FusionModule2000 6.0

Smart Modular Data Center Solution

INTRODUCTION

Huawei FusionModule2000 is a new generation smart modular data center solution, which dedicated to providing customers with simple, efficient, and reliable data center solutions.

It's a modular-designed, highly integrated solution which comprises power supply, cooling, rack & structure, cabling and management system within a module, meeting the requirements for quick delivery and on-demand deployment.

Furthermore, the Huawei smart module uses the i^3 intelligent management to comprehensively improve the reliability and efficiency of power supply and cooling system. This significantly improves data center availability and O&M efficiency.

APPLICATION SCENARIOS

- The FusionModule2000 uses an air-cooled cooling system and is mainly applicable to small- and medium-sized data centers. The solution features simple design and high building adaptability, lowering the requirements of room height and reconstruction. It meets the data center deployment requirements of various sectors such as enterprise headquarters and large branches, bank headquarters and secondary branches, governments, carriers, education, and healthcare.

FEATURES

Simple

- Modular design, one module one DC, on-demand deployment and flexible expansion
- Integrated design, low floor height requirements, small footprint

Green

- iCooling intelligent optimization*, reducing the energy consumption of cooling system up to 20%
- Wet film humidification*: Compared with traditional electrode humidifiers, wet film humidifiers reduce energy consumption by 95%
- Industry's first air-cooled smart modular DC PUE test and certification, the annual average PUE is as low as 1.111 @Beijing

Smart

- iManager: Space, Power, Cooling (SPC) visualization, automatic asset management simplified O&M
- 3D view* clear display of key information and alarms about power distribution and cooling system, automatic management of assets*, automatic asset tracking, and no manual counting
- Local 43-inch smart screen * intuitive display of intelligent features, simplifying O&M

Reliable

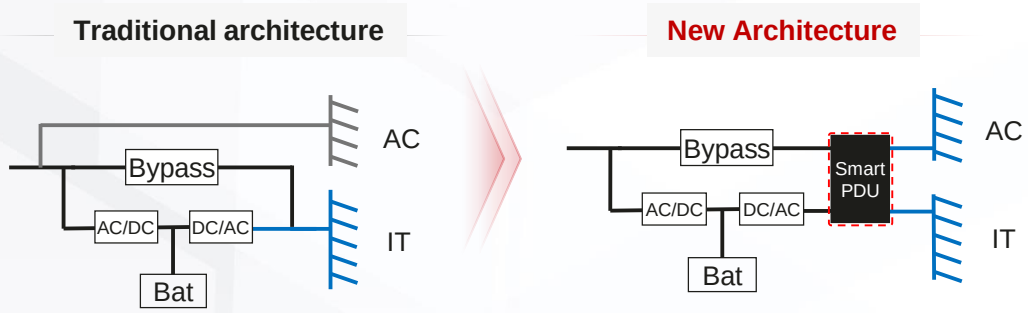
- iPower: Visualization of power supply chain, fault auto-locating and auto shutdown for proactive protection
- Innovative intelligent refrigerant leakage detection prevents cooling capacity decrease or air conditioner breakdown
- Innovative continuous cooling architecture *, preventing cooling shutdown caused by mains interruption

*Optional Features

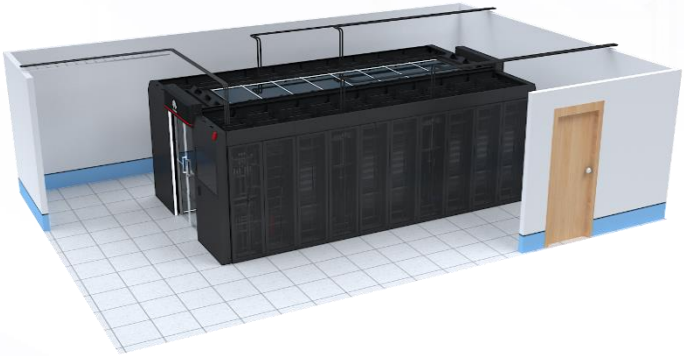
SPECIFICATIONS

Item	Specifications	
Micro Module	Dimensions	Dual row (with aisle containment) (L×W×H): L×3600×H，H≤2460mm; L×3400×H，H≤2460mm; L×3600×H，H≤2660mm
	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	180kW (with integrated UPS)/ 145kW (with integrated PDC)/ 310kW (with New main way)/ 310kW (with precision PDC)
	Operation condition	Ultra low temperature condition: -40ºC to 45ºC(Need low-temp kit) T1 condition: -20ºC to 45ºC; T3 condition: -5ºC to 55ºC(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
	Cabinet Porosity	Front and rear doors: hexagonal mesh door design, porosity rate ≥ 75%
	Protection level	IP20
Air-cooled In-row air conditioner	Cooling capacity	25kW/35kW/46kW/65kW
	Dimensions (H×W×D)	25kW:2000mm×300mm×1100mm; 35kW:2000mm×300mm×1200mm; 46kW/65kW:2000mm×600mm×1200mm；
	Power supply	380/400/415VAC, 50/60Hz, 3Ph+N+PE
	Refrigerant	R410A
Integrated UPS (UPS inside)	Input voltage	380/400/415VAC, 50/60Hz, 3Ph+N+PE
	Input	250A/400A/630A 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	30~180kVA
	Output	IT: 40A/1P×24×2; A/C: 40A or 63A/3P×8; lighting: 10A/1P×3
	Efficiency	≥ 96% (Linear Load)
	AC SPD	5kA, 8/20μs
Integrated power distribution cabinet (UPS outside)	Input voltage	380/400/415VAC, 50/60Hz, 3Ph+N+PE
	Input	IT: 160A/250A MCCB; A/C: 160A/250A MCCB (single/dual input)
	Rated input current	IT: 160A/250A, Air conditioner: 160A/250A
	Output	IT: 2×24×40A/1P; 2×24×63A/1P;2×8×40A/3P;A/C: 40A/3P×8 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	160A/250A/400A/630A MCCB (single/dual input)
	Output	IT： 40A/1P,63A/1P,40A/3P,63A/3P, max 144 routes
Smart busway (UPSoutside)	Input voltage	380/400/415VAC, 50/60Hz,3Ph+N+PE
	Input	250A/400A/630A MCCB (single input)
	Output	IT： 40/1P， 63A/1P， 40A/3P， 63A/3P (6 branches in one Power Distribution Unit)

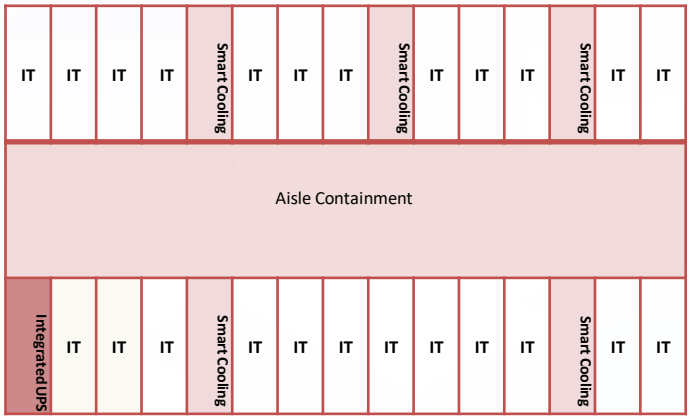
Innovative architecture—Cooling uninterrupted



Recommended Configurations—UPS Inside the Module



UPS Inside the Module(Integrated UPS)



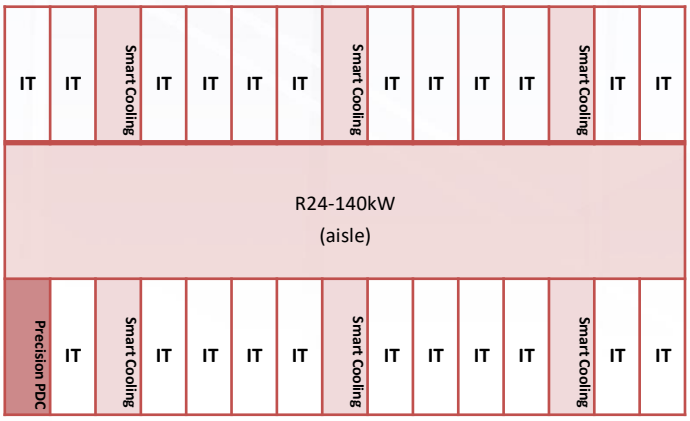
R24 Typical Layout

IT Load (kW)	IT Power Supply	AC Power Supply	Redundancy	A/C Configuration
30	Integrated UPS	Integrated UPS	N+ 1/ 2N	25kW×2
40				25kW×3
60				35kW×3
80				35kW×4
100				46kW×4
125				65kW×4
150				65kW×4
180				65kW×5

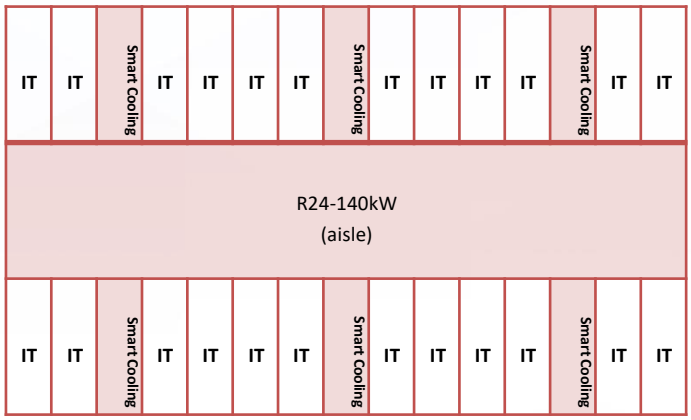
Recommended Configurations——UPS Outside the Module

UPS Outside the Module(Precision PDC)

UPS Outside the Module(Smart Busway)



R24 Typical Layout of Dual-Row (Precision PDC)



R24 Typical Layout of Dual-Row (Smart Busway)

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
30				35kW×2
40				25kW×3
60				35kW×3
90				35kW×4
120				46kW×4
145	Smart Busway/Precision PDC	Power Distribution Box		65kW×4
160				65kW×4
235				65kW×6
310				65kW×7

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