

## Product Introduction

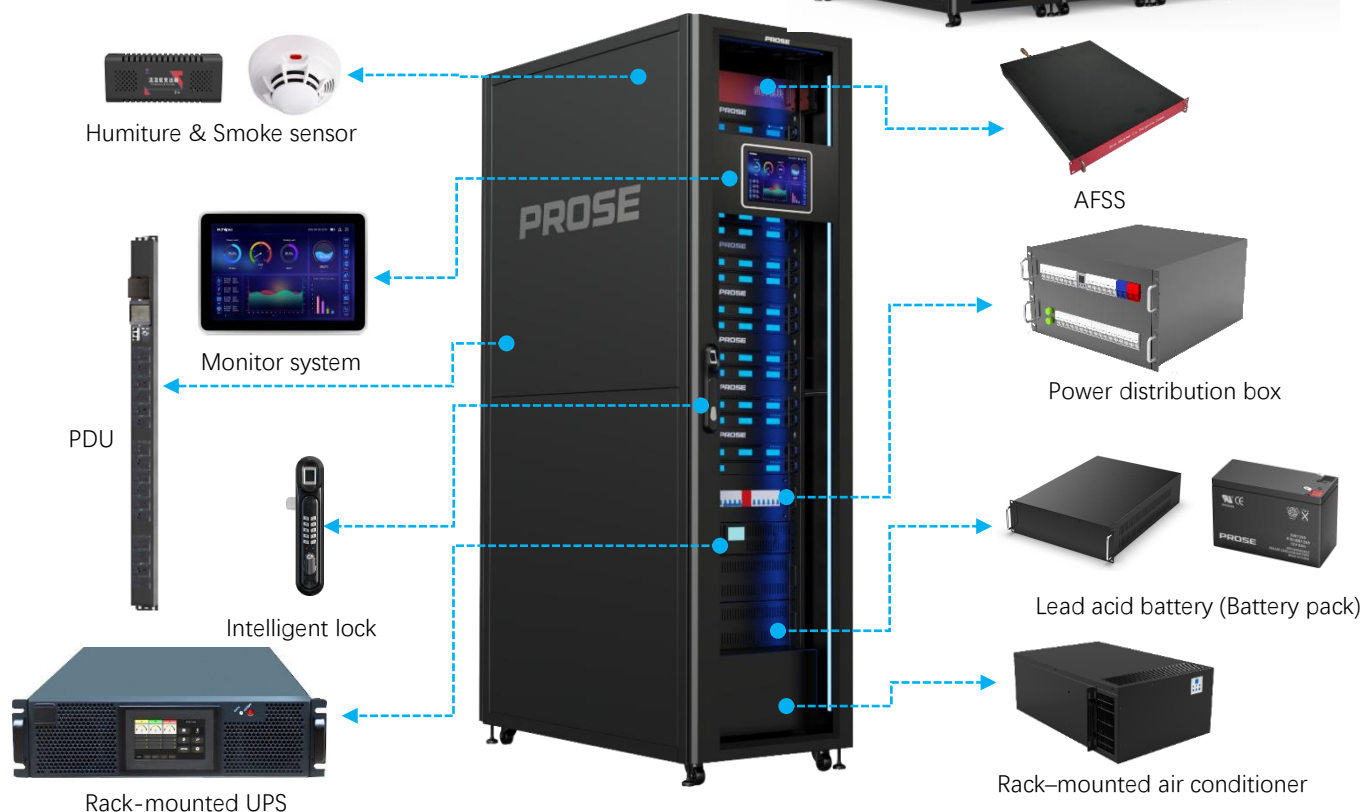
Traditional miniaturized data centers have problems such as high maintenance costs, long construction time, and inability to timely understand the operating status. Prose created and innovated smart micro-data center to meet the requirements.

To meet the future deployment requirements of edge computing applications, the KHIPU Smart Microdata Center adopts a modular development concept, The advantage of low cost, suitable for customers to install quickly and put into use in time.

The Smart Microdata Center contains cabinets, power distribution systems, refrigeration systems, cabling systems, while meeting the need for continuous power, to prevent data loss, MDC can be accessed through TCP/IP, Cloud App, etc., so that customers can know the running status of the product in real time. Temperature and humidity monitoring system and air-cooling system provide suitable working environment for customers' products. It also includes face recognition, fingerprint recognition and other authentication to provide data security protection.

## Main Feature

- Lower Investment by 25%
- Fast Installation Only 2H
- FC AC Energy Saving 30%
- PUE Less Than 1.26
- System Emergency Response Protection
- Biometrics Authentication
- Cascading Available for Rack
- Saving Room Space 50%
- Quiet Operation Less-than 55dB
- DCIM 24H Cloud O&M



## System specification

W600mm\* D1200mm \* H2050mm, 4 pcs of racks can be put in cascade configuration.

| Item                       | Standard Cabinet                                                                      |
|----------------------------|---------------------------------------------------------------------------------------|
| Height Unit (customizable) | 42U                                                                                   |
| Cabinet Size (mm)          | 600 (W) x 1200(D) x 2050(H)*4pcs                                                      |
| Weight                     | About 180kg (per cabinet)                                                             |
| Static Load                | Up to 2200kg                                                                          |
| Color                      | Black or Gray                                                                         |
| Structure Composition      | Welding framework, cabinet seal design as a whole                                     |
| Meet Standard              | ANSI/EIA RS-310-D, IEC297-2, DIN41491, DIN41494, GB/T3047.2-92                        |
| IP Level                   | IP5X                                                                                  |
| Display Panel              | 10.1" Touch Panel LCD                                                                 |
| Display Languages          | English / Chinese                                                                     |
| LED Lighting               | BI-Color (Red & Blue)                                                                 |
| Front Door                 | Toughened glass door with Mechanical lock or fingerprint lock (Support face detector) |
| Rear Door                  | Sheet metal door                                                                      |
| Safety Standard            | RoHS                                                                                  |

## Power Distribution Box



| No. | Parameter                  | Value                                                     |
|-----|----------------------------|-----------------------------------------------------------|
| 1   | Input Rated Voltage(V)     | 380VAC                                                    |
| 2   | Input Rated Current(A)     | 80A                                                       |
| 3   | Input Switch               | 80A /3P                                                   |
| 4   | Output Switch              | 2*50A/3P+C50A/4P+32A/2P+D32A/1P*2+32A/1P*4+16A/1P*3       |
| 5   | Lightning Protection Level | Class C lightning protection                              |
| 6   | Dimensions(mm)             | W*D*H, 483*500*7U                                         |
| 7   | Color                      | Black, off-white or according to customer's specification |
| 8   | Ways To Enter and Exit     | Top-in and top-out or according to customer's designation |
| 9   | Installation               | 19" Rack mounted                                          |
| 10  | Cooling                    | Natural cooling                                           |

## Precision Air Conditioning



| Rack-Type Air Condition Technical Specification                   |                                            |                                              |
|-------------------------------------------------------------------|--------------------------------------------|----------------------------------------------|
| Type                                                              |                                            | 12.5KW                                       |
| Cooling Capacity                                                  | Cooling capacity                           | 12.6                                         |
|                                                                   | Sensible heat ratio(SHR)                   | 98%                                          |
| Machine air volume (m³/h)                                         |                                            | 2500                                         |
| Energy efficiency ratio (EER)                                     |                                            | 3.5                                          |
| Compressor                                                        | Qty (PC)                                   | 2                                            |
|                                                                   | Type                                       | Enclosed inverter compressor                 |
| Fans type                                                         |                                            | Hypokinesis EC centrifugal fan               |
| Expansion valve type                                              |                                            | Electronic expansion valve                   |
| Air supply mode                                                   |                                            | Upper, left, right and three side air supply |
| Evaporator                                                        |                                            | Copper pipe+ Hydrophilic fin                 |
| Freezing medium                                                   |                                            | R410A                                        |
| Unit standard heating (W)                                         |                                            | 2000                                         |
| Power parameter                                                   | Input                                      | 220V/50Hz                                    |
|                                                                   | Electric power supplying parameters FLA(A) | 16.6(30)                                     |
|                                                                   | Recommended air switch model               | 32A                                          |
| Pipe type                                                         | Self-draining pipe (mm)                    | Inner p16/Outer p21                          |
|                                                                   | Strong-Draining pipe (mm)                  | Inner p5/Outer p7                            |
|                                                                   | Refrigerant air pipe (mm)                  | 15.88                                        |
|                                                                   | Refrigerant fluid pipe (mm)                | 9.52                                         |
| Indoor machine size (mm)                                          |                                            | 440*950*575                                  |
| Indoor machine weight (kg)                                        |                                            | 57                                           |
| Outdoor machine size (mm)                                         |                                            | 950*840*340                                  |
| Outdoor machine weight (kg)                                       |                                            | 65                                           |
| Connect the inner and outer machines with copper pipes and cables |                                            | 5m                                           |

## UPS (Uninterrupted Power Supply)



| Mode           |                                         | UPS-RM20251-33                                                                                                            |
|----------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Power capacity |                                         | 25kVA                                                                                                                     |
| Main input     | Wire                                    | 3-phase +N wire + ground wire                                                                                             |
|                | Voltage                                 | 380/400/415VAC (Line voltage)                                                                                             |
|                | Frequency                               | 50/60Hz                                                                                                                   |
|                | Power factor                            | >0.99                                                                                                                     |
|                | Current distortion rate                 | THDi<4% (100% linear load) THDi<3% (100% linear load)                                                                     |
|                | Voltage range                           | 304~485VAC (line voltage) full load, 304~138VAC (line voltage), load from 100% to 40% linear derating                     |
|                | Frequency range                         | 40-70Hz                                                                                                                   |
| Battery        | Battery voltage                         | ±240VDC[32~44pcs option)                                                                                                  |
|                | Charging power                          | 20%* Active Power (Max)                                                                                                   |
| Bypass         | Bypass voltage                          | 380/400/415VAC (Line voltage)                                                                                             |
|                | Frequency range                         | 50/60Hz (rated power), can be set: 1Hz, ±3Hz, ±5Hz                                                                        |
| Output         | Rated output voltage                    | 380/400/415VAC (Line voltage)                                                                                             |
|                | Rated frequency                         | 50/60Hz                                                                                                                   |
|                | Power factor                            | 1                                                                                                                         |
|                | Voltage accuracy                        | ±1.0%                                                                                                                     |
|                | Output total harmonic distortion (THDu) | <1% (linear load), 5% (nonlinear load)                                                                                    |
|                | Inverter overload                       | 110%, 1 hour after the bypass; 125%, bypass in 10 minutes; 150%, 1 minute to bypass; 150%, transfer to bypass after 200ms |
|                | Frequency accuracy                      | 0.1%                                                                                                                      |
|                | Tracking range                          | Configurable, ±0.5Hz-±5Hz, default ±3Hz                                                                                   |
|                | Tracking rate                           | Configurable, 0.5Hz/S-3Hz/S, default 0.5Hz/S                                                                              |
|                | Peak value ratio                        | 3: 1                                                                                                                      |
|                | 3-phase phase accuracy                  | 120°±0.5°                                                                                                                 |
| System         | Main mode efficiency                    | ≥95.5%                                                                                                                    |
|                | Reveal                                  | LCD+LED                                                                                                                   |
|                | Communication interface                 | RS232, RS485, Dry contact, battery cold start                                                                             |
|                | Operating temperature                   | 0-40°C                                                                                                                    |
|                | Storage temperature                     | -40°C~70°C                                                                                                                |
|                | Relative humidity                       | 0-95% (no condensation)                                                                                                   |
|                | Noise (dB)                              | 65dB@100%load, 62dB@45%load                                                                                               |
|                | Option                                  | SNMP network communication card and parallel components                                                                   |
| Size(W*D*H) mm |                                         | 485*790*130                                                                                                               |
| Weight (kg)    |                                         | 30                                                                                                                        |

## Environment Monitoring System



| Item                  | Technical Specification                                                    |
|-----------------------|----------------------------------------------------------------------------|
| CPU                   | ARM Cortex A9 Quad-core, Max Frequency 1.2GHz                              |
| Operating System      | Android 5.1                                                                |
| Memory                | DDR3L 2GB                                                                  |
| Flash Rom             | 8GB eMMC Flash                                                             |
| Standard Serial Port  | 2 Ports RS232                                                              |
| Standard Serial Port  | 2 Ports RS485                                                              |
| Debug Port            | 1 Port Micro USB                                                           |
| Digital Input Port    | 2 Ports DI                                                                 |
| Digital Output Port   | 2 Ports DO(for relay control)                                              |
| USB Port              | 3 Ports (1 Port USB Host, 2 Ports USB Device)                              |
| Debug Port            | 1 Port Micro USB                                                           |
| Output Supply         | 6 Ports 12V/1A                                                             |
| Wireless              | Reserved for 3G, 4G and Wi-Fi module expansion slot                        |
| Ethernet              | 1 Ports RJ45 10M/100M/1000M                                                |
| Operating Voltage     | 12V DC                                                                     |
| Max Power             | 35W                                                                        |
| Size                  | 266 mm× 182 mm× 48.5 mm                                                    |
| ESD Level             | Contact: 6KV; Air: 8KV                                                     |
| MTBF                  | ≥100000H                                                                   |
| Operating Temperature | -20~60°C                                                                   |
| Operating Humidity    | 10%~90%RH                                                                  |
| Function              | Command to unlock and open the front door and rear door, 4G module, camera |

## Battery Pack



| Battery Pack                             |            |
|------------------------------------------|------------|
| UPS capacity                             | 25KVA      |
| Backup time                              | 15min      |
| Battery capacity                         | DC12V38AH  |
| Battery qty                              | 8PCS/pack  |
| UPS to battery voltage                   | 480VDC     |
| Battery pack depth x width x height (mm) | 483*780*5U |
| Battery pack qty                         | 5pcs       |
| Battery switch                           | 80A/2P     |
| Machine (Kg)                             | 120kg/pack |

## PDU (Power Distribution Unit)



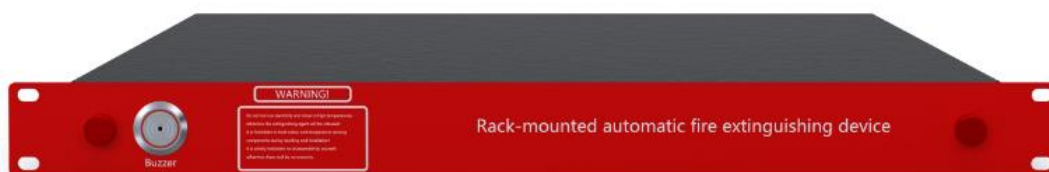
| Item                 | Specification                                                                          |
|----------------------|----------------------------------------------------------------------------------------|
| Rated current        | 32A                                                                                    |
| Rated voltage        | 220VAC 50/60Hz                                                                         |
| Output ports         | 20*C13+4*C19                                                                           |
| Max power            | 5KW                                                                                    |
| Outline size         | 1217(Adjustable length) x 52 x 44 mm                                                   |
| Installation method  | Horizontal/Vertical installation                                                       |
| Safety certification | UL/CE/CCC                                                                              |
| Function             | Lightning protection, intelligent monitoring, and general circuit breaker are optional |

## Integrative Door Lock



| Type of Device                 | Specification                                                                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated operating voltage        | DC12V                                                                                                                                          |
| Working current                | Static standby: <250mA<br>Dynamic Electronically Controlled Unlocking: <500mA                                                                  |
| Communication mode             | RS485, 9600bit/s                                                                                                                               |
| Service life                   | Above 500,000 times                                                                                                                            |
| Color                          | Black                                                                                                                                          |
| Operating temperature/humidity | -20℃ ~50℃ / 20 ~ 90%                                                                                                                           |
| Storage temperature/humidity   | -30℃ ~60℃ / 20 ~ 90%                                                                                                                           |
| IP rate                        | IP65                                                                                                                                           |
| 3 unlock modes                 | Remote unlocking by monitoring host control software<br>Authorized card writes the card number and swipes card to unlock<br>Mechanicals unlock |
| Access control authorization   | 500 to 5000 fingerprints                                                                                                                       |
| Authorized entrance number     | Up to 5000                                                                                                                                     |
| Software authorization         | Authorized by system software through network Communication                                                                                    |
| Event records                  | Up to 1120 history records                                                                                                                     |
| Function                       | Mechanical unlocking, password of the IC card, fingerprint and so on, can be paired with                                                       |
| Communication interface        | RS485 networking real-time monitoring, door status, handle status, real-time clock function                                                    |

## Automatic Fire Suppression System



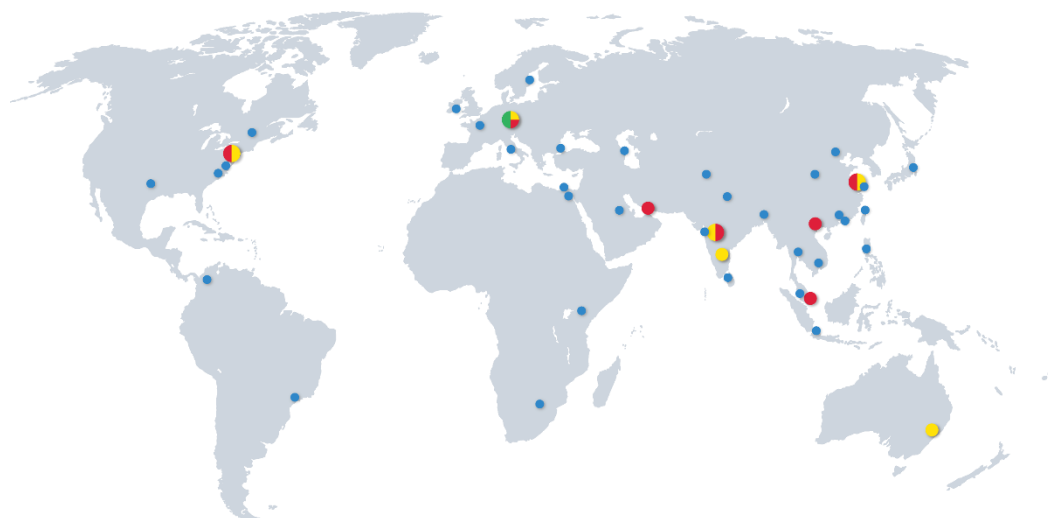
| Type Of Device                            | Automatic fire suppression system |
|-------------------------------------------|-----------------------------------|
| Model number                              | AFFS-NONPRESS-1U                  |
| Control the number of cabinets            | 1set                              |
| Size                                      | 483(W)*580(D)*1U(H)mm             |
| Fire extinguishing agent                  | Novec1230                         |
| Storage pressure(20℃)                     | 0MPa                              |
| Injection time                            | ≤10S                              |
| Action temperature of fire detecting tube | 68 °C & smoke                     |
| Effective protection volume               | 3.45m³                            |

## Product Configuration

| PN                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Picture                                                                             |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| MDC-5461-1132-E141-1451 | <p>Quadruple cabinet MDC:</p> <ul style="list-style-type: none"><li>4 set Close Cabinet 42U: 600mm x 1200mm x 2050mm</li><li>1 set UPS capacity is 25KVA 3-phase</li><li>15-minute Battery Pack</li><li>1 set Panel Distribution Box 3 Phase</li><li>2 set Precision Air Cooling 12.5 KW</li><li>4 pcs Smoke sensor</li><li>4 pcs Temperature &amp; Humidity Sensor</li><li>4 pcs PDU 24 outlet PDU, 32A, 20*C13+4*C19</li><li>4 pcs Keypad, Fingerprint lock</li><li>4 set Automatic fire suppression system</li><li>1 set Master Environmental Monitoring System bundling with Touch Panel LCD for Dashboard, camera</li></ul> |  |

Note: The above product information is the default information and can be customized according to customers.

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