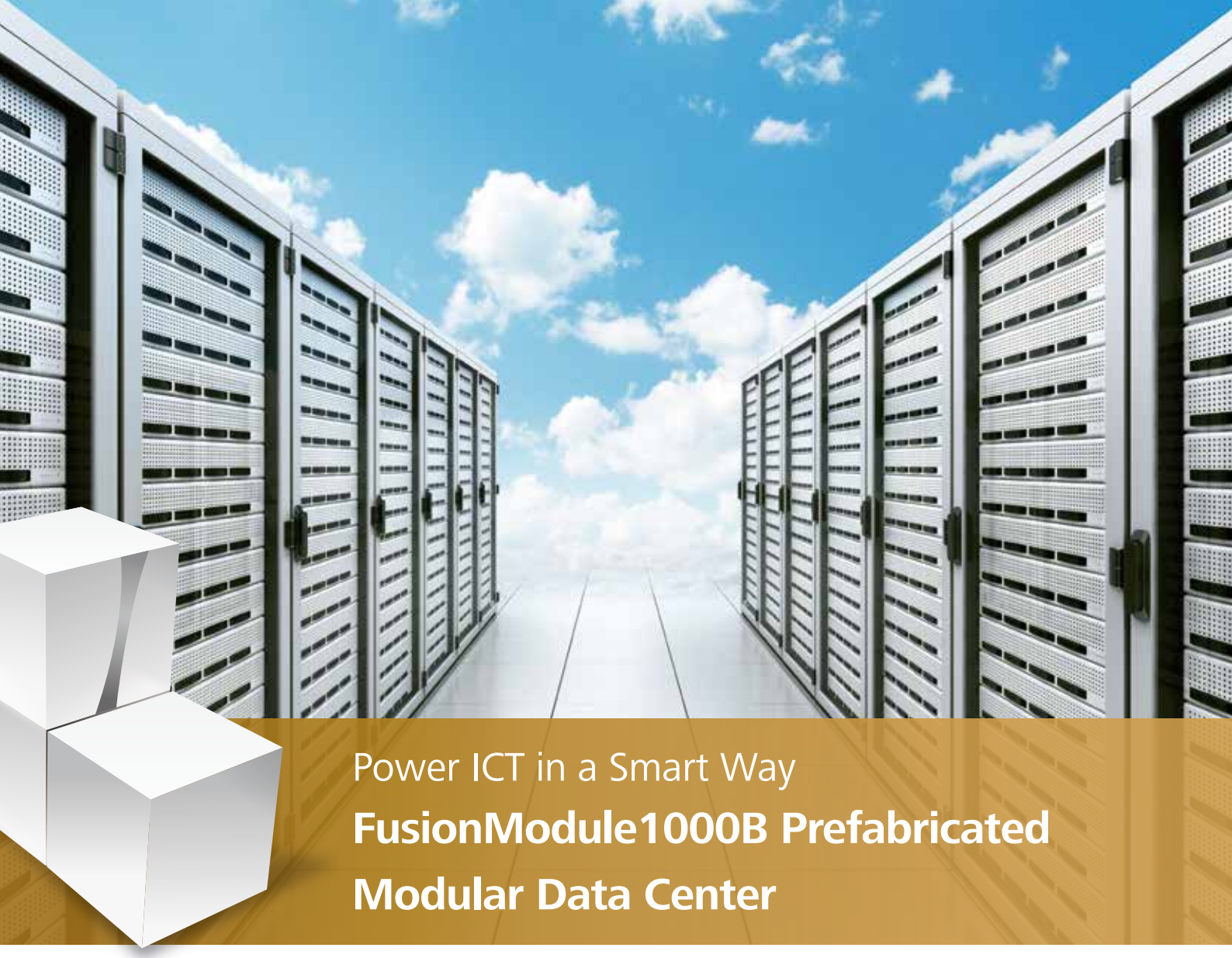


HUAWEI TECHNOLOGIES CO., LTD.

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

www.huawei.com



Power ICT in a Smart Way

FusionModule1000B Prefabricated Modular Data Center

HUAWEI TECHNOLOGIES CO., LTD.

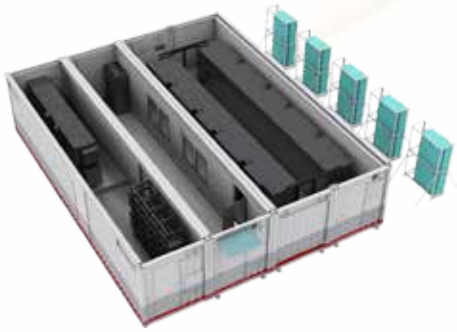
HUAWEI

Prefabricated Data Center

FusionModule1000B Prefabricated Modular Data Center

Introduction

HUAWEI FusionModule1000B is an advanced, modular designed and prefabricated data center infrastructure facility solution to house, power and manage modern IT and CT equipments with simple, green and reliable power & environment system. HUAWEI FusionModule1000B Prefabricated Modular Data Center includes an integrated power system for both AC and DC, energy-saving water-cooled or air cooled in-row cooling system, automatic fire detection & suppression system and intelligent management system for infrastructure facilities, becoming a superior alternative to traditional data center structures.



FusionModule1000B Air-cooled DX Application

Application Scenarios

- IT Scenario: Modular UPS and water cooled or air cooled cooling system to house IT equipments
- CT Scenario: Rectifier and air cooled cooling system to house CT equipments
- IT-CT Co-existence Scenarios: one site with and air cooled cooling system to house both IT and CT equipments.

FusionModule1000B Chilled Water-cooled Application

Features & Value

Simple

- HUAWEI core components; standard solutions 8 weeks lead time
- A prefabricated solution, deploy time shortened by 60%.
- ISO shipping container dimensions, and transportation cost reduced by 50%

Efficient

- Standard density up to 15kW/rack and maximum 30kW/rack customizable
- Free cooling technology supported with PUE≤1.2
- Multiple scenarios supported: IT, CT and IT-CT co-existence.

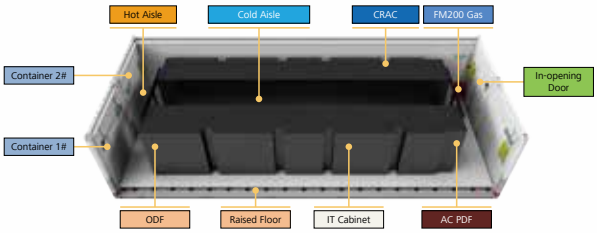
Reliable

- 25-year service life; IP55 water and dust proof
- Unique NEBS GR63 Zone3 anti-seismic (equivalent to 9 degree anti-seismic intensity) and 120-minute fire rating
- Comply with UPTIME TIER and TIA942 topology

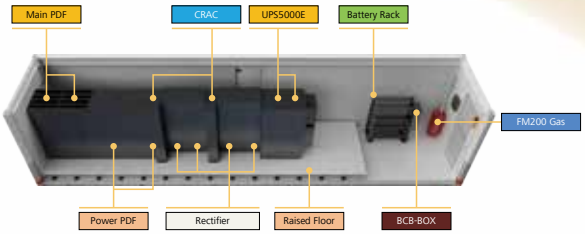
FusionModule1000B IT-CT Co-existence Scenarios

Specifications

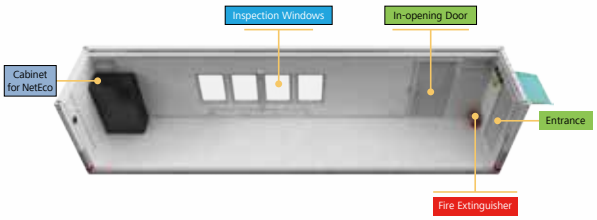
Equipment Container



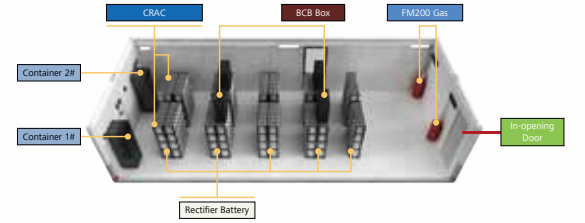
Power Container



Central Control Container



Battery Container (Optional)



Component	Features	
Power	Input power	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Power component	IT: HUAWEI UPS5000E; CT: HUAWEI TP48 Series Rectifier
	Power density per rack	Air cooled cooling: 3kW~10.5kW; Chilled water cooling: 3kW~15kW
	Battery Management	Optional HUAWEI iBattery
Cooling- DX System	Cooling Technology	HUAWEI NetCol5000A air-cooled in-row air conditioner, N+1
	Structure	Cold/hot aisle containment
	Cooling capacity per unit	NetCol5000A020: 20kW; NetCol5000A035: 35kW
	Size (H x W x D)	NetCol5000A020: 2000mm x 300mm x 1000mm NetCol5000A035: 2000mm x 600mm x 1000mm
	Fan type	EC Fans
	Refrigerant	R410A
Cooling- Chilled Water System	Cooling technology	HUAWEI NetCol5000C chilled water in-row air conditioner, N+1
	Structure	Cold/hot aisle containment
	Cooling capacity per unit	30kW
	Size (H x W x D)	2000mm x 300mm x 1000mm
	Fan type	EC Fans
	Refrigerant	R134A
	Compressor	Scroll Compressor

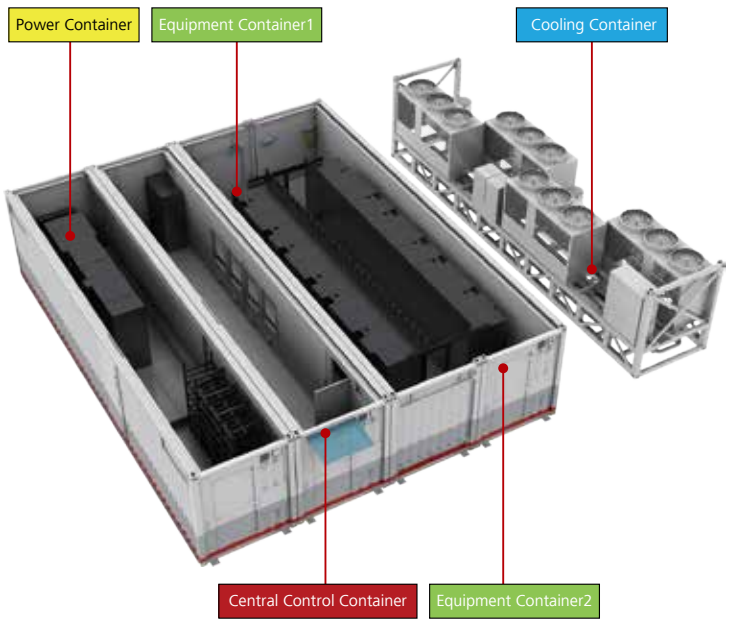
Specifications

Component	Features	
Design Operation Parameters	Water and Dust Proof	IP55
	Temperature	-40°C~+52°C*
	Relative Humidity	10%~100%
	Altitude	Maximum 3000m
Dimensions	Equipment Container (L x W x H)	12192mm x 2438mm x 2896mm
	Cooling Container (L x W x H)	12192mm x 2438mm x 2896mm
	Power Container (L x W x H)	12192mm x 2438mm x 2896mm
	Central Control Container (L x W x H)	12192mm x 2438mm x 2896mm
	Battery Container (L x W x H)	12192mm x 2438mm x 2896mm
	Rack	IT Equipment Container: 19′ 42U racks
		CT Equipment Container supports third party racks
Fire Detection & Suppression	Fire Extinguishing Agent	Standard: FM200; Optional: Novec1230
	VESDA	Standard in Equipment Container, Power Container and Battery Container
	Hydrogen Detection and Discharge System	Standard in Power Container and Battery Container
	Insulation	100mm Rockwool Sandwich Panel
	Fire Rating	120 minutes
Security	Container Access	Standard IC card access, customizable multifunction (fingerprint, password and IC card) access
	Rack Access	Customizable IC card access
	Video Surveillance	HUAWEI HR IP Camera, connected to HUAWEI NetEco
Availability	IT Scenarios	Optional between 2N and N+X
	CT and IT-CT Co-existence	Standard: 2N
	Standard Compliance	Comply with UPTIME TIER and TIA942 Topology

*+45°C ~ +52°C tropical conditions should use high temperature air conditioner, -40°C ~ -15°C conditions should use low temperature air conditioner, some parameters will change.

Specifications

Chilled water cooling, UPS Power



Two Equipment Container Solution

Four Equipment Container Solution

Six Equipment Container Solution

Chilled Water Cooling, UPS Power, 2N Scenarios Configuration

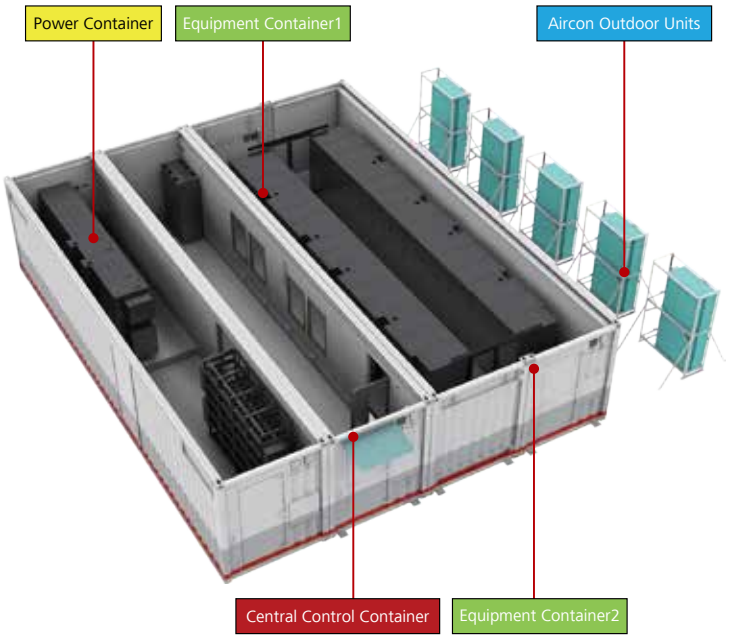
Scenario Category	Equipment Container	Power Container (2N)	Central Control Container	Cooling Container	Qty of Racks	Maximum Power Density, kW
Chilled Water Cooling IT-2N	2	1	1	1	18	15
	2	1	1	1	24	9
	4	1	1	1	52	6
	6	1	1	1	84	3.5

Chilled Water Cooling, UPS Power, N+X Scenarios Configuration

Scenario Category	Equipment Container	Power Container (N+X)	Central Control Container	Cooling Container	Qty of Racks	Maximum Power Density, kW
Chilled Water Cooling IT-N+X	2	1	1	1	18	15
	2	1	1	1	24	9
	4	1	1	1	52	6
	6	1	1	1	84	3.5

Specifications

Air-cooled DX Cooling, UPS Power



Tow Equipment Container Solution

Three Equipment Container Solution

Four Equipment Container Solution

Six Equipment Container Solution

Air-cooled Cooling, UPS Power, 2N Scenarios Configuration

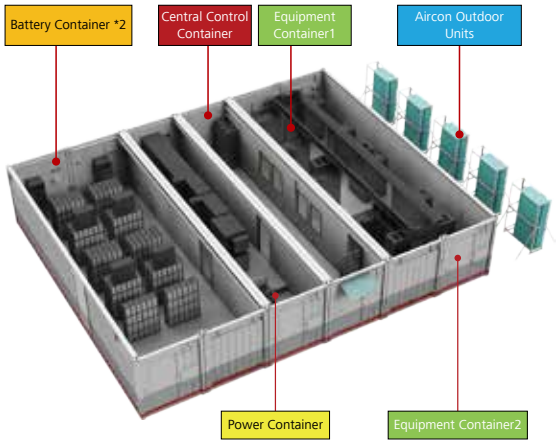
Scenario Category	Equipment Container	Power Container (2N)	Central Control Container	Qty of Racks	Maximum Power Density, kW
Air-cooled DX Cooling IT-2N	2	1	1	20	10.5
	3	1	1	34	6.5
	4	1	1	44	6.5
	4	1	1	20+24	10.5+3
	4	1	1	48	5
	6	1	1	78	3

Air-cooled Cooling, UPS Power, N+X Scenarios Configuration

Scenario Category	Equipment Container	Power Container (N+X)	Central Control Container	Qty of Racks	Maximum Power Density, kW
Air-cooled DX Cooling IT-N+X	2	1	1	20	10.5
	4	1	1	44	6.5
	4	1	1	48	5
	6	1	1	78	3

Specifications

Air-cooled Cooling, Rectifier Power



Two Equipment Container Solution

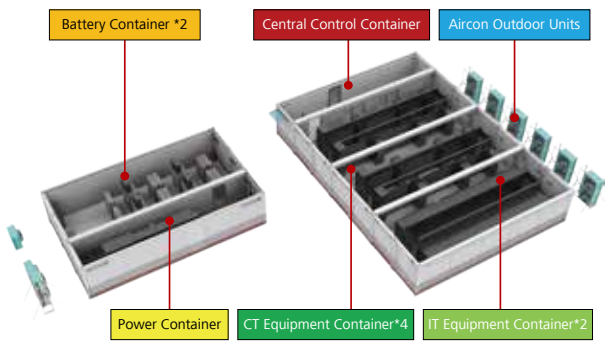
Four Equipment Container Solution

Six Equipment Container Solution

Air-cooled DX Cooling, Rectifier Power, 2N Scenarios Configuration

Scenario Category	Equipment Container	Battery Container	Power Container (2N)	Central Control Container	Qty of Racks	Maximum Power Density, kW
Air-cooled CT-2N	2	2	1	1	22	6.5
	4	2	1	1	48	3
	6	2	1	1	72	3

Air-cooled DX Cooling, Rectifier and UPS Power



Air-cooled Cooling, Rectifier and UPS Power, 2N Scenarios Configuration

Scenario Category	Equipment Container	Battery Container	Power Container (2N)	Central Control Container	Qty of Racks	Maximum Power Density, kW
Air-cooled ICT-2N	6	2	1	1	72	3