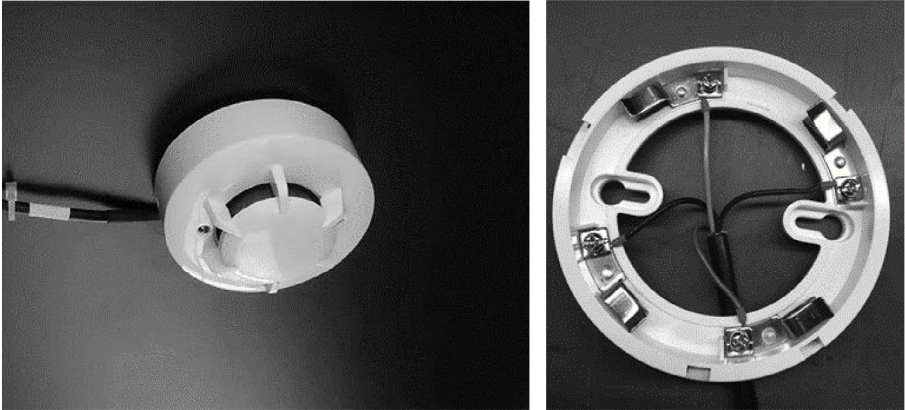
Step 1 Unplug the terminal connected to the water leakage detector.

Step 2 Press down the rail buckle to remove the water leakage detector.

Step 3 Press down the rail buckle and install the new water leakage detector, then connect the terminal to it.

9.2.3 Replace a smoke sensor

The smoke sensor is installed inside of the top of the cabinet. It consists of a wiring base and a sensor body.



To replace a smoke sensor body:

Step 1 Turn the smoke sensor body by 30° counterclockwise in the arrow direction shown on the sensor body to remove it from the base.

Step 2 Fit a new smoke sensor body to the base and rotate it clockwise to fix it.

To replace a smoke sensor base:

Step 1 Loosen the screws on the base to disconnect the cables and remove the base.

Step 2 Connect the cables to a new sensor base by referring to the cable labels and fix the screws.

If the indicator on the smoke sensor blinks green every 9 seconds, the smoke sensor is installed successfully.

9.2.4 Replace illuminating lights

The lights are installed on the top of cabinet and fixed by locking pins.

To replace the illuminating light:

Step 1 Disconnect the power plug on the PDU.

Step 2 Disconnect the power plug on the light.

Step 3 Replace the illuminating light with a new one.

9.2.5 Replace the UPS

NOTE!

Replacing the UPS cannot interrupt the power supply to backend loads.

The UPS 9PX3K is used as an example in this section. The replacement steps for other types of UPS are similar.

Step 1 Keep all switches stationary, and use a Phillips screwdriver to remove the maintenance bypass cover on the PDM.



Use a Phillips screwdriver to remove the cover

Step 2 Check the UPS by indicator or HMI to see whether the UPS has switched to the bypass mode.

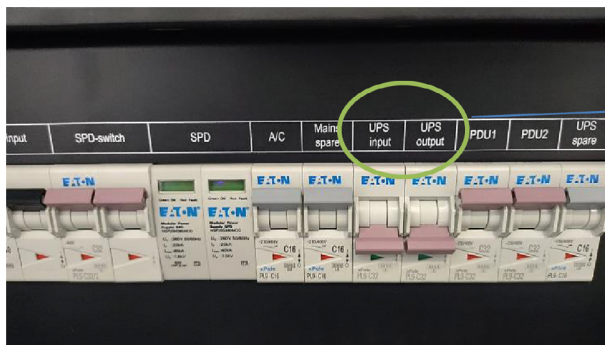
NOTE!

This step cannot be skipped. If the UPS does not work in the bypass mode, stop the operation and rectify the cause. Otherwise, the UPS may be damaged.

Step 3 Close the UPS maintenance bypass switch on the PDM.

This switch is exposed after the cover is removed.

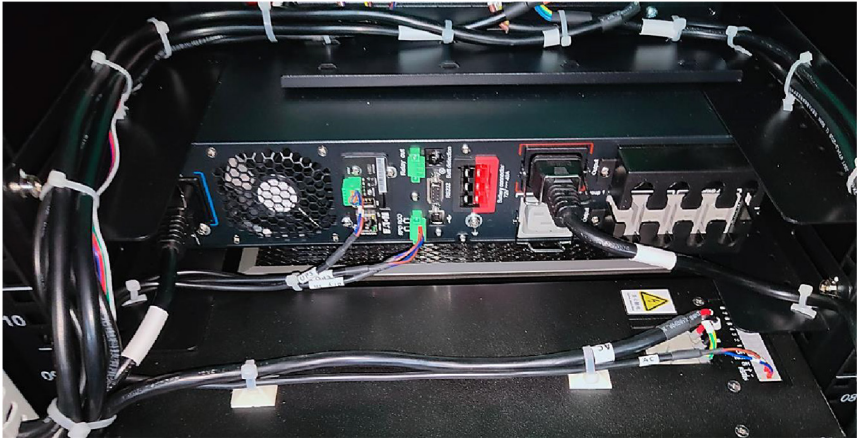
Step 4 Disconnect the UPS output switch on the PDM and the UPS input switch.



Disconnect these two switches

Step 5 Press the UPS shutdown button to turn off the UPS.

Step 6 Remove the input and output cables and other signal cables at the rear of the UPS, bundle them briefly, and then take out the UPS.



Step 7 Install a new UPS, connect the incoming and outgoing cables and signal cables in accordance with the cable marks at the rear, and restore the rear wiring to the original state.

Step 8 Close the UPS input switch on the PDM, and then start the UPS.

Step 9 Check that the UPS works in the bypass state.

NOTE!

This step cannot be skipped. If the UPS does not work in the bypass mode, stop the operation and rectify the cause. Otherwise, the UPS may be damaged.

Step 10 Close the UPS output switch.

Step 11 Disconnect the PDM panel bypass switch and install the cover.

9.2.6 Replace internal components of the PDM

9.2.6.1 Replace the DC module

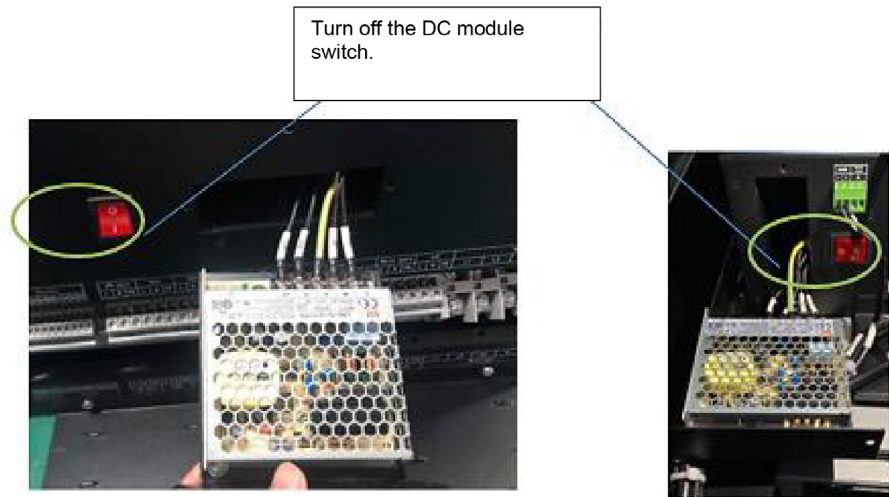
In this section, the replacement of the DC module is described with PDM-6K as an example.

The replacement steps for other models are similar.

NOTE!

Replacing the DC module does not require disconnecting the main power supply, and the customer's back-end equipment continues to operate normally.

To replace the DC module:



Example figure

Step 1 Turn off the DC module switch.

Step 2 Loosen the screws that fix the DC module.

Step 3 Pull out the DC module and disconnect the cables.

Step 4 Connect the cables with a new DC module.

Step 5 Push in the PDM and fix the screws on it.

Step 6 Turn on the DC module switch.

If the MDC is powered on successfully, the DC module switch is replaced successfully.

9.2.7.2 Replace a PDM switch

CAUTION

Before replacing a PDM switch, disconnect the main power supply and input power supply of the PDM to avoid electronic shocks.

To replace a PDM switch:

Step 1 Disconnect the main power supply and input power supply of the PDM.

Step 2 Remove the front panel. Disconnect cables on the switch, and open the buckle to remove the switch.

Step 3 Connect cables to the new switch by referring to the original cable connection.

Step 4 Install the front panel and connect power supply again.

A Acronyms and abbreviations

Abbreviation/Acronym	Full Form
HMI	human machine interface
MDC	micro data center
PDU	power distribution unit
PDM	power distribution module
PUE	power usage effectiveness
UPS	uninterruptible power systems

Multumim pentru ca ati ales produsele noastre!

Va rugam cititi manualul de utilizare inainte de a pune in functiune acest produs.

nJoy este o marca de produse de protectie a energiei si de rezerva care creeaza solutii pentru mai multe niveluri de complexitate a mediului, de la rezidential pana la industrial.

Despre acest manual

Thank you for choosing our micro data center (MDC).

This user manual introduces how to install the MDC cabinets, components, and cooling units and how to control the MDC using the web UI. Commissioning and troubleshooting information is also provided.

NOTA!

Interfata web poate varia in functie de versiuni. Interfata web afisata va fi prioritara.

Conventions

Simbolurile care pot fi gasite in acest manual de utilizare sunt definite astfel.

Simbol	Definition
 AVERTISMENT	Indica un pericol cu un nivel mediu de risc care, daca nu este evitat, poate duce la deces sau raniri grave.
 ATENȚIE	Indica un pericol cu un nivel scazut de risc care, daca nu este evitat, poate duce la rani minore sau moderate.
NOTA!	Notele informative atrag atentia asupra caracteristicilor sau instructiunilor importante. Ignorarea acestui tip de nota poate duce la o configurare ineficienta, pierderea datelor sau deteriorarea dispozitivului.

Cerinte generale

- Cititi cu atentie acest manual inainte de a utiliza produsul.
- Sectiunile „precautie” si „avertizare” din acest manual nu reprezinta toate masurile de siguranta. Aceste sectiuni evidentiaza doar unele puncte pentru precautiile de siguranta.
- Acest produs este recomandat pentru utilizari comerciale sau alte utilizari profesionale.
- Acest produs trebuie utilizat numai in scopurile pentru care a fost proiectat si nu vom accepta nicio responsabilitate in cazul utilizarii necorespunzatoare.
- Zonele din interiorul Cabinetului produsului sunt zone cu acces restrictionat. Recomandam ca accesul la zonele restrictionate sa fie acordat numai angajatilor autorizati.
- Parola produsului trebuie pastrata de persoana responsabila desemnata.
- Pentru precautiile de siguranta ale sistemelor de alimentare neintreruptibila (UPS) si ale aparatelor de aer conditionat, consultati manualele de utilizare si manualele de intretinere ale acestora.

Siguranta electrica

- Pentru conexiunile electrice, trebuie utilizate unelte izolante.
- Dupa ce produsul emite un avertisment prin monitor, localizati si eliminati prompt cauza pentru a evita alte probleme sau defectiuni.

Risc de soc electric

Un soc electric poate provoca vatamari corporale sau chiar deces. Prin urmare, acordati atentie urmatoarelor puncte:

- Inainte de a lucra la componentele din interiorul produsului, deconectati cutia de comanda si sursa de alimentare.
- Inainte de instalare, cititi toate instructiunile de utilizare, verificati daca toate componentele sunt primite la locul de instalare si verificati placuta de identificare pentru a va asigura ca tensiunea corespunde retelei de alimentare.
- Respectati legile si reglementarile de la fata locului sau locale.

Precautii de siguranta

- La intretinerea sau inlocuirea componentelor, acordati atentie componentelor cu temperatura ridicata (cum ar fi compresorul, conducta de agent frigorific si incalzitorul electric) pentru a preveni arsurile si pentru a preveni fisurarea sau explozia sistemului de agent frigorific din cauza unor operatii gresite.
- Scurgerile de agent frigorific pot provoca degeraturi. Luati masuri de protectie (de exemplu, purtati manusi antigel) atunci cand manipulati agentul frigorific.

Cerinte privind mediul de instalare

Acordati atentie urmatoarelor aspecte atunci cand lucrati la cel putin 2 metri deasupra solului:

- Respectati legile si reglementarile locale.
- Operatorul trebuie sa fie instruit si calificat.
- Inainte de a lucra la inaltime, verificati instrumentele de catarare si echipamentele de siguranta, cum ar fi castile de protectie, centurile de siguranta, scarile, trambulinele, schelele si echipamentele de ridicare. Daca acestea nu indeplinesc cerintele, luati masuri corective sau interziceti lucrul la inaltime.
- Purtati echipamentul individual de protectie, cum ar fi casca de protectie si centura de siguranta sau franghia de talie si fixati-l pe o structura solida. Nu il montati pe un obiect mobil nesigur sau pe un obiect metalic cu margini ascutite. Asigurati-va ca carligele nu vor aluneca.
- Stabiliti o zona restrictionata si semne atragatoare pentru lucrul la inaltime pentru a avertiza personalul nerelevant.
- Purtati utilajele si uneltele de lucru in mod corespunzator pentru a preveni caderea acestora si ranirea lor.
- Personalul implicat in lucrul la inaltime nu are voie sa arunce obiecte de la inaltime la sol sau invers. Obiectele trebuie sa fie transportate cu ajutorul unor prasile rezistente, cosuri suspendate, carucioare de inalta tensiune sau macarale.
- Asigurati-va ca sunt instalate balustrade de protectie si semne de avertizare la marginile si deschiderile zonei care implica lucrul la inaltime pentru a preveni caderile.
- Nu ingramaditi schele, trambuline sau alte accesorii pe sol sub zona care implica lucrul la inaltime. Nu permiteti persoanelor sa ramana sau sa treaca pe sub zona care implica lucrul la inaltime.

- Inspectati în prealabil schelele, trambulinele și bancurile de lucru utilizate pentru lucrul la înaltime pentru a vă asigura că structurile acestora sunt solide și nu sunt supraincarcate.
- Orice încălcare trebuie semnalată cu promptitudine de către șeful de șantier sau supervisorul de securitate, iar personalul implicat trebuie îndemnat să o corecteze. Personalului care nu oprește încălcările i se va interzice să lucreze.

Riscuri potențiale

- Acționați componentele interne ale produsului numai după deconectarea produsului de la toate sursele de alimentare.
- Înainte de a deschide componentele interne pentru întreținere, deconectați întrerupătorul de la rețea și toate sursele de alimentare de la UPS.

2 Prezentare generală a produsului

2.1 Introducere în MDC

Ca soluție de infrastructură convergentă pentru centre de date, noua noastră generație de Micro Data Center are următoarele caracteristici:

- Integrarea subsistemelor, cum ar fi UPS, distribuție de energie, monitorizare a mediului și iluminat.
- Disponibil ca un singur Cabinet sau ca mai multe Cabinete pentru a se potrivi diferitelor aplicații.
- Sisteme pre-proiectate cu validare din fabrică.
- Implementarea rapidă a Cabinetului și configurații flexibile.

MDC-ul este proiectat pentru utilizarea în medii care necesită microcentre de date, calculatoare sau camere de servere pentru întreprinderi mici și mijlocii. Acesta vine cu o alegere de sistem cu un singur Cabinet sau cu mai multe Cabinete. Toate dispozitivele care îndeplinesc standardele EIA-310-D pot fi instalate în cabinet. Acesta vine standard cu senzor de temperatură și umiditate, senzor de fum, detector de scurgeri de apă, etc.

Un MDC (Micro Data Center) este o unitate de procesare de date care include toate resursele necesare (atat informatice cat si de infrastructura) pentru satisfacerea unor nevoi de natura informatica. Astfel, daca luam in considerare nevoile informatice ale unei intreprinderi mici / medii, aceasta ar presupune existenta a unor servere (de domeniu, de fisiere, de internet pentru site-ul intreprinderii), eventual mijloace de stocare a datelor si echipamente de retelistica. Acestea ar trebui plasate intr-o camera cu temperatura controlata, asigurate impotriva penelor de curent cu un sistem tip UPS (Uninterruptible Power Source), eventual asigurate si impotriva unor situatii neprevazute care poate afecta functionarea serverelor (incendiu, inundatie sau infiltrarea de lichide). Un MDC cuprinde toate aceste functionalitati, mai mult, permite monitorizarea in timp real a conditiilor de functionare a componentelor si notificarea prin diferite mijloace atunci cand apar evenimente ce ar putea afecta in mod negativ componentele informatice.

Constructiv, un MDC se prezinta sub forma unui rack obisnuit cu rame pentru montarea diferitelor unitati informatice (servere, unitati de stocare etc.). In plus, mai poate cuprinde:

- UPS pentru asigurarea functionarii in timpul penelor de curent.
- cabinet de baterii pentru a extinde timpul de back-up.
- senzori (de temperatura, umiditate, scurgeri de lichid, fum).
- unitate de management si monitorizare cu posibilitate de conectare la retea (wired sau wireless).
- unitate de distributie a curentului electric prevazuta cu sigurante automate.
- iluminare interioara

In consecinta, avantajele folosirii unui MDC sunt:

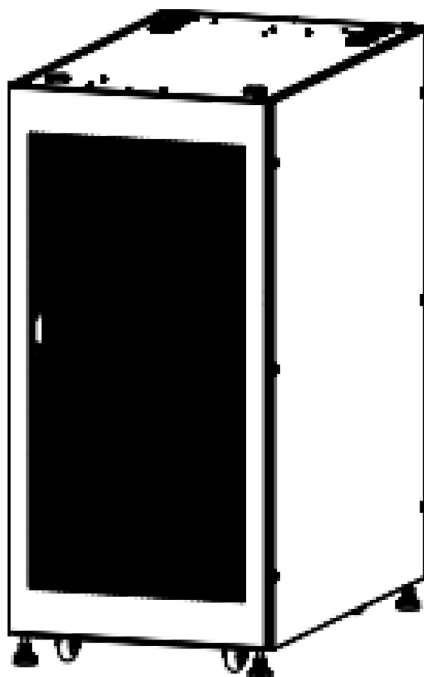
- Latenta scazuta: avand toate modulele informatice (servere, module de stocare, conexiune de retea etc.) intr-un singur loc, se va reduce semnificativ timpul de raspuns si de acces la date.
- Fiabilitate crescuta: ca urmare a prezentei subansamblelor de infrastructura (aer conditionat, UPS, senzori etc.) in aceeasi incinta cu subansamblele informatice, conditiile de functionare ale acestora vor fi mult imbunatatite si disfunctionalitatile vor fi in mare parte preintampinate, crescand fiabilitatea sistemului.
- Scaderea timpului de instalare si punere in functiune, ca urmare a faptului ca MDC-ul poate fi livrat asamblat in totalitate sau partial.

- Scalabilitate: pe masura ce nevoile informatice cresc, folosirea MDC-urilor permite adaugarea de noi unitati la cele preexistente si integrarea naturala a acestora in sistemul informatic.

- Costuri reduse: folosirea MDC-urilor, prin natura lor standardizata si modulara, exclude necesitatea desemnarii si echiparii unei locatii specializate pentru instalarea sistemelor informatice, in acelasi timp pastrand toate avantajele acesteia (climatizare, monitorizare, fiabilitate etc.)

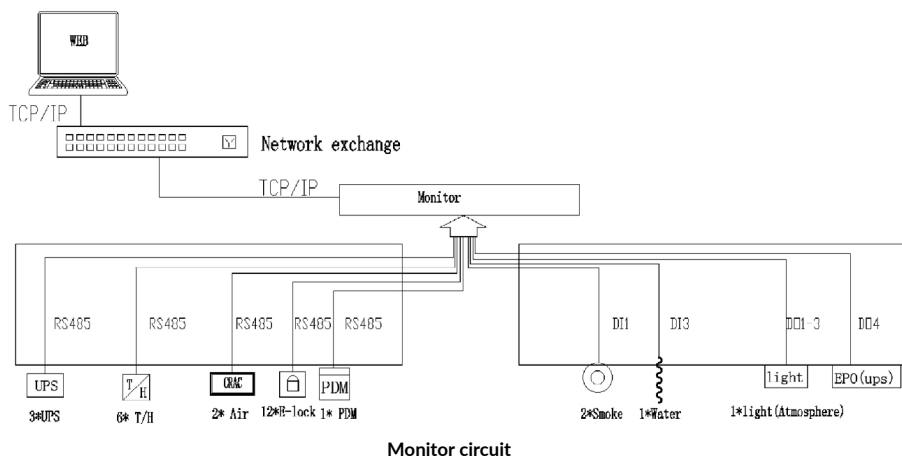
- Scalabilitate: pe masura ce nevoile informatice cresc, folosirea MDC-urilor permite adaugarea de noi unitati la cele preexistente si integrarea naturala a acestora in sistemul informatic.

- Costuri reduse: folosirea MDC-urilor, prin natura lor standardizata si modulara, exclude necesitatea desemnarii si echiparii unei locatii specializate pentru instalarea sistemelor informatice, in acelasi timp pastrand toate avantajele acesteia (climatizare, monitorizare, fiabilitate etc.)



Forge MDC 3K 24U

2.2 Sistemul de monitorizare



2.3 Cerinte de mediu

- Echipamentul se va instala in interior, suprafata unde se instaleaza sa fie plana si orizontala, ferita de raze directe de soare, cu temperaturi de 0 – 40 grade, umiditate mai mica de 90% (fara condensare) si cu suficient spatiu de operare. Infrastructura locatiei trebuie sa suporte o greutate de 800Kg.

- Conexiunea la rețeaua de alimentare si cablul electric utilizat trebuie sa reziste la un curent de minim 40A si sa fie corect realizate (conexiunile L, N, PE la blocul de borne de alimentare al PDM trebuie sa corespunda fazei, nulului si impamantarii rețelei).

- Nu se recomanda folosirea acestui echipament in mediu rezidential.

- Instalarea echipamentului se va face de numai de personal specializat / autorizat cu respectarea normelor de protectia muncii si folosirea echipamentului de protectie electrica (manusi izolatoare, etc.)

- Nu executati operatiuni de instalare sau mentenanta cu echipamentul conectat la rețeaua electrica.

Mediul de operare si de stocare recomandat este cel prezentat mai jos.

Temperatura de depozitare	-25°C la +55°C (fara baterie)
Mediu de depozitare	Interior/curat (fara praf, etc.)
Temperatura de functionare	0°C pana la 40°C
Umiditate ambientala	5%RH pana la 95% RH (fara condens)
Altitudine	≤ 3000 m (consultati-ne pentru utilizare peste 1000 m)

3 Pregatirea instalarii

3.1 Transport si despachetare

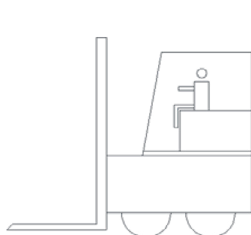
Figura de mai jos arata pachetul MDC.

⚠ ATENTIE

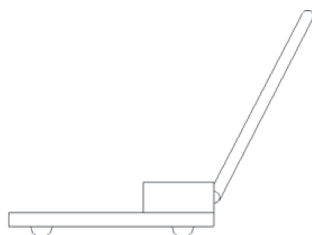
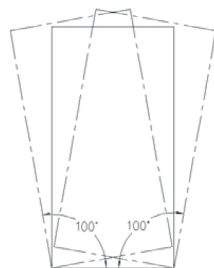
Solicitati unui tehnician calificat sa instaleze infrastructura camerei centrului de date.

3.1.1 Transport

Deoarece Cabineturile si unitatile exterioare de racire sunt grele, se recomanda un stivuitor electric sau un stivuitor manual pentru manipularea si mutarea acestora la locul de instalare. La transport, asigurati-va ca unghiul de inclinare al incarcaturii nu depaseste 10 grade.



Transportul sculelor



Unghiul maxim de inclinare

NOTA!

- Toate dispozitivele trebuie mentinute tot timpul in pozitie verticala.
- Deoarece dispozitivul este greu, centrul de greutate al dispozitivului trebuie sa fie echilibrat in timpul transportului.

Verificati integritatea ambalajului la momentul receptiei, transportati MDC-ul numai in ambalajul original pentru a-l proteja impotriva socurilor si a deteriorarilor, doar in pozitie verticala.

Inainte de instalare, verificati produsul. Asigurati-va ca nu prezinta deteriorari fizice. Nu porniti aparatul si informati imediat transportatorul si distribuitorul daca constatati defectiuni sau componente ori accesorii lipsa. Pastrati ambalajul original pentru utilizare ulterioara. Se recomanda pastrarea fiecarui echipament in ambalajul original deoarece au fost proiectate sa ofere maximum de protectie in timpul transportului si depozitarii.

3.2 Despachetarea

Pentru confortul despachetarii si transportului MDC, puteti muta unitatea pe cel mai apropiat teren plat inainte de despachetare.

Procedura de despachetare este urmatoarea:

Pasul 1 Transportati dispozitivul ambalat pe un teren deschis, plat si ferm. Indepartati materialele de ambalare si de amortizare.

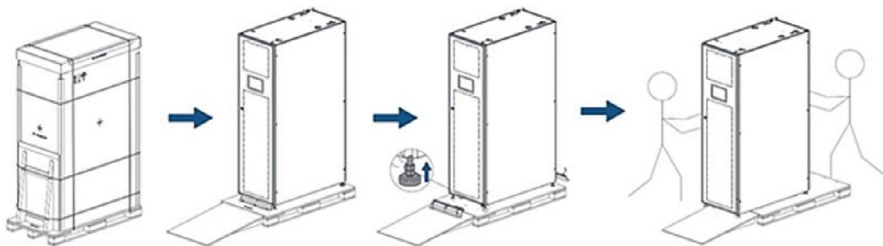
Pasul 2 Asezati rampa in partea din fata a Cabinetului, asa cum se arata in figura de mai jos.

Pasul 3 Deschideti usile din fata si din spate, indepartati suportul unghiular si insurubati picioarele pentru a asigura miscarea lina a rotilor.

Pasul 4 Inchideti usile din fata si din spate. Impingeti incet Cabinetul in jos de-a lungul paletului.

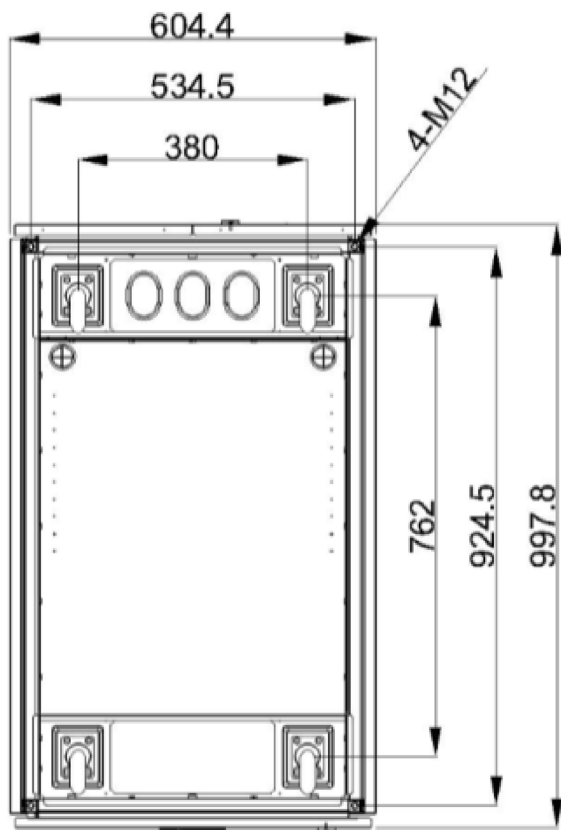
Este recomandat ca cel putin doi operatori sa efectueze acest pas pentru a asigura siguranta.

Pregatirea instalarii



3.3 Cerinte privind locul de instalare

MDC poate fi instalat pe pardoseala de ciment sau pe pardoseli ridicate. Asigurati-va ca exista suficient spatiu sau inaltime intre partea inferioara a Cabinetului si tavan. A se vedea dimensiunile de jos ale Cabinetului MDC in figurile urmatoare.



(unit: mm)

Partea inferioara a unui cabinet 24U de 600 mm

4 Instalarea si cablajul electric

Se dezambaleaza cele doua echipamente si se verifica continutul pachetelor.

Se ridica picioarele de sustinere a MDC-ului pentru a permite deplasarea acestuia pe roti si, folosind rampa furnizata in pachet, se coboara MDC-ul de pe platforma de transport.

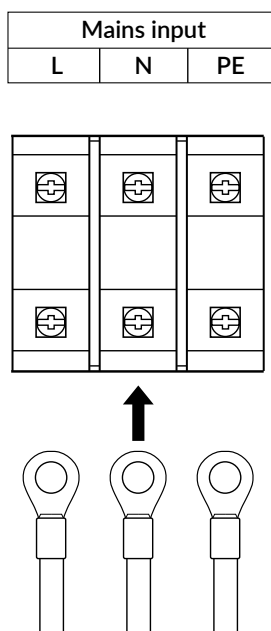
NOTA!

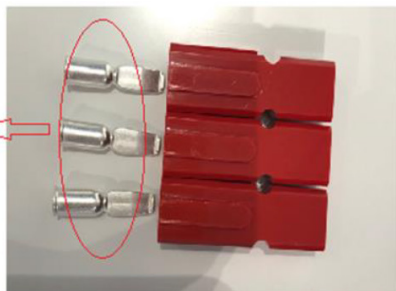
Toate cablurile sunt furnizate, cu exceptia unui cablu de intrare extern.

4.1 Conectarea cablurilor externe

Atat pentru Cabineturi unice, cat si pentru Cabineturi pe rand (multiplu), cablu de intrare extern (monofazate cu trei fire) sunt necesare pentru a conecta puterea de utilitate cu pre-asamblat intern.

Pentru a se conecta cu PDM, cablurile de intrare trebuie configurate cu terminale OT, asa cum se arata in schema de mai jos. Terminalele OT sunt disponibile in kitul de accesorii furnizat sau puteti utiliza dispozitivul dvs proprii.





5.1 Verificare Inainte de pornirea MDC

Inainte de a porni MDC, verificati si confirmati cateva aspecte, cum ar fi setarile sistemului, conectarea cablului de distributie a energiei si instalarea unitatii de racire.

5.1.1 Verificarea setarilor sistemului

- Verificati daca cabinetele sunt instalate (inclusiv suportul pentru cabluri si panoul lateral) si fixate In succesiune In locatia corecta. Puteti deschide usa Cabinetului si gasi numarul Cabinetului In coltul din dreapta jos al fundului Cabinetului. Asigurati-va ca picioarele de nivelare ale Cabinetului sunt reglate si nivelate.
- Verificati daca Cabineturile sunt imbinat la aceeasi inaltime, daca suruburile dintre Cabineturi sunt stranse si daca Cabineturile sunt etansate fara goluri.
- Verificati daca bobina de protectie de pe Cabinet nu este slabita sau cazuta.
- Verificati daca placa goala a fost instalata In partea de rezerva a Cabinetului In care nu este instalat niciun echipament.

5.1.2 Verificarea conexiunilor electrice

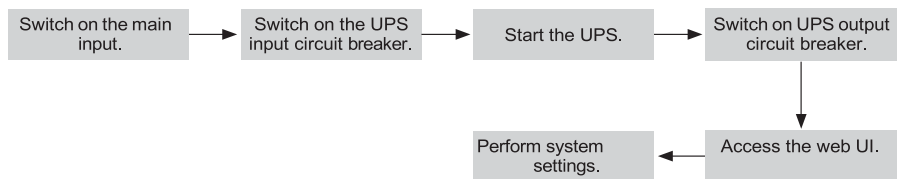
- Verificati daca toate Cabineturile (inclusiv Cabineturile pentru baterii) sunt Impamantate si daca cablul de Impamantare dintre usa Cabinetului si corp este conectat.
- Verificati daca numarul de celule ale bateriei este corect, daca conexiunile dintre baterii sunt corecte si daca conexiunile pozitive si negative ale bateriei sunt corecte.
- Verificati daca cablajul PDM este fixat si nu este slabit.
- Confirmati ca tensiunea si frecventa sursei de alimentare Indeplinesc conditiile si verificati daca ordinea fazelor sursei trifazate este corecta utilizand un multimetru.

5.2 Pornirea MDC

ATENȚIE

Instalarea sau punerea in functiune a MDC trebuie efectuata de catre inginerii nostri de serviciu clienti sau specialisti autorizati.

Pornirea MDC:



Pasul 1 Conectati intrarea principala a sistemului.

Pasul 2 Porniti Intrerupatorul de circuit pentru intrarea UPS de pe PDM.

Pasul 3 Conectati Intrerupatorul de circuit pentru bateria UPS-ului.

Pasul 4 Porniti UPS-ul urmand ghidul sau de utilizare.

Pasul 5 Porniti Intrerupatoarele de circuit de iesire ale UPS-ului pe PDM.

Pasul 6 Switch on PDU input circuit breakers on the PDM to turn on the PDUs.

Pasul 7 Verificati daca ecranul utilizatorului este pornit.

Daca este oprit, porniti comutatorul modulului DC de pe partea din spate a PDM.

Pasul 8 Accesati interfata utilizatorului pentru a seta limba, ora si adresa sistemului pe pagina de setari utilizator si pentru a seta ora instalarii, numarul de serie, tipul sistemului pe pagina de intretinere.

Numele de utilizator/parola implicita pentru administrator este admin/admin. Pentru detalii, consultati [7 Operatiuni generale pe HMI sau computer.](#)

Pasul 9 Porniti Intrerupatoarele de intrare pentru racire pe PDM.

Pasul 10 Atingeti **UPS** In bara de meniu de jos pentru a verifica daca UPS functioneaza corect.

Pasul 11 Atingeti **Environment (Mediu)** In bara de meniu de jos pentru a verifica daca e vreo alarma raportata.

Pasul 12 Atingeti **Alarma** In bara de meniu din stanga pentru a verifica daca este raportata vreo alarma.

Daca da, localizati cauza si eliminati alarma.

5.3 Oprirea MDC

ATENȚIE

- Inainte de oprire, asigurați-va ca incarcarea utilizatorului a fost oprita cu autorizare.
- Nu opriți MDC-ul oprind direct alimentarea pentru a evita deteriorarea unitatii de racire.

Pentru oprirea MDC:

Pasul 1 Opriti Intrerupatorul de circuit PDU de pe PDM.

Pasul 2 Opriti comutatorul UPS si deconectati comutatoarele de intrare si iesire ale UPS-ului de pe PDM. Opriti comutatorul bateriei.

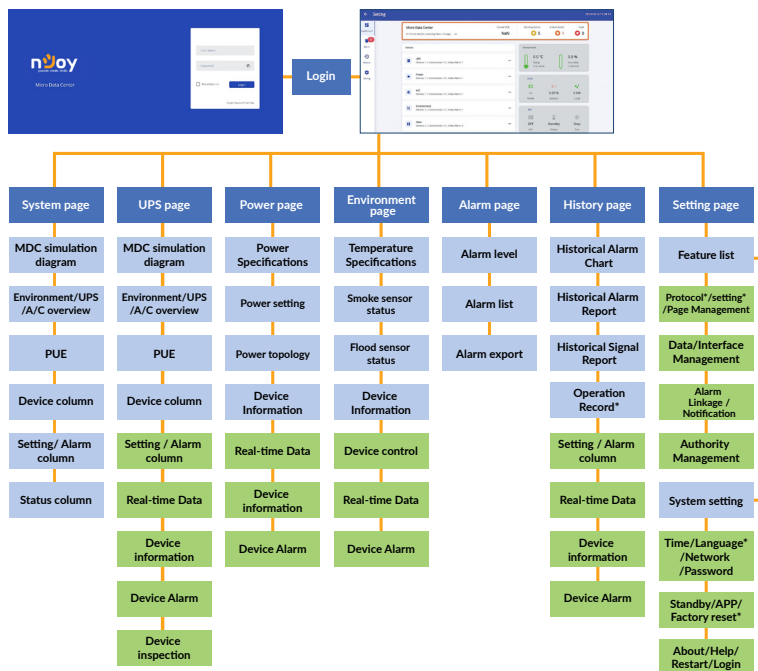
Pasul 3 Deconectati Intrerupatorul principal care controleaza intrarea sistemului.

6 Operatiuni generale pe computer

Acest capitol prezinta metoda de monitorizare si interfata de utilizator a MDC, inclusiv monitorizarea si afisarea locala si la distanta.

6.1 Prezentare generala a interfetei cu utilizatorul

Prezentare generala a interfetei cu utilizatorul.



*indica faptul ca meniul poate fi accesat numai de catre conturi autorizate.

6.2 Conectarea la/iesirea din sistemul MDC

Va puteti conecta la MDC prin intermediul unui computer conectat la acelasi LAN cu MDC.

NOTA!

Un cont poate fi utilizat pentru a va conecta la MDC pe un singur client.



6.2.1 Conectati-va la MDC prin intermediul unui computer (conexiune fara fir)

Pasul 1 Obtineti adresa IP care va fi utilizata pentru MDC In LAN.

1. Obtineti adresa IP care va fi utilizata pentru MDC In LAN.
2. Apasati Win+R, introduceti cmd si apasati Enter.
3. Introduceti ipconfig si apasati Enter. Inregistrati valorile adresei IPv4, mastii de subretea si gateway-ului implicit. Figura urmatoare prezinta un exemplu.

NOTA!

- Vi se va solicita sa modificati parola implicita atunci cand va conectati pentru prima data la sistemul MDC.

- Daca uitati parola, contactati personalul nostru de service.

```
Microsoft Windows [Version 10.0.19044.2604]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ae0504632>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet:

    Link-local IPv6 Address . . . . . : fe80::15c8:96d8:2a4:ab8e%16
    IPv4 Address. . . . . : 172.18.140.50
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.18.140.1

Ethernet adapter Ethernet 3:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

C:\Users\ae0504632>
```

Pasul 2 Setati adresa IP pentru MDC.

1. [Consultati 6.2.1 pentru a va conecta la HMI a MDC](#), si mergeti la **Setting > Network > IP Config pe HMI**.
2. Setati IP, Mask si Gateway la valorile Inregistrate In Pasul 1 si atingeti Modify.

Network

2023/03/11 10:47:04

IP Config DNS Config Wireless

Dashboard

Alarm

History

Camera

Setting

IP: 172.18.140.249

Netmask: 255.255.255.0

Gateway: 172.18.140.1

Modify

Pasul 3 Conectati MDC si computerul dvs. la acelasi LAN.

1. Deconectati cablul de retea de la computerul dvs. si conectati cablul de retea la **portul de retea** din partea superioara a Cabinetului.
2. Conectati computerul dvs. la acelasi LAN cu MDC.

Pasul 4 Porniti un browser (recomandat Google Chrome) pe computer, introduceti adresa IP a MDC pe care ati setat-o In Pasul 2 In bara de adrese si apasati **Enter**.

Pasul 5 Introduceti numele de utilizator si parola si faceti clic pe **Login**.

NOTA!

- Numele de utilizator/parola implicit pentru administrator este admin/admin, iar numele de utilizator/parola implicit pentru utilizatorul obisnuit este user/user. Vi se va cere sa schimbati parola implicita cand va conectati pentru prima data la sistemul MDC.

- Daca ati uitat parola, contactati personalul nostru de service.

6.2.2 Conectati-va la MDC prin intermediul unui computer (conexiune prin cablu)

Pasul 1 Utilizati un cablu de retea pentru a va conecta computerul la portul de retea din partea superioara a Cabinetului.

Pasul 2 Schimbati adresa IP a computerului dvs. la una neocupata In acelasi segment de retea cu MDC.

1. Accesati **Start > Settings > Retea si internet (Network & Internet.)**
2. Click pe **Schimbare setari adaptor (Change adapter settings.)**
3. Faceti clic dreapta pe adaptorul de retea si selectati optiunea **Properties (Proprietati).**
4. Selectati **Internet Protocol Version 4 (TCP/IPv4)** si faceti clic pe **Properties (Proprietati).**
5. Select **Use the following IP address**, and specify **IP address**, **Subnet mask**, and **Default gateway**.

In mod implicit, adresa IP a MDC este 192.168.100.100, masca de subretea este 255.255.255.0, iar gateway-ul este 192.168.100.1. In acest caz, puteti seta adresa IP a computerului dvs. la **192.168.100.X** (X indica orice numar Intreg cuprins Intre 2 si 254, cu exceptia lui 100).

Daca ati schimbat adresa IP a MDC anterior, consultati sectiunea [6.2.1](#) pentru a va conecta la HMI a MDC si accesati **Setting > Network > IP Config** pentru a obtine adresa IP.

6. Faceti clic pe **OK**.

Pasul 3 Porniti un browser (recomandat Google Chrome) pe computer, introduceti adresa IP a MDC (de exemplu, **192.168.100.100**) In bara de adrese si apasati Enter.

NOTA!

Verificati daca **https://** este adaugat automat Inaintea adresei IP introduse. Daca nu, adaugati manual **https://** Inaintea adresei IP.

Pasul 4 Introduceti numele de utilizator si parola si faceti clic pe **Login**.

– *Daca ati uitat parola, contactati personalul nostru de service.*

6.2.3 Deconectarea din MDC

Dupa ce va conectati la MDC, puteti atinge Setari In bara de meniu din stanga si apoi atingeti lesire pentru a va deconecta de la MDC.

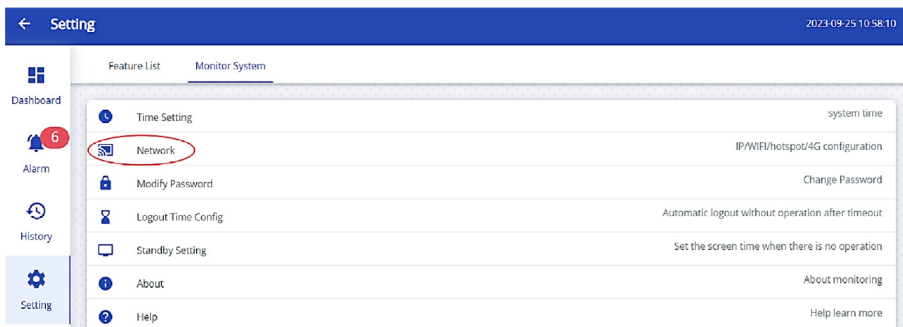
6.3 Modificarea adresei IP a sistemului

NOTA!

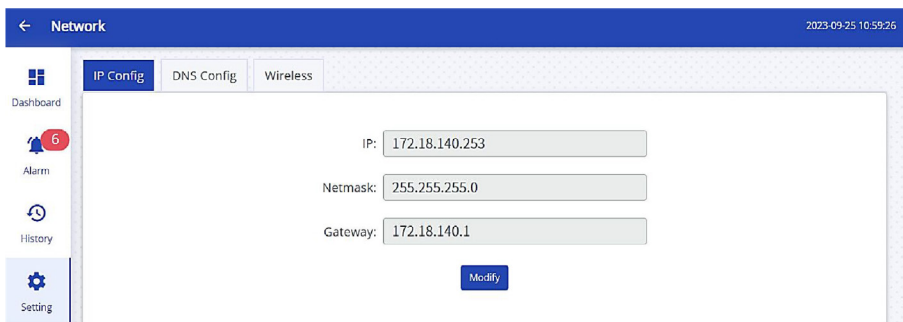
Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 [Consultati sectiunea 6.2 pentru a va conecta la sistem..](#)

Pasul 2 Atingeti **Settings** In bara de meniu din stanga si apoi atingeti **Monitor System > Network**, dupa cum se arata mai jos.



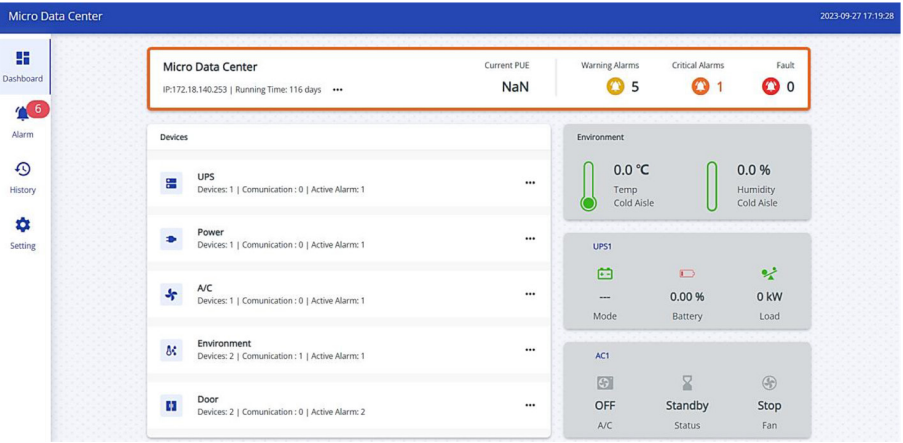
Pasul 3 Atingeti Configurare IP, introduceti adresa IP si gateway-ul, apoi Atingeti Modificare. Asteptati aproximativ 10 secunde pentru ca configuratia sa intre in vigoare.



Pasul 4 Opriti si reporniti serverul de monitorizare.

6.4 Vizualizati informatiile despre sistem

Dupa ce va conectati la sistem, este afisata urmatoarea pagina principala a sistemului.



Pe aceasta pagina, puteti vedea urmatoarele informatii.

Pagina principala a sistemului

Informatii MDC	Afiseaza numele sistemului, adresa IP, timpul de functionare, eficienta consumului curent de energie (PUE) si numarul de alarme ale MDC. Puteti atinge ... pentru a vizualiza mai multe date MDC, inclusiv numele produsului, modelul, numarul de serie, numarul de material si timpul de instalare.
Informatii despre dispozitiv	Afiseaza lista dispozitivelor, care include numarul total de dispozitive, numarul de dispozitive online si numarul de alarme active. Puteti atinge ... pentru a vizualiza mai multe date despre dispozitive si pentru a le controla.
Environment	Afiseaza temperatura si umiditatea curente ale culoarului rece.
UPS	Afiseaza modul de functionare curent, nivelul bateriei si starea de Incarcare a UPS-ului.
Bara de meniu	Include tabloul de bord, alarma, istoricul si setarile In succesiune.



6.5 Vizualizati detaliile UPS si controlati UPS

Pentru a vizualiza informatii generale despre UPS, consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atineti UPS pe pagina principala Tablou de bord pentru a accesa pagina UPS, dupa cum se arata mai jos.

The screenshot displays the 'UPS1' dashboard. At the top, there's a blue header with a back arrow, 'UPS1', and the timestamp '2023-09-25 11:34:15'. On the left, a sidebar contains icons for 'Dashboard', 'Alarm' (with a red '6' badge), 'History', 'Setting', and 'Inspection'. The main area features a 'Warning' section with a yellow bell icon, 'UPS1', 'Communication status', and 'Communication abnormal' (dated 2023-08-25 10:48:01). Below this, a row of metrics includes: 'Mode' (---), 'Load' (0.0 %), 'Apparent Power' (0.0 kVA / 0.0 kVA / 0.0 kVA), 'Active Power' (0.0 kW / 0.0 kW / 0.0 kW), 'Battery Capacity' (0.0 %), 'Remaining Time' (0.0 min), and 'Voltage' (0.0 V). The bottom section contains expandable cards for 'Control', 'Real-time Data', 'Device Info', and 'Inspection'.

Pe aceasta pagina, puteti vedea modul de lucru, sarcina, puterea aparenta, puterea activa, capacitatea bateriei, timpul ramas de utilizare a bateriei si tensiunea bateriei UPS-ului.

6.5.1 Vizualizarea alarmelor UPS

Pentru a vizualiza alarmele UPS, consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atineti UPS pe pagina de pornire Dashboard. Apoi puteti vedea alarmele In modulul Warning (Avertizare), dupa cum se arata In figura urmatoare.

This is a duplicate of the screenshot above, showing the 'UPS1' dashboard with the same layout, including the sidebar, warning section, metrics row, and expandable cards.

6.5.2 Opriti UPS-ul cu ajutorul butonului EPO

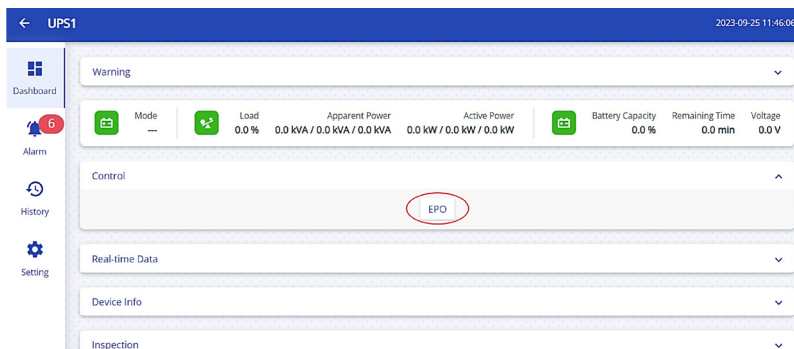
NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate.

Puteti opri UPS-ul de la distanta utilizand butonul EPO In caz de urgenta.

Pasul 1 [Consultati sectiunea 6.2](#) pentru a va conecta la sistem si atingeti UPS pe pagina de pornire Dashboard.

Pasul 2 Atingeti Control si apoi EPO.

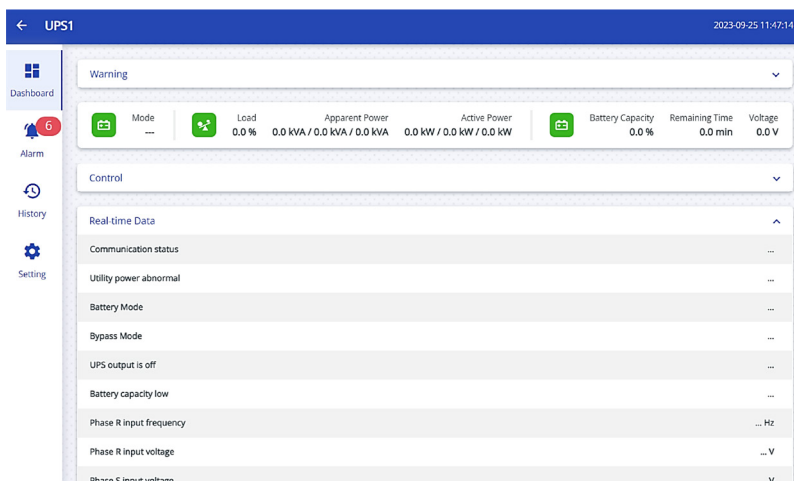


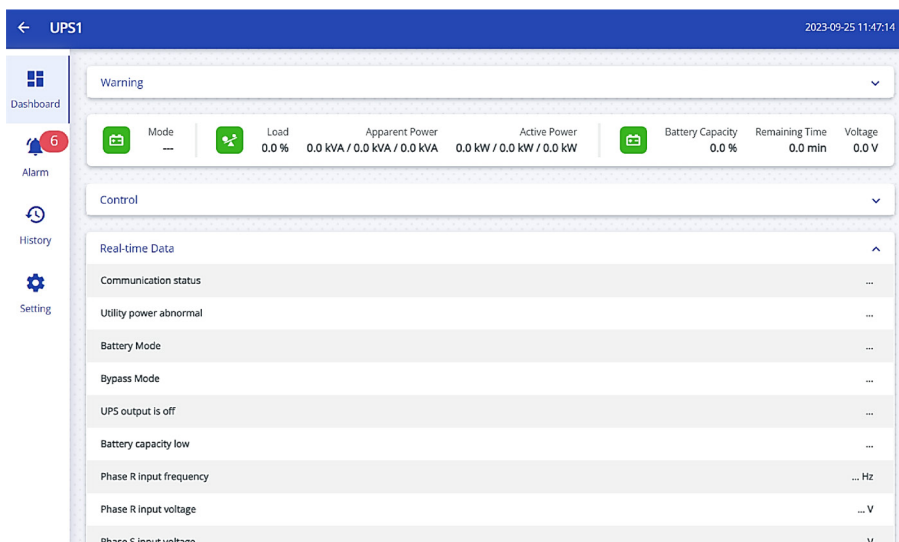
6.5.3 Vizualizarea datelor UPS In timp real

Pasul 1 [Consultati sectiunea 6.2](#) pentru a va conecta la sistem si atingeti UPS pe pagina de pornire Dashboard.

Pasul 2 Atingeti Real-time Data.

Acum puteti vedea datele In timp real ale UPS. Urmatoarea figura prezinta un exemplu.





6.5.4 Vizualizati informatiile UPS

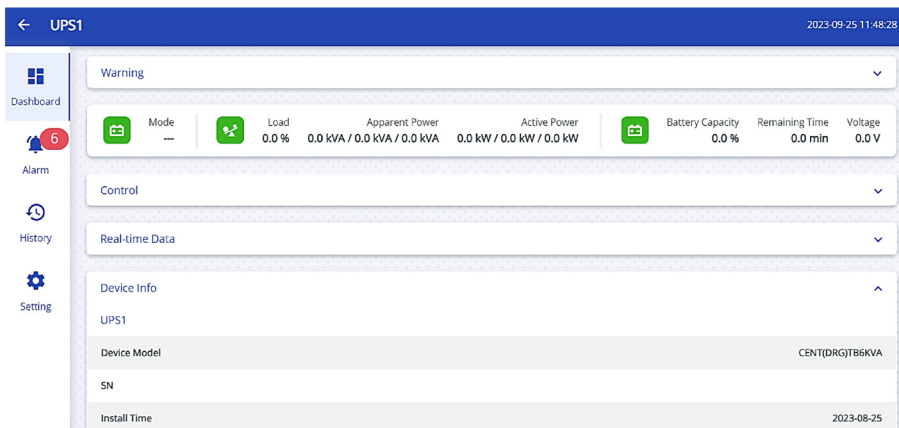
Pentru a vizualiza informatii despre UPS, inclusiv modelul, numarul de serie, timpul de instalare si timpul de functionare:

Pasul 1 [Consultati sectiunea 6.2](#) pentru a va conecta la sistem si atingeti UPS pe pagina de pornire Dashboard.

Pasul 2 Atingeti **Device Info (Info dispozitiv)**.

NOTA!

Informatiile despre dispozitiv pot varia in functie de presetari. Figura urmatoare prezinta un exemplu.



6.5.5 Efectuati inspectia UPS-ului

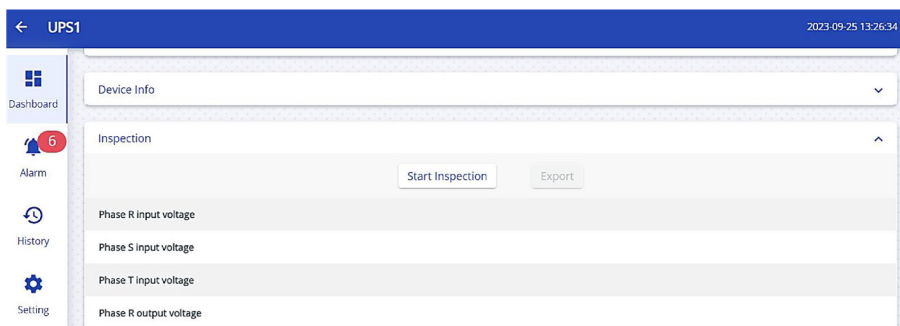
NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate.

Daca apare o defectiune a UPS-ului, puteti efectua o inspectie a UPS-ului si exporta rezultatul pentru a localiza datele defecte.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atingeti UPS pe pagina de pornire Dashboard.

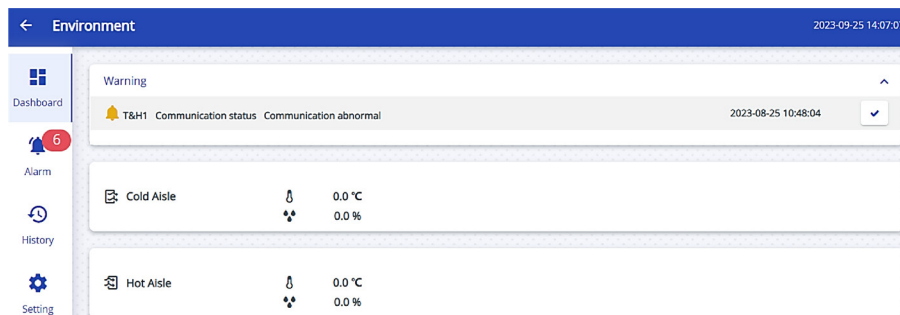
Pasul 2 Atingeti **Inspection** si apoi **Start Inspection**.



Daca va conectati la MDC utilizand un computer, puteti face clic pe **Export** pentru a descarca rezultatele inspectiei ca fisier Excel pe computerul dumneavoastra.

6.5.6 Vizualizarea alarmelor de mediu

Pentru a vizualiza alarmele de mediu, consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atingeti Environment (Mediu) pe pagina de pornire Dashboard (Tablou de bord). Apoi puteti vedea alarmele in modulul Warning (Avertizare), dupa cum se arata in figura urmatoare.



6.5.7 Vizualizati datele In timp real ale luminilor ambientale

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atineti Environment (Mediu) pe pagina de pornire Dashboard (Tablou de bord).

Pasul 2 Tap **Real-time Data**.

Acum puteti vedea datele In timp real ale luminilor ambientale. Urmatoarea figura prezinta un exemplu.

The screenshot shows the 'Environment' dashboard. The top bar is blue with a back arrow and the title 'Environment'. The right corner shows the date and time '2023-09-25 14:11:01'. On the left is a sidebar with icons for Dashboard, Alarm (with a red '6' badge), History, and Setting. The main content area has a light blue background. It displays 'Cold Aisle' and 'Hot Aisle' with temperature and humidity icons and values (0.0 °C, 0.0 %). Below these are 'More Sensors' with icons for Smoke1 (Normal) and Water leak (Normal). A 'Control' dropdown menu is visible. At the bottom, the 'Real-time Data' section shows the status of Green LED (ON), Red LED (ON), and Blue LED (OFF).

6.5.8 Vizualizarea si exportul alarmelor

Vizualizarea si exportul alarmelor curente

Pentru a vizualiza alarmele curente, consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atineti **Alarma** In bara de meniu din stanga pentru a accesa pagina **Alarma**, dupa cum se arata mai jos.

The screenshot shows the 'Alarm' dashboard. The top bar is blue with a back arrow and the title 'Alarm'. The right corner shows the date and time '2023-09-25 14:20:58'. On the left is a sidebar with icons for Dashboard, Alarm (with a red '6' badge), History, and Setting. The main content area has a light blue background. It displays a table of alarms with columns: Device Name, Alarm Name, Description, Trigger Value, Start Time, Confirm, and End. The table lists several communication status alarms. At the bottom right, there is an 'Export...' button and a pagination control showing '10', '25', '50', and '100'.

Device Name	Alarm Name	Description	Trigger Value	Start Time	Confirm	End
DoorLock2	Communication status	Communication abnormal	0	2023-08-25 10:48:13	✓	✓
PDM	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓
T&H1	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓
A/C1	Communication status	Communication abnormal	0	2023-08-25 10:48:03	✓	✓
DoorLock1	Communication status	Communication abnormal	0	2023-08-25 10:48:01	✓	✓
UP51	Communication status	Communication abnormal	0	2023-08-25 10:48:01	✓	✓

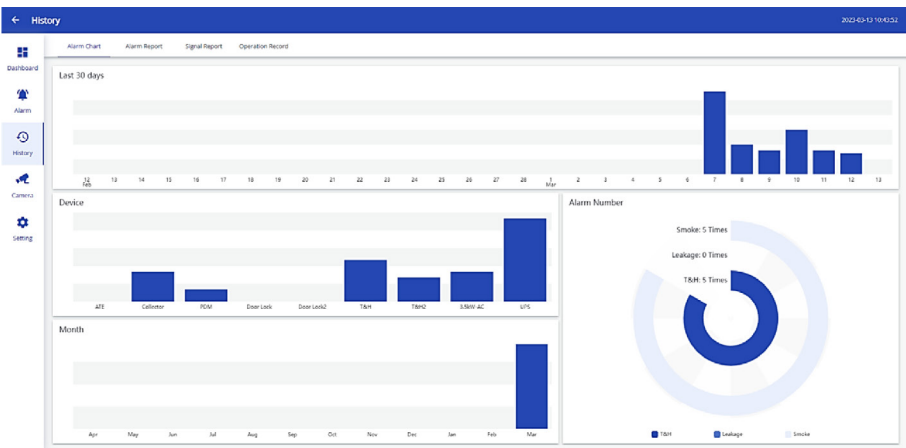
In mod implicit, toate nivelurile de alarme sunt afisate pe aceasta pagina. Puteti selecta Notificare, Alarme de avertizare, Alarme critice si Defectiune pentru a vizualiza alarmele pe niveluri.

Daca va conectati la sistem utilizand un computer, puteti face clic pe **Export**, pentru a descarca alarmele afisate.

6.6 Vizualizarea si exportul alarmelor istorice

6.6.1 Vizualizarea graficelor de alarme istorice

Pentru a vizualiza raportul istoric al alarmelor, consultati [sectiunea 6.2](#) pentru a va conecta la sistem, atingeti Istoric In bara de meniu din stanga si selectati fila **Raport alarma**, dupa cum se arata mai jos.



6.6.2 Vizualizati si exportati raportul de semnal istoric

Pentru a vizualiza raportul istoric al semnalului, consultati [sectiunea 6.2](#) pentru a va conecta la sistem, atingeti Istoric In bara de meniu din stanga, selectati fila **Raport semnal** si setati filtrele dupa cum este necesar.

The screenshot displays the 'History' page with a sidebar menu on the left containing 'Dashboard', 'Alarm', 'History', 'Camera', and 'Setting'. The main content area is titled 'History' and shows a date range of '2023-03-10 10:42:31'. It features a table of alarm events with the following columns: Alarm Name, Device Name, Description, Trigger Value, Start Time, End Time, and Remark. The table lists various alarms such as Communication status, UPS Overload, Bypass Mode, Suction Pressure Sensor Failure, High temperature alarm, and Emergency high temperature warning. At the bottom of the table, there is a pagination bar showing 'Page 1' and 'Count/Total 80 Count'.

Alarm Name	Device Name	Description	Trigger Value	Start Time	End Time	Remark
Communication status	TBH2	Communication abnormal	0	2023-03-13 09:58:57	2023-03-13 10:05:57	[Super Administrator]
UPS Overload	UPS	Alarm	1	2023-03-13 09:24:51	2023-03-13 09:33:26	
Overload Warning	UPS	Alarm	1	2023-03-13 09:24:51	2023-03-13 09:33:26	
Bypass Mode	UPS	ON Bypass Mode	1	2023-03-13 09:24:48	2023-03-13 09:33:26	
Suction Pressure Sensor Failure	3SW AC	Alarm	1	2023-03-12 13:19:32	2023-03-12 13:21:12	
Suction Pressure Sensor Failure	3SW AC	Alarm	1	2023-03-12 13:17:56	2023-03-12 13:18:23	
Suction Pressure Sensor Failure	3SW AC	Alarm	1	2023-03-12 13:14:37	2023-03-12 13:16:11	
High temperature alarm	TBH2	High temperature alarm	33.64	2023-03-12 12:40:01	2023-03-12 12:42:51	
High temperature alarm	TBH	High temperature alarm	33.41	2023-03-12 12:39:58	2023-03-12 12:40:20	
Emergency high temperature warning	TBH2	Emergency high temperature warning	35.62	2023-03-12 12:38:09	2023-03-12 12:39:55	



6.6 Vizualizarea si exportul alarmelor

Vizualizarea si exportul alarmelor curente

Pentru a vizualiza alarmele curente, consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atingeti **Alarma** In bara de meniu din stanga pentru a

Start Time 2023-08-26 End Time 2023-09-25

Specifica ora la care au fost generate alarmele.

☒ Notification ☒ Warning Alarms ☒ Critical Alarms ☒ Fault

Specifica tipul de alarme care urmeaza sa fie afisate.

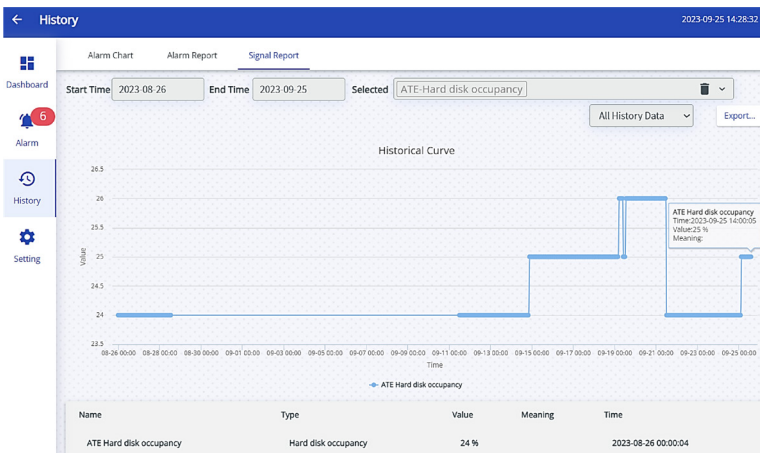
All

Specifica tipul de dispozitive pe care sunt generate alarmele.

Daca va conectati la sistem utilizand un computer, puteti face clic pe **Export** pentru a descarca alarmele afisate ca fisier **Excel**.

6.6.3 Vizualizarea si exportul raportului istoric al semnalelor

Pentru a vizualiza raportul istoric al semnalului, consultati [sectiunea 6.2](#) pentru a va conecta la sistem, atingeti Istoric In bara de meniu din stanga, selectati fila **Report semnal** si setati filtrele dupa cum este necesar.



Tabelul urmatoar descrie filtrele disponibile pe aceasta pagina.

Filter	Description
Start Time 2023-08-26 End Time 2023-09-25	Specifica ora la care au fost generate semnalele.

Filter	Description
<div>Selected</div> <div> <div>DoorLock2</div> <div>DoorLock1</div> <div>T&H1</div> <div>PDM</div> <div>3.5kW-AC</div> <div>UPS1</div> <div>ATE</div> <div>Collector</div> </div> <div> ☐ Lock status </div>	<p>Specifica ora la care au fost generate semnalele.</p>

Specifica tipul semnalelor care urmeaza sa fie afisate In functie de valoarea semnalului.

All History Data

- Toate datele istorice: Sunt afisate toate datele istorice ale semnalelor.
- Maximum zilnic: Sunt afisate numai datele istorice ale semnalului cu valoarea maxima din fiecare zi.
- Daily Minimum (Minim zilnic): Sunt afisate numai datele istorice ale semnalului cu valoarea minima din fiecare zi.
- Daily Average (Medie zilnica): Sunt afisate datele medii pe fiecare zi.

Daca va conectati la sistem utilizand un computer, puteti face clic pe **Export** pentru a descarca alarmele afisate ca fisier **Excel**.

6.7 Gestionarea conturilor

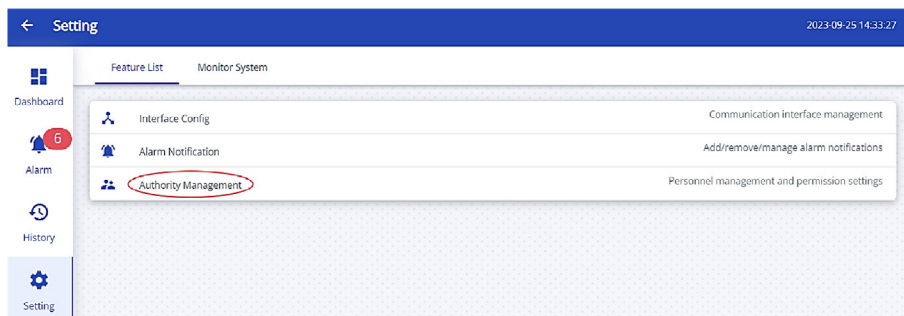
6.7.1 Creati un cont

NOTA!

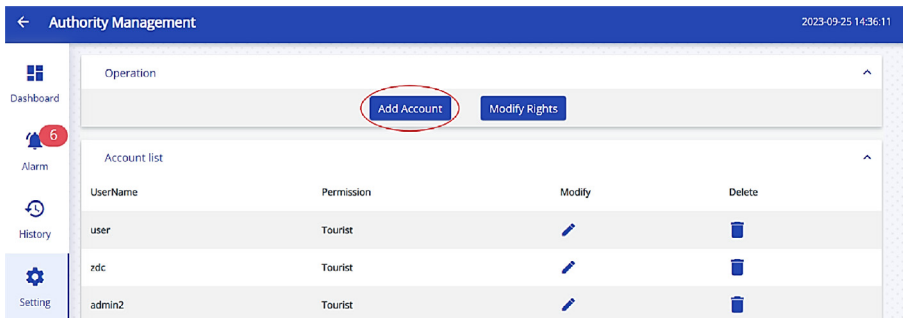
Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setari** in the left menu bar and then tap **Authority Management**.



Pasul 3 Atingeti Add Account.



Pasul 4 Introduceți numele de cont și parola, alegeți timpul valabil și nivelul de permisiune și **Atingeti Add**.

The 'Add Account' dialog box contains the following fields:

- Account Name:
- Password: (with an eye icon for visibility toggle)
- Valid Time:
- Permissions: (with a dropdown arrow)

At the bottom is a blue 'Add' button.

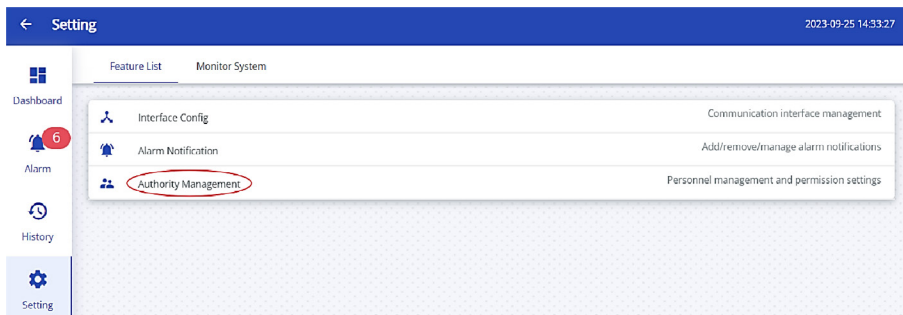
6.7.2 Modificarea permisiunilor contului

NOTA!

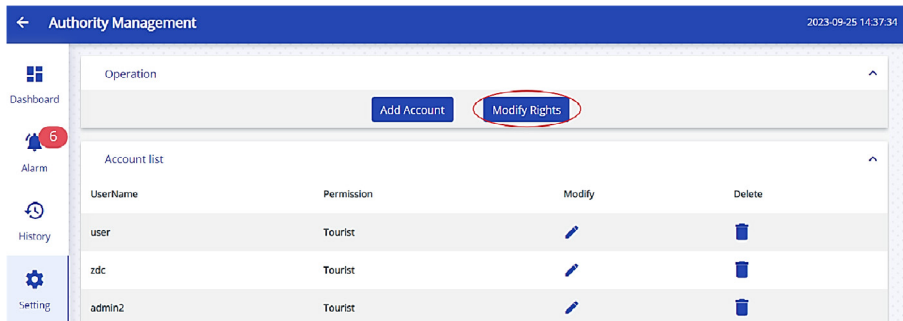
Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [secțiunea 6.2](#) pentru a va conecta la sistem.

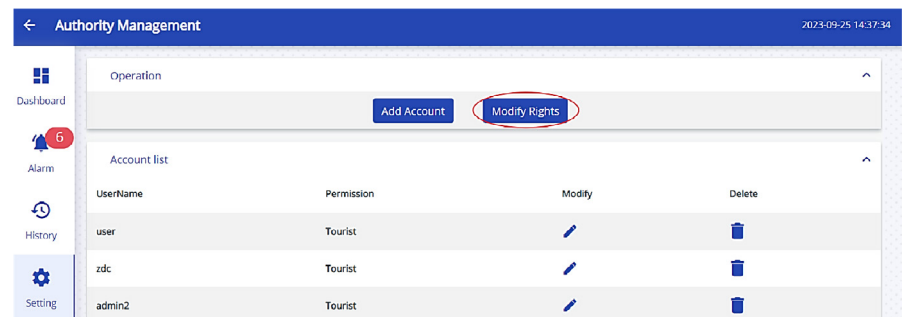
Pasul 2 Atingeti Setari In bara de meniu din stanga si apoi atingeti **Management autoritate**.



Pasul 3 Atingeti Modify Rights (Modificare drepturi).



Pasul 4 Selectati un cont, apoi selectati permisiunile necesare pentru cont si atineti **Save(Salvare)**.



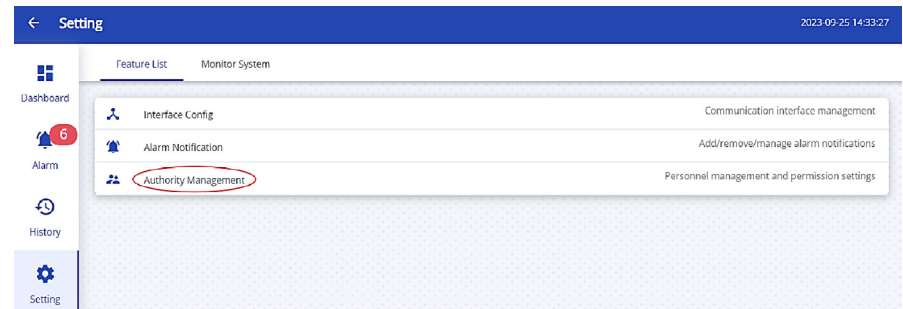
6.7.3 Modificarea unui cont

NOTA!

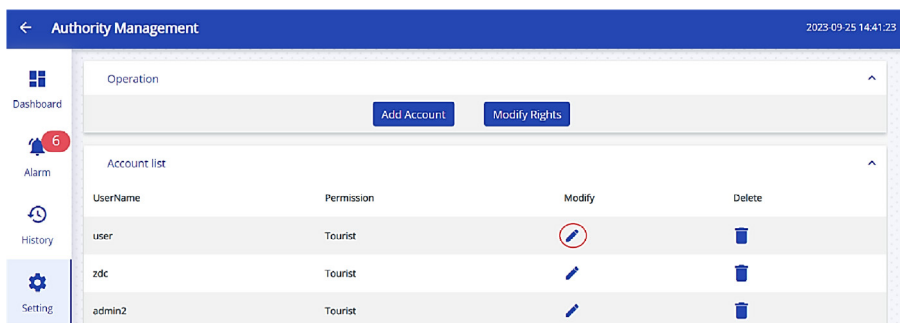
Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** In bara de meniu din stanga si apoi atineti **Authority Management**.

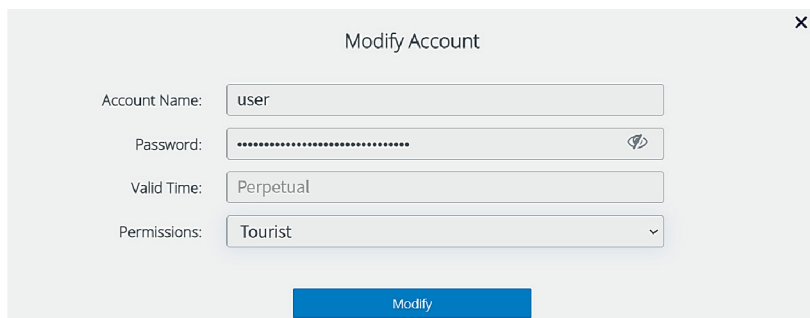


Pasul 3 Atingeti  linia contului care urmeaza sa fie modificat.



UserName	Permission	Modify	Delete
user	Tourist		
zdc	Tourist		
admin2	Tourist		

Pasul 4 Modificati numele contului, parola si timpul de valabilitate, dupa cum este necesar, si atingeti **Modify(Modificare)**.



Modify Account

Account Name:

Password: 

Valid Time:

Permissions:

6.7.4 Stergeti un cont

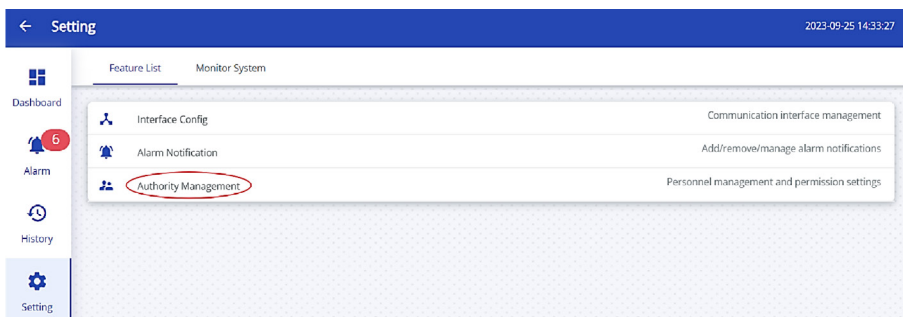
NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate.

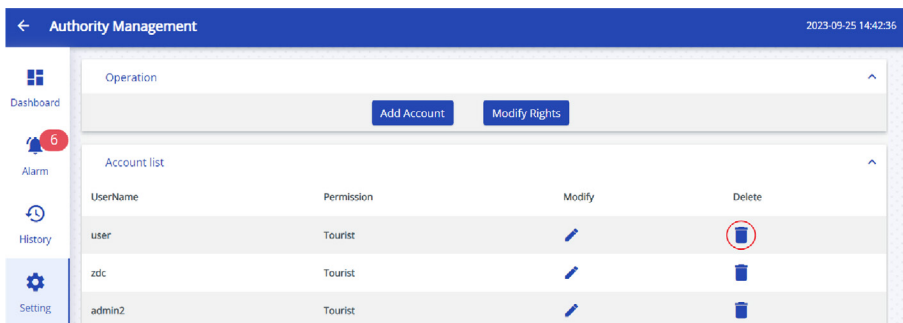
Dupa crearea unui cont, il puteti sterge dupa cum doriti, urmand pasii de mai jos.

Step 1 [Refer to section 6.2 to log in to the system.](#)

Step 2 Atingeti **Setting** in bara de meniu din stanga si apoi atingeti **Authority Management**.



Pasul 3 Atingeti  linia contului care urmeaza sa fie modificat.



6.8 Configurati interfata SNMP

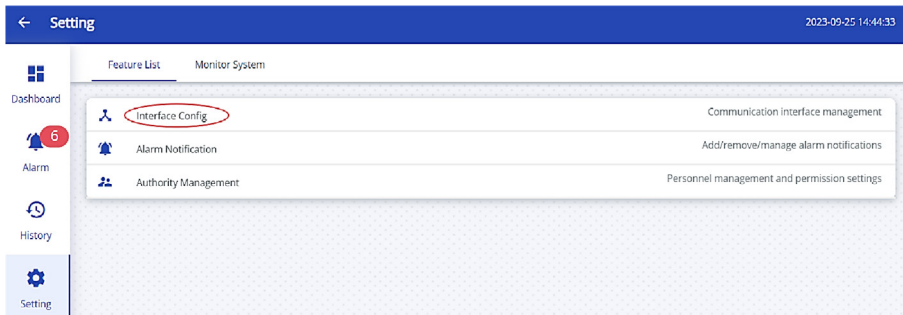
NOTA!

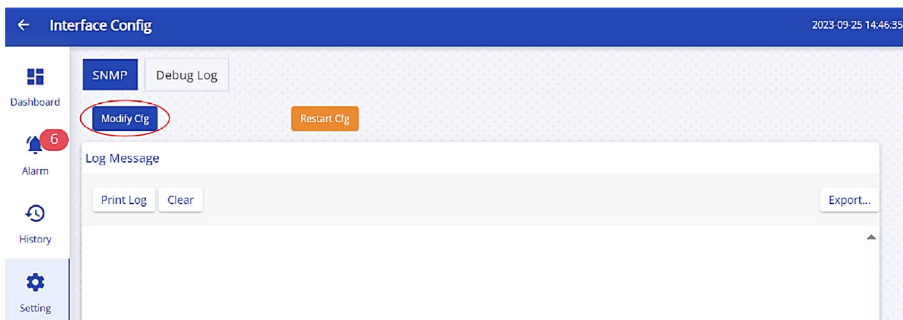
Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** In bara de meniu din stanga si apoi atingeti **Interface Config**.

Pasul 3 Atingeti **Modify Cfg** pentru a accesa pagina **SNMP Config**.





Pasul 4 Selectati o versiune **SNMP** (V1&V2, V3).

V1&V2 sunt utilizate In principal, In timp ce V3 ofera o securitate mai ridicata. Puteti selecta una In functie de necesitati. In acest exemplu, este selectat **SNMP v1&v2**. Daca selectati **SNMP v3**, trebuie setati parametrii de securitate, cum ar fi parolele.

	IP	Authority	Modify	Delete
Read	192.168.2.151	public		
Write	192.168.2.151	private		
Trap	192.168.2.151			

Pasul 5 Atingeti pentru a modifica adresele IP si permisiunile dupa cum este necesar si atingeti **Salvare**. Sau, atingeti pentru a adauga un alt grup de adrese IP de citire/scriere/Trap si Atingeti **Adaugare**. Apoi, atingeti **Salvare**.

Pasul 6 Atingeti **Restart Cfg**.

6.9 Setarea notificarilor de alarma

Notificarile de alarma pot fi trimise prin SMS si e-mail. Puteti seta canalul de notificare a alarmei dupa cum este necesar.

6.9.1 Setati numerele de telefon mobil pentru primirea notificarilor de alarma prin SMS

NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate

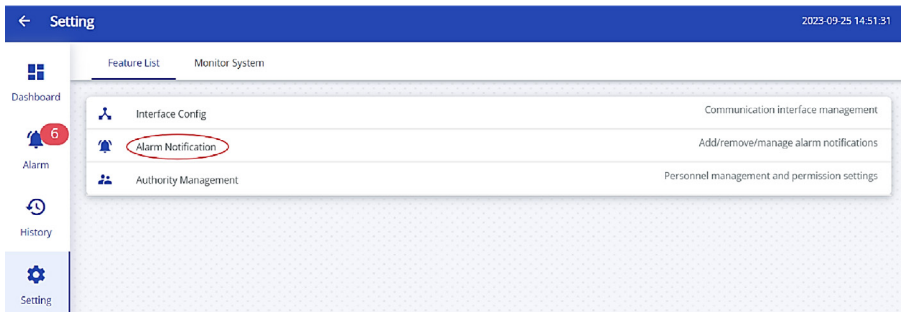
Pasul 1 Introduceti o cartela **Micro SIM** In slotul pentru cartela din partea superioara a **HMI** urmand directia afisata de serigrafia de langa slotul pentru cartela.

NOTA!

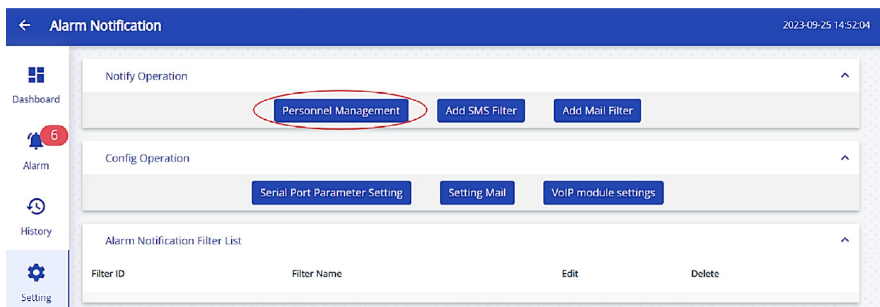
Daca doriti sa scoateti cartela SIM, apasati-o usor pentru a o scoate.

Pasul 2 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 3 Atingeti **Setting (Setare)** In bara de meniu din stanga si apoi atingeti **Alarm Notification (Notificare alarma).**



Pasul 4 Atingeti **Personnel Management.**



Pasul 5 Atingeti **Add Account** (Adaugare cont). Apoi, setati **Name** (Nume) si **Phone** (telefon) si atingeti **Add**.

The screenshot shows a web application interface for 'Personnel Management'. A modal dialog titled 'Add Account' is open in the center. It contains three input fields: 'Name*', 'Phone*', and 'Email'. Below these fields is a blue button labeled 'Add'. The background is dimmed, showing a sidebar with icons for Dashboard, Alarm, History, and Setting, and a main area with a table of personnel records.

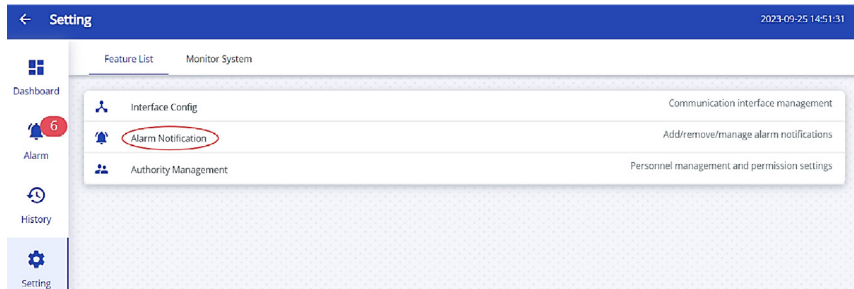
6.9.2 Seteaza adresele de email pentru a primi notificari de alarma.

NOTA!

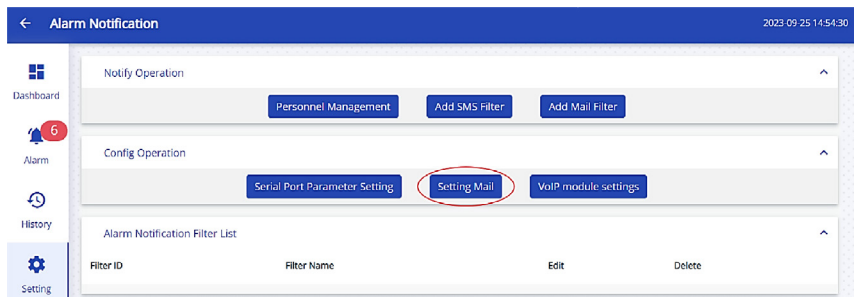
Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** (Setari) In bara de meniu din stanga si apoi atingeti **Alarm Notification** (Notificare alarma).



Pasul 3 Atingeti **Setting Mail** (Setare Mail).



Pasul 4 Setati parametrii necesari In caseta de dialog **Setting Mail** si atingeti **Setting**.

The screenshot shows a 'Setting Mail' dialog box with the following fields and values:

- Mail Account:** example@gmail.com
- Password:** masked with asterisks
- SMTP Service:** smtp.gmail.com
- Port:** 465
- Auth:** ☒
- SSL:** ☒
- Mailbox Timing Type:** Real time (dropdown menu)
- Setting** button at the bottom.

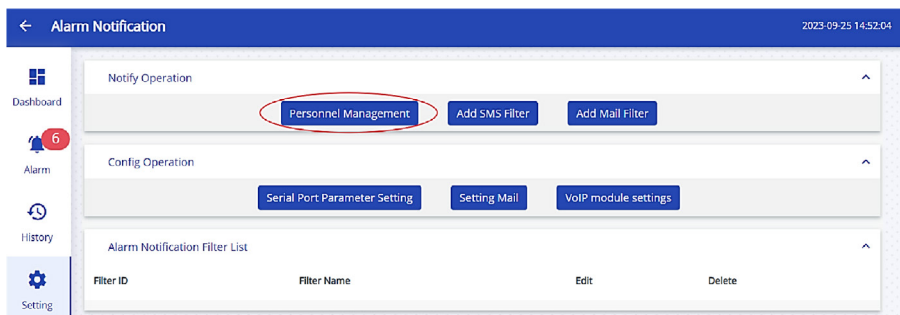
Descrierea parametrilor

Parametru	Descriere
Mail Account	Specifica adresa de e-mail utilizata pentru trimiterea notificarilor prin e-mail.
Password	Specifica parola de e-mail (parola de autorizare pentru unele adrese de e-mail).
SMTP Service	<p>Specifica numele de domeniu sau adresa IP a serverului utilizat pentru trimiterea e-mailurilor.</p> <p>Daca II setati la un nume de domeniu, verificati daca adresa DNS implicita a gazdei de monitorizare (8.8.8.8) este acceptata. Daca nu, configurati serverul DNS care accepta rezolvarea numelui de domeniu In Setting > Network > DNS Config.</p> <p>NOTA! <i>Severul SMTP este utilizat pentru trimiterea de e-mailuri. Prin urmare, acest parametru trebuie sa fie setat.</i></p>
Port	<p>In general, acest parametru este setat la 25 pentru comunicarea necriptata. Pentru criptarea SSL, acest parametru este de obicei setat la 465 si trebuie selectat SSL.</p> <p>NOTA! <i>Pentru portul specific, consultati parametrii de e-mail reali.</i></p>
Auth	Specifica daca este necesara autorizarea. II puteti bifa pentru a activa autorizarea.
SSL	<p>Specifica daca este necesara criptarea SSL. Atunci cand este selectata, criptarea SSL este activata, iar portul este de obicei setat la 465. Atunci cand nu este selectata, criptarea SSL este dezactivata, iar portul este setat de obicei la 25.</p> <p>NOTA! <i>Pentru portul specific, consultati parametrii de e-mail reali.</i></p>
Mailbox Timing Type	<p>Specifica frecventa de trimitere a e-mailurilor.</p> <ul style="list-style-type: none"> - Timp real: E-mailurile de notificare a alarmelor sunt trimise In timp real. - Zile: E-mailurile de notificare a alarmelor sunt trimise o data pe zi.. - Saptamana: E-mailurile de notificare a alarmelor sunt trimise o data pe saptamana. - Lunar: E-mailurile de notificare a alarmelor sunt trimise o data pe luna.

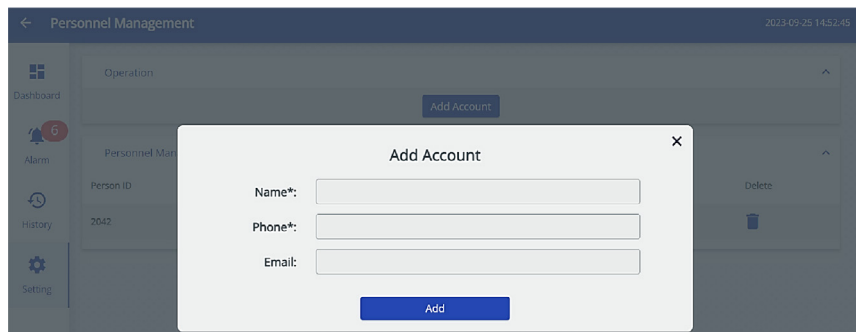
Urmatoarea adresa de e-mail este doar pentru referinta (va rugam sa consultati parametrii actuali ai utilizatorului):

Mailbox type	Nume domeniu server mailbox	Criptare metoda si SMTP port	Mailbox server adresa IP	Remarca
Gmail	smtp.gmail.com	SSL encryption: 465	<p>Metoda:</p> <ol style="list-style-type: none"> 1. Faceti clic pe Start pe computer, introduceti cmd in caseta Run si faceti clic pe Enter pentru a intra in interfata de administrator. 2. In punctul intermitent al mouse-ului, introduceti numele de domeniu al serverului de Mail ping si apasati Enter pentru a obtine adresa IP a fiecarui server de e-mail. 	<ul style="list-style-type: none"> - Serverul Mailbox trebuie sa respecte protocolul SMTP standard, iar functia de trimitere sau primire a e-mailurilor va fi normala. - In Parola Gmail, trebuie introduse parolele de aplicatie ale clientului casetei postale. - Daca mailbox nu este in lista, consulta ghidul de ajutor al Mailului pentru a seta parametrii.

Pasul 5 Apasati Personnel Management (Managementul personalului).



Pasul 6 Atingeti Add Account(Adaugare cont). Apoi, setati Nume, telefon, si Email, si atingeti Add(Adaugare).



6.9.3 Stabileste un filtru pentru mesajele SMS

NOTA!

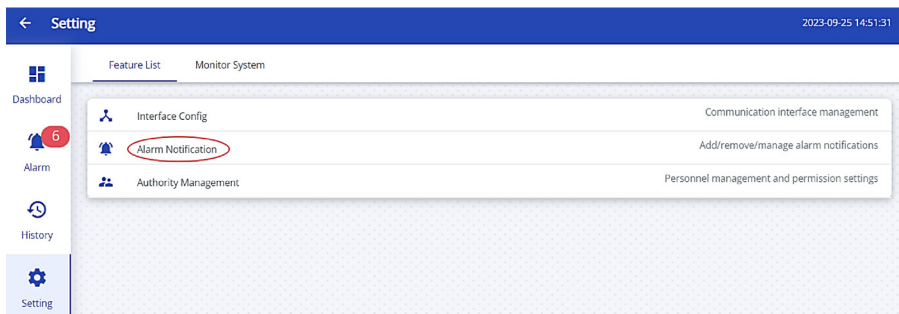
Aceasta operatiune este disponibila doar pentru conturile autorizate.

Daca doresti sa trimiti mesaje SMS in functie de stare, nivelul alarmei, destinatar sau echipament catre un anumit destinatar, poti seta un filtru SMS.

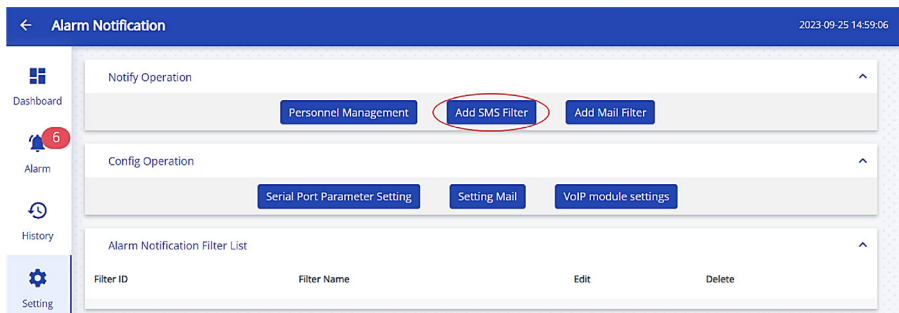
Pentru a adauga un filtru:

Pasul 1 [Consulta sectiunea 6.2 pentru a te autentifica in sistem.](#)

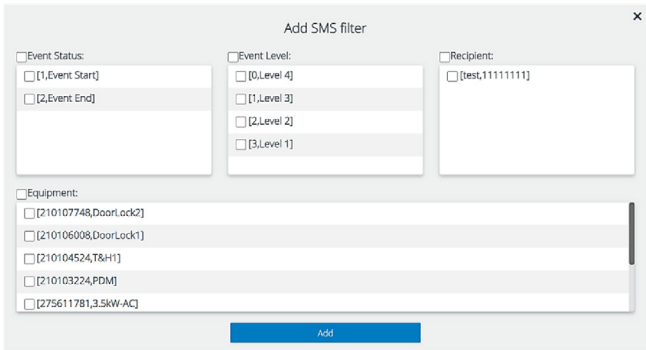
Pasul 2 Atinge optiunea **Setari(settings)** din bara de meniu din stanga, apoi atinge **Notificare alarma(Alarm notification)**.



Pasul 3 Atinge **Adauga filtru SMS**.



Pasul 4 Seteaza **Event Status**, **Event Level**, **Recipient**, si **Equipment** dupa cum este necesar si apasati **Add**.



The 'Add SMS filter' dialog box contains three main sections for configuration:

- Event Status:** Includes checkboxes for '(1,Event Start)' and '(2,Event End)'.
- Event Level:** Includes checkboxes for '[0,Level 4]', '[1,Level 3]', '[2,Level 2]', and '[3,Level 1]'.
- Recipient:** Includes a checkbox for '[test,111111111]'.

Below these sections is an **Equipment** section with a list of items, each with a checkbox:

- [210107748,DoorLock2]
- [210106008,DoorLock1]
- [210104524,T&H1]
- [210103224,PDM]
- [275611781,3.5KW-AC]

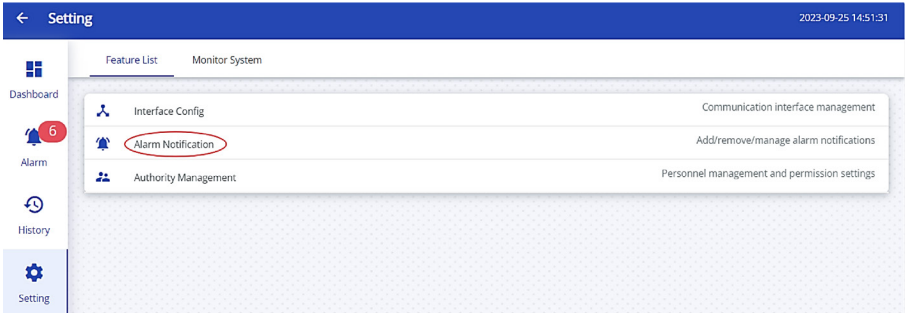
An **Add** button is located at the bottom right of the dialog.

Pasul 5 Setati un filtru pentru nume si apasati **Add**.

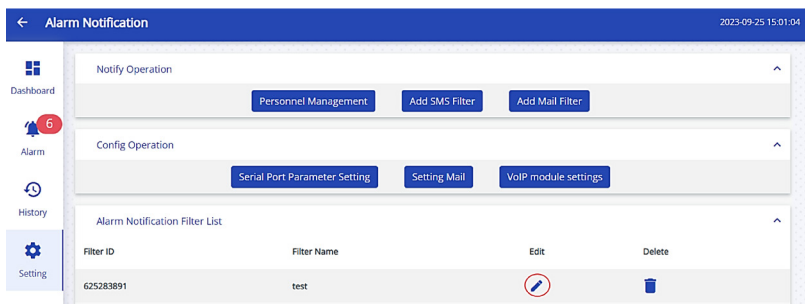
Pentru a edita un filtru existent:

Pasul 1 [Consulta sectiunea 6.2 pentru a te autentifica in sistem.](#)

Pasul 2 Apasati **Setting** in bara de meniu din stanga, apoi atinge **Alarm Notification**.



Pasul 3 In **Alarm Notification Filter List**, apasati  in linia filtrului care trebuie editat.



Pasul 4 Setati **Event Status**, **Event Level**, **Recipient**, si **Equipment** dupa cum este necesar si faceti click pe **Edit**.

Event Status:

- ☒ [1,Event Start]
- ☐ [2,Event End]

Event Level:

- ☒ [0,Level 4]
- ☐ [1,Level 3]
- ☐ [2,Level 2]
- ☐ [3,Level 1]

Recipient:

- ☒ [test,11111111]

Equipment:

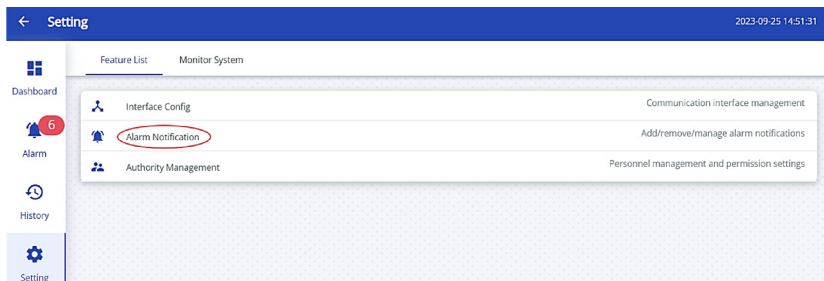
- ☒ [210107748,DoorLock2]
- ☐ [210106008,DoorLock1]
- ☐ [210104524,T8H1]
- ☐ [210103224,PDM]
- ☐ [275611781,3.5kW-AC]

Edit

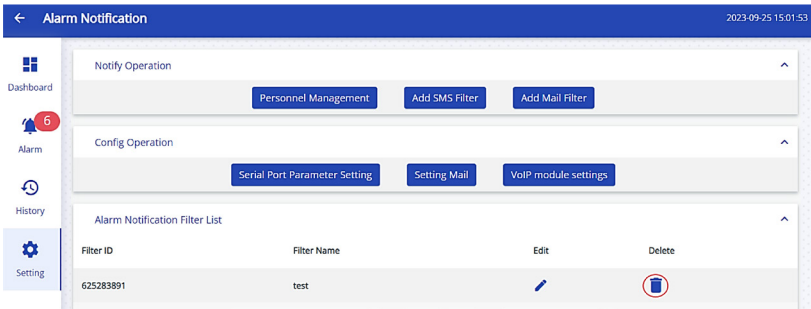
Pentru a sterge un filtru existent:

Pasul 1 [Consulta sectiunea 6.2 pentru a te autentifica in sistem.](#)

Pasul 2 Apasati **Setting** in bara de meniu din stanga, apoi apasa **Alarm Notification**.



Pasul 3 In **Alarm Notification Filter List**, apăsați  în linia filtrului care trebuie editat.



Pasul 4 Apăsați **OK** în caseta de dialog care apare.

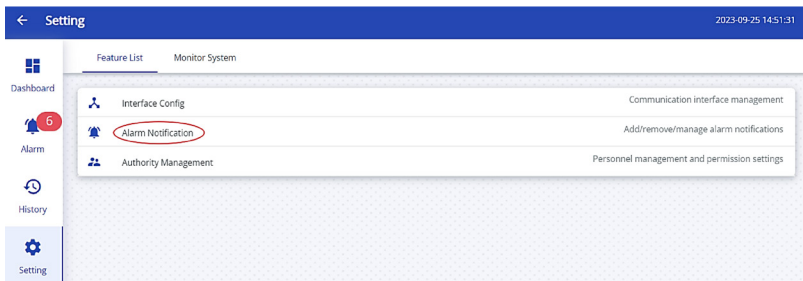
6.9.4 Stabilește un filtru pentru mail

NOTA!

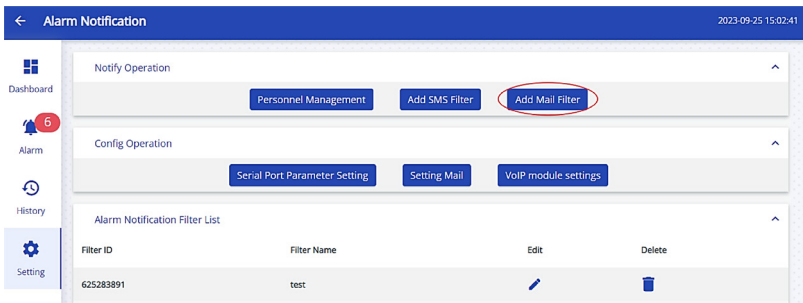
Această operațiune este disponibilă numai pentru conturile autorizate.

Pasul 1 Consultați [secțiunea 6.2](#) pentru a vă conecta la sistem.

Pasul 2 Atingeți **Setting (Setari)** în bara de meniu din stanga și apoi atingeți **Alarm Notification (Notificare alarma)**.



Pasul 3 Atingeți **Add filter (Adăugați filtru)** de e-mail.



Pasul 4 Seteaza **Event Status**, **Event Level**, **Recipient**, si **Equipment** dupa cum este necesar si apasati **Add**.

Add SMS filter

☐Event Status:

☐ [1,Event Start]

☐ [2,Event End]

☐Event Level:

☐ [0,Level 4]

☐ [1,Level 3]

☐ [2,Level 2]

☐ [3,Level 1]

☐Recipient:

☐ (test,11111111)

☐Equipment:

☐ [210107748,DoorLock2]

☐ [210106008,DoorLock1]

☐ [210104524,T&H1]

☐ [210103224,PDM]

☐ [275611781,3.5kW-AC]

Add

Pasul 5 Setati un nume pentru filtru si apasati **Add**.

6.10 Oprirea MDC

NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** In bara de meniu din stanga si apoi atingeti **Monitor System > Shutdown**.

Setting

2023-09-25 15:04:59

Dashboard

Alarm

History

Setting

Feature List

Monitor System

Time Setting

Network

Modify Password

Logout Time Config

Standby Setting

About

Help

Shutdown

Restart

Log out

system time

IP/WiFi/hotspot/4G configuration

Change Password

Automatic logout without operation after timeout

Set the screen time when there is no operation

About monitoring

Help learn more

Shutdown

Restart

Log out

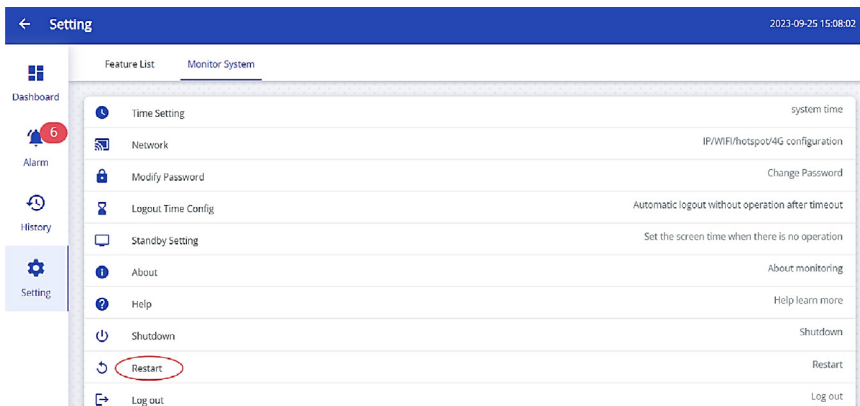
Pasul 3 Atingeti **OK** In caseta de dialog pop-up.



6.11 Repornirea MDC

Pasul 1 Consultati [secțiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** in the left menu bar and then tap **Monitor System** > **Restart**.

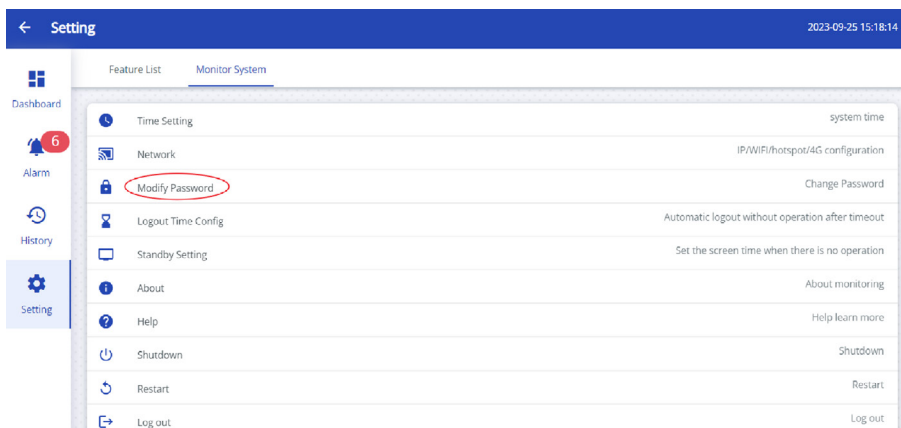


Pasul 3 Atingeti **OK** In caseta de dialog pop-up.

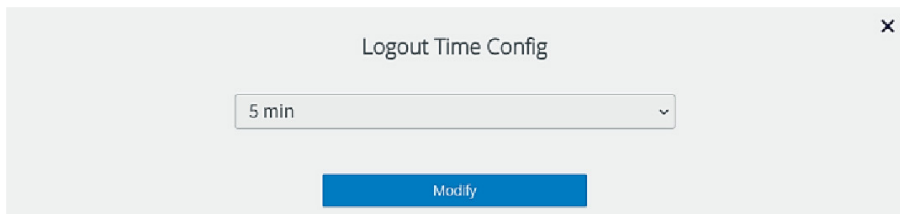
6.12 Modificarea parolei

Pasul 1 Consultati [secțiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** (Setare) In bara de meniu din stanga si apoi atingeti **Modify Password** (Modificare parola).



Pasul 3 Selectati un interval de timp si atineti **Modify (Modificare)**.
Daca doriti ca utilizatorii sa ramana conectati, selectati Fara deconectare.



Logout Time Config

5 min

Modify

6.13 Setarea orei sistemului

NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** In bara de meniu din stanga si apoi atineti **Monitor System > Logout Time Config**.



Pasul 3 Selectati un interval de timp si atineti **Modify (Modificare)**.

Pasul 3 Specificati parola originala, parola noua si parola de determinare. Apoi, atingeti Modify (Modificare).

Modify Password

Original Password:

New Password:

Determine Password:

The new password contains at least the following three characters: lowercase letters, uppercase letters, numbers or special characters

Modify

6.14 Setarea intervalului de deconectare automata

NOTA!

Aceasta operatiune este disponibila numai pentru conturile autorizate.

Pentru a deconecta automat utilizatorii dupa ce acestia nu efectueaza operatiuni dupa un interval:

Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Apasati **Setting** In bara de meniu din stanga si apoi atingeti **Monitor System > Logout Time Config**.

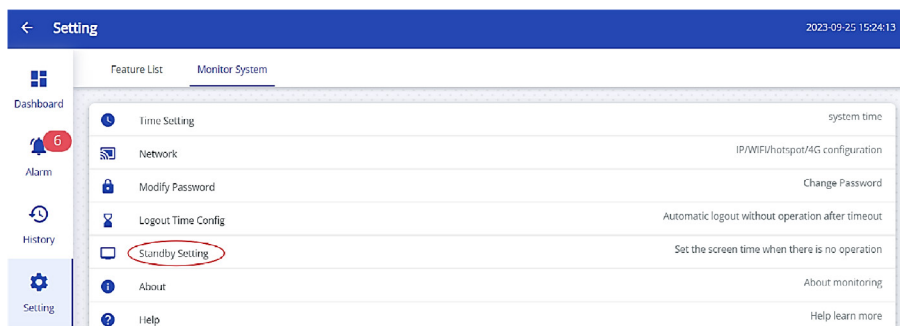


6.15 Setarea intervalului de dezactivare a ecranului

Pentru a opri automat ecranul dupa ce nu se efectueaza nicio operatiune pe ecran dupa un interval:

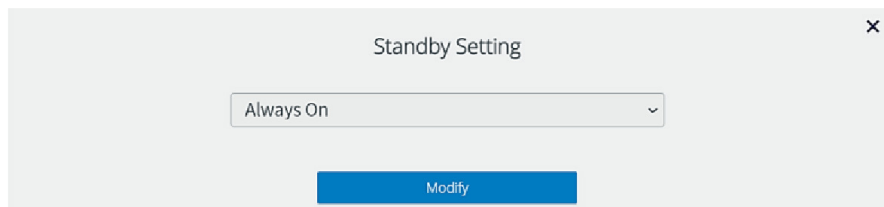
Pasul 1 Consultati [sectiunea 6.2](#) pentru a va conecta la sistem.

Pasul 2 Atingeti **Setting** in bara de meniu din stanga si apoi atingeti **Monitor System > Standby Setting**.



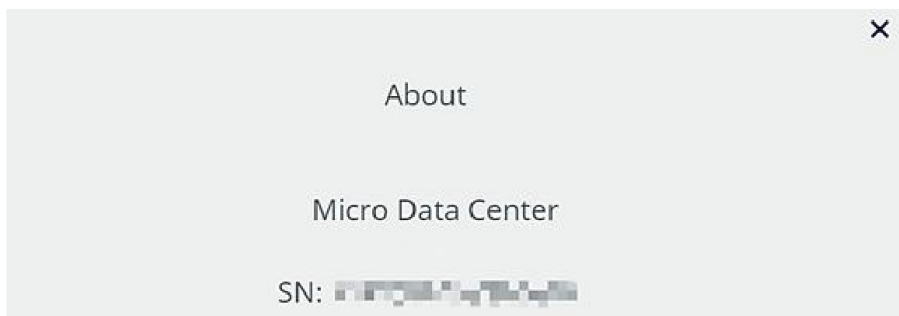
Pasul 3 Selectati un interval de timp si atingeti **Modificare**.

Daca doriti sa pastrati ecranul pornit, selectati Mereu pornit.



6.16 Verificarea versiunii MDC si a SN

Pentru a verifica versiunea produsului, versiunea firmware si numarul de serie al MDC, consultati [sectiunea 6.2](#) pentru a va conecta la sistem, atineti **Setting** In bara de meniu din stanga si apoi atineti **Monitor System > About**.



6.17 Copie de rezerva si restaurare locala (USB stick)

6.17.1 Copie de rezerva locala (USB stick)

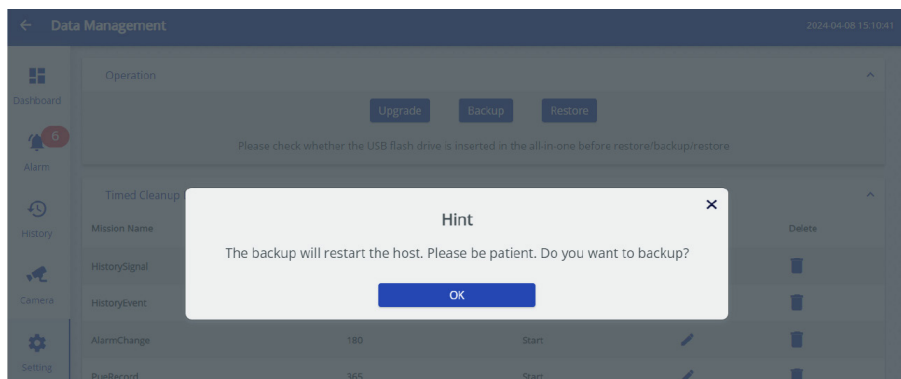
NOTA!

- Aceasta operatiune este disponibila numai pentru contul de super administrator.
- Discul U este pregatit de utilizator, iar numele stickului USB trebuie sa fie schimbat In IVIEW.
- Daca stickul USB nu este introdus, se va afisa o solicitare.
- Daca MDC nu reuseste sa detecteze stickul USB introdus, reporniti monitorul si introduceti din nou stickul USB.

Pasul 1 Creati un folder numit backup sub stickul USB (format: FAT32, nume: IVIEW) si introduceti stickul USB pe monitor.

Pasul 2 Atingeti Setting In bara de meniu din stanga si apoi atineti Data Management.

Pasul 3 Atingeti Backup si apoi OK.



Pasul 4 Introduceți parola și atingeți OK.

Se va afișa Sistemul este în curs de backup și va reporni automat, vă rugăm să așteptați.... MDC va fi repornit automat în 7 până la 8 minute.

După ce MDC este repornit, se va afișa din nou The system is backing up and will restart automatically, please wait... (Sistemul face backup și va reporni automat, vă rugăm să așteptați). După finalizarea backup-ului, se va afișa The backup is successful, calea fișierului este in/backup, fișierul de backup este app.zip și fișierul MD5 este fp.app.chksum.

Pasul 5 Scoateți discul U și reporniți monitorul.

NOTA!

După finalizarea backup-ului, copiați fișierele din folderul de backup pe computer.

6.17.2 Restaurare locală (USB disk)

NOTA!

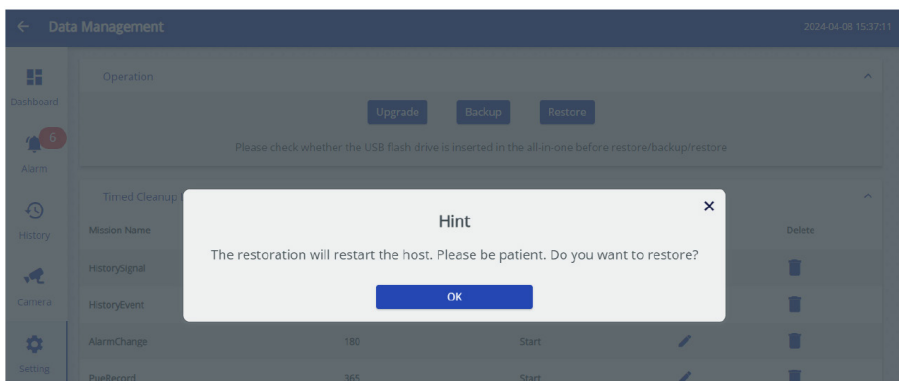
- Această operațiune este disponibilă numai pentru contul de super administrator.
- Discul U este pregătit de utilizator, iar numele discului U trebuie să fie schimbat în IVIEW.
- Dacă discul U nu este introdus, se va afișa o solicitare.
- Dacă MDC nu reușește să detecteze discul U introdus, reporniți monitorul și introduceți din nou discul U.

Pasul 1 Creati un folder numit **backup** pe discul U (format: FAT32, nume: IVIEW) si salvati **app.zip** (utilizat pentru restaurare) si **fp.app.chksum** (fisier de eticheta pentru restaurare) In folderul **backup**.

Pasul 2 Introduceti discul U pe monitor.

Pasul 3 Atingeti **Setting** In bara de meniu din stanga si apoi atingeti **Data Management**.

Pasul 4 Atingeti **Restore** si dupa **OK**.



Pasul 5 Introduceti parola si atingeti **OK**.

Sistemul se restabileste si va reporni automat, va rugam sa asteptati... va fi afisat. **MDC va fi repornit automat.**

Dupa ce MDC este repornit, se va afisa din nou **The system is restoring and will restart automatically, please wait...** Dupa finalizarea restaurarii, se va afisa **The restore is successful, please pull off the USB stick and reboot the system!**

Pasul 6 Scoateti discul U si reporniti monitorul.

7 Module functionale

Dimensiuni: 600(W) x 1000(D) X 1200(H)

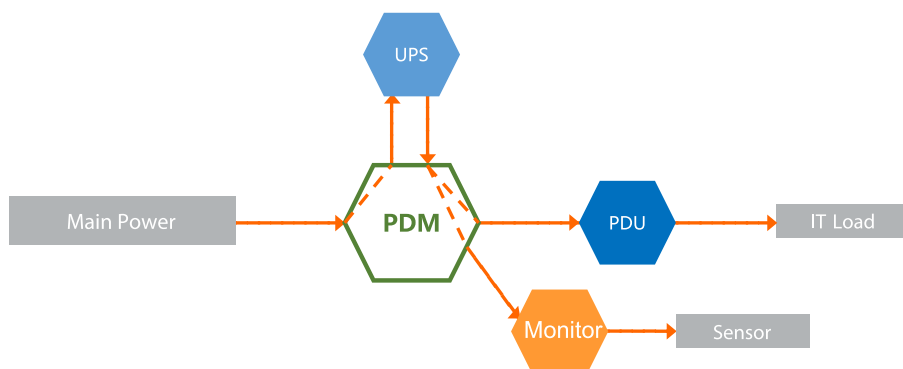
Alimentare: 230V a.c. monofazic (L+N+PE)

Constructiv, MDC-ul se prezinta sub forma unui rack metalic care asigura montarea diferitelor unitati informatice (serve, unitati de stocare etc.) si cuprinde:

- UPS pentru asigurarea functionarii in timpul penelor de curent.
- cabinet de baterii pentru a extinde timpul de back-up.
- senzori (de temperatura, umiditate, scurgeri de lichid, fum).
- unitate de management si monitorizare de la distanta prin conectare la retea (wired sau wireless).
- unitate de distributie a curentului electric prevazuta cu sigurante automate.
- iluminare interioara,

Partile componente ale MDC-ului 24U sunt: UPS, PDM, Monitor, PDU si este prevazut cu iluminat interior, senzori de fum, detector scurgeri lichide, detector de temperatura si umiditate.

Din punct de vedere al circulatiei energiei electrice, aceste module sunt interconectate electric astfel incat sa se asigure un control cat mai precis al distribuirii curentului intre ele.

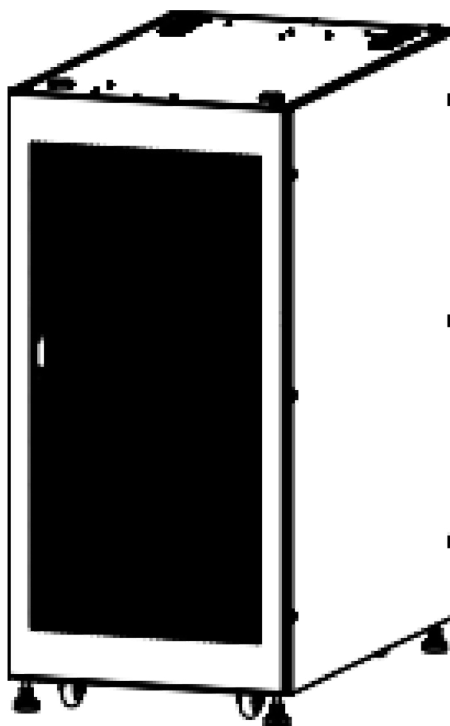


7.1 Cabinet

Structura de sustinere si montare este scheletul care asigura integritatea structurala si permite montarea celorlalte componente. Constructiv, este un rack cu dimensiunile 600(W) x 1000(D) X 1200(H), cu un spatiu pentru echipamente de 24U (o parte din acest spatiu este deja ocupat de modulele de infrastructura). Accesul in interior este asigurat prin usi in fata si spate: in fata o usa cu grilaj metalic si sistem de inchidere mecanic cu cheie. In spate exista doua usi cu grilaj metalic si sistem mecanic de inchidere cu cheie.

Cabinetul este potrivit pentru sistemul standard de Cabinet unic MDC cu culoare inchise calde si reci. Acesta este utilizat pentru a gazdui unitati de racire montate pe rack, UPS, PDM si alte componente necesare in sistem. In plus, spatiul sau ramas poate fi utilizat pentru a plasa echipamente de 19" care respecta standardul industrial (EIA-310-E) si se potrivesc Cabinetului.

Dimensiunea cabinetului este de 600(W) x 1000(D) X 1200(H)



Cabinetul are urmatoarele caracteristici:

- Cabinet de 19 inchii cu o capacitate de incarcare de pana la 1860 kg. Nu are usa laterala.
- Se utilizeaza tabla laminata la rece din otel carbon de inalta rezistenta, clasa A, cu grosimea de 1,2-2,0 mm.
- Design etans.
- PDU AC vertical poate fi instalat in partea din spate a Cabinetului.
- Doua rafturi pentru cabluri sunt prevazute in partea din fata si din spate a Cabinetului.
- Locatia exacta a fiecarei unitati (U) este marcata pe montantii verticali ai Cabinetului.
- Usile din fata si din spate ale Cabinetului sunt echipate cu incuietori electronice, care pot fi deblocate cu ajutorul cheilor sau al operatiunii de pe ecranul de monitorizare. Starea de deschidere si inchidere a usii poate fi monitorizata.
- Partea din spate a Cabinetului este echipata cu o lumina care se aprinde atunci cand usa este deschisa.
- Cabineturile pot fi unite rapid pentru a realiza instalarea Cabinetului pe doua sau trei randuri.
- Cabinetul este echipat standard cu un raft de cablare superior, care poate realiza cabluri separate de inalta tensiune si de joasa tensiune.

Dimensiuni (H x L x P): 600(W) x 1000(D) X 1200(H).

Spatiu disponibil: 24U.

Structura: in fata o usa cu grilaj metalic si sistem de inchidere mecanic cu cheie. In spate exista doua usi cu grilaj metalic si sistem mecanic de inchidere cu cheie.

Suprafata: Suprafata pulverizata electrostatic pentru a indeplini cerintele de mediu de clasa A.

Culoare: negru.

Material: Placa de otel carbon laminata la rece de inalta calitate, clasa A, de inalta rezistenta (0,8-2,0 mm).

Clasificare IP: IP20.

Impamantare si antistatic: Surub de impamantare rezervat.

7.2 PDM - Power Distribution Module (Modul de distributie a energiei)

PDM-ul asigura distribuirea energiei electrice la toate celelalte module montate in MDC. In partea din spate are conexiunile electrice pentru alimentarea modulelor, iar in partea frontala are breaker-e corespunzatoare fiecarei conexiuni, astfel incat toate celelalte module se pot conecta sau deconecta individual. In interior se afla si o sursa stabilizata de 12V pentru alimentarea senzorilor si a altor echipamente care necesita aceasta tensiune.

In continuare sunt descrise elementele de pe panoul frontal, de la stanga la dreapta:



Mains Indicator: indicator luminos, verde atunci cand MDC-ul este alimentat de la retea.

Mains Input: intrerupatorul general (bipolar, 40A). Se conecteaza la rețeaua AC.

SPD (Surge Protection Device): activeaza protectia la varfuri de tensiune (spike). Compus dintr-un breaker bipolar de 32A si dispozitivele de protectie pe care se va putea vedea daca au fost activate.

Mains spare: intrerupator monopolar, 16A. Reprezinta o conexiune de alimentare suplimentara. De aici se poate alimenta un UPS suplimentar sau un alt echipament. Neconectat in configuratia standard.

UPS Input: intrerupator monopolar, 32A. Controleaza alimentarea cu energie electrica a UPS-ului MDC-ului. Se conecteaza la intrarea AC IN a UPS-ului.

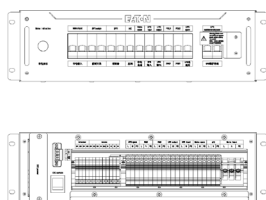
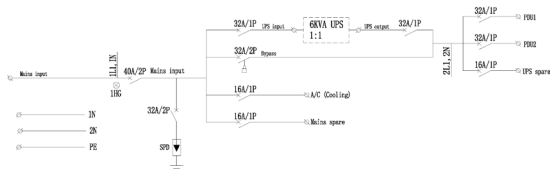
UPS Output: intrerupator monopolar, 32A. Controleaza transferul de energie electrica de la iesirea UPS-ului la celelalte module din MDC. Se conecteaza la iesirea AC OUT a UPS-ului.

PDU1: intrerupator monopolar, 32A. Controleaza alimentarea PDU-ului (Power Distribution Unit) preexistent in MDC.

PDU2: intrerupator monopolar, 32A. Controleaza alimentarea unui PDU suplimentar care se poate monta in MDC.

UPS Maintenance Bypass: intrerupator bipolar, 32A. Acest comutator e folosit in cazul in care din diferite motive UPS-ul trebuie oprit (activitati de intretinere sau reparatii, inlocuire etc.) fara a intrerupe alimentarea celorlalte module si a echipamentelor montate in MDC.

Spatiu ocupat in rack: 3U



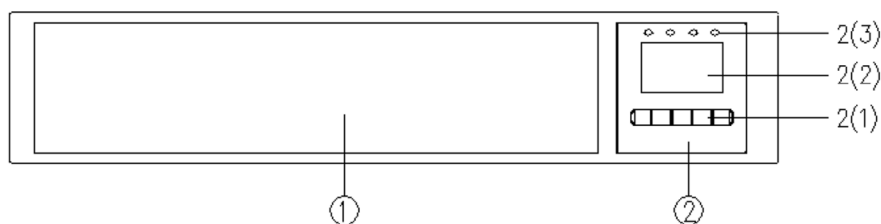
7.3 UPS - Uninterruptible Power Source / 3K

Unitatea UPS asigura functionarea neintrerupta a echipamentelor instalate in MDC in cazul unor intreruperi ale curentului de la retea, precum si furnizarea unei tensiuni de alimentare cat mai curata si stabila. UPS-ul este alimentat pe iesirea UPS Input a PDM-ului (controlata de comutatorul UPS Input), iar iesirea UPS-ului e conectata la PDM pe intrarea UPS Output (controlata de comutatorul UPS Output) astfel incat curentul stabilizat si filtrat poate ajunge mai departe la consumatori. UPS-ul poate fi monitorizat si controlat de la distanta, optional, prin aplicatia WinPower View disponibila din magazinul Google Play sau din magazinul de aplicatii Apple.

7.3.1 Caracteristici tehnice

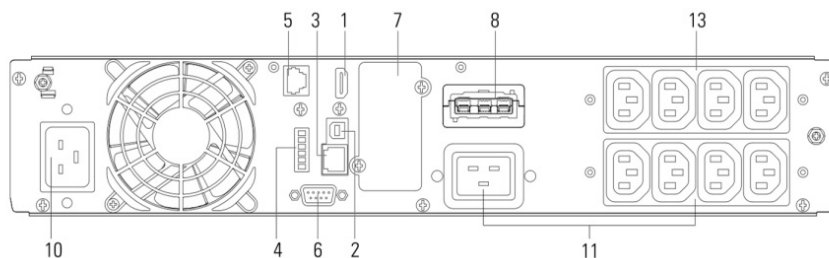
- Topologie: UPS on-line cu dubla conversie si sinusoida pura.
- Tensiune nominala: 220V / 230V / 240V c.a. 50Hz / 60Hz.
- Tensiune intrare: 160V – 276V c.a. (min.110V c.a. cu sarcina < 50%).
- Putere nominala: 3kVA / 3kW.
- Functionare in suprasarcina: 5 min. 105%<P<125%, 30 sec. 125%<P<150%
- Control digital complet.
- Factor de putere la iesire: 1.
- Curent de incarcare a bateriilor 1.5A.
- Tehnologie baterii: Pb-Acid sau AGM, 9Ah.
- Detectare automata a cantitatii EBM.
- Porturi de comunicare: RPO, Dry in, Dry out, slot inteligent, USB, RS232.
- IoT: Ethernet (implicit) si wireless (optional).
- Modul ECO.
- Poate fi echipat cu 6 baterii de 12V/9Ah (cumparate separat).
- Pornire fara baterii: Da, Spatiu ocupat in rack: 2U.

Vedere frontala



1. Zona de ventilatie
2. LCD modular, incluzand: 2(1)---Buton, 2(2)---Ecran LCD, 2(3)---Indicator LED.

Vedere din spate



Vedere din spate

1 WLAN(HDMI)

2 USB

3 Ethernet(RJ45)

4 RPO/Dry in/Dry out

5 Auto detectie EBM

6 RS 232

7 Slot Card CMC-G2

8 Conector EBM 12VDC/50A

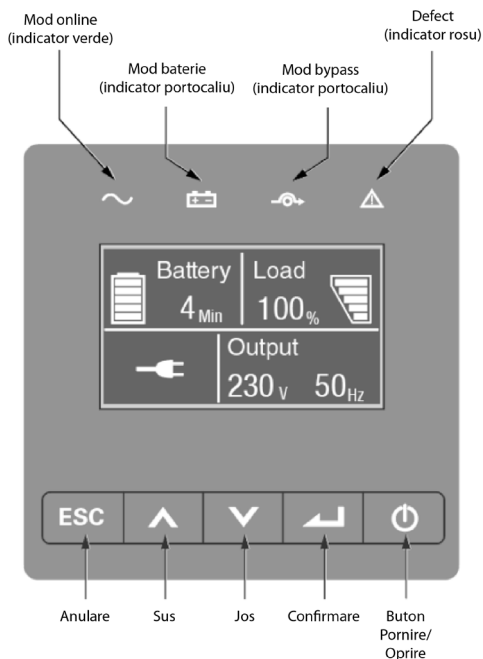
10 Intrare priza alimentare UPS

11 Prize de iesire alimentare sarcina

13 Priza de iesire programabila alimentare sarcina

Panoul de control LCD

UPS-ul are un ecran LCD grafic cu cinci butoane. Prin panoul de control, UPS-ul ofera informatii utile despre UPS-ul in sine, starea incarcarii, evenimente, masuratori si setari.



Urmatorul tabel arata starea si descrierea indicatorului:

Indicator	Stare	Descriere
 Verde	Pornit	UPS-ul functioneaza normal in modul Online sau in mod de inalta eficienta.
 Galben	Pornit	UPS-ul este in modul Baterie.
 Galben	Pornit	UPS-ul este in modul Bypass
 Rosu	Pornit	UPS-ul are o alarma activa sau o defectiune. Vezi cap. X pentru detalii.

Descrierea butoanelor:

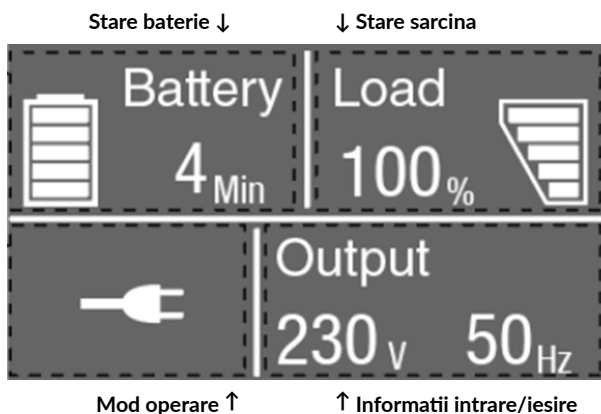
Buton	Funcție	Descriere
	Pornire initiala	Apasati butonul timp de sub 100ms si mai putin de 1 sec. pentru pornire initiala cu conditia ca bateria sa fie conectata.
	Pornire UPS	Apasati butonul timp de mai mult de 3 sec. pentru a porni efectiv UPS-ul.
	Oprire UPS	Apasati butonul timp de mai mult de 4 sec pentru a opri efectiv UPS-ul.
	Derulare in sus	Derulare in sus pentru optiunile din meniu
	Derulare in jos	Derulare in jos pentru optiunile din meniu
	Intrare in meniu	Selectati/Confirmati selectia curenta
	Iesire din meniul actual	Apasati pentru a iesi din meniul actual in meniul principal sau pe meniu de nivel superior fara a modifica o setare
	Opreste alarma sonora	Apasati butonul pentru a opri temporar sunetul, odata ce noua avertizare sau eroare este activa, soneria va functiona din nou

Descriere alarme sonore

Alarma	Descriere
1 alarma la fiecare 2 minute	Sarcina alimentata in mod bypass
1 alarma la fiecare 4 secunde	Sarcina alimentata din baterie , cu bateria aproape descarcata alarma la fiecare 1 secunda
1 alarma la fiecare secunda	Alarma generala activa
1 alarma la fiecare secunda	Suprasarcina
Alarma continua	Fault active

Lumina din spate:

Lumina de fundal LCD isi diminueaza intensitatea automat dupa 10 minute de inactivitate. Apasati orice buton pentru a restabili intensitatea luminoasa.



Stare Functionare	Status	Descriere
	Mod Standby	UPS-ul este oprit fara tensiune la iesire.
	Mod Online	UPS-ul functioneaza normal si protejeaza echipamentele conectate.
 1 beep la 4 secunde	Mod Baterie	In caz de lipsa tensiune de alimentare UPS-ul alimenteaza echipamentele din baterie. Pregatiti echipamentele pentru oprire.
 1 beep la 1 secunde	Mode Baterie cu bateria aproape descarcata	Acest avertisment este aproximativ, iar timpul real pana la oprire poate varia semnificativ.

	Mod Eficienta Inalta	Daca tensiunea de retea lipseste sau este in afara tensiunii acceptate, UPS-ul va functiona in modul Linie sau in modul Baterie si alimenteaza sarcina continuu.
	Mod Convertor	UPS-ul functioneaza cu o frecventa de iesire fixa (50Hz sau 60Hz). Sarcina ar trebui sa fie redusa la 60% in modul convertor.
	Mod Bypass	A aparut o suprasarcina sau o defectiune sau a fost primita o comanda, iar UPS-ul este in modul Bypass.
	Test Baterie	UPS executa un test de baterie.
	Baterie Defecta	UPS-ul detecteaza baterie defecta sau baterie deconectata.
	Suprasarcina	Unele sarcini inutile ar trebui deconectate pentru a reduce sarcina.
	Defect	Defect de functionare.
	Mod paralel	UPS-ul functioneaza in modul paralel.

7.3.2 Functii de afisare

Utilizati cele doua butoane ( si ) pentru a parcurge structura meniului. Apasati butonul Enter () button to select an option. Apasati butonul ESC () pentru a anula sau a reveni la meniul anterior.

La pornirea UPS-ului, afisajul este in ecranul implicit de rezumat al starii UPS.

Meniu Principal	Submeniu	Afiseaza informatii sau functia din meniu
Stare UPS		Modul UPS, starea IoT, data/ora, starea bateriei si alarmele curente
Jurnal de date		Afiseaza evenimentele si erorile stocate
Masuratori		[Incarcare] W VA A P%, [Intrare/iesire] V Hz, [Baterie] % min V EBM, [DC Bus] V, [Temperatura] ° C
Control	Load segment	Load segment on/off
	Start battery test(single mode). Single battery test(parallel).	Test baterie in mod nonparalel. Test cu o singura baterie in mod paralel.
	Parallel UPS battery test (single mode).	Porneste un test manual al bateriei in modul paralel
	Single UPS turn off (parallel mode).	Porneste un test manual al bateriei in modul paralel
	Reset fault state	Operati acest UPS pentru a iesi din conexiunea paralela
	Reset event list	Reseteaza lista cu evenimente si erorile stocate
	Reset com card / Reset IoT	Resetati functia IoT si Modbus TCP in UPS
	Reset com card /Reset IoT	Reveniti la setarile implicite din fabrica
Settings		Vezi tabelul X pentru detalii
Identification		[Nume produs], [Numarul de serie], [Versiune firmware], [Adresa IP/MAC]

7.3.3 Setari utilizator

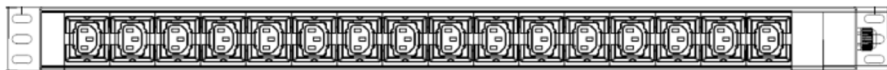
Submeniu	Setari disponibile	Setari implicite
Password	Poate fi modificata de utilizator	4732
Language	English, Italiano, Français, Deutsch, Español, Русский, Polski, 简体中文.	English
User password	[Enabled, ****], [Disabled]	Enabled
Audible alarms	[Enabled], [Disabled]	Enabled
Output voltage	[200V], [208V], [220V], [230V], [240V]	[230V] [240V] for AU
Output frequency	[Autosensing], [converter 50Hz, 60Hz]	Autosensing
High efficiency	[Disabled], [Enabled]	Disabled
Auto bypass	[Disabled], [Enabled]	Enabled
Start/Auto restart/ Start from bypass	[Disabled], [Enabled]	Cold start/Auto restart: enabled Start from bypass: disabled
Site wiring fault	[Disabled], [Enabled]	Disabled]
Overload pre-alarm	[50% ~105%]	105%
External battery	[Auto detection], [Manual EBM: 0~4], [Manual Ah: 7~144Ah]	Auto detection 0 EBM
Charger current	1.5A	1.5A
Dry in signal	[Disabled], [Remote on], [Remote off], [Forced bypass].	Disabled
Dry out signal	[Load powered], [On bat], [Low bat], [Bat open], [Bypass], [UPS OK].	Bypass
Ambient temerature alarm	[Enabled], [Disabled]	Enabled
Battery remaining time	[Enabled], [Disabled]	Enabled
Date and time	dd/mm/yyyy hh:mm	01/01/2020 00:00
LCD contrast	[0]	[-5 ~ +5]
Modbus TCP	[Enabled], [Disabled]	Disabled
IoT Enable	[Yes], [No]	No

NOTE!

Daca alimentarea de la utilitate este un sistem IT, functia de eroare a cablajului locatiei ar trebui sa fie dezactivata.

7.4 PDU - Power Distribution Unit

Modulul PDU distribuie tensiunea venita de la UPS la echipamentele care sunt instalate in MDC (serve, retelistica, unitati de stocare etc.). Constructiv se prezinta ca o priza multipla echipata 12 prize C13 si 4 prize C19, precum si o siguranta automata de 32A, pozitionata in partea din spate a rack-ului in pozitie verticala. Se alimenteaza din iesirea PDU1 a modulului PDM si se controleaza alimentarea lui din comutatorul PDU1 de pe fata frontala.



7.5 Monitor

Modulul de monitorizare culege toate datele venite de la celelalte module precum si de la senzori, si prin intermediul interfetei grafice instalate se poate configura functionarea MDC-ului sub diferite aspecte (monitorizare, notificari etc.)

Toate conexiunile electrice ale monitorului sunt realizate implicit din fabrica, In interiorul MDC-ului sunt montati mai multi senzori care furnizeaza diverse informatii cu privire la starea diferitelor componente, conditii de mediu (temperatura, umiditate) etc. Astfel se pot monitoriza diversi parametri in vederea imbunatatirii conditiilor de functionare ale echipamentelor, si se vor emite alerte sau notificari in cazul aparitiei unor situatii potential periculoase.

Date tehnice:

Tensiune alimentare: 12V c.c. 5A.

Porturi Data Out (DO): 2, semnal normal deschis sau inchis.

Porturi Data In (DI): 9, pentru UPS Dry Contact, senzori de fum, infrarosu, scurgere lichid, deschidere usi.

Porturi Data Out (DO) alimentate: 4, pentru comanda lumini de alarmare, zavoarele automate de usi, etc.

Porturi RS485: 8. Porturile 1 si 2 suporta si RS232. Porturile 3 si 4 au conexiune RJ45.

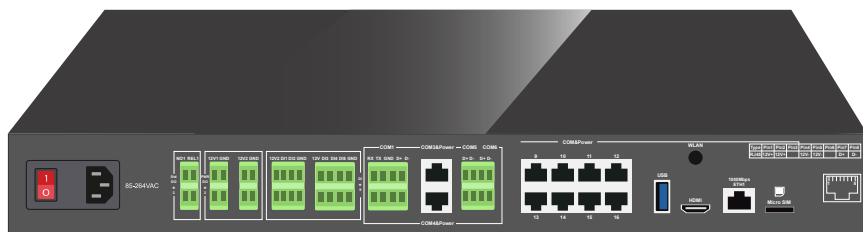
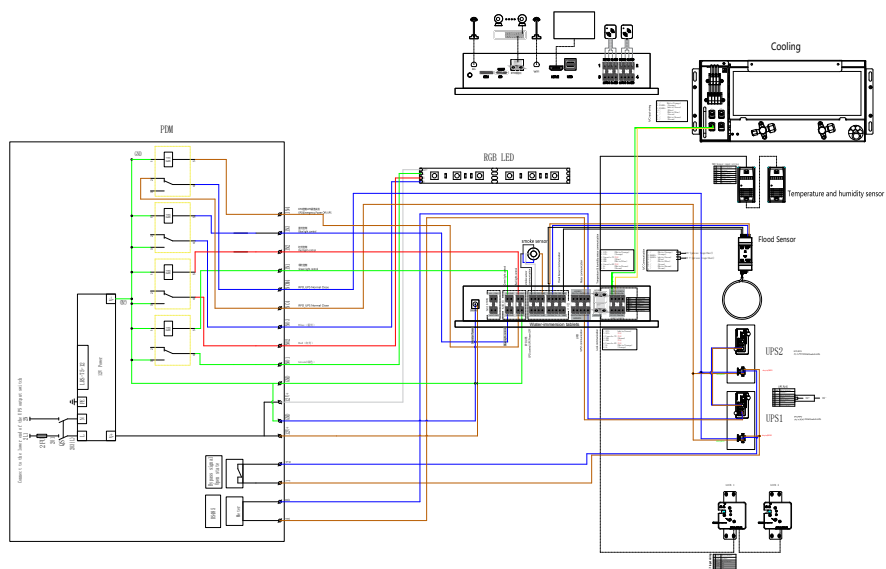
Porturi USB: 2, tip A. Ofera suport pentru camera USB, flash drive, tastatura si mouse.

Slot microSD: 1, suporta max. 64GB.

Slot MicroSIM: 1.

Port Ethernet: 1, RJ45, 100/1000Mbps

Port HDMI: 1, pentru display suplimentar.



7.6 Senzori

Sistemul integrat de monitorizare poate controla usile Cabineturilor si monitoriza starea de functionare a unitatilor de racire si a UPS-urilor, parametrii de putere de intrare si parametrii de mediu, cum ar fi temperatura aerului de intrare si de iesire din Cabinet si starea usilor, scurgerile de apa, fumul si incendiile. Un senzor de temperatura si umiditate este instalat In partea frontala a fiecarui Cabinet IT, un senzor de fum este instalat In partea superioara a partii din spate a Cabinetului unitatii de racire, iar un detector de scurgeri de apa este instalat In partea inferioara a partii din spate a Cabinetului unitatii de racire. Urmatoarele figuri prezinta senzorii.

In interiorul MDC-ului sunt montati mai multi senzori care furnizeaza diverse informatii cu privire la starea diferitelor componente, conditii de mediu (temperatura, umiditate) etc. Astfel se pot monitoriza diversi parametri in vederea imbunatatirii conditiilor de functionare ale echipamentelor, si se vor emite alerte sau notificari in cazul aparitiei unor situatii potential periculoase.

A. Senzor de temperatura si umiditate



Acest senzor monitorizeaza si comunica informatii despre temperatura si umiditatea din MDC.

Date tehnice:

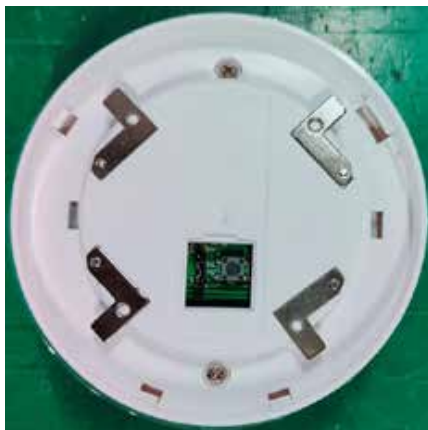
Tensiune alimentare: 12V c.c.

Putere consumata: <1.6W

Comunicatii: RS485

Semnalizare stare: LED verde / rosu intermitent

C. Senzor de fum



Caracteristici tehnice:

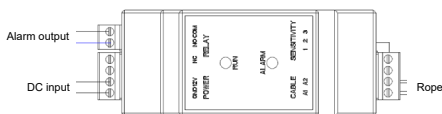
Tensiune de alimentare: 9 – 35V c.c.

Curent de repaus: 12mA.

Semnalizare stare: LED Rosu.

Conexiuni: 1-2 alimentare, 3-4 semnal alarma.

D. Senzor de scurgere



Caracteristici tehnice

Tensiune alimentare: 12V c.c.

Timpe de raspuns: <2s

Lungime fir senzor: 5m

Semnalizare stare: LED verde / rosu

Sensor wire length: 5

Status signaling: green / red LED

⚠ ATENȚIE

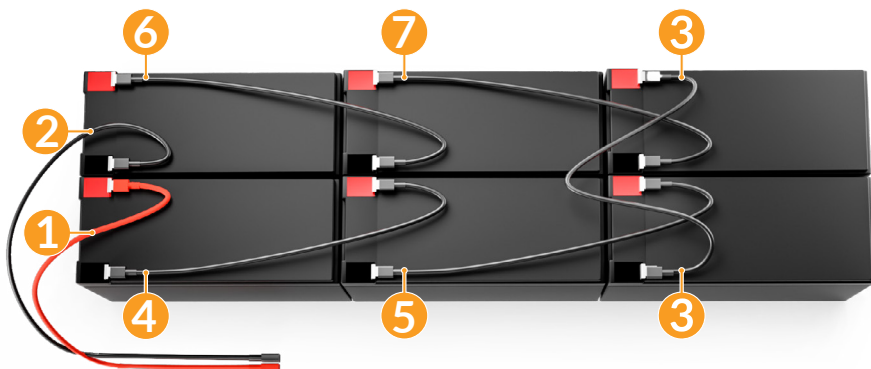
- Intretinerea sistemului trebuie efectuată de personal tehnic și profesional autorizat.
- Toată intretinerea trebuie să fie supusă legilor și reglementărilor locale privind electricitatea, racirea și producția. În caz contrar, nu se va acorda nicio garanție.
- Piese necorespunzătoare pot cauza degradarea sau deteriorarea MDC. Se recomandă utilizarea pieselor originale atunci când este necesară o înlocuire.

8.1 Intretinerea periodică a sistemului de distribuție a energiei electrice**8.1.1 Curățarea periodică**

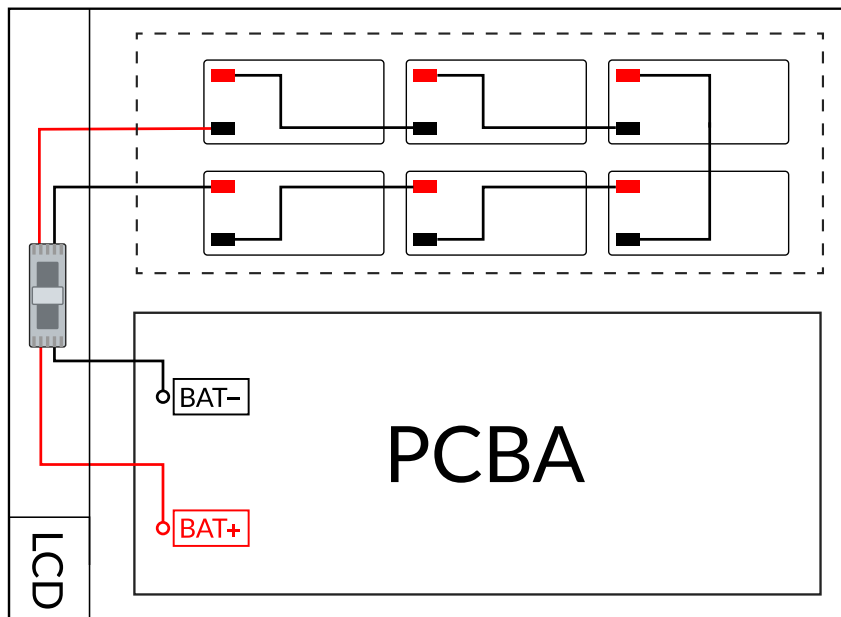
Curățați regulat gurile de aerisire din partea din față și din spate a UPS-ului pentru a menține fluxul de aer în interiorul UPS-ului fără obstrucții și confirmați că nimic nu obstrucționează ventilația UPS-ului.

8.1.2 Intretinerea ventilatorului

Cu UPS-ul, verificați la fiecare șase luni dacă toate ventilatoarele funcționează corect (utilizatorii trebuie să verifice dacă ventilatoarele se rotesc și dacă există o informație privind eroarea ventilatorului pe ecranul LCD al panoului UPS) și înlocuiți prompt ventilatoarele defecte.

8.1.3 Intretinerea bateriei

Internal Wiring Diagram



Daca UPS-ul este echipat cu baterie, bateria trebuie intretinuta in mod regulat. Retineti ca:

- Durata de viata a bateriei este afectata In mare masura de temperatura ambientala, iar temperatura mediului trebuie mentinuta Intre 15°C si 25°C.
- Atunci cand bateria nu este utilizata pentru o perioada lunga de timp (mai mult de trei luni), aceasta trebuie sa fie Incarcata o data la trei luni timp de cel putin 10 ore.
- Daca constatati ca timpul de rezerva al bateriei este scurt, contactati furnizorul In timp util pentru a stabili daca bateria trebuie Inlocuita.
- Utilizati aceeasi marca si acelasi model pentru Inlocuirea bateriei. Daca doriti sa Inlocuiti cu o alta marca sau model, consultati serviciul nostru pentru clienti.

8.1.4 Verificati starea UPS-ului

Efectuati verificari regulate ale starii UPS-ului, inclusiv:

- Verificati daca lumina de defectiune a UPS-ului este aprinsa si daca este generata o alarma de defectiune.
- Verificati daca UPS-ul functioneaza In modul bypass. In conditii normale, UPS-ul va functiona In modul online. Daca UPS-ul functioneaza Intr-un mod bypass, confirmati cauza.

Cauzele posibile pot include:

- Comutare manuala.
- Suprasarcina UPS.
- Eroare UPS.

- Verificati daca bateria este In stare de descarcare electrica. In conditii normale cu alimentare de la retea, bateria nu ar trebui sa se descarce. Daca UPS-ul functioneaza In modul de descarcare a bateriei, confirmati cauza.

Cauzele posibile pot include:

- Intreruperea alimentarii de la retea.
- Comutare manuala.
- Testul bateriei.
- Defectiune UPS.

8.2 Intretinerea periodica a sistemului de monitorizare

Intretinerea periodica a sistemului de monitorizare. Se recomanda verificarea periodica a starii de functionare a modulului de monitorizare si a senzorilor. Aceasta include urmatoorii pasi:

Pasul 1 Verificati daca alarmele sunt raportate pe pagina de alarme. Daca da, verificati dispozitivul corespunzator pentru a sterge alarma.

Pasul 2 Verificati daca informatiile precum starea de functionare a UPS, starea de functionare a unitatii de racire, mediul si parametrii de functionare sunt afisate corect pe HMI.

Pasul 3 Verificati daca parametrii de intrare si iesire, bateria si alti parametri ai UPS sunt afisati In mod normal pe pagina UPS.

Pasul 4 Verificati daca temperatura si umiditatea aerului de intrare si iesire de pe pagina A/C sunt afisate normal si daca apare o alarma de supralncalzire. Daca este raportata o alarma, localizati si remediatii cauza pentru a sterge alarma.

Pasul 5 Verificati daca pe pagina Environment sunt afisate alarme de scurgere de apa, fum si alte alarme. Daca da, localizati si remediatii cauza pentru a sterge alarma.

Pasul 6 Verificati daca alarmele de control al accesului sunt afisate pe pagina Usa. Daca da, localizati si remediatii cauza pentru a elimina alarma.

Pasul 7 Verificati daca senzorul de temperatura este conectat In siguranta la Cabinet.

Pasul 8 Verificati daca locatia senzorului de scurgere a apei este mutata.

Pasul 9 Verificati daca senzorul de fum functioneaza normal si daca interfata functioneaza normal.

Pasul 10 Verificati daca Incuietorile electronice ale usilor pot fi deschise In mod normal.

9 Depanarea

Acest capitol descrie unele alarme si solutiile corespunzatoare pentru inspectia si depanarea dumneavoastra. Daca problema persista, contactati centrul nostru de servicii pentru clienti.

9.1 Alarmer si solutii

Daca trebuie sa raportati bug-uri, erori sau probleme centrului nostru de servicii pentru clienti, va rugam sa notati si sa raportati urmatoarele informatii:

- Numerele de serie ale modulului de monitorizare, ale UPS-ului si ale unitatii de racire.
- Data incidentului
- Descrierea completa a problemei

Pentru a verifica alarmele pe HMI, consultati [sectiunea 6.2](#) pentru a va conecta la sistem si atingeti Alarma in bara de meniu din stanga.

Alarm							
2023-09-25 09:40:16							
<div> <div>Notification</div> <div>Warning Alarms</div> <div>Critical Alarms</div> <div>Fault</div> </div> <div>Export...</div>							
Device Name	Alarm Name	Description	Trigger Value	Start Time	Confirm	End	
DoorLock2	Communication status	Communication abnormal	0	2023-08-25 10:48:13	✓	✓	
PDM	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓	
T&H1	Communication status	Communication abnormal	0	2023-08-25 10:48:04	✓	✓	
A/C1	Communication status	Communication abnormal	0	2023-08-25 10:48:03	✓	✓	
DoorLock1	Communication status	Communication abnormal	0	2023-08-25 10:48:01	✓	✓	

Consultati tabelul urmatoar pentru defectiuni frecvente si solutii posibile. Dupa remedierea defectiunilor, alarmele vor fi sterse automat, iar MDC va continua sa functioneze corect.

Alarma	Cauza posibila	Solutia
System overload	Sarcina depaseste intervalul permis	Reduceti sarcina
Water leakage detector alarm	Se produc scurgeri in teava de scurgere a unitatii de racire sau in partea de conectare.	Reparati teava de scurgere sau interfata unitatii de racire.
	Detectorul de scurgeri de apa este scurtcircuitat.	Localizati si remediatii cauza.
	Alarma de scurgere a apei nu este eliminata.	Dupa ce scurgerea este eliminata, stergeti manual alarma de pe panoul de operare al unitatii de racire.
Smoke sensor alarm	The load is damaged, which generates smoke.	Reparati incarcatura.
	Se produce fum in sala masinilor.	Eliminati sursa de fum din sala masinilor.
	Senzorul de fum este defect si genereaza alarma din greseala.	Consultati 10.2.5 Inlocuiti un senzor de fum.
High temperature at the air inlet of the cabinet	Puterea sarcinii depaseste specificatiile.	Reduceti sau echilibrati incarcatura Cabinetului.
	Nu exista niciun scut instalat in piesele de schimb ale Cabinetului.	Asamblati scutul in piesele de schimb ale Cabinetului.
High humidity in hot chamber	Umiditatea ambientala este prea mare.	Reduce the ambient humidity.
	Camera serverelor nu este bine etansata.	Etansati camera serverelor in mod corespunzator.
	Exista un umidificator in sala serverelor.	Opriti umidificatorul din camera serverelor.
	Pragul de alarma de umiditate ridicata a aerului returnat de unitatea de racire este setat prea jos.	Cresteti pragul de alarma de umiditate ridicata (80% implicit) al unitatii de racire.
Abnormal communication with the UPS	Cablul de comunicare al UPS-ului nu este conectat corect.	Verificati interfetele de comunicare de la ambele capete ale modului de monitorizare si UPS si conectati corect cablul de comunicare.
Abnormal communication with the temperature and humidity sensor	Senzorul de temperatura si umiditate nu este conectat corect.	Verificati si conectati corect senzorul de temperatura si umiditate.
	Adresa senzorului de temperatura si umiditate este setata incorect.	Verificati si setati corect comutatorul DIP al senzorului de temperatura si umiditate.

9.2 Alarmer si defectiuni tipice

Pentru a consulta raportul de evenimente:

1. Apasand butonul  in meniul "Event log".
2. Deruleaza prin evenimentele sau erorile listate.
3. Urmatorul tabel descrie conditiile tipice.

AVERTIZARI		
Stare	Cauze posibile	Solutii
On Maintain Bypass	Intrerupatorul de bypass este cuplat	Verifica starea intrerupatorului de bypass
Site Wiring Site Wiring alarm	Cablul de faza faza si cablul neutru la intrarea sistemului UPS sunt inversate	Inversati cablarea retelei de alimentare
No battery	Bateriile nu sunt conectate corect	Faceti testul bateriei pentru a confirma. Verificati daca bateriile sunt este conectate corect la UPS. Verificati daca intrerupatorul bateriei este pornit sau daca siguranta este OK.
Battery low	Tensiunea bateriei este scazuta	Cand alarma sonora suna la fiecare secunda, bateria este aproape descarcata.
End battery life	Bateria a ajuns la sfarsitul duratei de viata	Consultati distribuitorul pentru a inlocui bateria
Power overload	Cerintele de alimentare depasesc capacitatea UPS-ului	Verificati sarcinile si indepartati unele sarcini necritice. Verificati daca unele sarcini nu sunt defecte
Overload pre-alarm	Sarcina depaseste valoarea prestabilita	Verificati sarcinile sau resetati valoarea de pre-alarma
Fan Lock	Ventilatorul nu functioneaza corect sau deloc.	Verificati daca ventilatorul functioneaza normal sau daca cablul de detectare a ventilatorului este deconectat
UPS temp. alarm	Inside temperature of UPS is too high	Check the ventilation of UPS and the ambient temperature.
Amb. temp. alarm	Temperatura mediului ambiant este prea mare	Verificati ventilatia mediului ambiant
Imminent shutoff	Timp foarte scurt ramas de backup al bateriei	Protejati sarcina la timp
DEFECTE		
Problema afisata	Cauze Posibile	Solutii
Inverter overload	Suprasarcina	Verificati sarcina si deconectati unele sarcini necritice. Verificati daca unele sarcini nu sunt defecte.
Bypass overload	Suprasarcina	Verificati sarcina si deconectati unele sarcini necritice. Verificati daca unele sarcini nu sunt defecte.

Out. short circuit	Rezistența anormal de scăzută detectată pe ieșirea sa și îl consideră un scurtcircuit	Deconectați toate sarcinile. Opriti UPS-ul. Verificați dacă ieșirea din UPS și sarcinile sunt scurtcircuitate. Asigurați-vă ca scurtcircuitul este eliminat înainte de a porni din nou.
UPS temp. fault	Temperatura interioară a UPS-ului este prea ridicată	Verificați ventilația UPS-ului și temperatura ambianță.
DC bus + or - too high	Defecțiune internă UPS, tensiunea + sau - DC BUS este prea mare	Contactați furnizorul
DC bus + or - too low	Defecțiune internă UPS, tensiunea + sau - DC BUS este prea mare	Contactați furnizorul
DC bus unbalanced	Defecțiune internă UPS, diferență de tensiune între DC Bus+ și DC Bus- este prea mare	Contactați furnizorul
DC bus short circ	Defecțiune internă UPS	Contactați furnizorul
Max inverter volt	Defecțiune internă UPS, tensiunea inverterului este prea mare	Contactați furnizorul
Min inverter volt	Defecțiune internă UPS, tensiunea inverterului este prea mică	Contactați furnizorul

ALTE CAZURI

Problem Displayed	Possible cause	Remedy
Ecranul LCD nu afișează nimic, nici un sunet de avertizare, chiar dacă sistemul este conectat la sursa de alimentare	Nu se alimentează cu tensiune	Verificați cablul de intrare și siguranțele de la panoul electric al clădirii Verificați dacă întrerupătorul de intrare este oprit
LED-ul verde nu este aprins chiar dacă sursa de alimentare este disponibilă	UPS-ul nu este pornit.	Apăsăți butonul On/Off pentru a porni UPS-ul
Perioada de funcționare în mod baterie mai mică decât valoarea obișnuită.	Bateriile nu sunt complet încărcate sau bateriile sunt defecte	Încărcați bateriile timp de cel puțin 12 ore și apoi verificați dacă timpul de backup a revenit la parametrii normali

9.2.1 Inlocuirea unui senzor de temperatura si umiditate

Senzorul de temperatura si umiditate este instalat in culoarul rece, in fata Cabinetului. Senzorul de temperatura si umiditate este atasat magnetic la placa metalica, fara suruburi.

Acesta poate fi inlocuit la cald.



Pentru a inlocui un senzor de temperatura si umiditate:

Pasul 1 Deconectati cablul de retea conectat la senzorul de temperatura si umiditate si scoateti senzorul.

Pasul 2 Conectati cablul de retea la noul senzor de temperatura si umiditate si fixati senzorul pe tabla.

9.2.2 Inlocuirea unui detector de scurgeri de apa

Detectorul de scurgeri de apa este amplasat in partea inferioara a sinei din spate a Cabinetului principal. Atunci cand il dezamblati, apasati in jos pe catarama sinei.



Pentru a inlocui un detector de scurgeri de apa:

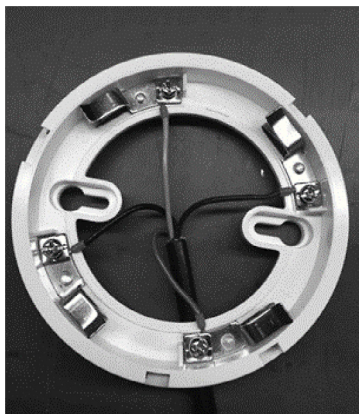
Pasul 1 Deconectati terminalul conectat la detectorul de scurgeri de apa.

Pasul 2 Apasati in jos catarama sinei pentru a scoate detectorul de scurgeri de apa.

Pasul 3 Apasati in jos catarama sinei si instalati noul detector de scurgeri de apa, apoi conectati terminalul la acesta.

9.2.3 Inlocuirea unui senzor de fum

Senzorul de fum este instalat in interiorul partii superioare a Cabinetului. Acesta este format dintr-o baza de cablare si un corp al senzorului.



Pentru a inlocui un corp al senzorului de fum:

Pasul 1 Rotiti corpul senzorului de fum cu 30° in sens antiorar, in directia sagetii indicate pe corpul senzorului, pentru a-l scoate din baza.

Pasul 2 Montati un corp nou al senzorului de fum la baza si rotiti-l in sensul acelor de ceasornic pentru a-l fixa.

To replace a smoke sensor base:

Pasul 1 Slabiti suruburile de pe baza pentru a deconecta cablurile si scoateti baza.

Pasul 2 Conectati cablurile la o noua baza a senzorului facand referire la etichetele cablurilor si fixati suruburile.

Daca indicatorul de pe senzorul de fum clipeste in verde la fiecare 9 secunde, senzorul de fum este instalat cu succes.

9.2.4 Inlocuirea luminilor

Luminile sunt instalate pe partea superioara a Cabinetului si fixate cu pini de blocare.

Pentru a inlocui lumina de iluminare:

Pasul 1 Deconectati fisa de alimentare de la PDU.

Pasul 2 Deconectati fisa de alimentare de pe lumina.

Pasul 3 Inlocuiti lumina de iluminare cu una noua.

Step 4 Conectati fisa de alimentare la lumina.

Step 5 Conectati fisa de alimentare la PDU pentru a-l porni.



9.2.5 Inlocuiti UPS-ul

NOTA!

Inlocuirea UPS-ului nu poate intrerupe alimentarea cu energie a sarcinilor backend.

UPS-ul 9PX3K este utilizat ca exemplu in aceasta sectiune. Pasii de inlocuire pentru alte tipuri de UPS sunt similari.

Pasul 1 Pastrati toate comutatoarele stationare si utilizati o surubelnita Phillips pentru a indeparta capacul bypass de intretinere de pe PDM.



Use a Phillips screwdriver to remove the cover

Pasul 2 Verificati UPS-ul prin indicator sau HMI pentru a vedea daca UPS-ul a trecut in modul bypass.

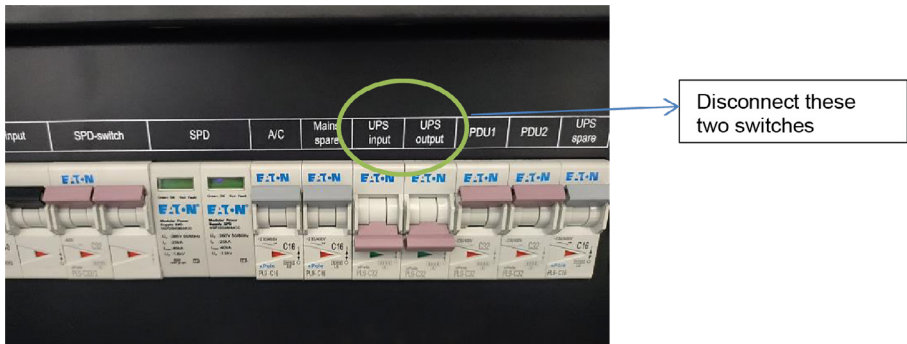
NOTA!

Acest pas nu poate fi sarit. Daca UPS-ul nu functioneaza in modul bypass, opriti operatiunea si remediatu cauza. In caz contrar, UPS-ul poate fi deteriorat.

Pasul 3 Inchideti comutatorul de bypass pentru intretinerea UPS de pe PDM.

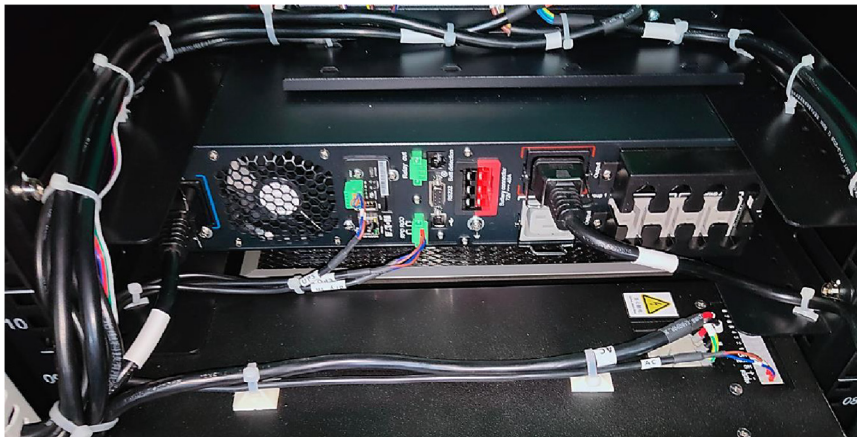
Acest comutator este expus dupa ce capacul este indepartat.

Pasul 4 Disconnect the UPS output switch on the PDM and the UPS input switch.



Pasul 5 Apasati butonul de oprire UPS pentru a opri UPS-ul.

Pasul 6 Scoateti cablurile de intrare si iesire si alte cabluri de semnal din partea din spate a UPS-ului, impachetati-le scurt si apoi scoateti UPS-ul.



Pasul 7 Instalati un UPS nou, conectati cablurile de intrare si iesire si cablurile de semnal in conformitate cu marcajele cablurilor din spate si readuceti cablajul din spate la starea initiala.

Pasul 8 Inchideti comutatorul de intrare UPS de pe PDM, apoi porniti UPS-ul.

Pasul 9 Verificati daca UPS-ul functioneaza in starea de bypass.

NOTA!

Acest pas nu poate fi sarit. Daca UPS-ul nu functioneaza in modul bypass, opriti operatiunea si remediatu cauza. In caz contrar, UPS-ul poate fi deteriorat.

Pasul 10 Inchideti comutatorul de iesire al UPS.

Pasul 11 Deconectati comutatorul de bypass al panoului PDM si instalati capacul.

9.2.6 Inlocuiti componentele interne ale PDM

9.2.6.1 Inlocuirea modului DC

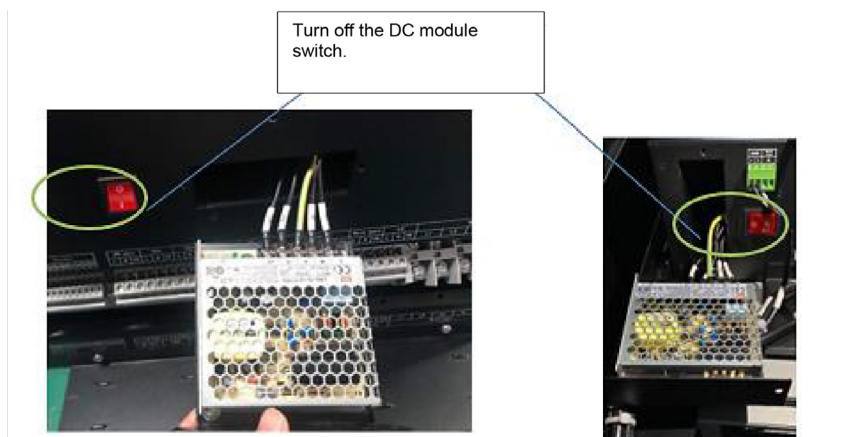
In aceasta sectiune, inlocuirea modului DC este descrisa cu PDM-6K ca exemplu.

Pasii de inlocuire pentru alte modele sunt similari.

NOTA!

Inlocuirea modului DC nu necesita deconectarea sursei principale de alimentare, iar echipamentul back-end al clientului continua sa functioneze normal.

Pentru a inlocui modulul DC:



Example figure

Pasul 1 Opriti comutatorul modulului DC.

Pasul 2 Slăbiți suruburile care fixează modulul DC.

Pasul 3 Scoateți modulul DC și deconectați cablurile.

Pasul 4 Conectați cablurile cu un modul DC nou.

Pasul 5 Introduceți PDM și fixați suruburile pe acesta.

Pasul 6 Porniți comutatorul modulului DC.

Dacă MDC este pornit cu succes, comutatorul modulului DC este înlocuit cu succes.

9.2.7 Înlocuirea unui comutator PDM

ATENȚIE

Înainte de a înlocui un comutator PDM, deconectați sursa de alimentare principală și sursa de alimentare de intrare a PDM pentru a evita socurile electronice.

Pentru a înlocui un comutator PDM:

Pasul 1 Disconnect the main power supply and input power supply of the PDM.

Pasul 2 Scoateți panoul frontal. Deconectați cablurile de pe comutator și deschideți catarama pentru a scoate comutatorul.

Pasul 3 Conectați cablurile la noul comutator făcând referire la conexiunea originală a cablurilor.

Pasul 4 Instalați panoul frontal și conectați din nou sursa de alimentare.

A Acronime și abrevieri

Abrevieri/acronime	Forma întreaga
HMI	human machine interface
MDC	micro data center
PDU	power distribution unit
PDM	power distribution module
PUE	power usage effectiveness
UPS	uninterruptible power systems