

# MC2000

MC2000 series is a new generation of small and medium modular data center solution which integrates the basic data center equipment of the power supply and distribution system, UPS system, refrigeration system, emergency ventilation module, cabinet and airflow management, wiring and monitoring management system into one or multiple closed cabinets. One set of cabinet is a complete data center. Each subsystem forms its own sub-module, and each sub-module is factory prefabricated and installed in each cabinet unit. In the single cabinet mode, the system is highly integrated and no assembly is required on site; in the multi-cabinet mode, the cabinet units can be assembled on site to form a row of modular data center.

MC2000 has three types of aisle containment: hot-cold aisle containment (recommended), cold aisle containment and natural cooling. Users can select one type of them according to the actual use. It is flexible and applicable for various occasions.

MC2000 row-based modular data center is one of the ideal solutions of small and medium data center, which reduces the construction complexity of small data center and solves the problem of the specialization, standardization, construction speed and expansion of small data center construction. Moreover, it has the advantages of fast construction, high energy efficiency, various configurations and easy maintenance.



Multiple cabinet



Intelligent power distribution unit, PDU



10.1-inch industrial touch screen



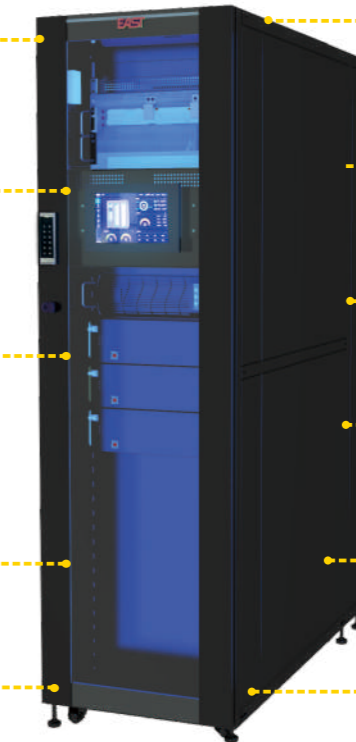
UPS



Air conditioner



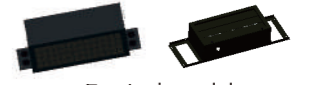
Battery



Single cabinet



Sound and light alarm, smoke detection, camera



Fresh air module



LED light, door sensor



Monitoring and acquisition module



Firefighting module (optional)



Temperature and humidity, water logging

## Applications

Small and medium-sized data centers



Distributed business network rooms



Small and medium-sized network equipment rooms



Information centers of township-level state organs and public institutions



Branches' device rooms of large companies



Data centers of small and medium-sized enterprises



## Features

### Simplification

- MC2000 overall system standard modular structure design, each sub-module is highly versatile. The sub-modules of MC2000 are prefabricated by factory and can be assembled on site, which has low requirement for installation place. The equipment can be put into use immediately after the arrival. In the process of utilization, it only needs one monitoring and management system during use with no need of facing multiple interfaces.

### High efficiency

- MC2000 has three types of aisle containment: hot-cold aisle containment (recommended), cold aisle containment and natural cooling. Thereinto, cold aisle containment can significantly improve the utilization of refrigerating capacity, hot aisle containment can improve the refrigerating efficiency of air conditioner, hot-cold aisle containment can improve the utilization of refrigerating capacity as well as the refrigerating efficiency of air conditioner. Its PUE (Power Usage Effectiveness) is industry-leading.

### Flexibility

- Overall system standard modular structure design, each sub-module is highly versatile. Multiple solutions can be implemented by combining them as needed.
- The later stage can realize expansion easily.
- Rack-mounted or row-mounted air conditioners can be installed.
- It can be powered by either lead-acid or lithium batteries.
- It supports single or dual power supply.

### Reliability

- The hot and cold aisles are fully enclosed and self-contained, adapting to various environments.
- Overall system standard modular structure design can avoid system design problems.
- System fault-tolerant design helps high reliability.
- Strong and weak current separation design can make less electromagnetic interference.
- Pass 8, 9 intensity electrified seismic performance test.

### Intelligence

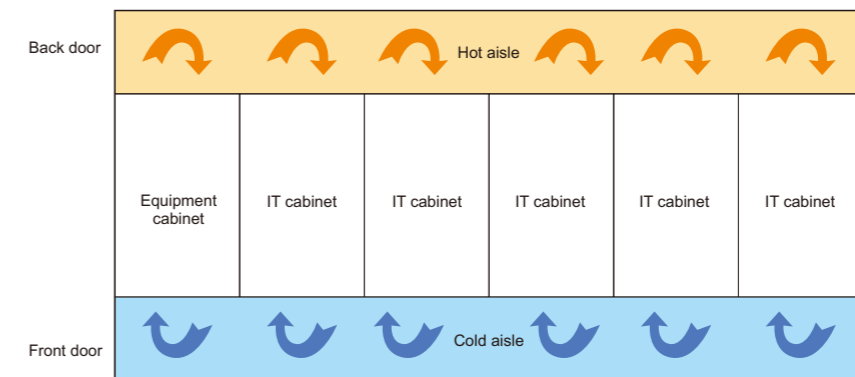
- MC2000 has built-in monitoring and management system and is configured with 10.1-inch industrial touch screen that can be used not only to view the parameters of the power supply and distribution, air conditioner, environmental variable and UPS but also to remotely monitor the operating parameters inside MC2000. Moreover, it can be connected to the superior monitoring platform via the internet for multi-network centralized monitoring and efficient management.
- The MC2000 cabinet is equipped with intelligent LED ambient lights. When the temperature is 18~27°C, the light will be blue (normal work). When the temperature exceeds 27°C, the color of the light will gradually change from yellow to red (warning effect). When the front door is opened, the white light is on for operation and maintenance. At the same time, the LED ambient light is linked with the infrared sensor on the top of the cabinet. When the infrared sensor detects that a person is approaching the device, the smart LED ambient light starts up normally, and automatically turns off after 5 minutes away from the device.

## Technical Data

Overall system parameters	Power mode	380/400/415VAC, 50/60Hz, 3Ph+N+PE
	Aisle type	Cabinet type, single row aisle, hot-cold aisle containment
	System protection grade	IP 50(glass door)
	Operating temperature	-20°C~+45°C
	Number of IT cabinets	1~12
	Max. power consumption of IT loads	50kW
	Max. power density per cabinet	7kW
	Installation	Concrete ground, raised flooring
Dimension	(600~7800)×1400×2000(W×D×H)(mm)	
Refrigeration system	Input power supply	220Vac; 380Vac
	Refrigerating capacity	Rack-mounted air conditioner: 3.5kW(5U)/7.5kW(8U)/12.5kW(10U); Row-mounted air conditioner: 25kW(300mm)
	Air conditioner configuration	N, N+1
	Sensible heat factor(sensible cooling capacity/total cooling capacity)	1
	Refrigerant	R410A
	Air supply method	Supply air in front and return air in the rear
	Installation	Rack-mounted, Row-mounted
Power supply and distribution system	Power input	Single-phase three-wire/Three-phase five-wire
	UPS capacity	3kVA/6kVA/10kVA/20kVA/30kVA
	UPS configuration	N, N+1, 2N
	UPS rated input voltage	220/230/240Vac single-phase, 380/400/415Vac three-phase
	UPS input voltage range	80~280Vac single-phase, 228 ~ 485Vac three-phase
	UPS output power factor	1
	UPS rated output voltage	220/230/240Vac single-phase, 380/400/415Vac three-phase
	UPS overall efficiency	≥95%
	Maintenance bypass	Support
	Battery type	Lead-acid battery, lithium battery
	Battery deployment	Battery pack, battery cabinet, battery rack
	Battery backup time	15min~240min, configure according to actual needs
	Mains power feed-out ways	4/9/12 ways IT+air conditioner+fire-fighting systems+lighting+communication
	UPS feed-out ways	4/9/12 ways IT
	AC lightning protection	Class C
PDU	Ordinary/Intelligent: support IEC or national standard socket	
Monitoring system	Monitoring system host	Support Web direct access and centralized monitoring of multiple sites
	Local interface	10.1-inch industrial touch screen
	Standard configuration	Water leak detector, smoke detector, temperature and humidity sensor, cabinet light strip, door sensor, SMS alarm/router, power supply and distribution/UPS/air conditioner monitoring
	Optional configuration	Automatic spring door device, fresh air module, camera/audible and visual alarm/infrared, firefighting module, mobile APP
Firefighting system	Protocol format	Modbus TCP/IP
	Installation	Rack-mounted installation
	Starting mode	Smoke and temperature sensor dual interlock pre-action system
	Gas type	Heptafluoropropane

### MC2000 Hot-cold Aisle Containment Solution

MC2000 hot-cold aisle containment solution is the solution that closes both cold aisle and hot aisle. It has the both advantages of high utilization of refrigerating capacity when closing cold aisle and improving refrigerating efficiency of air conditioner when closing hot aisle. This solution has the better energy saving effect. MC2000 hot-cold aisle containment solution uses variable capacity computer room air conditioner with load following technology, which can be used to adjust the output of refrigerating capacity and air capacity according to actual load calorific value for further improving energy saving effect. The independent micro modules of MC2000 hot-cold aisle containment solution has not much requirement for ambient environment and has stronger adaptability. This solution is applicable for most applied occasions.



### MC2000 Cold Aisle Containment Solution

MC2000 cold aisle containment solution manages the output refrigerating capacity of computer room air conditioner, it only cools the device with no need of cooling the ambient environment to improve the utilization of refrigerating capacity. This cold aisle containment solution is better used in the computer rooms which have more cables at the back side of the cabinet or have relatively large area.

