

Hai Nam Micro Data Center

Customized-type



MICRO DATA CENTER SOLUTIONS

Hải Nam proudly presents the **Micro Data Center (MDC)** – a breakthrough solution within our Data Center Solutions portfolio, designed and manufactured in Vietnam. The MDC line represents a new generation of compact, integrated, and high-performance data infrastructure, created to empower small and medium-sized businesses, branch offices, and organizations that require full control over their own data.

Built for Reliability - Designed for TIA-942 Ready Rated-3.

HAINAM
AUTOMATION TECHNOLOGY JSC.



MICRO DATA CENTER SOLUTIONS

Why Choose Hai Nam's Micro Data Center?

- Designed for local needs, faster support & higher reliability.
- Revolutionary All-in-One Technology: integrates all essential Data Center components: power, cooling, monitoring, and safety & security systems into one unified solution.
- Compact Size, Maximum Efficiency: Designed for space-limited environments. Ideal for offices, branches, and facilities without dedicated data-center space.
- Full Control & Scalable Architecture: The MDC supports modular expansion
- Cost-Effective, End-to-End Solution: By combining multiple subsystems into one modular cabinet, the MDC reduces both CAPEX and OPEX. With advanced thermal control technology, reduce electricity consumption and lower operational energy costs.
- Safe, Stable & Built to Global Standards: Aligned with TIA-942 standards and engineered with strict quality-control practices, the MDC delivers stable, secure and long-term performance.

FEATURES & BENEFITS



All-in-One System

Our MDCs deliver true all-in-one design with integrated cooling, secure enclosure, and full access control/monitoring. Optional UPS, 48VDC, battery, and power modules are available, plus a built-in bypass for easy UPS maintenance.

Built-in Monitoring System

Enjoy peace of mind with our MDC's integrated monitoring systems, designed for seamless remote oversight. Effortlessly view, manage, and receive alerts about each unit's operational status, no matter where it's deployed.

Top Mount Precision Cooling System

The top-mounted precision cooling unit ensures reliable outdoor performance in any weather. Its evaporative system converts condensation into vapor and expels it, preventing moisture intrusion and protecting the rack inside and out.

Security and Fire Protection

Boost your MDC's security with fire-extinguishing systems, and advanced access control using RFID/fingerprint/PIN. VESDA/FM200/NOVEC options are also available for enhanced protection.

Lithium Battery Backup

With Lithium battery for extended lifetime operation, perfectly adapted to withstand high ambient environments.

Power Distribution Module

Deliver complete power protection and distribution for all branches, ensuring smooth and reliable operation.

Concurrent Maintainability

All critical subsystems: power, cooling, distribution paths can be serviced, maintained, or replaced without interrupting the IT load

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RACK SYSTEM



HEAVY LOADING CAPACITY

- Strong frame up to 1800kg loading capacity
- Material: Carbon steel, 1.0–2.0 mm

IP55 RATED ENVIRONMENT

- IP55 water/dust protection, and lower noise.
- Glass front door
- Lower gas fire system initial investment.

MULTIPLE ACCESS CONTROL LOCKING

- Electrotonic locking with RFID.
- 3 in 1 type smart locking RFID card/ Fingerprint/ PIN.
- Remote door open monitoring and locking management.

ACCESSORIES

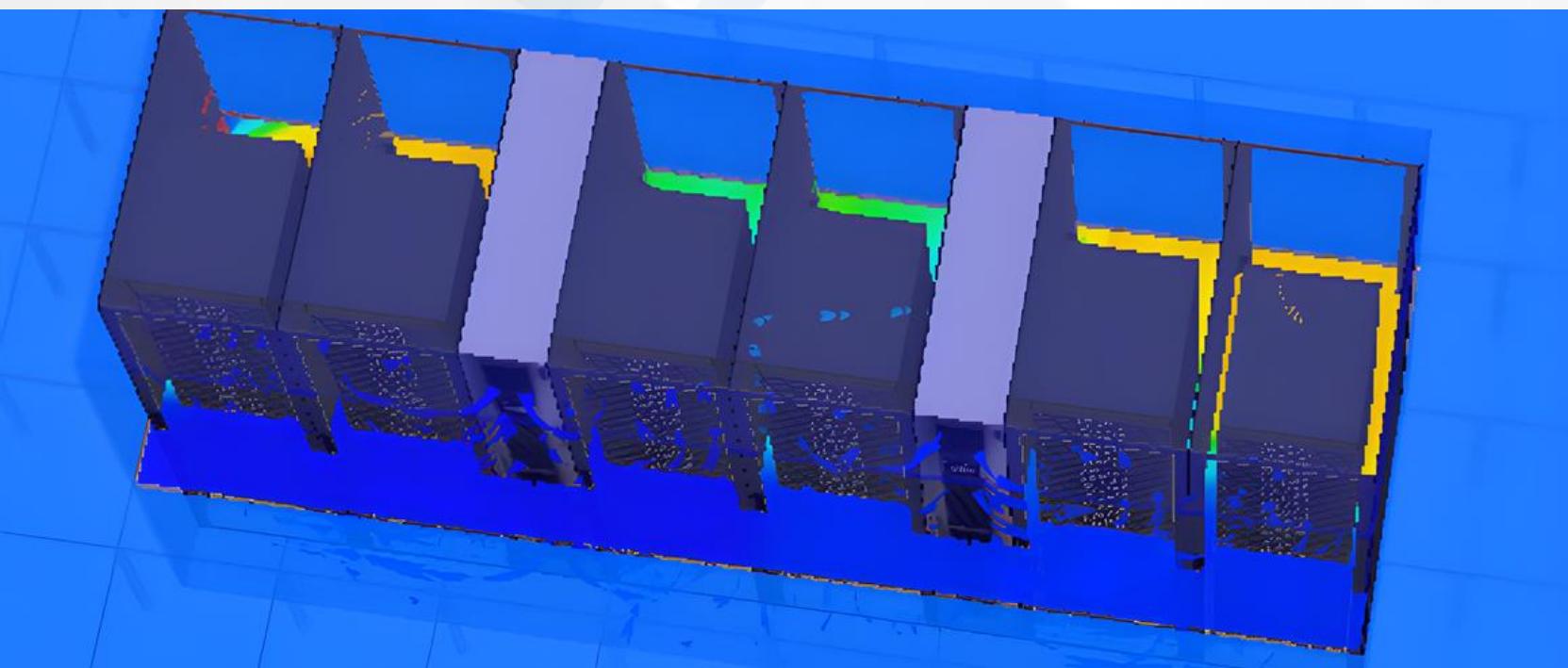
- Side door embedded type.
- Blanking panel, side sealing kit for better airflow management.
- Integrated cable ring and horizontal cable-management system, allowing network and power cables to be organized and arranged efficiently.

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THERMAL MANAGEMENT SYSTEM

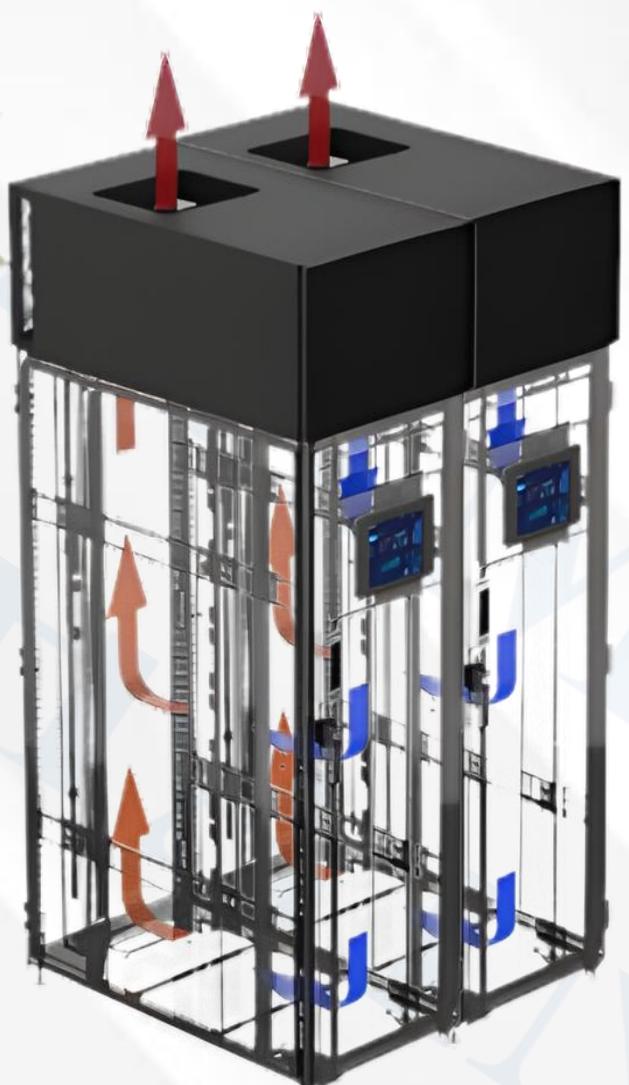
Optimized PUE

- Energy efficiency is a core focus of our data center design, with advanced technologies and optimized management significantly reducing PUE.
- Integrated with DCIM local for efficient monitoring



Efficient Thermal Control

- Maximizing efficiency with Air-cooled precision air conditioner, Packaged DX type inverter precision air conditioning with IP55 rated built-in cold-hot aisle sealed cabinet.
- Refrigerant: R410A
- Top-mount type.



Efficient Deployment

- Factory-built for fast delivery and deployment.
- LEGO-style modular design allows simple, step-by-step expansion.

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POWER DISTRIBUTION SYSTEM



INTEGRATED POWER SYSTEM

- A compact, integrated power system that consolidates all components into a single space-saving cabinet.
- Power distribution management for critical load branches



UPS SYSTEM

- A high-frequency, rack-mounted UPS with expansion for reliability and minimal downtime.
- Online Double Conversion.
- UPS bypass functionality.



POWER DISTRIBUTION

- Power distribution management for critical load branches
- Integrated energy metering with Modbus protocol
- Integrated surge protection (SPD)
- Electrical Configuration: Input 63A/Output 2*32A UPS In and Out, 1*32A By-pass, 2*32A PDU, 2*32AAC, 3*32A Auxiliary (Optional/Customized)

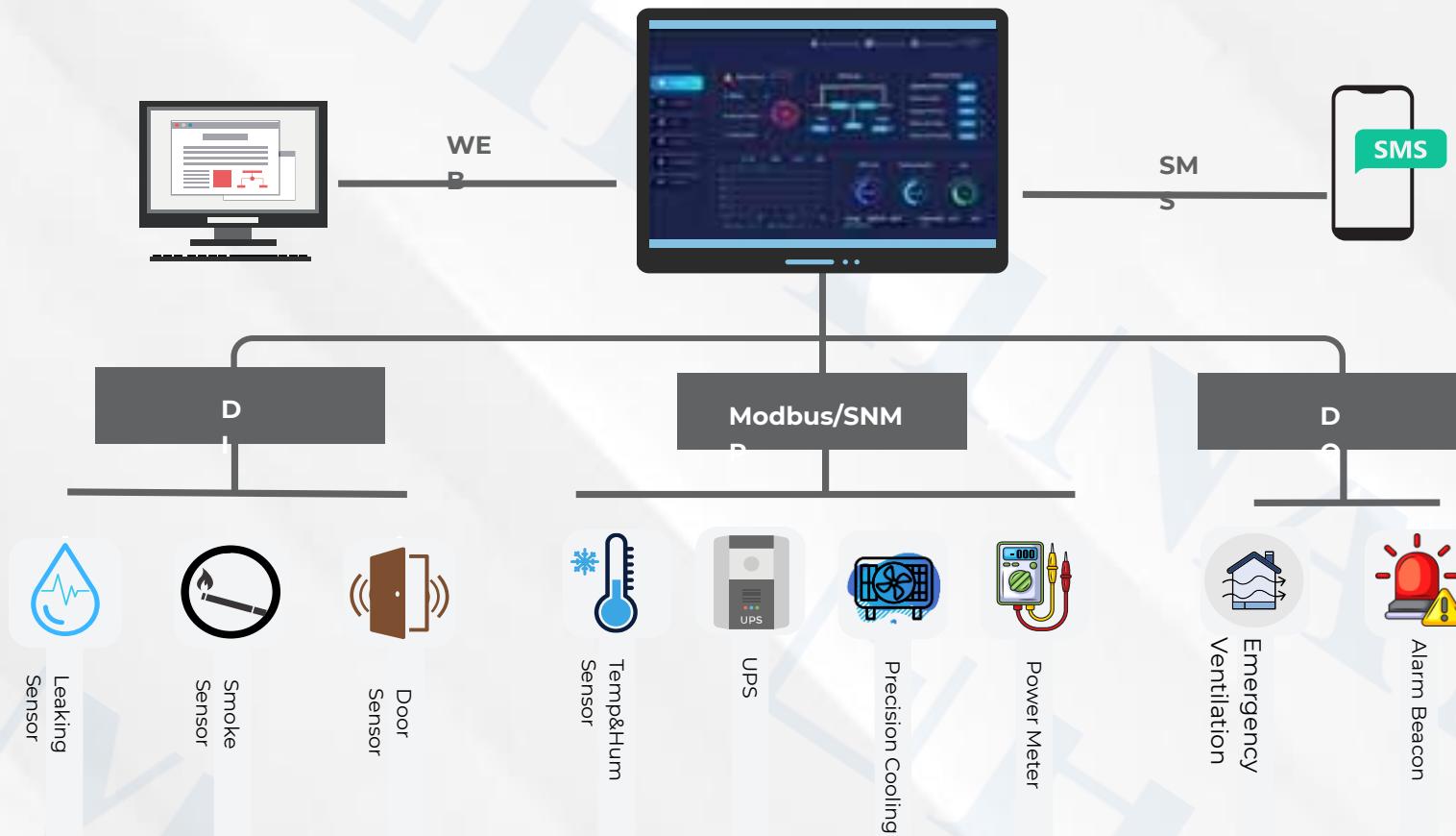


POWER MONITORING

- Continuous power monitoring with integrated data reporting to higher-level systems for improved energy management.
- Energy consumption monitoring and connection to central monitoring/management (DCIM)

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EDGE DCIM SYSTEM



FLEXIBLE VIEWING AND CONTROL OPTIONS

- Access and manage via a local 10" display screen
- Remote access and control through a web interface.
- Receive alerts via SMS/Email or phone call
- Visual and audible alerts with a 3-color lighting system and sound alarms.
- Remote monitoring available through SNMP or Modbus protocols.

EDGE DCIM FUNCTION

- Infrastructure data acquisition via environmental sensors (temperature, humidity, smoke, water leak, door status)
- Communication with UPS, precision AC, power distribution, and smart meters.
- On-site visualization and monitoring via local display with secure password-based administration
- Data transmission: filtered edge data is encrypted and sent to centralized DCIM software

COMPREHENSIVE MONITORING HOST

A unified host system for data collection, visualization, and automated logic responses.

SUPPORTS MULTIPLE COMMUNICATION PROTOCOLS

- Compatible with UPS/AC systems using protocols: Modbus and SNMP.
- Real-time video streaming capabilities.
- Supports data Video Monitoring
- Alarm notifications via SNMP or Modbus-TCP by central BMS/DCIM



Section	Category	Specification
TECHNICAL DATA	IT Space	30RU
	Height	2000 mm
	Depth	1200mm (42U)
	Width (single cabinet)	600mm
	Redundancy	N+1 (for UPS, Battery, Cooling, Power Distribution)
	IP Level	IP55
	UPS Capacity	6kVA
POWER SECTION	AC mode efficiency	≥ 94%
	Backup Time	60 to 90 mins at full IT load 3.5KW
	Battery Type	Lithium / VRLA Rack-mount type
	Battery Management	Integrated BMS (Battery Management System)
	Battery Enclosure	Separate cabinet (Optional)
	Standard Battery	12V/9AH/16Pcs
	Input Power	220-240V/ 1P/50Hz
	Surge Protection	Yes



Section	Category	Specification
COOLING SECTION	Cooling Type	Package DX (Air-cooled)
	Mount Type	Top-mount
	Capacity	3.5 kW
	Emergency Ventilation Controller	Yes
	Integration	Integrated with DCIM for display, control, and management
	Local Display	Touch Screen
DCIM SECTION	Remote Access	Web Access
	Reporting Protocol	Modbus - TCP
	UPS Mgmt.	Yes
	Cooling Mgmt.	Yes
	Temp. & Hum. Sensor	Yes
	Fire Sensor	Yes
	Water Sensor	Yes
	Smoke Sensor	Yes
	Access Control	RFID/Fingerprint/PIN
	FIRE SAFETY	
Fire Extinguisher		NOVEC1230 (FM200) Minimum Agent Quantity: ≥ 1 kg (cover up to 2 racks)



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