Smart Micro Unit Data Centre

Data Centre Integrated Infrastructure Solutions

LIONROCK®

Smart Micro Unit Data Centre

▶ Introduction

Smart Micro Unit (SMU) data centre is a product that integrated UPS, power distribution board, air conditioning system, fire fighting equipment and power environment monitoring into a server style cabinet system. The product is a one stop solution to edge computing with increasing demand due to broad band network and 5G mobile network development.
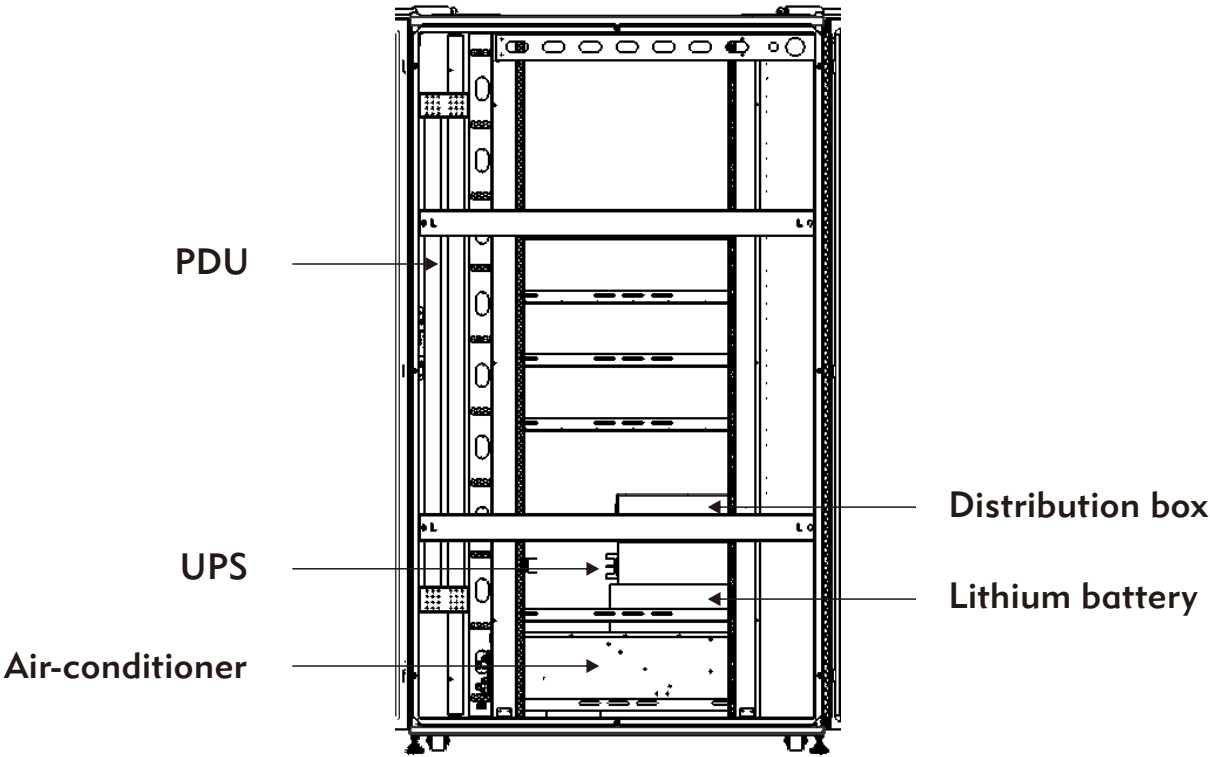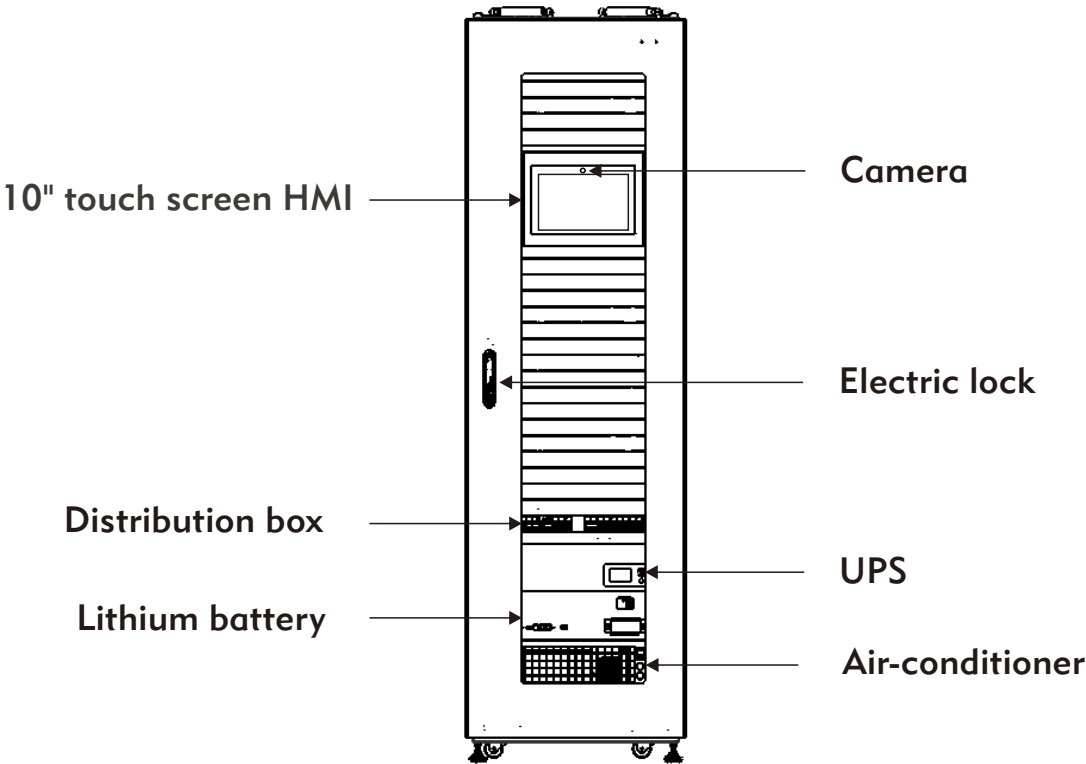
▶ Product Features

- **Rapid deployment**

    - Integrated design, fully factory assembly and tested before delivery

    - Simple and quick site installation, a real plug and play solution

    - SMU is designed to fully self-contained environment and dedicated machine room is not required

    - Customised to specific operation environment possible

    - Modular design and allow future expansion

- **High energy efficient and reduce carbon footprint**

    - Integrated Cabinet and sealed airduct design, effective separation of hot and cold air passages

    - Line or rack type air conditioning unit installed close to server equipment

    - Shorten and separated air path for efficient cooling

- **Security and Reliable**

    - Fully sealed and dust proof design with effective noise barrier

    - Support N+1, 2N design to meet different infrastructure tier standards

    - Emergency ventilation system in event of air conditioning failure, to safeguard IT equipment for proper shutdown and short terms operation

    - Automatic fire extinguishing system to put out any fire in the cabinet protecting expensive equipment and personnel safety

    - 10" touch screen HMI with camera, timely capture, monitoring the scene

- **Intelligent operation and maintenance**

    - Large local HMI (Human Machine Interface) with comprehensive system and performance information

    - Remote Web base monitoring and multi-sites centralized management of real time and historical information with Mobile APPs in development

    - Alarm can be sent through email/SMS/phone as well as local audio and visual indication, alarm analysis with fault handling recommendations
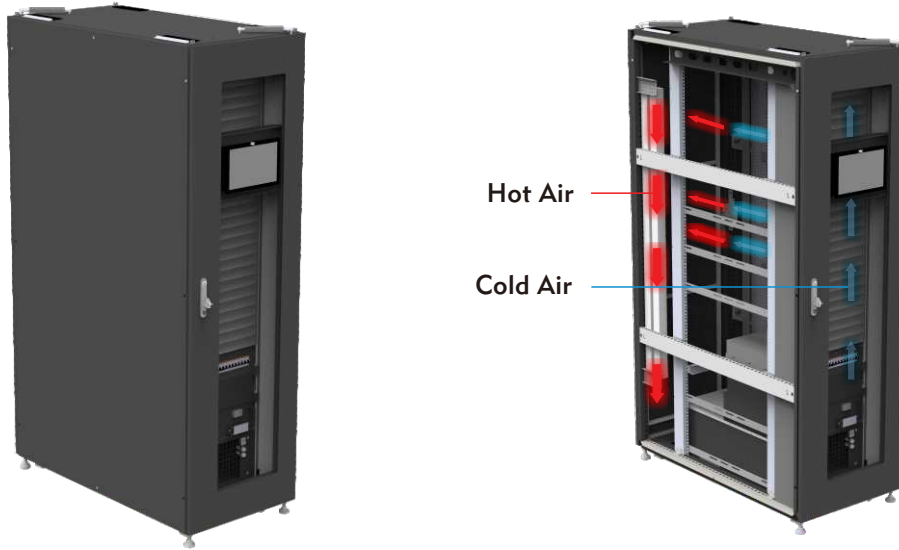
▶ Application Area

- Any server required in electricity substation, railway station, financial outlets, government office, school, health care centre, facility security, small and medium enterprises, retail store and any operator business outlets
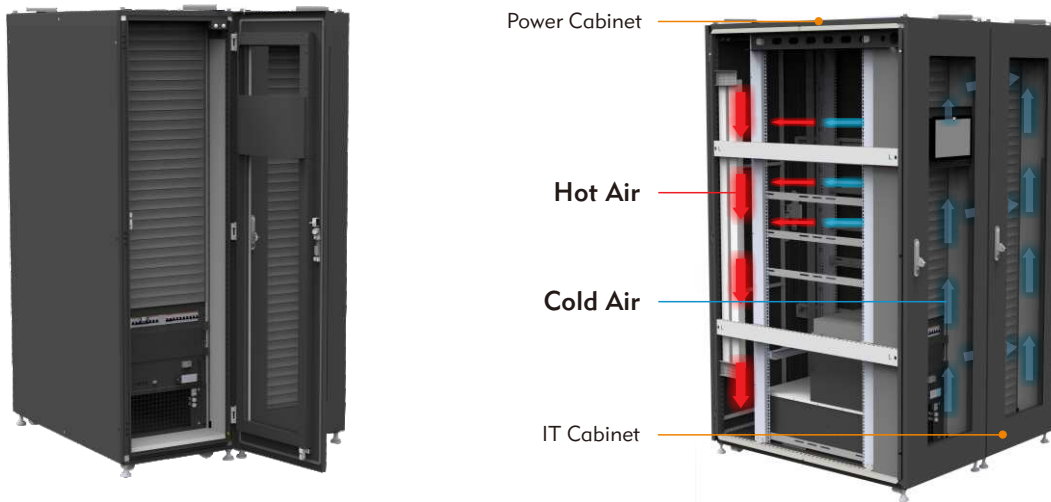
- Any indoor machine rooms

SMU1011-U06A03

10" touch screen HMI

Camera

Electric lock

Distribution box

UPS

Lithium battery

Air-conditioner

PDU

Distribution box

UPS

Lithium battery

Air-conditioner

Smart Micro Unit Data Centre

SMU1011-U06A03

Hot Air

Cold Air

▶ Specifications

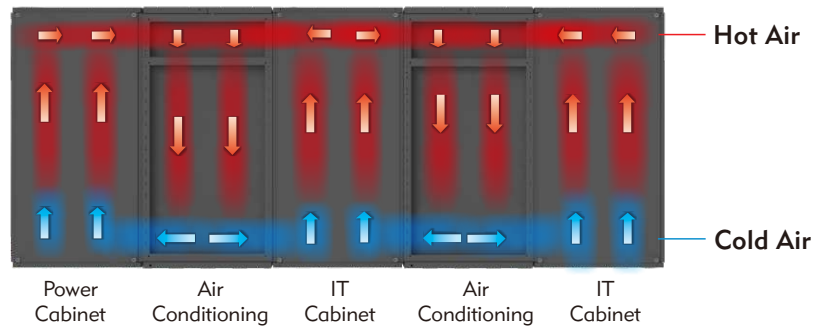|		
System	Dimension (W x D x H)	605mm x 1200mm x 2000mm
	Weight	320kg
	Installation	Indoor floor mount
	Cabling	Both top and bottom
	Maintenance Access	From the front and rear
	Airduct Sealing Option	Cold airduct sealing, hot airduct sealing or both are optional
	Cabinet Color	Black: RAL 9004
	IT Equipment Space	24U
	Protection Level	IP20
	Operating Temperature	-20°C ~ 45°C
	Number of Cabinet	1
Air Conditioning System	Cooling Capacity	3.5kW
	Cooling Mode	Constant temperature (constant humidity is optional)
	Installation	Rack mount
	Air Supply Mode	Front air supply, rear air inlet
Power Supply	Input Power Requirement	220/230/240VAC, 50/60Hz, 1P+N+PE, 63A max
	AC Distribution	32A for UPS, 32A for SPD, 20A for A/C, 20A for PDU. Others are customizable
	Surge Protection	C class, In 20KA, Imax 40KA, 8/20μs
	ATS (5U)	Optional (2P+PE, 63A max)
	IT Equipment Capacity	3.5kVA/3kW
	UPS Capacity	6kVA/5.1kW (support A/C optional)
	UPS Input Voltage Rage	100-240VAC, 45-65Hz, 1P+N+PE
	UPS Output Voltage Range	220/230/240VAC, 50/60Hz, 1P+N+PE
	UPS Backup Battery	Lithium (LiFePO)
	UPS Backup Time	Std 15mins based on IT load (optional up to 60 minutes)
	UPS Maintenance Bypass	Standard configuration included
	PDU	16 sockets, 16A x 4, 10A x 12. International sockets available
Monitoring	Monitoring Platform	Support Web base access, multi-sites support, unified management of network management
	Local Interface	10" touch screen HMI
	Sensors and Security	Standard water, smoke, temperature & humidity included, door sensor and electric lock are optional
	Video Monitoring	Camera on display screen

Smart Micro Unit Data Centre

SMU1021-U10A06

Power Cabinet

Hot Air

Cold Air

IT Cabinet

Specifications

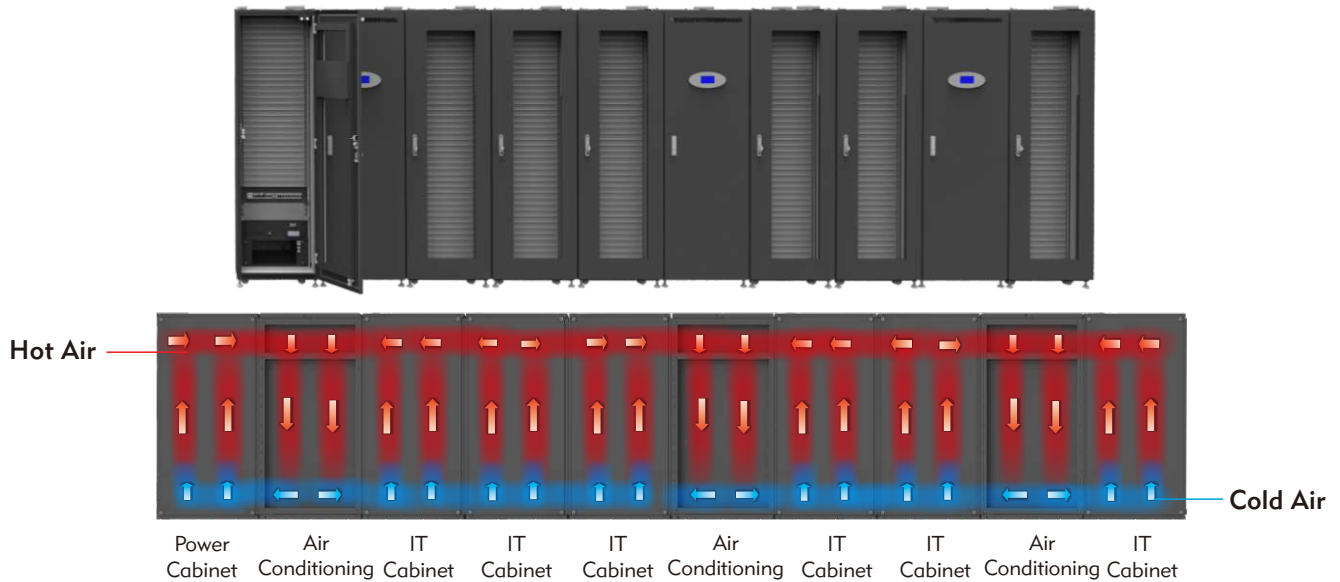|		
System	Dimension (W x D x H)	1200mm x 1200mm x 2000mm
	Weight	620kg
	Installation	Indoor floor mount
	Cabling	Both top and bottom
	Maintenance Access	From the front and rear
	Airduct Sealing Option	Cold airduct sealing, hot airduct sealing or both are optional
	Cabinet Color	Black: RAL 9004
	IT Equipment Space	48U
	Protection Level	IP20
	Operating Temperature	-20°C ~ 45°C
	Number of Cabinet	2
Air Conditioning System	Cooling Capacity	6.5kW (3.5-12kW optional)
	Cooling Mode	Constant temperature (constant humidity is optional)
	Installation	Rack mount
	Air Supply Mode	Front air supply, rear air inlet
Power Supply	Input Power Requirement	220/230/240VAC, 50/60Hz, 1P+N+PE, 125A max
	AC Distribution	63A/1P for UPS, 50A/1P for A/C, 20A/1P x 2 for PDUs, 16A/1P x 6 for other IT equipments
	Surge Protection	C class, In 20KA, Imax 40KA, 8/20μs
	ATS (5U)	Optional (2P+PE, 125A max)
	IT Equipment Capacity	7kVA/6kW
	UPS Capacity	10kVA/8.5kW (6-20kVA optional and support A/C optional)
	UPS Input Voltage Rage	100-240VAC, 45-65Hz, 1P+N+PE
	UPS Output Voltage Range	220/230/240VAC, 50/60Hz, 1P+N+PE
	Backup Battery	Lithium (LiFePO)
	Backup Time	Std 15mins based on IT load (optional up to 60 minutes)
	Maintenance Bypass	Standard configuration included
	PDU	32 sockets, 16A x 8, 10A x 24. International sockets available
Monitoring	Monitoring Platform	Support Web base access, multi-sites support, unified management of network management
	Local Interface	10" touch screen HMI
	Sensors and Security	Standard water, smoke, temperature & humidity included, door sensor and electric lock are optional
	Video Monitoring	Camera on display screen, other cabinets are optional

Smart Micro Unit Data Centre

SMU1052-U20A30

| Power Cabinet | Air Conditioning | IT Cabinet | Air Conditioning | IT Cabinet |

Hot Air

Cold Air

▶ Specifications

System	Dimension (W x D x H)	3000mm x 1350mm x 2000mm
	Weight	1390kg
	Installation	Indoor floor mount
	Cabling	Both top and bottom
	Maintenance Access	From the front and rear
	Airduct Sealing Option	Cold airduct sealing, hot airduct sealing or both are optional
	Cabinet Color	Black: RAL 9004
	IT Equipment Space	100U
	Protection Level	IP20
	Operating Temperature	-20°C ~ 45°C
	Number of Cabinet	5
Air Conditioning System	Cooling Capacity	15kW x 2
	Cooling Mode	Constant temperature (constant humidity is optional)
	Installation	Between IT cabinets
	Air Supply Mode	Front air supply, rear air inlet
Power Supply	Input Power Requirement	380/400/415VAC, 50/60Hz, 3P+N+PE, 63A max
	AC Distribution	63A/3P for UPS, 40A/3P x 2 for A/C, 20A/1P x 3 for PDUs, 16A/1P x 6 for other IT equipments
	Surge Protection	C class, In 20KA, Imax 40KA, 8/20μs
	ATS (5U)	Optional (3P+N+PE, 63A max)
	IT Equipment Capacity	10.5kVA/9kW
	UPS Capacity	20kVA/17kW (10-40kVA optional and support A/C optional)
	UPS Input Voltage Rage	138-485VAC, 45-65Hz, 3P+N+PE
	UPS Output Voltage Range	380/400/415VAC, 50/60Hz, 3P+N+PE
	Backup Battery	Lithium (LiFePO)
	Backup Time	Std 15 mins based on IT load (optional up to 60 minutes)
	Maintenance Bypass	Standard configuration included
	PDU	48 sockets, 16A x 12, 10A x 36. International sockets available
Monitoring	Monitoring Platform	Support Web base access, multi-sites support, unified management of network management
	Local Interface	10" touch screen HMI
	Sensors and Security	Standard water, smoke, temperature & humidity included, door sensor and electric lock are optional
	Video Monitoring	Camera on display screen, other cabinets are optional (Max number is 4pcs)

Smart Micro Unit Data Centre

SMU10X2-U40A60

Hot Air —

Cold Air —

| Power Cabinet | Air Conditioning | IT Cabinet | IT Cabinet | IT Cabinet | Air Conditioning | IT Cabinet | IT Cabinet | Air Conditioning | IT Cabinet |

▶ Specifications

System	Dimension (W x D x H)	6000mm x 1350mm x 2000mm
	Weight	2850kg
	Installation	Indoor floor mount
	Cabling	Both top and bottom
	Maintenance Access	From the front and rear
	Airduct Sealing Option	Cold airduct sealing, hot airduct sealing or both are optional
	Cabinet Color	Black: RAL 9004
	IT Equipment Space	250U
	Protection Level	IP20
	Operating Temperature	-20°C ~ 45°C
	Number of Cabinet	10
Air Conditioning System	Cooling Capacity	20kW x 3
	Cooling Mode	Constant temperature (constant humidity is optional)
	Installation	Between the columns
	Air Supply Mode	Front air supply, rear air inlet
Power Supply	Input Power Requirement	380/400/415VAC, 50/60Hz, 3P+N+PE, 125A max
	AC Distribution	125A/3P for UPS, 40A/3P x 3 for A/C, 20A/1P x 7 for PDUs, 32A/1P x 6 for other IT equipments
	Surge Protection	C class, In 20KA, Imax 40KA, 8/20μs
	ATS (5U)	Optional (3P+N+PE, 125A max)
	IT Equipment Capacity	24.5kVA/21kW
	UPS Capacity	40kVA/34kW (20-60kVA optional and support A/C optional)
	UPS Input Voltage Rage	138-485VAC, 45-65Hz, 3P+N+PE
	UPS Output Voltage Range	380/400/415VAC, 50/60Hz, 3P+N+PE
	Backup Battery	Lithium (LiFePO)
	Backup Time	Std 15mins based on IT load (optional up to 60 minutes)
	Maintenance Bypass	Standard configuration included
	PDU	112 sockets, 16A x 28, 10A x 84. International sockets available
Monitoring	Monitoring Platform	Support Web base access, multi-sites support, unified management of network management
	Local Interface	10" touch screen HMI
	Sensors and Security	Standard water, smoke, temperature & humidity included, door sensor and electric lock are optional
	Video Monitoring	Camera on display screen, other cabinets are optional (Max number is 4pcs)

Smart Micro Unit Data Centre

OwlEye Smart Control and Monitoring System

▶ Features

- 3Tech Proprietary monitoring system monitors the power distribution, UPS, battery, air conditioning, temperature and humidity, water leakage, door status, smoke sensor, etc in real time to ensure that IT equipment operates in a secure and suitable environment.

- Local 10-inch color LCD human machine interface, real-time display of system operating parameters.

- Real-time alarm push to ensure that any alarm and status are delivered to operation and maintenance personnel instantly.

- Up to 4 levels of security log in through the remote Web base interface, access to information of the entire power system and environment parameters of each module

- Support remote operation and maintenance

OwlEye Smart Control and Monitoring System   ⬚ Site List   🌐 GIS Map   Alarm Dashboard   📊 Report Management   ▤ Work Order Management
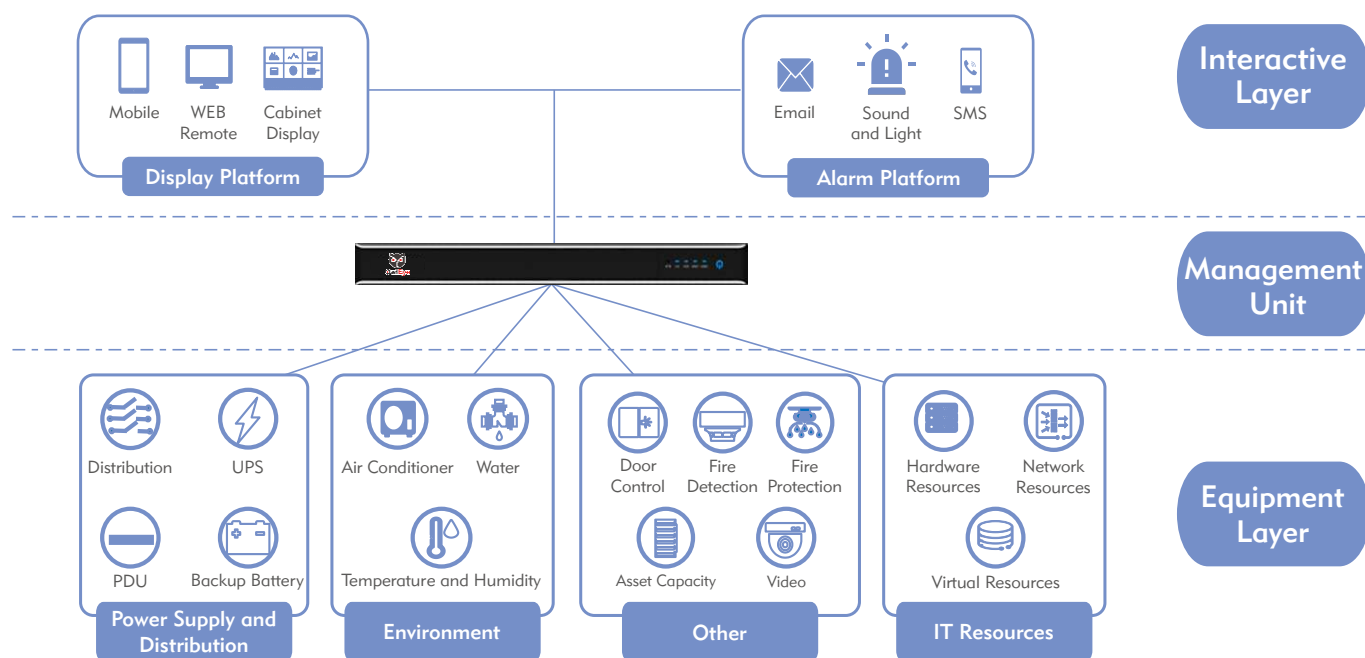
Open Alarms   All Alarms

No.	Date&Time	Site ID	Event ID	Site Name	Alarm Name	Severity	Acknowledged	Acknowledged Time	Resolved	Resolved Time	
1	09-Oct-2020 00:29:14	738343676078520319	16	Beijing	Cold Ventilation Channel High Temperature	Critical	No		No		Create TT
2	09-Oct-2020 00:28:39	738343676078520320	15	Chaoyang	Door Alarm	Critical	No		No		Create TT
3	09-Oct-2020 00:29:14	738343676078520321	17	Sichuan	Air Conditioner Alarm	Major	No		No		Create TT
4	09-Oct-2020 01:29:03	738343676078520322	18	Cangzhou	UPS Alarm	Minor	No		No		Create TT
5	09-Oct-2020 01:17:25	738343676078520323	19	Fuzhou	Battery Low Voltage	Minor	No		No		Create TT
6	09-Oct-2020 00:53:28	738343676078520324	20	Hangzhou	Smoke Alarm	Minor	No		No		Create TT

Alarm Management

▶ System Diagram

Mobile | WEB Remote | Cabinet Display

Display Platform

Email | Sound and Light | SMS

Alarm Platform

Interactive Layer

Management Unit

Distribution | UPS
PDU | Backup Battery
Power Supply and Distribution

Air Conditioner | Water
Temperature and Humidity
Environment

Door Control | Fire Detection | Fire Protection
Asset Capacity | Video
Other

Hardware Resources | Network Resources
Virtual Resources
IT Resources

Equipment Layer