Micro Data Centre

Introduction

Server rooms with comfort cooling are found in various settings such as offices, retail spaces, warehouses, and computer rooms. However, many of these spaces lack adequate systems to monitor the health and safety of the cabinet. Cloud and hybrid platforms hosting systems with multiple connection levels pose challenges in terms of monitoring and latency at the cabinet level. Comfort cooling, while effective, can be expensive as it tends to cool the entire room more than the cabinet. This results in more than 50% of cold air not reaching the servers and network equipment within the cabinet.

The solution to these issues lies in the integration of power, rack-mounted cooling, and monitoring within a single cabinet. This integration has given rise to Micro Data Centres (MDC) designed to reduce costs, improve efficiency, and enable monitoring from a unified dashboard with multiple tenant MDCs.

GIGANET™ Micro Data Centre (MDC) solutions are available in single rack and multi-rack configurations. They feature a cabinet with a power distribution board, a smart double conversion online UPS, rack-mounted thermal DX cooling, and an Environmental Monitoring System (EMS) equipped with sensors. The integrated dashboard facilitates Data Centre Infrastructure Management (DCIM) monitoring. DCIM tools effectively monitor, measure, and control data centre utilization and energy consumption of assets such as servers, storage, and network switches, along with facility infrastructure components like power distribution units, UPS, and rack-mounted thermal cooling.

The GIGANET™ MDC solution offers the flexibility to choose UPS and cooling units from multiple vendors using the DCIM software, allowing customers to transition to MDC solutions seamlessly.

Micro Data Centre

Product Introduction

The GIGANET™ Micro Data Centre, an innovative small and medium-sized computer room product. It was initially launched in response to the trends in data Centre application integration and the integration of various system technology trends in computer rooms. This product is designed based on the concept of "commercializing the entire computer room."

The Micro Data Centre integrates functional modules, including uninterruptible power supply, cooling, power distribution, and environmental monitoring, within the physical space of a standard cabinet. This integration aims to create a high-reliability operating environment for core equipment such as servers. Additionally, the system can be elastically deployed according to the user's business expansion needs.

Scope of application

- Government
- Finance
- Commercial
- Medical
- Education
- Manufacturing

Features

Energy efficient

- Cold aisles at the front and rear of the cabinet are closed to improve the cooling efficiency of the cooling.
- The inverter compressor matches the load capacity and reduces the energy consumption of the whole machine.

Stable and reliable

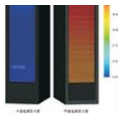
- Support N+1/2N design to ensure stable operation of IT equipment.
- Emergency fan as emergency cooling.
- Stable operation with ultra-wide voltage input, with power protection functions such as phase sequence detection.
- Smart call auto-start function.
- Cryogenic components or long connecting pipe components can be selected to ensure reliable operation of the unit in harsher field conditions.

Fast delivery

- Factory prefabricated, fast splicing on site, plug and play.
- Standard modular construction, easy to deploy, quickly put into use, no impact on later expansion, and 50% faster delivery target.

Intelligent control

- 10-inch large-screen touch screen display locally, does not occupy the U position.
- It can manage smart devices such as UPS, cooling, and power distribution, as well as non-intelligent devices such as temperature and humidity, smoke detectors, and access control.
- Through the WEB interface, the unattended computer room can be remotely and comprehensively monitored, so that the remote monitoring of the computer room can be unattended or with few people on duty, which provides a strong guarantee for the efficient management and safe operation of the computer room.



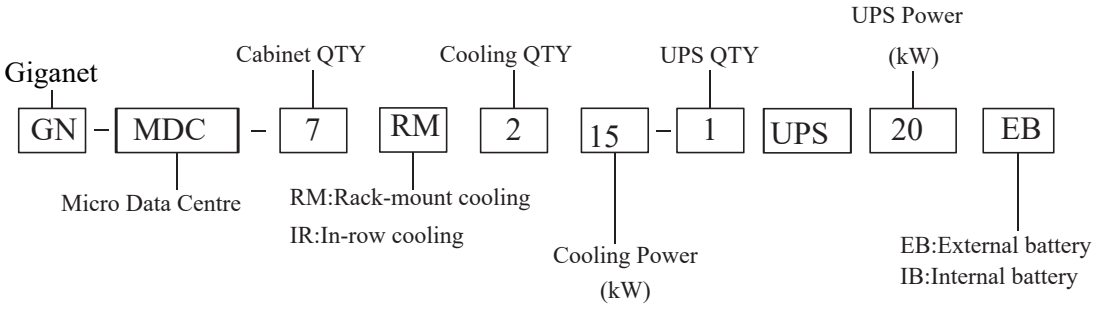
Flexibility and variety

- The cabinet is the computer room, which can be placed flexibly.
- The hot and cold aisles are double-sealed as standard, and the cold aisle can also be single-sealed.
- Standard rack-mounted inverter cooling, and inter-column inverter cooling are also available.

Micro Data Centre Classification

- Single cabinet
- Single row and multiple cabinets

Naming Rules



Micro Data Centre standard configuration

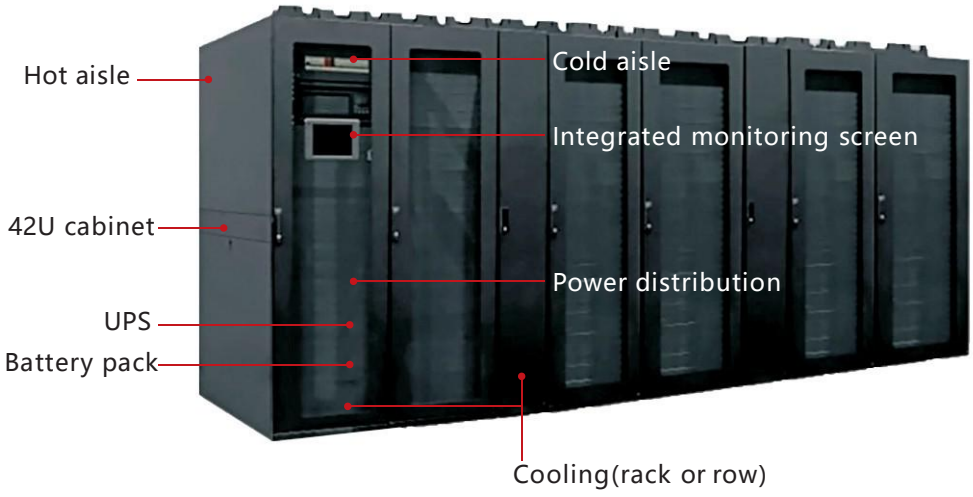
System	Model No.	Control cabinet	IT cabinet	Battery cabinet	Battery	Battery Capacity	UPS Power	Cooling Power	Total counter
Single cabinet	GN-MDC-1RM103-1UPS03IB	1	0	0	Internal	12V9Ah×6	3kVA×1	3.5kW×1/RM	1
1+1	GN-MDC-2RM105-1UPS06IB	1	1	0	Internal	12V9Ah×16	6kVA×1	5kW×1/RM	2
1+2	GN-MDC-3RM107-1UPS10IB	1	2	0	Internal	12V9Ah×16	10kVA×1	7.5kW×1/RM	3
1+3	GN-MDC-4RM112-1UPS20IB	1	3	0	Internal	12V40Ah×16	20kVA×1	12.5kW×1/RM	4
1+4	GN-MDC-5IR112-1UPS20IB	1	4	0	Internal	12V65Ah×16	20kVA×1	12.5kW×1/In-row	6
1+4	GN-MDC-5IR112-1UPS20EB	1	4	1	External	12V100Ah×16	20kVA×1	12.5kW×1/In-row	7
1+5	GN-MDC-6IR115-1UPS20IB	1	5	1	Internal	12V100Ah×16	20kVA×1	15kW×1/In-row	8
1+5	GN-MDC-6IR115-1UPS20EB	1	5	0	External	12V100Ah×16	20kVA×1	15kW×1/In-row	7
1+6	GN-MDC-7IR212-1UPS30IB	1	6	2	Internal	12V100Ah×32	30kVA×1	12.5kW×2/In-row	11
1+6	GN-MDC-7IR212-1UPS30EB	1	6	0	External	12V100Ah×32	30kVA×1	12.5kW×2/In-row	9
1+7	GN-MDC-8IR212-1UPS30IB	1	7	2	Internal	12V100Ah×32	30kVA×1	12.5kW×2/In-row	12
1+7	GN-MDC-8IR212-1UPS30EB	1	7	0	External	12V100Ah×32	30kVA×1	12.5kW×2/In-row	10

**Cabinet Size (WxDxH in mm): 600x1200x2000*
600x1400x2000
800x1400x2000
800x1200x2000

**MDC is customisable to support N+1 for both cooling and power*

Single Rack MDC structure diagram

Multi Rack MDC structure



*Fire linkage module is optional.

Micro Data Centre product parameters

Item		Description	System							
			Single cabinet	1+1	1+2	1+3	1+4	1+5	1+6	1+7
Overall parameter		Power supply system	220V,50Hz, 1Ph+N+PE			380V,50Hz, 3Ph+N+PE				
		Operating temperature	0~40℃							
		Humidity range	5~95%							
		Altitude	0~4000M(Capacity reduction over 1000m)							
Cabinet system		Cabinet size: W×D×H(mm)	600×1200×2000							
		Cabinet composition	Control cabinet + IT cabinet + Cooling cabinet + battery cabinet (optional)							
		Hot and cold aisle	Hot and cold aisle double closed / cold aisle single closed							
Device free space		Available space	42U×(N-I), The available space depends on the configuration.							
Distribution system	Input	Main input switch	40A/2P	63A/2P	100A/2P	80A/3P			125A/3P	
	Output	Output loop	Configure according to user requirements							
	UPS	Capacity	3kVA	6kVA	10kVA	20kVA			30kVA	
		Configure	Single UPS			Single/Dual UPS				
		Power factor	0.8			0.9				
		Efficiency	>93%							
	PDU	Installation method	Vertical Installation							
		Type	Universal seat							
		Configure	32A, GB16×10A+4×16A							
	Battery Pack	Capacity	9Ah							
		Quantity	0~4							
	Backup power	Backup method	Battery pack/battery rack/battery cabinet							
	Battery cabinet	Backup time	15 minutes to 4 hours, according to user requirements							
Power Environment Monitoring System		Monitoring all-in-one	10 inch touch screen							
		SMS alarm	Optional							
		Ambient light	Standard							
		Audible alarm	Standard							
		Flooding	Standard							
		Temp&humid sensor	Standard							
		Door sensor	Standard							
		Smoke alarm	Standard							
		Infrared alarm	Optional							
Cooling system	Cooling	Cooling capacity	3.5kW×1	5kW×1	7.5kW×1	12.5kW×1	12.5kW×1	15kW×1	12.5kW×2	12.5kW×2
		Classification	Rack-mounted inverter				Frequency conversion between columns			
		Operating voltage	220V				380V			
	Emergency ventilation	Exhaust air volume (m³/h)	720	1440	2160	2880	3600	4320	5040	5760
		Operating voltage	220V							
Size and weight		Packing size: W×D×H (mm)	734×1360×2200 (single)							
		Net weight	140kg(Control cabinet), l00kg(IT cabinet)							

Note: Due to product version upgrade or other reasons, this document will be updated from time to time. Unless otherwise agreed, this document is intended as a guide to use only, and all statements, information and recommendations contained in this document do not constitute any warranty, express or implied.

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