

Modular Data Center

FusionModule2000 Smart Modular Data Center

Introduction

FusionModule2000 is a new generation smart modular data center solution. It's a modular-designed, highly integrated solution which comprises power supply system, cooling system, rack & structure system, cabling system, management system within a module. The structure of the module can be single-row or dual-row, and support both cold/hot aisle containment.

Huawei FusionModule2000 is awarded World's First "Uptime Tier IV Ready" Certification.

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

Reliable

- Circuit breaker terminal temperature detection enhance the reliability of power supply system
- Battery temperature detection & BCB auto shutdown help to prevent the risk of fire disaster
- 10% low-load dehumidification technology, avoid the risk of condensation
- POE ring circuit power supply & signal transmission for sensors and actuators can enhance the reliability of monitoring system

Simple

- Modular design and standard architecture provide fast installation and on-demand deployment
- Local PAD/ mobile APP/ NetEco Management System can significantly improve the efficiency of O&M

Efficient

- Closely coupled cooling system, inverter PAC and contained aisle bring high-efficiency operating
- AC group control function let the air-conditioners working at high-efficiency status, reducing power consumption



FusionModule2000 (Dual-row)



FusionModule2000 (Single-row)



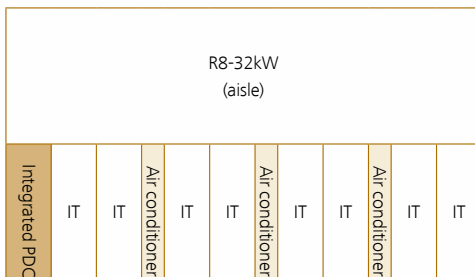
Specifications

Item	Specifications	
System	Dimension	Single-row with aisle containment (LxWxH): Lx2400x2000mm, L≤15 m Lx2300x2000mm, L≤15 m Lx2400x2200mm, L≤15 m
		Dual-row with aisle containment (LxWxH): Lx3600x2000mm, L≤15 m Lx3400x2000mm, L≤15 m Lx3600x2200mm, L≤15 m
	Cabinet number per module	Single row: 2-24; Dual row: 6-48
	Power supply	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	IT power consumption per module	125kW (with integrated UPS)/ 145kW (with integrated PDC)/ 235kW (with precision PDC)
	Operation condition	Ultralow temperature condition: -40°C to 45°C T1 condition: -20°C to 45°C T3 condition: -5°C to 55°C
	Availability	Tier II or Tier III (up to Tier IV)
	Altitude	0-1000m (derating above 1000m)
Installation	Installing on concrete floor or raised floor	
Cabinet	Dimensions (HxWxD)	2000mmx600/800mmx1200mm 2000mmx600/800mmx1100mm 2200mmx600/800mmx1200mm
	Space available	42U/47U
	Protection level	IP20
Air-cooled In-row air conditioner	Cooling capacity	25kW/42kW
	Dimensions (HxWxD)	2000mmx300mmx1100mm 2000mmx600mmx1100mm
	Power supply	380V AC~415V AC 50/60Hz, 3Ph+N+PE
	Refrigerant	R410A
Air-conditioner PDB	Rated voltage	380/400/415Vac
	Rated input current	160/250/400A
	Output	160A: 8x40A/3P+2x10A/1P+1x32A/1P 250/400A: 8x63A/3P+2x10A/1P+1x32A/1P
Integrated UPS (UPS inside)	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Input power factor	Full load > 0.99, Half load > 0.98
	Rated capacity	25~125kVA
	Output	IT: 160A/250A, 40A/1Px24x2, Air conditioner: 160A/250A, 40A/3Px8 or 63A/3Px8
	Efficiency	≥ 96%
Integrated power distribution cabinet (UPS outside)	AC SPD	5kA, 8/20μ
	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Rated input current	IT: 160A/250A, Air conditioner: 160A/250A
	Output	IT: 160A/250A, 40A/1Px24x2, Air conditioner: 160A/250A, 40A/3Px8 or 63A/3Px8
Precision power distribution cabinet (UPS outside)	AC SPD	20kA, 8/20μs
	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Rated input current	160/250/400A
Smart busway (UPS outside)	Output	40A/1P, maximum 144 routes
	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Rated capacity	250/160A
Smart busway (UPS outside)	Output	40A/1P (6 branches in one Power Distribution Unit, can be expanded with the length of cabinet)

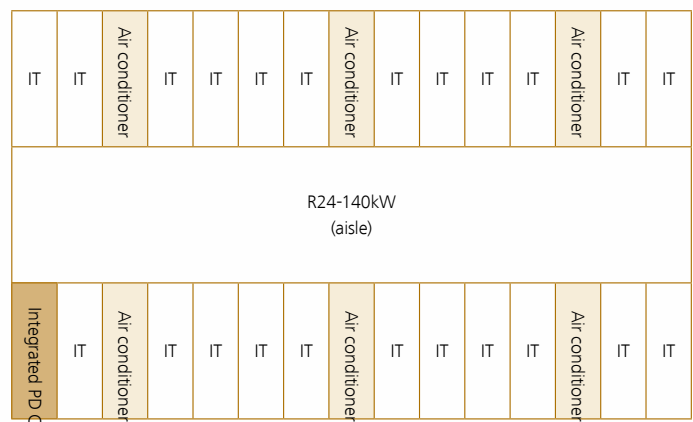
Recommended Configurations—UPS Outside Installation



Single-row cabinet scenario



Dual-row cabinet scenario



R8 single 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				42kW×3
120	Integrated PDC/Precision PDC	Power Distribution Box		42kW×4
145				42kW×5
160	Precision PDC	Power Distribution Box		42kW×6
200			42kW×6	
235			42kW×7	

R24 dual row module Typical layout

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HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base
Bantian Longgang
Shenzhen 518129, P.R. China
Tel: +86-755-28780808