# FusionModule2000

## 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.

Standard Dual- row

## 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.

Standard Dual-row Smart Screen Version*

## FEATURES

**Simple**

- Modular design, one module one DC, on-demand deployment and flexible expansion

**Green**

- iCooling intelligent optimization*, reducing the energy consumption of cooling system by 8% to 15%
- 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

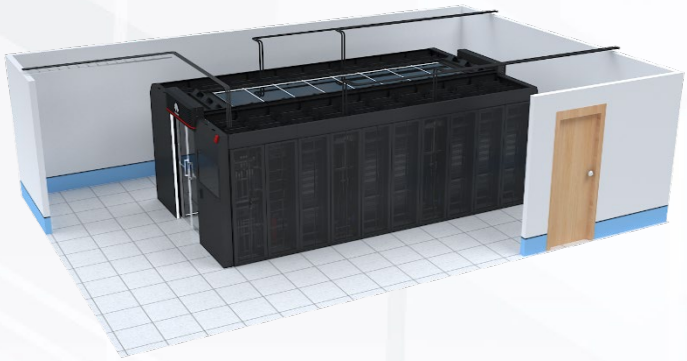
Simplified Single-row

*Optional Features

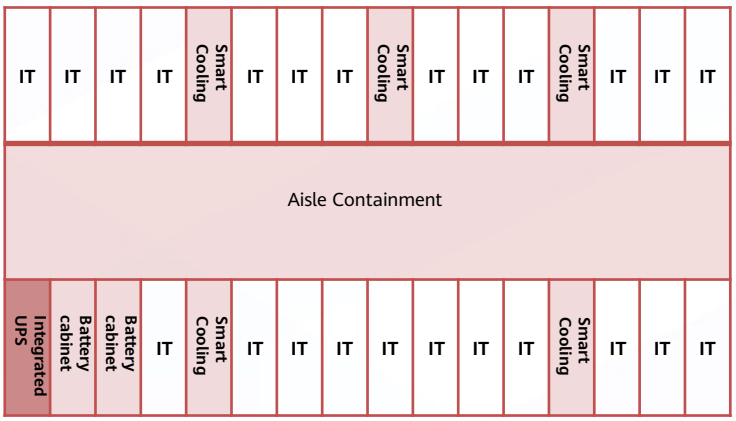
# SPECIFICATIONS

| Item | Specifications | |
|---|---|---|
| Micro Module | Dimensions | Single row (with aisle containment) (L × W × H):<br>L × 2400 × 2410mm; L × 1350 × 2000mm; L × 1600 × 2000mm |
| | | Dual row (with aisle containment) (L × W × H): L × 3600 × 2410mm; L × 3400 × 2410mm;<br>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 | 180kW (with integrated UPS)/ 145kW (with integrated PDC)/ 310kW (with New main way)/<br>310kW (with precision PDC) |
| | Operation condition | Ultra low temperature condition: -40°C to 45°C(Need low-temp kit)<br>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;<br>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;<br>35kW:2000mm × 600mm × 1200mm;<br>46kW/65kW:2000mm × 600mm × 1200mm; (Simplified Single-row can only support 46kW) |
| | 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 | 30~125kVA:<br>IT Load ≤ 120 kW, power modules ≤ 4, the capacity of a single power module is 30kVA<br>IT Load > 120 kW, power modules ≥5, the capacity of a single power module is derated to 25kVA<br>180kVA:Supports a maximum of seven 30 kVA power modules in 6+1 redundancy mode |
| | Output | IT: 40A/1P × 24 × 2; A/C: 40A or 63A/3P × 8; lighting: 10A/1P × 3 |
| | Efficiency | ≥ 96% (Linear Load) |
| | AC SPD | 20kA, 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:<br>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 (UPS outside) | 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) |

# Recommended Configurations—UPS Inside the Module



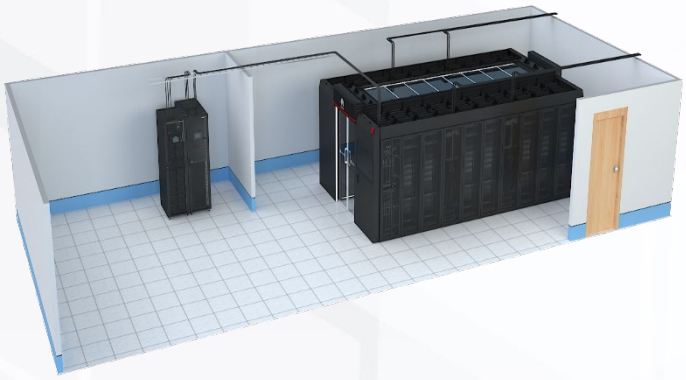
UPS Inside the Module(Integrated UPS )



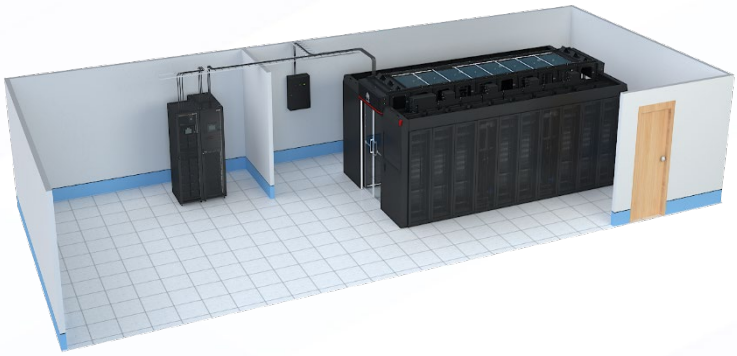

R24 Typical Layout of the UPS and Batteries in Row

| IT Load (kW) | Power Supply | Redundancy | A/C Configuration | Battery |
|---|---|---|---|---|
| 30 | Integrated UPS | N+ 1/ 2N | 25kW × 2 | In-row (Battery cabinet)/ Outside Installation |
| 40 | | | 25kW × 3 | |
| 60 | | | 35kW × 3 | |
| 80 | | | 35kW × 4 | |
| 100 | | | 46kW × 4 | |
| 125 | | | 65kW × 4 | |
| 150 | | | 65kW × 4 | |
| 180 | | | 65kW × 5 | |

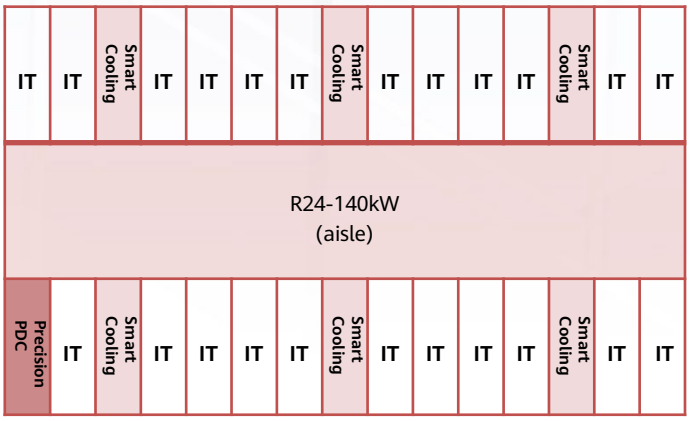
# Recommended Configurations——UPS Outside the Module



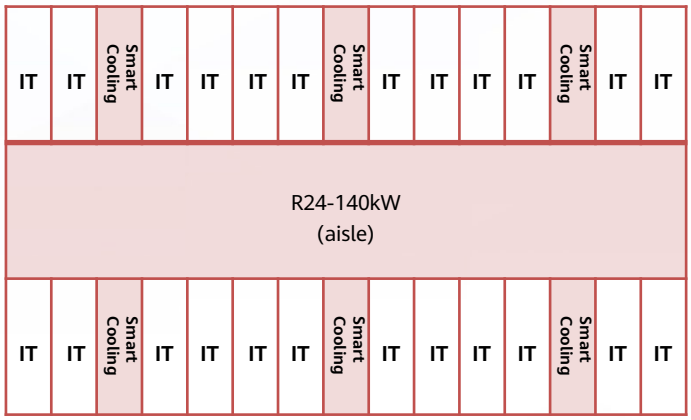
UPS Outside the Module(Precision PDC )



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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