



## Smart Data Station

Smart data station Series modular data center adapts to the application design of edge computing node, integrates it cabinet, UPS, energy storage system, precision refrigeration system, intelligent monitoring and management system in the cabinet level unit.

### Cabinets

- Racks are standard 19", for installing IT and Network equipment, meets the requirements of EIA 310-D

- The passage of electrical and data cables must be provided with a shielding system offering mechanical protection against the propagation of flames, roxtec type

- Have cable entry from the bottom, top, side or all, meets the premises indicated for internal use by the TIA / EIA 569A and B standards

### UPS

- Autonomous microprocessor controls built into the machines themselves, interconnected to the MICRO DATA CENTER local interface

- Online technology double conversion.

- Sinusoidal

- With filtered and stabilized output voltage.

- Allow the programming of shutdown of servers in the absence of electricity from the network.

- ventilation system.

- Microprocessed with digital signal processor (DSP).

- Ability to avoid interruption in power supply when switching from double conversion mode to By-Pass.

- Ability to be connected without input power only with battery charge.

- Frequency 50Hz / 60Hz

### Precision air conditioner

Support the selection of rack air conditioning, in row air conditioning, cabinet top air conditioning, including air-cooled cooling type, water-cooled cooling type, etc.

The cooling capacity of single machine is from 2.5kw-45kw, various cooling capacity specifications are available

### Intelligent monitoring and management

Smart Data Station supports the real-time monitoring of UPS power supply, power distribution, air conditioning, environmental temperature and humidity, water leakage, access control, fire protection, smoke detection and other operating state parameters. It also supports the output of northbound bypass pipeline in the form of SNMP, and configures 10 inch or 21 inch local display screen



## Smart Data Station



Model	Supported IT load power rate/KVA	Available space	Power standby time/mins	Size/mm
Smart Data Station -130	3	28U	15	1200*600*2000
Smart Data Station -160	6	24U	15	1200*600*2000

Smart Data Station is composed of rack-type cooling unit, rack-type power distribution unit, integrated intelligent monitoring system and rack-type sealed aisle system.



### 1. Rack-type cooling unit





Model	Refrigerant vol.	Installation	Design type	Consumption	Communication protocol
RCU035	3.5KW	Rack-type install, 5U height, up air vent	Air-cooled variable frequency, outdoor compressor	<1.5KW	RS485, SNMP
RCU055	5.5KW	Rack-type install, 5U height, up air vent	Air-cooled variable frequency, outdoor compressor	<2.5KW	RS485, SNMP

RCU series rack-type air-conditioning uses variable frequency regulation technology, it applies to rack-type refrigerant in real time, air-cooled type comes with a out-door heat dissipation system. Chilled water type RCU needs external cold resource insurance. RCU is with a condensate water draining device and a leak protection solution.

### SmartDC Equip Tech Co., Ltd

Add: RM605, No. 15 Phenix City Building, Keji North First Road, Xili Street, Nanshan Distr. Shenzhen, China  
Tel: 0086 755 2664 6640 Email: sales@smartdcequip.com

## 2. Rack-type power distribution unit

Items	Configuration
 <p>SPM</p>	<ul style="list-style-type: none"> <li>■ Structure: 19"/3U/470mm(D)</li> <li>■ Installation: rack-type</li> <li>■ Input: single way 3 phase/single phase compatible, with master switch</li> <li>■ Output: 4 ways power distribution output through UPS, 1 way 63A, 2 ways 16A, 1 way 10A</li> <li>■ UPS: provide manual repair bypass</li> <li>■ Anti-thunder: C level, with anti-thunder switch</li> <li>■ Monitor: total power input parameter monitoring</li> </ul>
 <p>PDU</p>	<ul style="list-style-type: none"> <li>■ Structure: 19"/1U/1.5U (L/H/D)</li> <li>■ Installation: rack-type</li> <li>■ Input: single phase 3 circuits, rated power 3-6KW</li> <li>■ Output: 1 way domestic standard 16A + 8 ways domestic standard 10A</li> <li>■ Optional smart PDU</li> </ul>
 <p>UPS</p>	<ul style="list-style-type: none"> <li>■ Structure: 19"; ≤5U</li> <li>■ Installation: rack-type</li> <li>■ Capacity: 3-10KVA for selection</li> <li>■ Display: local LCD display</li> <li>■ Monitor: Support remote monitoring management</li> </ul>
 <p>Battery pack</p>	<ul style="list-style-type: none"> <li>■ Structure: 19"; individual ≤ 3U</li> <li>■ Installation: install under UPS</li> <li>■ Can configure it flexibly according to customer's power standby time</li> </ul>

## 3. Integrated Monitoring System



Smart Data Station-Integrated Monitoring System, it centrally monitors power supply and distribution, cooling units, UPS, environment index inside/outside racks

Real-time informing management staff through message and email for important alarm

Simple and user-friendly UI, support northbound interface.



## 4. Rack-type sealed aisle system

Front door uses glass in design, build-in monitoring display; back door uses solid sheet metal in design, when the temperature is abnormal inside the rack, front and back door will open automatically;

Using rack inside front structure to achieve sealed cold and hot aisle design;

Flexible moving and fixing for the whole rack



## Smart Data Station

### Efficient

- 1) Factory preinstallation saves time at sight and achieves quick deployment
- 2) Light weight; no reinforcement floor, no design consultancy and no specific data center building needed
- 3) Efficient UPS (full unit with 95% efficiency), high performance ratio row level aircon+sealed cold/hot aisles

### Reliable

- 1) Factory preinstallation saves time at sight and achieves quick deployment
- 2) Light weight; no reinforcement floor, no design consultancy and no specific data center building needed
- 3) Efficient UPS (full unit with 95% efficiency), high performance ratio row level aircon+sealed cold/hot aisles



### Simple

- 1) Modular design, easy deploy and extend
- 2) Plug type maintenance with low premise condition requirement, easy installation and convenient maintenance
- 3) One-stop deployment and monitoring, smart remote monitor

### Intelligent

- 1) Smart Data Station is a integrated monitoring system, includes monitoring power supply and distribution, cooling units, UPS, environment index inside/outside racks
- 2) Real-time informing management staff through message and email for important alarm
- 3) Simple and user-friendly UI, support northbound interface

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Smart Data Station series is a single row modular data center solution that integrates data center subsidiary systems, such as power supply and distribution system, cooling system, server rack system and intelligent management system, etc in a row of modules, it meets flexible and fast deployment needs as well as meets small-size customized customer's needs, it widely applied to distributed data business.



Classic configuration: 3-5 racks

Supported IT power load rate range:  $\leq 25\text{KW}$

Power input: single way, double way

UPS backup:  $n, n+1, 2n(n=1)$

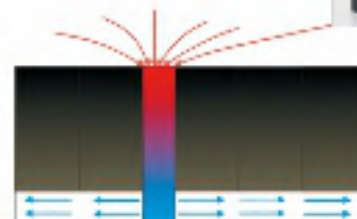
Cooling backup:  $n, n+1n(n=1)$

UPS capacity: 15KVA, 20KVA, support max. 4 racks

Refrigerant volume: 15-25KW

Battery deployment type: battery or battery packs

Battery standby time: 15-60mins



Modular cooling system diagram



Monitoring system picture



## Smart Data Station

### SMART MODULAR DATA CENTER

#### Cabinets

Height	40U's / 42U's / 44U's
Width (mm)	600/800
Depth (mm)	Up to 1500
Static resistance (kg)	1000/1300/1500
Fire resistance (1100 °c)	CF60
Protection against water and dust	IP55
Shielded cable passages	Yes
Confinement of cold and hot corridors	Yes
Modular **	Yes
Number of cabinets	2 ~ 8
Access control*	card / password / biometric and electro-mechanical
Emergency exhaust system	Yes

#### Options

Cable organizer	Yes
Blind plates	Yes

\* Triple check is allowed

\*\* allow growth of new modules

#### Refrigeration system

##### Evaporator

Capacity (kW)	5.5 / 11/12
Redundancy	N, N + 1, 2N
Air supply mode	front feed, rear return (in-line cooling)
Height (U's)	up to 10'Us
Width (in)	19 "
Depth (mm)	1100/1000
Weight (kg)	35/45/45
Voltage	220V / 380V



## Smart Data Station

Frequency (Hz)	50/60
Noise Level (dB)	<68dB
refrigerant gas	R410a
Air volume	2600m <sup>3</sup> / h
Humidification system	Yes
Temperature and humidity sensor	Yes
Operating Temperature	-20°C ~ 45°C
Cooling mode	direct expansion
Modular	Yes
Control / Automation / Relay	Yes
<b>Options</b>	
Humidification system	Yes
Reheating system	Yes
<b>Condenser</b>	
Voltage	220V/380V
Installation	External
Refrigerated network	Yes
Protection against water and dust	Yes
Emergency ventilator	Yes
Noise Level (dB)	<68
<b>Power system</b>	
Integrated electrical panel	Yes
Input	single / double (ATS)
Plug-in circuit breaker	Yes
<b>PDU</b>	
Redundancy	N, N + 1, 2N
Capacity	32A - 16x IEC C13 and 4x IEC C19 32A - 20x IEC C13 and 4x IEC C19 32A - 24x IEC C13 and 4x IEC C19
Voltage	220V



## Smart Data Station

Manageable	Yes
Monitorable	Voltage / current / power / power factor
Communication protocol	SNMP
<b>UPS</b>	
Capacity	10kVA / 15kVA / 20kVA
Redundancy	N, N + 1, 2N
Voltage	220V / 380V
output power factor	0.9
Height (U's)	1
Width (in)	19 "
Depth (mm)	550
Weight (kg)	25/35/42
Operation	Parallel / Redundant
Modular	Yes
Battery bank (m)	7/10/15/30
Static switch	Yes
Bypass	Yes
Protections	obligation; undervoltage; Overload; Overcurrent; Energy outbreaks; Voltage peaks; Voltage Ripple; Overfrequency; Underfrequency; Short circuit; Overtemperature; Total Discharge of Batteries;
<b>Security systems</b>	
Access control	YES
Storage	up to 100000 records
Communication protocol	SNMP / RFID
reading	biometrics / card / password
door lock	electromagnet
Record	1000 USERS
back door	biometrica / card or access button
<b>CCTV</b>	





## Smart Data Station

Camera	IP, POE type, Day / Night.
HD Resolution	2MP / 4MP at 25/30 fps
video compression	H.264.
Monitoring	Web Viewer, CMS (DSS / PSS), DMSS.
Fixed lens	2.8 mm
Infra red	Yes
NVR (storage in days)	7, 15, 30, 60
Recording	movement / continuous
<b>Monitoring system</b>	
Centralized management system, mob	Yes
Screen	10 inches
water sensor	Yes
temperature sensor	Yes
Humidity sensor	Yes
smoke sensor	Yes
door opening sensor	Yes
temperature and humidity sensor	Yes
mobile app	Yes
remote application	Yes
SMS	Yes
email	Yes
Fire systems (detection and alarms)	Yes
Generator set	Yes
UPS	Yes
Air conditioning	Yes
PDU's	Yes
Monitoring	24x7x365 (remote and local)
Communication	SNMP, Zabbix
Graphic interface	Yes



**SmartDC**

# Smart Data Station

doors	digital and analogical
RJ45	Yes
asset management and Cabemaenot	VMware, Hyper-V, Nutanix (including AHV), Dell Vxrail, HP Simplivity.

