MUST®

Micromodule Data Center Solution

Galaxy Series

Galaxy Series Integrated Cabinet

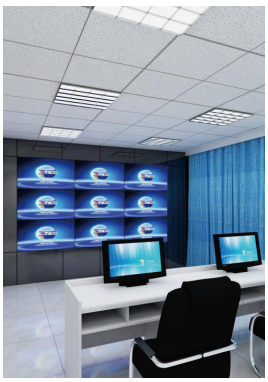
The Galaxy series is a new generation of small smart micro-module data center solutions that integrate power distribution, UPS, monitoring, refrigeration and cabinet systems. Among them, the integrated infrastructure cabinet integrates power distribution, UPS, rack-mounted temperature control systems, monitoring modules, etc., which greatly saves room space. IT cabinets can be flexibly expanded on both sides of the infrastructure integrated cabinet. A single module supports up to 9 IT cabinet positions, a maximum of 27kW IT load, and the maximum power density of a single cabinet can reach 10KW. Standard single-row airtight hot and cold aisles.

Galaxy I	Galaxy II	Galaxy III
		

Application

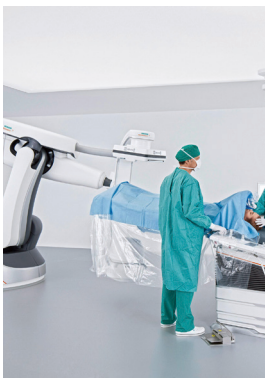
The MUST Galaxy series of micro-modular data centers are suitable for use in the edge computing access layer of various industries, and the data center area is less than 200m2. Mainly used in government, education, telecommunications, medical care, transportation, energy, finance, media assets, small and medium-sized enterprises and large enterprise branches, etc.

Data Center



Security Monitoring

Rail transport



Medical industry

Education industry

For example, bank, securities, insurance, telecommunications and other business network data centers; micro, small and medium-sized enterprise self-use data centers; corporate and government offices, police stations and other branch data centers; schools, medical industry branch data centers; data centers in smart buildings; Data centers of network points along highway and rail transit; data centers in small substations and small power plants; data centers of access points in Safe City and Xueliang Project.

Galaxy Series Integrated Cabinet

Emergency System

Galaxy I

Galaxy I uses automatic doors for emergency heat dissipation.
When the temperature in the cabinet reach the set value, the front and rear doors will automatically Open, and can share the fire-fighting system . When smoking alarms, the front and rear doors of the cabinet automatically open. The system will linked with the fire-fighting system, let fire gas enter the cabinet to extinguish the fire.

Galaxy II

Galaxy II mainly uses emergency fans for emergency heat dissipation. When the temperature in the cabinet reach the set value, the front door electric air valve will automatically open, allowing the outside cold air flow into the cabinet, and the cabinet top electric wind valve will also open automatically, and the heat will dissipated through cabinet top emergency fan . The system no need to open the door, it's security and anti-theft, and is equivalent to an independent computer room, which won't interfere surrounding equipment. Compared with Galaxy I, Galaxy II uses emergency fans for heat dissipation, which won't occupy the door,Space, and in emergency, Galaxy II has good airtightness, good anti-dust and anti-noise effect.

Galaxy III

Galaxy III emergency system have both functions of Galaxy I and II. The emergency fan will dissipate the heat first. If the heat dissipation is not effective, then front and rear doors will opened to dissipate. When the smoke alarm , the front and rear doors will automatically opened. , Let the fire gas enter cabinet to extinguish

Customer Value

Simple

- Integrated design of cooling, power distribution, dynamic loop
- Standard design, remove engineering design
- Factory fully prefabricated, and only simple parallel cabinets , and launched directly
- No need professional space, environment free
- single cabinet only 0.72m², top integrated wiring function, without additional bridges

Reliable

- Key components with N, N+1 or 2N match customer high reliability requirements
- No single point failure design for emergency heat dissipation. When the temperature in module exceeds the set value, the front and rear doors will automatically open or the emergency fans activated to dissipate natural ventilation.
- Automatic camera capture function to ensure the equipment operation safe
- Fully enclosed operation, dust and noise reduction, environmental free
- Optional rack-mounted fire extinguishing system, more effective protection of equipment safety

Intelligent

- 10-inch screen display, friendly interface, easy to manage function modules
- B/S or C/S framework, support WEB interface to browse real-time and historical information, automatic camera capture function to ensure the safe operation of equipment
- All-round alarm information interface, support SMS, abnormal situation grasped any time
- Precise energy efficiency management, real-time display of PUE, clear power consumption
- When there are multiple outlets, unified monitoring, remote access, centralized operation and maintenance management are optional
- Remote operation and maintenance management , provide 7x24 hours full service

High Efficiency

- closed cold and hot aisle isolator to avoid gas mixing, greatly increase return air temperature, improve cooling efficiency, and reduce PUE
- Rack-mounted air conditioner, internal cooling avoid ineffective cooling
- Near-end cooling to reduce air supply loss
- Rack-mounted air conditioners use DC inverter compressors and stepless speed-regulating EC fans, operate efficiently when partial load preventing condensation
- Optional high frequency rack UPS or rack modular UPS ,efficient operation

Galaxy Series Integrated Cabinet

Introduction

Galaxy series developed with multiple configurations that fit into diverse application scenario.
The LEGO modules design platform supports deep customization to meet the specific requirements of real world projects.

Monitoring System

All in one monitoring host collects, displays and reports system status, locally and remotely.

Rack System

Internal available space is up to 30U

Power Distribution System

Rack mount power distribution, metering, and management for all the power lines.

UPS System

3KVA – 30KVA rack mount modular UPS system protect power continuity.

Battery System

Single battery DC12V, 2U high chassis can hold 8 batteries, 3U high chassis can hold 16 batteries

Emergency Fan (optional)

Uses emergency fans for emergency heat dissipation.

Automatic Doors (optional)

Uses automatic doors for emergency heat dissipation.

Cooling System

4.2KW \ 8.1KW precision cooling in rack mount top mount and row mount type.

Galaxy Series Integrated Cabinet

Technical Parameters

General Scheme		
General Scheme	Power Supply System	220V/380V,50/60Hz,L+N+PE/3Ph+N+PE
	System Protection Level	IP5X
	Running Temperature	-20℃ -45℃ (Low temperature mode supports -40℃ -45℃)
	Number of Single Module Cabinetinet	1-12 (Specifically according to customer configuration)
	Numble of IT Cabinet	1-9 (Specifically according to customer configuration)
	Maximum Power Consumption for IT Load	27KW (Specifically according to customer configuration)
	Power Density of Single Cabinet	1-10KW
	Installations	Concrete Floor, Overhead Floor
	Load Bearing of IT Cabinet	2200kg
	Size (H×W×D)	Cabinet2000×600×1200 (Rack-mounted Air-conditioning)
Cooling System	Power Supply Mode	220Vac, 50Hz,1Ph+N+PE
	Cooling Capacity of Temperature Control System	4.2kW/8.1kW (Rack-mounted Air-conditioning)
	Running Temperature	-40℃ - +45℃
	Typical Configuration of Temperature Control System	N, N+1
	Cooling Mode	Air Cooling
	Installations of Temperature Control System	Rack-mounted Installation
	Air Volume (Single Unit)	800m3/h, 1500m3/h
	Air Supply Mode	Air Supply in the Front, Air Return in the Back (Rack-mounted Air-conditioning)
Power Suply and Distribution System	Lightning Protection Level	CLASSII/C, In 20kA,Imax 40kA,8/20us
	Power Input	Single or double route optional
	UPS Rack-mounted UPS	3KVA, 6KVA, 10KVA, 20KVA, 30KVA
	UPS Rack-mounted Modular UPS	20KVA, 30KVA
	Configuration of UPS	N, N+1, 2N
	Range of UPS Input Voltage	3KVA: 110-288Vac ; 6KVA,10kVA: 120-275Vac ; 20KVA,30KVA: 208-478Vac
	Factors of UPS Output Power	0.9
	Standby Time of Battery	0-60min (Decided by Customer)
	Layout of Battery	Rack-mounted Installation, Placed on the Plate, Battery Elevator (Cabinet) Intallation
	PDU	One-way or Two-way
Monitoring System	Monitoring Host	Standard Embedded Monitoring Software, host and display are intergrated to save space.
	Functional Module	Report Management, Photo Monitoring, Alarm Management, Centralized Management
	Access Mode	Local Access, Remote Web Access
	Local Display	HD Display of 10.4-Inch

Galaxy Series Integrated Cabinet

Typical Configuration

Type	Glass door closed passage type				
Product name	Single Cabinet 3KVA	Single Cabinet 6KVA	Two Cambination 6KVA	Two Cambination 10KVA	Three Cambination 10KVA
Number of cabinet	1	1	2	2	3
Available space	30U	28U	70U	65U	107U
UPS	3KVA	6KVA	6KVA	10KVA	10KVA
Air-conditioning	4.2KW	4.2KW	4.2KW	2*4.2KW	2*4.2KW
PDU	16Bits National standard 10A	16Bits National standard 10A	2*16Bits National standard 10A	2*16Bits National standard 10A	3*16Bits National standard 10A
Battery	12V 9Ah Battery pack is standby for 10 minutes	12V 9Ah Battery pack is standby for 10 minutes	12V 9Ah Battery pack is standby for 10 minutes	12V 9Ah Battery pack is standby for 5 minutes	12V 9Ah Battery pack is standby for 5 minutes
Size (H*W*D)	600*1200*2000	600*1200*2000	1200*1200*2000	1200*1200*2000	1800*1200*2000
Monitoring system	Standard configuration： Touch display, Temperature and Humidity, Smoke sensor, Leakage, Magnetic sensor, UPS management, Air conditioning management, Electrical measurement, Visiable Two-color ambient lamp, Lighting system				
Emergency mode	Galaxy I: Automatic door; Galaxy II: Ventilating and radiating module for emergency; Galaxy III: Ventilator for emergency+Automatic door				

Component Introduction

Cabinet System

IP5X Full-closed Cabinet

Standard 19-inch cabinet, glass door with full screen, cold and hot channel in the inside is in isolation, Bearing ≥1800kg.

Internal available space is up to 30U

Minimize the volume of air conditioner, battery pack and monitoring host by means of reasonable design, and provide more space for IT equipment.

Monitoring all-in-one machine

The monitoring host does not occupy space, the large industrial screen equipped with full-touch, which provide the customer an excellent experience, and the indicator is running intuitively in the state of alarm.

Full-load Noise≤55dB

With the use of the most advanced multiple noise reduction technology, the full-load noise made by the machine is ≤55dB.

Rack-type frequency conversion precision air conditioner

Cabinet Room Air Conditioner

- Modular design.
- Close to the heat source design, forming a closed hot channel.
- Adopt famous brand parts, stable and reliable.

Modular Design

- Modular design, can expand with the development of data center.
- Unique air flow organization, naturally achieve the effect of cold and hot aisle containment, no need to close cold and hot aisle and raised floor.

[Indoor unit]

[Outdoor unit]

The choice of modern data center

- Close to heat source cooling to reduce energy loss

[Airflow diagram]

Component Introduction

Rack Mounted UPS

3~30KVA Capacity (optional)
Configure UPS capacity according to customer requirements

Rack mounting
Convenient and quick, does not occupy the machine room area

Adjust the backup time as needed

Rack Battery Box

Maintenance-free lead-acid battery (optional)
Single battery DC12V, 2U high chassis can hold 8 batteries, 3U high chassis can hold 16 batteries

Rack mounting
Convenient and quick, does not occupy the machine room area

Monitoring System

Good human-machine interface
10.4 inch industrial screen, with good human-machine interface and touch performance.

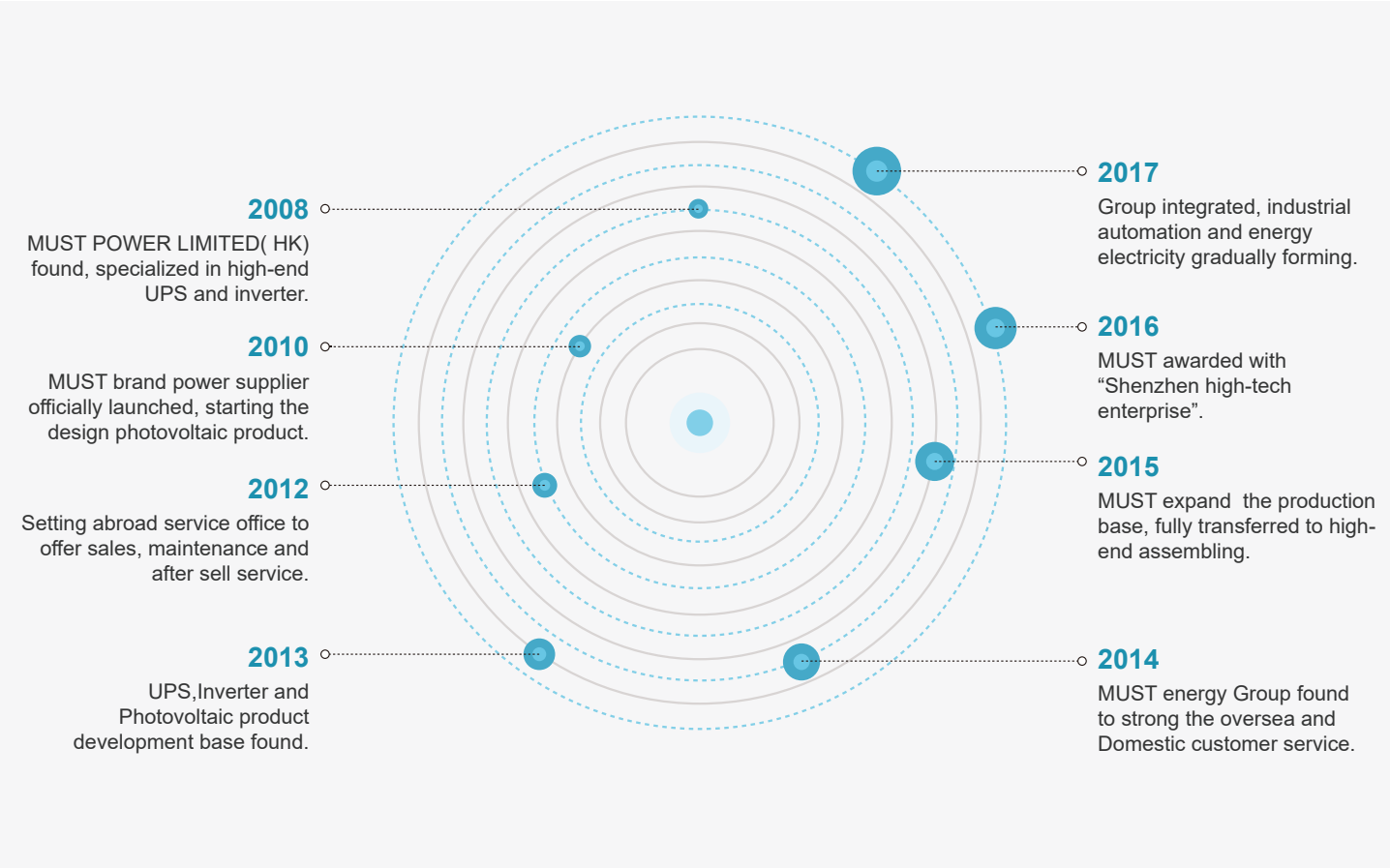
Comprehensive monitoring
Standard monitoring interface, real-time monitoring of power distribution, UPS, air conditioning, temperature and humidity, smoke detection and other information to ensure stable operation.

Energy consumption management
Precise energy efficiency management, PUE real-time display, clear power consumption.

Multi-terminal access
Multi-terminal support, can be accessed through WEB browser Access system after security certification.

Company Profile

MUST helps modern data centers, communications networks, business and industrial facilities overcome the daunting challenges, they are facing by providing a comprehensive portfolio of power, refrigeration, and IT infrastructure solutions and technical services that cover the cloud to the edge of the network.
MUST is located in The High-tech zone of Chancheng, Foshan, jointly invested by Shenzhen Mei Ke Energy Co., Ltd. and Shenzhen Hanrui Technology Co., LTD. It is a national high-tech enterprise specializing in the R&D, production and sales of industrial automation and power electronics related products. The company has an automated production base of more than 10,000 square meters



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