

# Modular Data Center

## FusionModule2000 Smart Modular Data Center

### Introduction

FusionModule2000 is a new generation of smart modular data center product which had been awarded the World's First "Uptime Tier IV Ready" Certification. It is a module that comprises power, cooling, rack & structure, cabling, and management. The structure of the module can be single-row or dual-row, and supports both cold or hot aisle containment. In addition, Huawei integrates AI technology into the data center which significantly improves the reliability, availability, and efficiency of the data center through iPower, iCooling, and iManager.

### Application Scenarios

- Designed mostly for small-to-medium sized data centers
- Suitable for enterprise HQ or large regional branch, operator, bank secondary branch, government, education, healthcare, etc.

### Features & Value

#### Modular design & automatic control

- Designed for fast deployment & flexible expansion
- eLight Module Status LED\*, view operating status of each module more clearly
- Auto door\* & smart lighting system for convenient inspection
- System-level face recognition, more secure and reliable

#### i<sup>3</sup> Smart Management System

##### iPower

- Whole power supply system visualized inspection, fault auto-locating
- IT Circuit breaker terminal temp detection\*, avoiding bad contract
- iBattery\* can provide battery real time inspection, proactive auto-shutdown battery group, eliminating fire risk
- Smart PDU\* supports socket-level power inspection and remote control, protecting IT devices
- Output circuit breakers are hot swappable for secure online maintenance\*

##### iCooling

- Cooling system real time inspection & A/C key component status detection
- 3D Visualized temp control system\* eliminate existing hot spot, while IT load & A/C interaction prevents the generation of hot spot
- AI optimized cooling system\*, saving 8-15% energy by optimum operating status of A/C
- Pioneering refrigerant volume detecting system, avoids decline of cooling capacity
- Wet film humidifier\*, saving 95% humidifying power

##### iManager

- 3D data center visualized management\*, significantly increase O&M efficiency
- U-space level asset manager\*, optimize DC facility usage automatically, "0" manual asset managing needed
- SPC (Space/Power/Cooling) management\*, optimizing resource utilization of data center



Dual row, Contained cold/hot aisle



Single row, Contained cold/hot aisle



\*: Optional Configuration

## Specifications

Item	Specifications	
Micro Module	Dimension	Single row (with aisle containment) (L×W×H): L×2400×2410mm L×2300×2410mm L×2400×2610mm
		Dual row (with aisle containment) (L×W×H): L×3600×2410mm L×3400×2410mm L×3600×2610mm
	Cabinets per module	Single row≤24 cabinets; dual row: ≤48 cabinets
	Power supply	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Max IT load per module	125kW (with integrated UPS)/ 145kW (with integrated PDC)/ 198kW (with New main way)/ 235kW (with precision PDC)
	Operation condition	Ultra low temperature condition: -40°C to 45°C(Need low-temp kit) T1 condition: -20°C to 45°C T3 condition: -5°C to 55°C(Need T3 outdoor unit)
	Cable routing	Routed in/out through the top of cabinets
	Installation	Installing on concrete floor or raised floor
Cabinet	Dimensions (H×W×D)	2000mm×600/800mm×1200mm 2000mm×600mm×1100mm 2200mm×600/800mm×1200mm
	Space available	42U/47U
	Protection level	IP20
Air-cooled In-row air conditioner	Cooling capacity	25kW/46kW
	Dimensions (H×W×D)	2000mm×300mm×1100mm 2000mm×600mm×1200mm
	Power supply	380V AC~415V AC 50/60Hz, 3Ph+N+PE
	Refrigerant	R410A
Integrated UPS (UPS inside)	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Input	250/400A MCCB (single input); 250A/400A ATS (dual input)
	Input power factor	Full load > 0.99, Half load > 0.98
	Output power factor	1.0
	Rated capacity	25~125kVA
	Output	IT: 40A/1P×24×2; A/C: 40A or 63A/3P×8; lighting: 10A/1P×3
	Efficiency	≥ 96%
	AC SPD	5kA, 8/20μs
Integrated power distribution cabinet (UPS outside)	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Input	IT: 160/250A MCCB; A/C: 160/250A MCCB (single/dual input)
	Rated input current	IT: 160A/250A, Air conditioner: 160A/250A
	Output	IT: 40A/1P×24×2; A/C: 40A or 63A/3P×8; lighting: 10A/1P×3
	AC SPD	20kA, 8/20μs
Precision power distribution cabinet (UPS outside)	Input voltage	380/400/415Vac,50/60Hz,3Ph+N+PE
	Input	160/250/400A MCCB (single/dual input)
	Output	40A/1P, max 144 routes
Smart busway (UPS outside)	Input voltage	380/400/415Vac,50/60Hz,3Ph+N+PE
	Input	250/400A MCCB (single input)
	Output	40/63A 1P (6 branches in one Power Distribution Unit, can be expanded with the length of cabinet)

## Recommended Configurations—UPS Inside



Single-row



Dual-row

R8-32kW (aisle)									
Integrated UPS	Battery cabinet	IT	IT	Air conditioner	IT	IT	Air conditioner	IT	IT

R8 single row module typical layout

IT	IT	IT	IT	Air conditioner	IT	IT	IT	Air conditioner	IT	IT	IT	Air conditioner	IT	IT	IT
R24-112kW (aisle)															
Integrated UPS	Battery cabinet	Battery cabinet	IT	Air conditioner	IT	IT	IT	IT	IT	IT	IT	Air conditioner	IT	IT	IT

R24 dual row module typical layout

IT Load (kW)	Power Supply	Redundancy	AC Configuration	Battery
20	Integrated UPS	N+1/2N	25kW×2	In-row (Battery cabinet)/Outside Installation
40			25kW×3	
60			25kW×4	
80			46kW×3	
100			46kW×4	
125			46kW×5	

## Recommended Configurations——UPS Outside Installation Outside



Single-row



Dual-row

R8-32kW (aisle)										
Integrated PDC	IT	IT	Air conditioner	IT	IT	Air conditioner	IT	IT	Air conditioner	IT

R8 single row module typical layout

IT	IT	Air conditioner	IT	IT	IT	IT	Air conditioner	IT	IT	IT	IT	Air conditioner	IT	IT
R24-140kW (aisle)														
Integrated PDC	IT	Air conditioner	IT	IT	IT	IT	IT	IT	IT	IT	IT	Air conditioner	IT	IT

R24 dual row module typical layout

IT Load (kW)	IT Power Supply	AC Power Supply	Redundancy	AC Configuration
20	Integrated PDC/Precision PDC/Smart Busway	Integrated PDC/Power Distribution Box	N+1/2N	25kW×2
40				25kW×3
60				25kW×4
80				25kW×5
120				46kW×4
145				46kW×5
160	Precision PDC	Power Distribution Box		46kW×5
200				46kW×6
235				46kW×7

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