

# MICRODATA CENTER

## iSmart Product Introduction

The iSmart series integrated cabinet solution integrates UPS, air conditioner, power distribution module, power and environment monitoring system, temperature and humidity detection, light and access control in a standard 19-inch server cabinet. All equipment is pre-installed and pre-commissioned in the factory. The on-site installation is easy and convenient, which can realize rapid deployment, occupy less area, and comes with remote web interface monitoring function, which can realize remote operation and maintenance of a site.



### Safe and reliable

- ▶ All components follow domestic and international standardized production standards to ensure product quality.
- ▶ Pre-installation, pre-commissioning and other process are controlled at various levels to ensure product installation and operation safe and reliable.
- ▶ A single cabinet is a complete system, suitable for various complex scenes (dust, narrow space, no insulation measures, etc.).

### High efficiency and energy saving

- ▶ Proximal refrigeration, high-efficiency power supply, and the overall annual average PUE of single cabinet  $\approx 1.30.0$  ensure product quality.
- ▶ The power distribution, UPS, monitoring, and refrigeration cabinets are integrated to save space.
- ▶ Engineering free design, free decoration and wiring, remote operation and maintenance are not on duty, saving TCO.

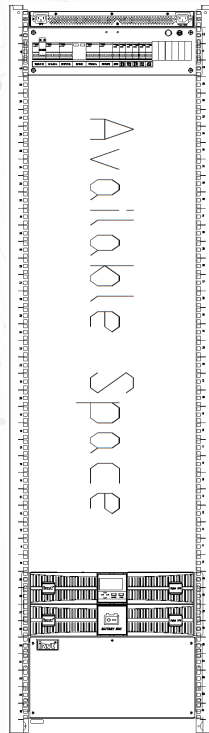
### Easy installation and rapid deployment

- ▶ Modular design of power distribution, easy installation and maintenance.
- ▶ Rack-mounted air conditioner indoor unit, pipe thread connection, easy maintenance.
- ▶ The computer room does not need special decoration treatment, and the equipment is ready to use. Installation and commissioning cycle only need 3 hours.

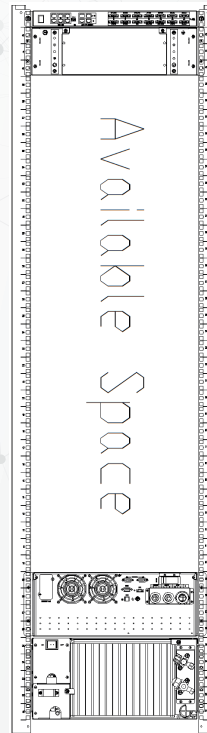
### Intelligent management

- ▶ The monitoring system is extensible and compatible with third-party monitoring systems; friendly HMI.
- ▶ Support local and remote WEB interface access, SMS alarm function.

## Product Layout Diagram



Front View



Rear View

## Product Configuration

| iSmart Series Integrated Cabinet Solution |                        |   |
|---|------------------------|---|
| System                                    | IT rated power         | 4KVA                                    |
|   | Mains                  | 220Vac,50Hz/60Hz                        |
|   | Ambient temperature    | 0-45°C                                  |
|   | Ambient humidity       | 10-95% (Relative humidity)              |
|   | IP Class               | IP5X                                    |
|   | Altitude               | 1000m, derating for >1000m              |
| Cabinet                                   | Dimension (W*D*H)      | 600*1200*2000mm (Without caster)        |
|   | Space occupation       | ≤32U                                    |
|   | Display                | 10.1" touch screen LCD                  |
|   | Lighting               | Front and rear LED, front Tri-color LED |
|   | Cable entry            | Top and bottom                          |
|   | Access control system  | Fingerprint +IC/ID card + Password      |
| Cooling System                            | Rated cooling capacity | 3.7KW                                   |
|   | Rated air volume       | 700m <sup>3</sup> /h                    |
| Mechanical                                | Package dimensions     | 720*1338*2230mm                         |
|   | Cabinet color          | Black (RAL9004)                         |

## Components

### 3.7kW Precision Air Conditioner

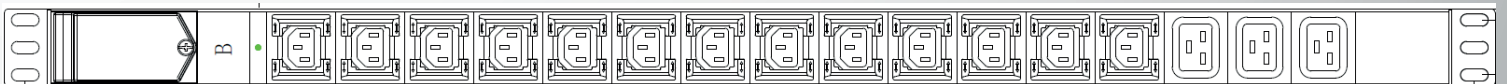
#### Specification of 3.7KW Aircon

|                          |   |
|--------------------------|---|
| Cooling Capacity         | Split type/integrated type: 3.7KW (working condition: return air 37°C, relative humidity 27%, outdoor environment 35°C) |
| Air cooling              | 700M3/H   |
| Working Ambient          | Temperature -40~45°C; Relative humidity: 5-95%  |
| Refrigerant              | R410A   |
| Voltage/Frequency        | 220V/60Hz   |
| Rated current            | 13.5A(constant temperature)   |
| Heating Capacity         | 1KW   |
| Send/return air          | Front three-side air sent, rear return air  |
| Indoor aircon dimension  | Split type (W*D*H):440*800*219mm(5U)<br>Integrated type (W*D*H):440*980*350mm(8U)                                       |
| Outdoor aircon dimension | Split type (W*D*H):783*279*527  |
| Weight                   | Split type:26kgs<br>Integrated type: 58kgs  |



## Components

### Standard PDU



Standard PDU: IEC socket\*2pcs, 16 ports (13\*10A+3\*16A)

## Components

### PDM

#### 3.6KW PDM (Consumption Available IT)

|  |  |
|--|--|
| Power type                                 | Single phase (AC120V)(IT)              |
| Type                                       | PDMI0063-001                           |
| Cabinet quantity (total power consumption) | 3.6KW                                  |
| UPS Configuration (reference)              | 4KVA(1/1)                              |
| AC cooling capacity                        | 1*3.7KW(rack)                          |
| AC type                                    | Rack two phase                         |
| Main breaker                               | 1*63A/2P                               |
| SPD(1 set)                                 | C level SPD (1P+N) WITH 32A/2P breaker |
| UPS breaker (input)                        | 1*C32A/2P                              |
| UPS breaker (output)                       | 1*C32A/2P                              |
| UPS breaker (maintenance)                  | 1*C32A/2P                              |
| Air conditioner breaker                    | 2*C32A/2P                              |
| Mains IT breaker                           | 2*C32A/2P                              |
| UPS IT breaker                             | 2*C32A/2P                              |
| PDM height                                 | 3U                                     |



## Components

### Access Control Device



| Item          | Parameter  |
|---------------|--|
| Voltage       | 12VDC  |
| Recognition   | fingerprint, ID card/IC card, password                               |
| Screen        | 2.0inch TFT HD color screen  |
| Language      | Chinese / English  |
| Communication | Weigand  |
| User number   | Up to 3000 users; up to 10 administrators                            |
| Environment   | Temperature: -10°C-+50°C;<br>Relative humidity: ≤95%(non-condensing) |
| Dimension     | 140*44*20mm  |



## Components

### UPS



| UPS                |                                      |
|--------------------|--------------------------------------|
| Power type         | Single phase(AC120V)                 |
| Model              | HRL1104XL,HR1106XL                   |
| Capacity Power     | 4KVA/3.6KW,6KVA/5.4KW                |
| Output PF          | 0.9                                  |
| Communication port | RS485                                |
| Monitor            | 2.7" single color,<br>None-touchable |
| Charger            | 5A(0.5-5A settable)                  |
| Battery DC Voltage | 192VDC                               |
| Dimension          | 440*550*86mm 2U height               |



| Battery Cabinet    |                        |
|--------------------|------------------------|
| Battery DC Voltage | 192VDC                 |
| Model              | HRX11BAT16-192VDC      |
| Battery compatible | 16PCS 12V7Ah/9Ah       |
| DC Breaker         | 63A                    |
| Dimension          | 438*86*715mm 2U Height |
| Connection Method  | Terminals              |

## Components

### Water leakage Sensor



| Item                  | Parameter                                    |
|-----------------------|--|
| Operating Voltage     | 12VDC  |
| Operating environment | -20°C~+80°C, 0-95%RH (non-condensing)        |
| Precision             | Suitable for the sensor with positioning, 1m |
| Dimension             | 125*64*37mm                                  |

## Components

### Smoke Sensor (optional)



| Item                  | Parameter   |
|-----------------------|---|
| Working voltage       | 12/24VDC, voltage ranging 8-28VDC   |
| Working current       | <2mA@12VDC in monitoring status<br><30mA@12VDC in case of fire alarm  |
| Contact output        | 1A/30VDC, 0.3A/60VDC  |
| Operation indication  | Monitoring status: Indicator (green) blinks once every 60 seconds; Alarm status: The indicator (red) is steadily on, and the buzzer makes a rapid "beep" sound every 1.5 seconds Fault status: The buzzer beeps briefly every two seconds |
| Operating Environment | Temperature:-10°C- +50°C<br>Relative humidity: ≤95%( no condensation)   |
| Dimensions            | 120*39mm (OD * HEIGHT)  |

## Components

### Temperature and Humidity Sensor



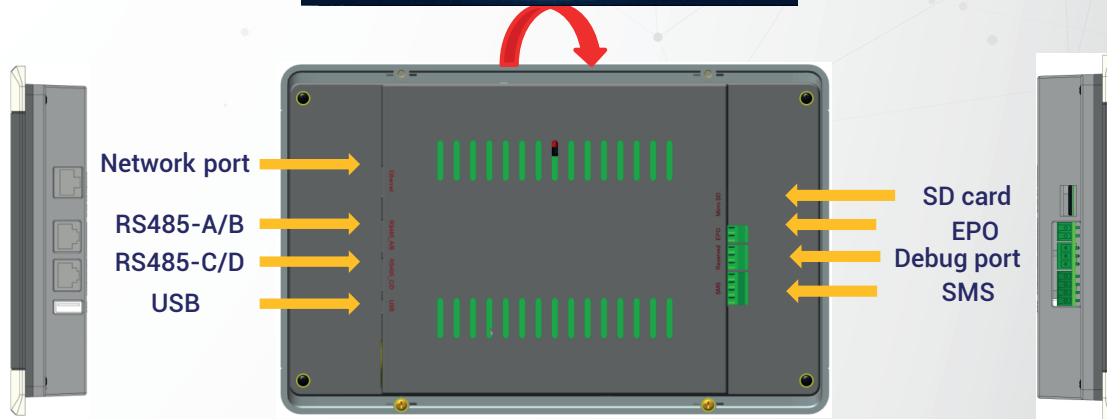
| Item                           | Parameter    |
|--------------------------------|--------------|
| Temperature Detection range    | -40°C-+125°C |
| Temperature Detection accuracy | ±0.2°C       |
| Operating temperature          | -20°C-+80°C  |
| Humidity detection range       | 0~100%       |
| Humidity detection accuracy    | ±4%          |
| Operating Voltage              | 12VDC        |
| Dimension                      | 125*64*37mm  |

## Components

### Intelligent Monitoring Screen(ePAD)



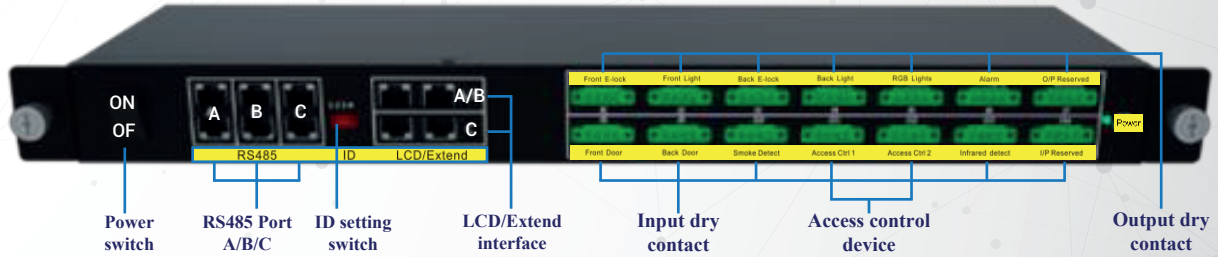
10.1 inch Display Screen



| Item                | Parameter   |
|---------------------|---|
| Power input         | Supports two DC power supplies<br>Input voltage: 12VDC (Scope of input voltage: 8-30VDC)<br>Input rated current: 500mA  |
| System memory       | 512MB   |
| Micro SD card       | The maximum storage space is 32GB, used to store data such as history records   |
| FE expansion        | Support 1 LAN interface, 10/100M communication rate   |
| RS485               | Support four two-port RJ45 RS485 interfaces with a default communication speed of 9,600bps<br>RJ45 interface includes 12VDC power input<br>Description of RJ45 foot position:<br>RS485-A/B interface:<br>RS485-C/D interface:<br>C-RS485+ C-RS485- D-RS485+ +12V D-RS485+ GND |
| USB                 | Support USB2.0 equipment access   |
| SMS                 | Support SMS alarm equipment access  |
| Working instruction | Normal state: indicator light (green) is normally on  |

## Components

### Control Module (eCTRL)



| Item                          | Parameter   |
|-------------------------------|---|
| Power input                   | Supports two DC power supplies<br>Scope of input voltage: 85~264Vac<br>Working frequency: 50/60Hz<br>Input rated current: 0.56A   |
| LCD/expansion interface       | Four RJ45 ports are provided for connection to the RS485 communication port on the intelligent monitoring screen and the next expansion module and power the intelligent monitoring screen  |
| RS485 communication interface | Support three channels of configurable RS485 interfaces. Each channel provides two interfaces for cable connection by means of RJ45 at default communication speed of 9,600bps.<br>RJ45 interface can provide 12VDC power with rated current of 400mA   |
| ID setting switch             | The DIP switch is in 4-bit binary format XXXX, with value ranging 1-15. 1111 is ID15, and 1000 is ID1. For related settings, refer to the following example:<br>Push the switch up or down, the value in the lower box is 0 or 1, and then multiplied by the related number, and the final result is ID, as shown below: Only switches for Bits 1 and 4 are pushed down, and the multiplier is respectively 1 and 8, while the rest are 0, added up to 9. |
| Output dry contact            | Supports nine output dry contact ports, six of which support NC or NO signals, and the other three support NO signals.  |
| Input dry contact             | Supports seven input dry contact ports.   |
| Indicator light               | Normal state: Green light   |



## Applications

▶ Education Industry



▶ Medical Industry



▶ Service Industry



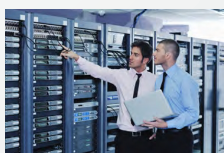
▶ Judicial and Enforcement Agency



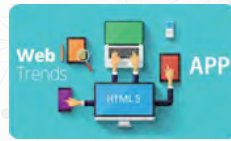
▶ Government Agency



▶ Other Applications



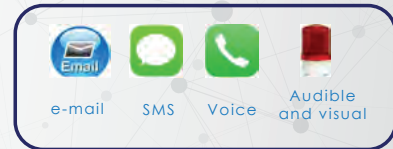
# Monitoring Network Diagram



Centralized Monitoring

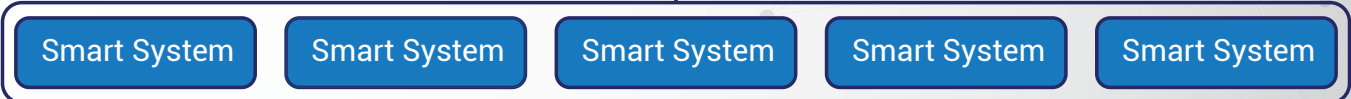


3D Visualization O&M Platform

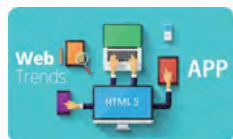


Alarm System

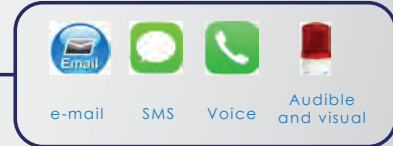
Centralized IoT



Northbound Interface



Single Point Access

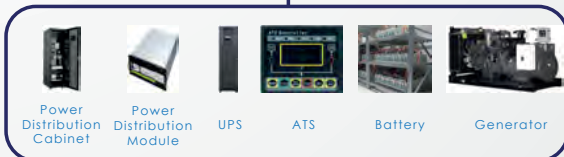


Alarm System

Interface Layer



Device Layer



Power Supply and Distribution System



Environmental System



Security System