Giganet Outdoor Data Center Solution

All-In-One Outdoor Micro Data Center

Giganet Outdoor Micro Data Center is the another featured product in Giganet Data Center Solutions Portfolio. Prefabricating data center critical facilities into the high-protection cabinet, the solution is ready-to-use; Plug-and-Play and weather-free, widely used in the telecommunication base station; Power Distribution; Smart Transportation; New Generation 5G station.

Applications

ETC Solution

5G Telecom Station

Smart City

Specifications

Solution Configuration

Solution Options

Integrated Cabinet

Devices Cabinet

Battery Cabinet

Dual Cabinet Combination

Triple Cabinet Combination

Cabinet System

Cabinet

Weather-Proof

IP55 Protection Cabinet

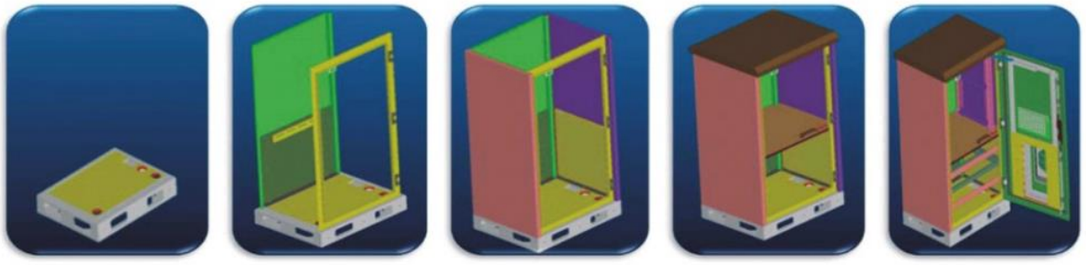
Plug-And-Play

All facilities prefabricated and ready to use on site.

Precision Temperature control

7x24 operational Precision door-mounted cooling

Cabinet Features



Theft Proof

- Inside Installation without outer screwer
- Anti-Theft Lock
- Embedded cabinet door anti-thelf

High Protection

- IP55 degree
- High Stability and anti-UV radiation
- Wall-mounted air-conditiong

Integration

- Cooling System
- Power system
- Environmental monitor system

Isolation

- Sandwich structure for heat isolation
- High performance PEF material

Cabinet System

Cabinet Introduction

1. Galvanized steel; Inner plate thickness 0.8mm outer plate thickness 1.5mm
2. Cabinet combination for different occasion with flexibility
3. The cabinet door with embedded structure with the theftproof lock

Features

- Weather-proof from dust; water and runray
- Different functional cabinet for choice(Device;Power;Battery)
- Free for expansion and combination
- With all requisite accessories for data center like cable organizer; cable entry and all mounting kits inside

Item	Technical Parameters
Storage Temperature (°C)	-40°C-70°C
Working Temperature (°C)	-20°C-55°C
Storage Humidity (RH)	≤95%
Working Humidity (RH)	≤90%
Allowed Altitude (M)	4000
Heat Transfer Coefficient	≤0.4W/m^2.K
Insulation Material	PEF
Protection Level	IP55
Lightning Proof Level	B
Cooling Mode	Air conditioner, heat exchanger, direct ventilation

Data Sheet

Items	Specifications
	Cabinet System
Dimension (W*D*H)mm	External Dimension:900x900x2100mm Internal Dimension: 800*800*1890mm
Installation Type	Plug-And-Play
IP Degree	IP55
Thickness	1.5mm
	Smart Power Distribution System
Input Voltage scope	220/230Vac 50/60HZ
Input Type	Single Phase or Dual Phase(208V System)
Output Branch	Customized Based on the cabinet combination
Communication	RS485 (Optional)
	DC Power source(48V for LED Light)
Input Voltage	Single phase: 220 VAC to 240 VAC /
Output Voltage	-42 VDC to -57.6 VDC
	Cooling System
Cooling Capacity(Single unit)	1500W
Air Flow	Upper Front Air Return and Lower Front air supply
Power Input	Single phase: 220 VAC to 240 VAC
Cooling Type	DX Type
	Monitoring System
Monitoring Items	UPS; Power distribution; Coolling; Sensors; All subsystems of micro data center are integrated
Protocol Supported	Modbus TCP
Centralized Monitoring	Support Need configure the Centralized Platform

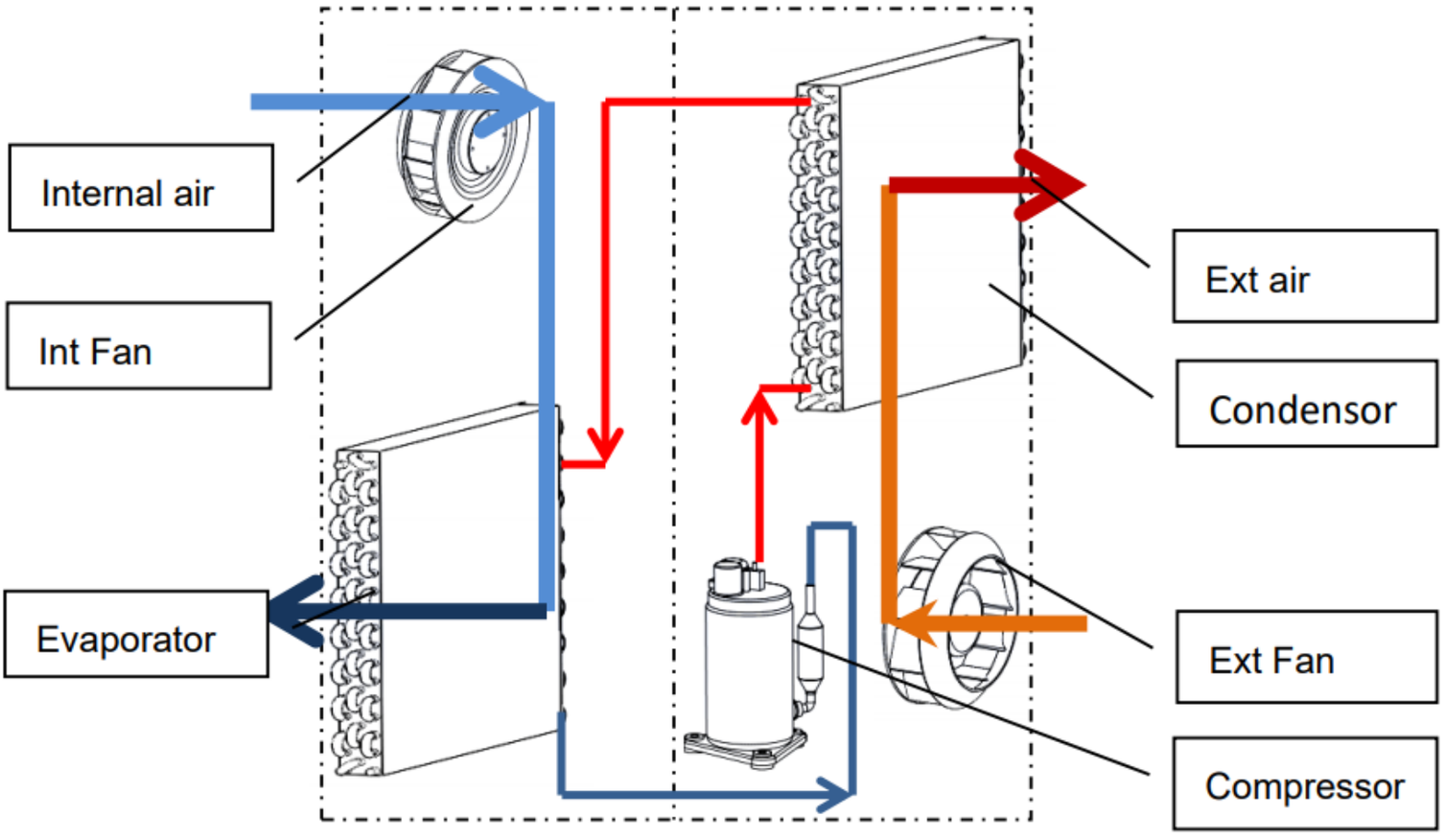
Cooling System

Introduction

The AC air conditioner is especially designed for telecom cabinet, battery cabinet, industrial control cabinet, with functions of auto cooling system for electronic equipment in reliable operation, which can make a good environment to reduce equipment failure rate.

Thermal cycle and air flowing

Cooling: the high-pressure refrigerant liquid in the system enters the evaporator and evaporates to absorb heat of the air in the cabinet, so the air is cooled, and the refrigerant that evaporates into gas in the evaporator is inhaled by the compressor and compressed into the high-pressure and high-temperature refrigerant gas, which enters the condenser and cooled to refrigerant liquid, and then re-enters the evaporator to cool the indoor air, and circulates accordingl



Cooling System

Overview

The All-In-One Door-Mounted Cooling employs the self-contained structure, with the internal compressor, fully-isolated in/out air circulation, this cooling are widely used in Industrial Controlling Cabinet; ETC Cabinet and power;transportation;Mechnical; Data Center

FEATURES

- IP55 Protection Degree;Weather Free
- Metal Enclosure; fire proof
- Intelligent Temperature sensor controlling; free switching air supply
- One-Button pressing cooling Initiation
- RS485 Communication support Modbus Remote management

Model	GN-03P	GN-15P	GN-20P	GN-35P
Cooling Capaity(W)	350W	1500W	2000W	3500W
Input Power	190W	600W	800W	1400W
Input Voltage	220/230Vac			
Working Temp	-20~60 ℃			
Max Noise	60dBa			
Water/dust Proof	IP55			
Refrigerant	R134a	R134a	R134a	R410a
Dimension	352*170*582mm	485*200*785mm	485*200*785mm	603*346*930mm
Life Span	10 Years			
Heater(Optional)	300W	1000W	1000W	1000W

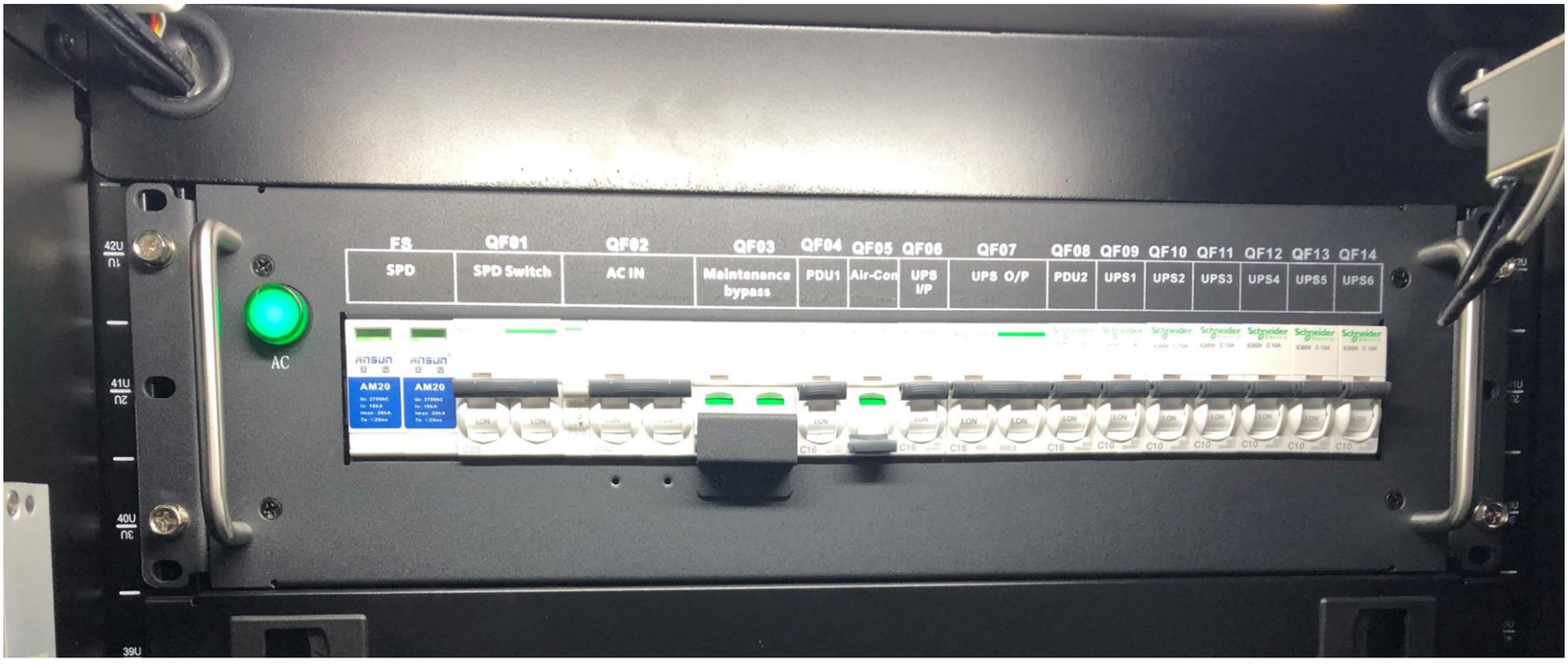
***All the value based on the condition of:35℃ for indoor and outdoor**

Note: For more details about the Giganet Cooling Product, please contact us for the specific solution

Rack Mount Power Distribution Module

Smart In Size; Smart Inside

Giganet Smart Power Distribution module is an advanced and versatile unit specially designed for the edge computing scenarios. Energized with **Giganet** software platform, it featured with compact size; intelligent communication and precise monitoring function.



Key Features:

- 3U basic module compact size
- Built-in Intelligent controlling core
- All-rounded electrical parameters monitoring
- DC/AC branch isolated layout
- Dual-Bus structure for N+1/2N
- Intelligent linkage viaRS485/SNMP
- Built-in auxiliary DC source to guard all sensor
- Modular design for easy expansion

Rack Mount Power Distribution Module

Power distribution panel
Hot-Swappable Modular MCCB
With N/N+1/2N configuration

Smart Communication Port
Equipped with the smart port
for SNMP communication for communication expansion

3U

Front View

Rear View

RS 485 communication port
Standard RS485 port for the in-rack interaction and communication with DCIM

According to the UPS configuration the power distribution module is optional for N+1 and 2N Redundancy type respectively for dual UPS and dual UPS parallel for redundancy

No.	ITEM	N(Standard)	2N(Optional)	N+1(Optional)
1	Input AC breaker	●	●	●
2	Surge protection	●	●	●
3	Surge breaker	●	●	●
4	Manual bypass breaker	●	●	●
5	UPS1 Input breaker	●	●	●
6	UPS2 Input breaker	/	●	●
7	UPS chief input	/	/	●
8	UPS1 Input	●	●	●
9	UPS2 input	/	●	●
10	PDU1	●	●	●
11	PDU2	●	●	●
12	Reserved breaker	●	●	●

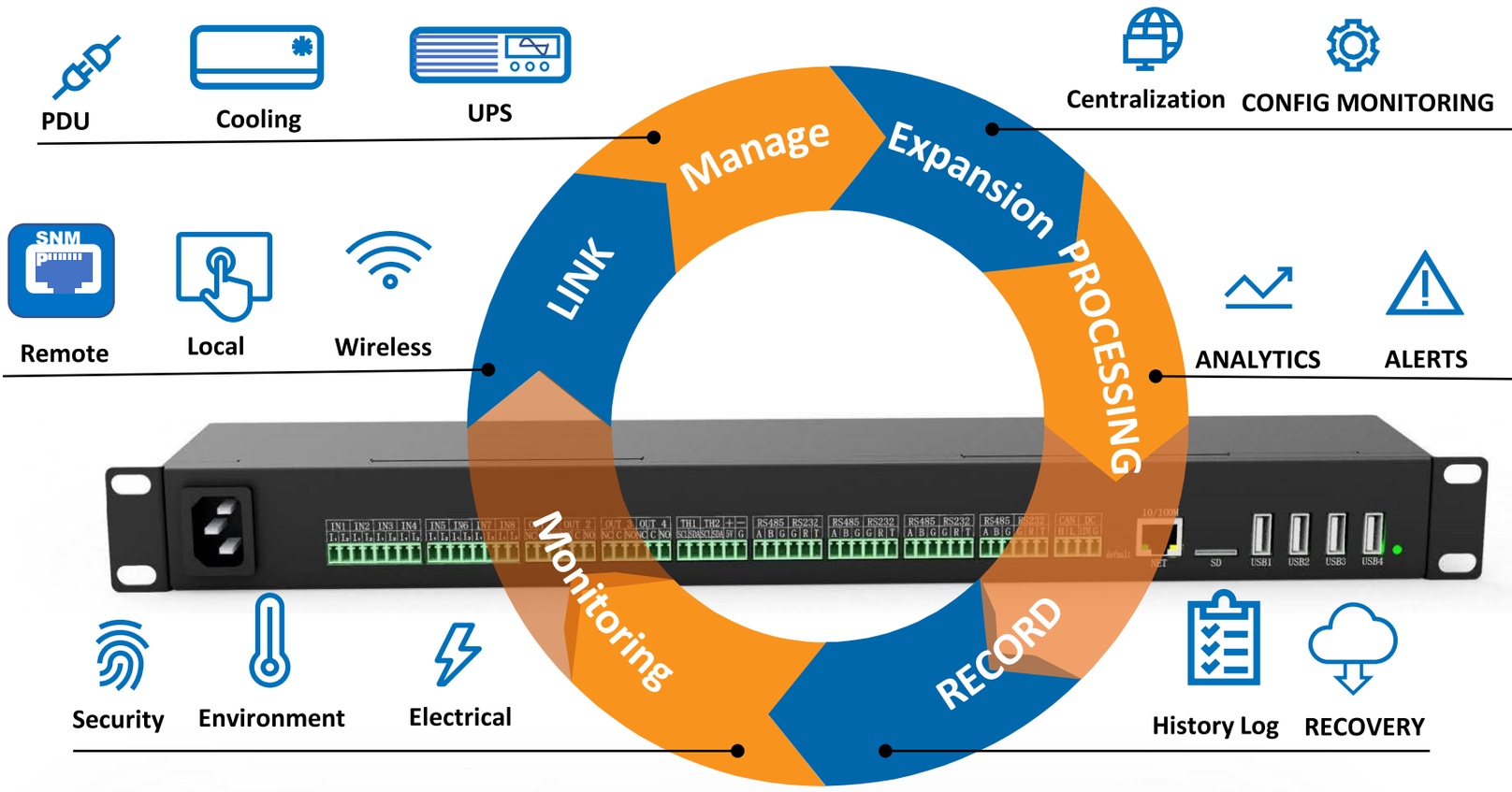
Rack Mount Power Distribution Module

Electrical Specifications

No,	Item	80A Capacity	63A Capacity	32A Capacity
1	**AC input breaker**	80A/2P	63A/2P	32A/2P
2	**Phase N**	Single	Single	Single
3	**Input frequency**	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
4	**Input voltage**	220V/230V/240V	220V/230V/240V	220V/230V/240V
2	**Surge protection capacity**	C Level：20KA/2P（L+N）	C Level：20KA/2P（L+N）	C Level：20KA/2P（L+N）
3	**Surge breaker**	25A/2P	25A/2P	25A/2P
4	**Manual breaker**	80A/2P	63A/2P	32A/2P
5	**UPS Input breaker**	63A/2P	50A/1P	16A/1P
6	**UPS output breaker**	63A/2P	50A/1P	16A/1P
7	**PDU1**	32A/1P	16A/1P	16A/1P
8	**PDU2**	32A/1P	16A/1P	16A/1P
9	**Branch breaker**	2×16A/1P+3×10A/1P	2×16A/1P+3×10A/1P	2×16A/1P+3×10A/1P
10	**Operational attitude**	4000m	4000m	4000m
11	**Operational temp**	-5℃～40℃	-5℃～40℃	-5℃～40℃
12	**Operational Hum**	5%～95%	5%～95%	5%～95%
13	**Storage and transportation**	-40℃～70℃	-40℃～70℃	40℃～70℃
14	**Dimension mm（W×D×H）**	440×540×132mm/3U	440×540×132mm/3U	440×540×132mm/3U

*** Power distribution supports on-demand customization, please contact us.**

Giganet DCIM System



Smart Core; Covers All

Overview

Giganet DCIM System is the masterpiece of **Giganet** software platform, which is specially designed for the modular data center scenarios both in hardware and software. The slim dimension with high function inside make it could take “0” in-rack space and offers the comprehensive monitoring and management function in the same time.

The **Giganet** self-developed software platform grand our system with the multiple functions for the sake of easy communication, for the connection with all subsystem the SNMP-based platform makes the monitoring available via IP address for any in-rack devices, for the local management, the wifi function enable the wireless connection, which easy the daily operation work and free of cumbersome cable connection.

Giganet DCIM Hub

Introduction

Giganet DCIM Hub is a monitoring hub with smart size and versatile function, the appearance is very tiny make it free to be installed behind power distribution module to avoid any additional “U” space occupation. Perfect solution for the space-tight condition in edge data center.

Dexterously place behind the power distribution module

Functions

With embedded SNMP-LINK software platform. The connection and management are not only accessible via SNMP protocol but also via RS485/CANBUS, flexible expansion and the remote management.

Wifi function support the wireless connection via the smartphone; Tablet and Laptop

Well management for all In-rack facilities: UPS; Power distribution; PDU;ATS/STS;cooling sensors, various information indication like PUE;Energy consumption;Environment status

Flexible Facility management via IP addressing to link in

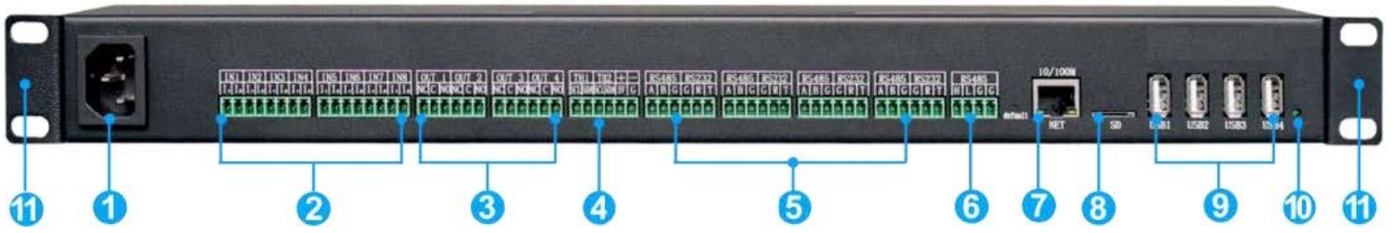
Main Facility connection are all by the network, easy adding and expanding new devices, boarder bandwidth and stable communication than traditional RS485

Communication between facilities are all with electric isolation to minimize the EMI, temperature and humidity sensor;I/O are all in isolation to maintain the stable operation

The hub with programmable assets management, easy access to facilities and data in the data center

Giganet DCIM Hub Technical Specifications

Port Description



（1）Power input C14
（2）IN1-8 Input level detection
（3）OUT1-4 Dry contact
（4）TH1/2 digital temp&hum sensor
（5）4x RS485/232 port
(6)CANBUS port （8）SD card port
(7) Network port
(9) USB Device powering port
(10) Indicator (11)Hanger

Technical Specifications

No.	Item	Parameter
1	Power Input	◆1 AC input ◆operational voltage：100V AC～240V AC ◆Rated frequency：50Hz/60Hz ◆Input current：MAX0.5A
2	System infomation	High speed CPU，64M internal memory，SD card scalable
3	Network port	1 x LAN port，10/100M rate，scalable WIFI
4	RS485/232 serial port expansion	Optional 4 way RS485/232 port，max supporting 115200bps.Port isolatedSupporting MODBUS expansion(like cooling; UPS; sensors)。
5	IN 1-8	Supporting 8 ways isolated level input, 5V level Signal
6	OUT1-4	Supporting 4 way dry contact output.3A/30VAC ， 1A/125VAC
7	CANBUS chief cable	Canbus input
8	Temp&hum sensor port	2x IIC digital temp sensor port
9	USB port	4xUSB port for external device powering;12A max
10	Full Isolation Communication	All the outward communication port are with isolation,make sure the safety of hub and devices,eradicate the EMI

Giganet DCIM System Monitoring Diagram

Environment Sensors

Environment Detect System are the series of sensors which collect the data of temperature; Humidity; Smoke and Water leakage, all these information will be transferred to the monitoring hub to processed

Temp&Hum Sensor

Power：DC12V
Humidity : 0%RH ~ 100%RH
Temperature range:0℃ ~ 50℃
Humidity accuracy:±3%RH(5%RH ~ 95%RH,25℃)
Temperature Accuracy:±0.5℃(0℃ ~ 50℃)
Working conditon：-10℃ ~ 60℃；0%RH ~ 100%RH\)
Stability of Hum：＜1%RH/y
Stability of Temp：＜0.1℃/y
Response time：＜15s（1m/s ）
Output Port：RS485

Smoke Sensor

Power：9V Battery / DC12V
Working Condition：- 5~50℃, 10-90%
Beep Noise：85dBa 10 feet away
Diameter:105mm
Working Current：Static Less 10uA,
Alarm Current:10-30mA
Output :Dry Contact

Water Leakage Sensor

Power：DC 24V(9V ~ 32V)
Temperature：0℃ ~ 50℃
Humidity：20%RH ~ 100%RH
False alarm Ratio：＜100ppm
Power Consumption:0.5W
Alarm Power Consumption：1.2W
Output Method:Relay(Load current 100mA)

Giganet DCIM System Monitoring Diagram

Giganet Monitoring Group

Giganet Intelligent PDU is specific for easy data center management ,with the function of electricity detection and controlling, its built-in data collector function make is can also work as the auxiliary monitoring hub in the each single rack: Connect the temp&hum sensor and collect all the data then delivery to DCIM system. This make the Giganet Monitoring system processes the high agility to expand in multiple rack solution.

Giganet DCIM Hub Specifications

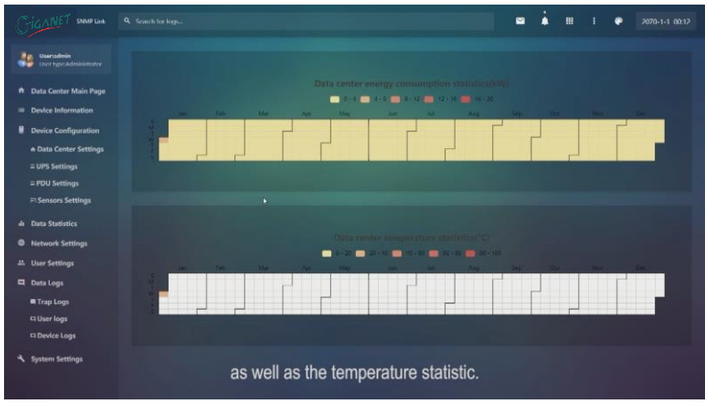
Monitoring and management

Local Devices Status and setting:

The parameters shown includes all the In-rack devices like UPS;cooling; Power distribution module; PDU; Sensors, each devices real-time status both electrically and environmental. And all the related parameters are available for setting in this system like the threshold of the current;voltage in UPS; Return/Supply air temperature of cooling; Sensor alarm value.,etc

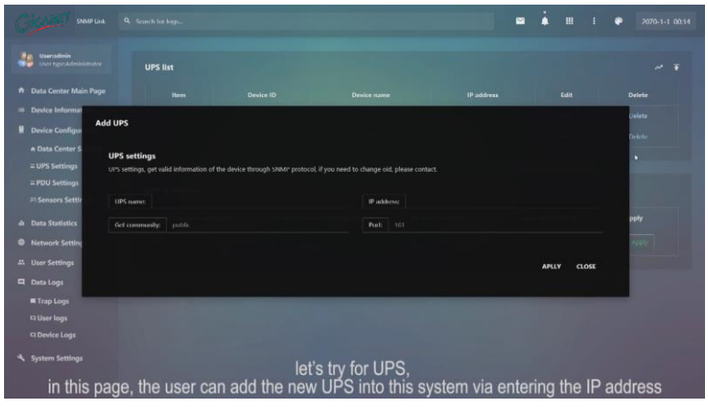
History Log:

The Log functions support the trap log;device log and user log for easy access of all the information in data center.



Data Analysis

The Data Analysis function makes the DCIM system record the data on daily base like energy consumption; temperature; humidity, all these information will be generated into a statistic graph for the user to learn the operation status in time period and adjust the load to lower energy consumption.



IP Addressing and adding

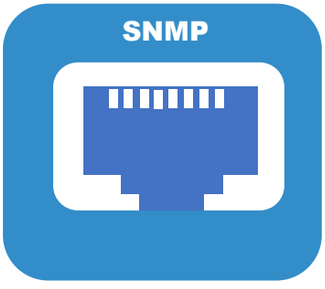
With the SNMP-based platform, all the devices are able to be located via the IP address, in the meantime, the new added unit are also able to be done via the IP address with the SNMP communication function,

Giganet Intelligent PDU

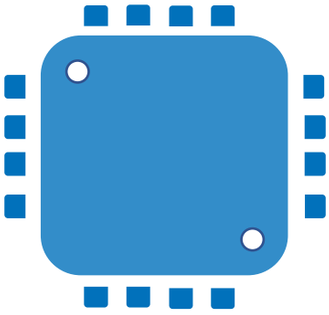
INTRODUCTION

As the critical conjunction between the critical load and the power source, the PDU's function is not only limited in the power transmission, especially with the intelligent degree of the whole data center,the PDU is required to be mult-functional in other aspects.

Giganet Intelligent PDU is the masterpiece of Giganet's team which converge both power distribution and management platform. Ample outlets; Smart control and remote management offer the all-round protection of your IT devices



SNMPV3/HTTPS



Full Smart Control

Network Encryption

Giganet Intelligent PDU

A

The Giganet Intelligent PDU have the options both for rack-mounted and vertical-mounted installation, to adapt any condition in power distribution.

Features

Accurate algorithm of power factor and energy consumption for each outlet for PUE calculation.

Remote On/Off of each outlet via the protocol like HTTP/ SNMP SHH with encryption.

Customer self-defined alarm threshold of overloading for local and remote access

Customer self-defined action and schedule of each outlet to make each one work as presetting.

B Self-defined power-on sequence of outlet, the time interval of each outlet is adjustable

Group management and electrical isolation in 3 phase PDU and electrical isolation

Remotely Accessible via Web;SNMP;SSH or Telnet interface

Intelligent Communication Function

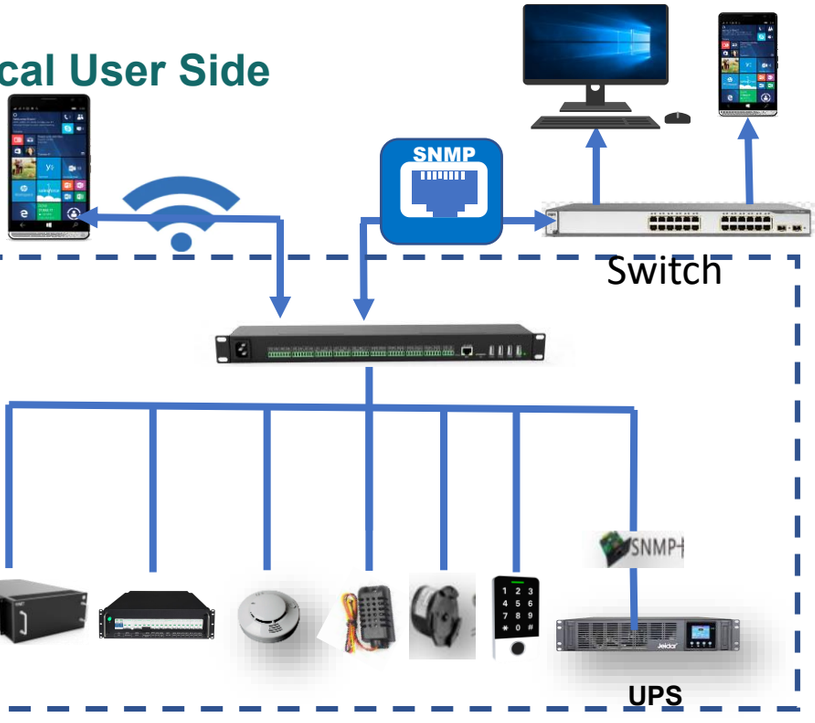
Giganet Intelligent PDU is specific for easy data center management ,with the function of electricity detection and controlling, its built-in data collector function can also work as the auxiliary monitoring hub in the each single rack: Connect the temp&hum sensor and collect all the data which is delivered to DCIM system.

IT Rack with sensors distributed inside for single rack environment detection

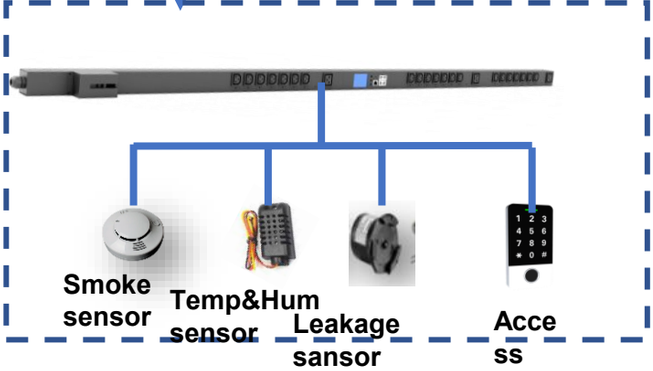
Environment sensors connection port

local User Side

Remote User Side



Main In-Rack DCIM



Auxilary DCIM in Each IT Rack via Intelligent PDU

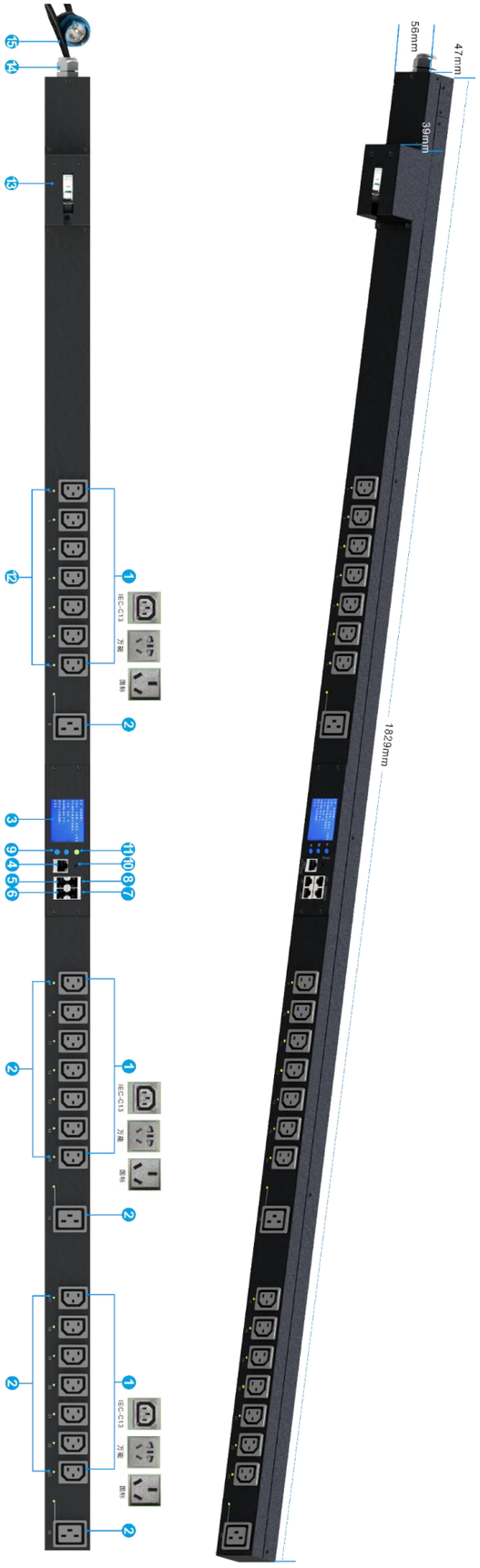
Intelligent Function Options

Giganet Series PDU offer different type with multiple functions for choice, easy for customer selecting the proper type with balance in cost and function.

Main Function	PDU Function Type		
	Basic Type	Metered Type	Managed Type
Input Voltage detect	●	●	●
Input Energy Detect	●	●	●
Input current Detect	●	●	●
Input Power factor Detect	●	●	●
Input Frequency Detect	●	●	●
Temp&Hum Sensor Status	●	●	●
Dry Contact Input Detect	●	●	●
Relay Alarm Output Linkage	●	●	●
Output Current in each outlet		●	●
Output voltage in each outlet		●	●
Output Power of each outlet		●	●
Each outlet Output current bound		●	●
Energy Consumption of each outlet		●	●
On/Off of Each outlet			●
Switch gap between each outlet			●
Outlets Group Management		●	●

Giganet Vertical Mounted Type Single Phase PDU Specifications

Single Phase Vertical Mounted PDU



No.	Description
1	21 pcs 10A C13 outlet
2	3 pcs 16A C19 Outlet
3	2.4 Inch LCD Display
4	NET 10/100M Network port
5	Input 485/CANBUS Port
6	Output 485/CANBUS Port
7	IO口
8	SENSOR Port（For temp&Hum Sensor）
9	Enter and Page Down Button
10	Reset
11	Operation Indicator
12	Hanger（Front rear and lateral）
13	Input Switch 16A/1P or 32A/2P (Optional)
14	PDU Input Terminal
15	Input with IEC-309 Connector for16A or 32A
16	24 Digital indicator

Note: Due to product version upgrade or other reasons, this document will be updated from time to time. Unless otherwise agreed, this document is intended as a guide to use only, and all statements, information and recommendations contained in this document do not constitute any warranty, express or implied.

GIGANET NETWORKING SOLUTIONS LTD | 9 De Montfort Street | Leicester | LE1 7GE | UK

Telephone: +44 (0)208 844 2639 Fax: +44(0)844 822 2456 Email: sales@giga-net.co.uk Web: www.giga-net.co.uk