



DATA CENTER SOLUTIONS — INTELLIGENT POWER & ENERGY MONITORING

Applications in Data Centers Power Distribution Unit (PDU) Monitoring

Power measurement for main & branch circuits
UPS & precision air conditioning system monitoring
Energy metering for server rack power cabinets
Distributed power monitoring across IDC facilities
Energy management for full IDC infrastructure

POWER METERS



Data Center — Key Technical Parameters for Power & Energy Meters






Item	Key Parameters	YDPQ200-A	YD6600-Q	YD6600-N
Measurement Type	AC Meter	√	√	√
	Three Phase	√	√	√
Electrical Performance	Accuracy	Class 0.2S	Class 0.5S	Class 0.5S
	Frequency	50Hz/60Hz	45Hz~65Hz	45Hz~65Hz
	Bi-directional Measurement	√	√	√
	Overload Capacity	1.5 times In, continuous operation, 10 times in allowed for 1 second	1.2 times rated current continuous	2 times rated current continuous
Main Function	Electric Energy Metering	√	√	√
	Demand Measurement	√	√	√
	Energy Quality Analysis	2nd to 63rd Harmonic Analysis 1024 Points/cycle 63 Times Voltage swell Voltage dip	63times Harmonic Analysis 256 Points/cycle 63 Times Voltage swell Voltage dip	2nd to 63rd Harmonic Analysis
	Rates And Time Periods	√	√	√
	Display Function	√	√	√
	Instantaneous Measurement	√	√	√
	Clock And Timing Function	√	√	√
	Freezing Function	√	√	√
	Event Records	√	√	√
	The Load Record	/	/	/
	Communication Function	√	√	√
	Real-time Alarm	√	√	√
Communication	RS485	√	√	√
	Ethernet, RJ45	√	√	√
	USB	√	√	√
	Modbus TCP	√	√	√
	Modbus-RTU	√	√	√
	Other Protocol	IEC61850, GOOSE	/	/
Display	LCD, Backlight, Alarm	√	√	√
Power Supply	Wide Range	AC85V~265V, 50/60Hz or DC85V~330V	AC85V~265V or DC85V~330V	AC85V~AC265V, 50/60Hz or DC100V~DC330V
Voltage & Current Input	Rated Voltage	57.7V/100V / 220V/380V	3×220V/380V, 3×57.7V/100V	AC3×220/380V; AC3×57.7/100V;
	Voltage Range	AC3×1(6)A/AC3×1.5(6)A	AC3×1(6)A/AC3×1.5(6)A	AC20V~400V
	Rated Current	5A/1A	3×1.5(6) A	AC3×5(6)A
	Current Range	AC0.05A~6A	AC0.05A~6A	AC0.05A~6A
Safety Requirements	IEC/EN Compliance	IEC61000	IEC61000	IEC61000
Installation	Panel-mounted	138mm×138mm	92mm×92mm	92mm×92mm
Environmental Specs	Operating Temperature	-25~55 °C (-13°F to 131°F)	-10 ~60°C (14°F to 140°F)	-25°C~+70°C(-13°F ~ 158°F)
	Humidity	5%~95%RH	≤ 95%RH	5%~95%RH
	Altitude	≤ 2000m	≤ 2500m	≤2000 m
	Grid System	3-phase 3- wire 3-phase 4- wire	3-phase 3- wire	3-phase 3- wire 3-phase 4- wire 3-phase 5- wire
Certification	CE	√	/	/
	LVD	√	/	/
	EMC	√	/	/
Size	Net Weight (kg)	/	/	0.4
	Dimension(mm)	114×114×85	96×96×79	98×98×87.5

				
Item	Key Parameters	YD2040Y-F	ET903-E	ET903-M
Measurement Type	AC Meter	√	√	√
	Three Phase	√	√	√
Electrical Performance	Accuracy	Class 0.5S		
	Frequency	45Hz~65Hz		
	Bi-directional Measurement	√	√	√
	Overload Capacity	2 times rated current continuous		
Main Function	Electric Energy Metering	√	√	√
	Demand Measurement	√	/	/
	Energy Quality Analysis	2nd to 31st Harmonic Analysis	2nd to 63rd Harmonic Analysis	2nd to 31st Harmonic Analysis
	Rates And Time Periods	√	/	/
	Display Function	√	√	√
	Instantaneous Measurement	√	/	/
	Clock And Timing Function	√	√	/
	Freezing Function	√	/	/
	Event Records	√	/	/
	The Load Record	/	/	/
	Communication Function	√	√	√
	Real-time Alarm	√	√	√
Communication	RS485	√	√	√
	Ethernet,RJ45	/	/	/
	USB	/	/	/
	Modbus TCP	/	/	/
	Modbus-RTU	√	√	√
	Other Protocol	DL/T645-2007	/	/
Display	LCD,Backlight,Alarm	√	√	√
Power Supply	Wide Range	AC85V~AC265V, 50/60Hz or DC100V~DC330V; DC20V~60V	AC85V~AC265V, 50/60Hz DC100V~DC330V	AC85V~AC265V, 50/60Hz DC100V~DC330V
	Rated Voltage	AC3×220/380V, AC3×57.7/100V, AC3×100V		
Voltage & Current Input	Voltage Range	AC20V~400V		
	Rated Current	AC3×1(6)A/AC3×1.5(6)A	AC3×1(6)A/AC3×5(6)A	AC3×1(6)A/AC3×5(6)A
	Current Range	AC0.05~6A		
Safety Requirements	IEC/EN Compliance	EN61010	EN 61000, EN61010	EN 61000, EN61010
Installation	Panel-mounted	68mm×68mm	92mm×92mm	92mm×92mm
Environmental Specs	Operating Temperature	-10°C~+50°C(14°F ~ 122°F)		
	Humidity	20%RH~95%RH		
	Altitude	≤ 2000m		
	Grid System	3-phase 3-wire 3-phase 4-wire		
Certification	CE	√	√	√
	LVD	√	√	√
	EMC	√	√	√
	RCM	√	/	/
Size	Net Weight (kg)	0.327	/	/
	Dimension(mm)	74×74×88	98×98×78	98×98×54

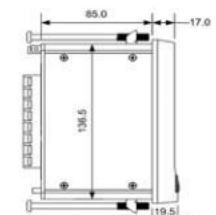
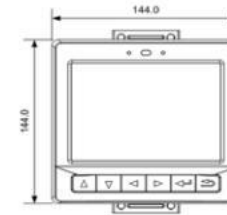
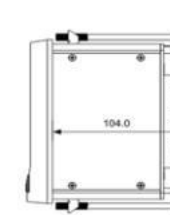
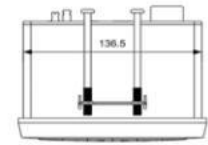
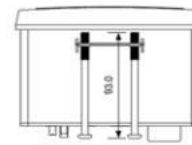
Data Center Solutions

YDPQ200-A

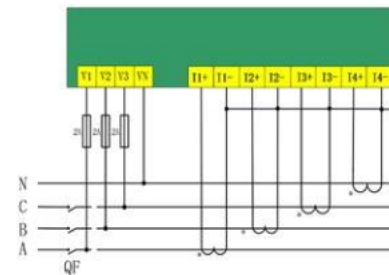


External Dimensions

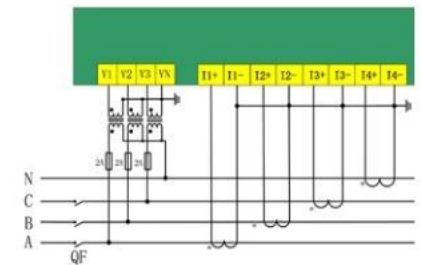
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Wiring



3P4W, without PT, 4CTs



3P4W, 3PT, 4CTs

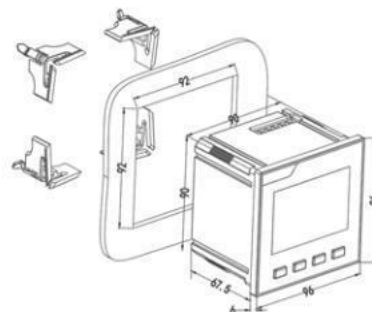
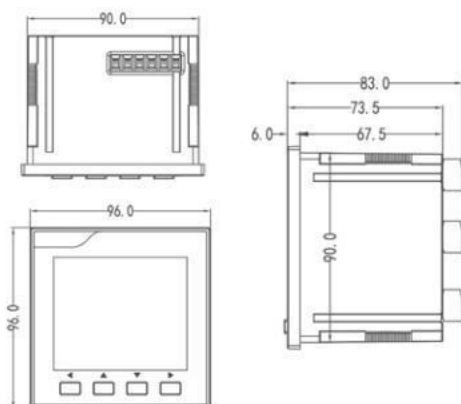
Data Center Solutions

YD6600-Q

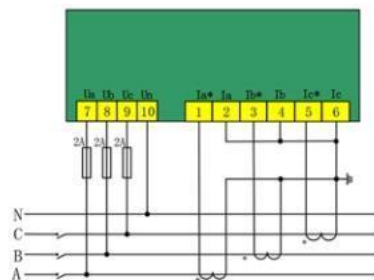


External Dimensions & Installation

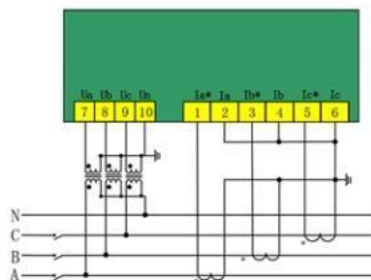
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Wiring



3P4W, None PT, 3CTs



3P4W, 3PT, 3CTs

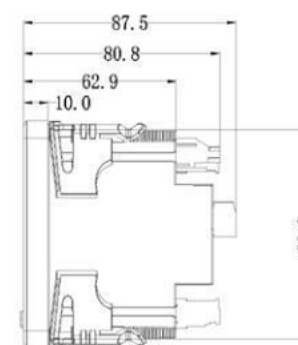
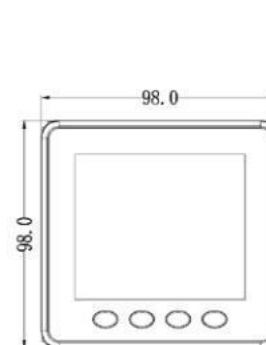
Data Center Solutions

YD6600-N

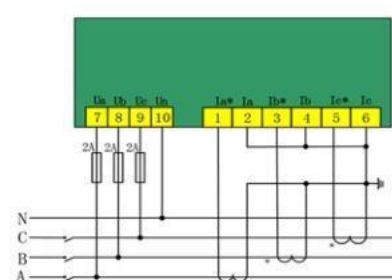


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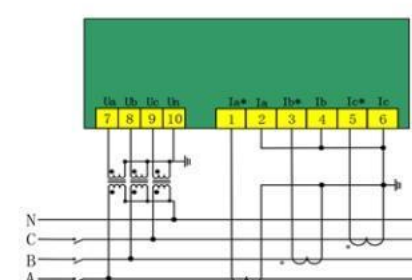
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Wiring



3P4W, None PT, 3CTs



3P4W, 3PT, 3CTs

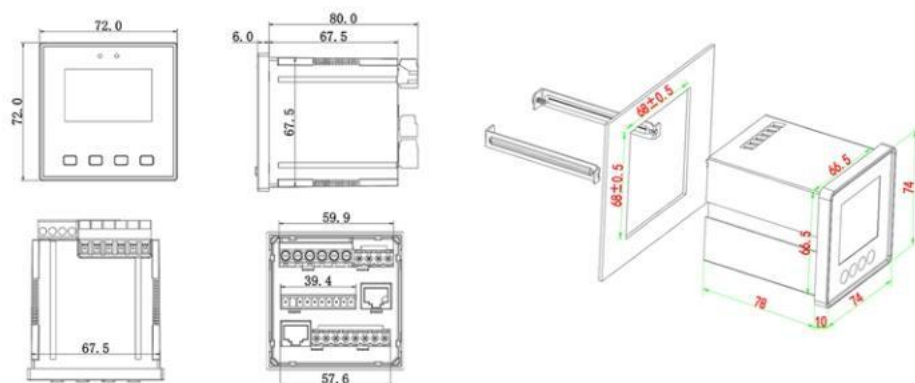
Data Center Solutions

YD2040Y

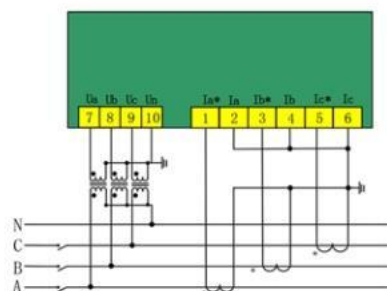


External Dimensions & Installation

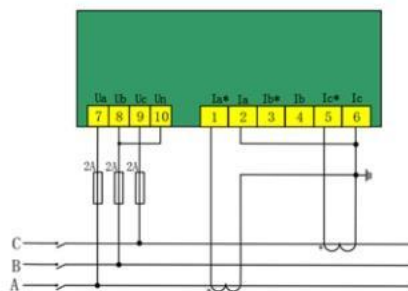
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Wiring



3P4W, 3PT, 3CTs



3P3W, without PT, 2CTs

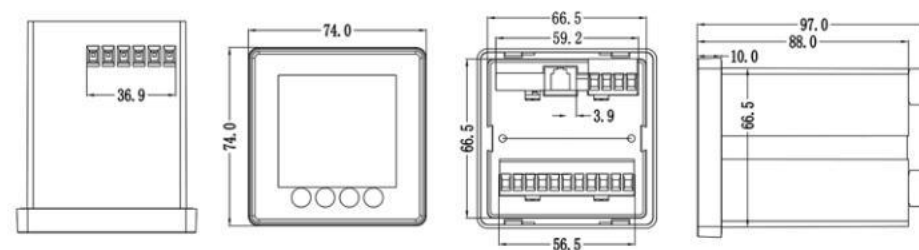
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ET703-E

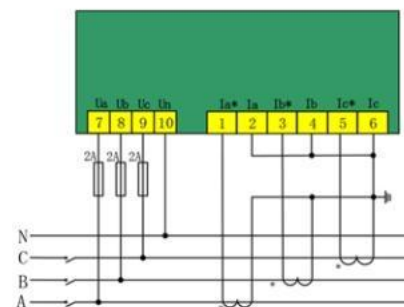


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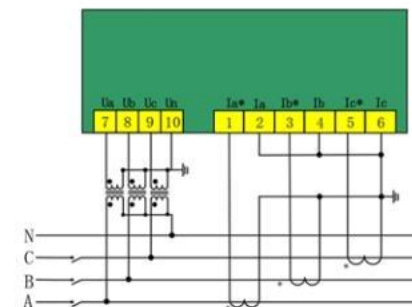
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Wiring



3P4W, None PT, 3CTs



3P4W, 3PT, 3CTs

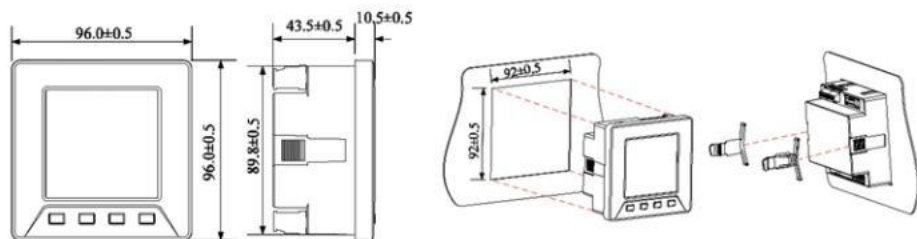
Data Center Solutions

ET903-M

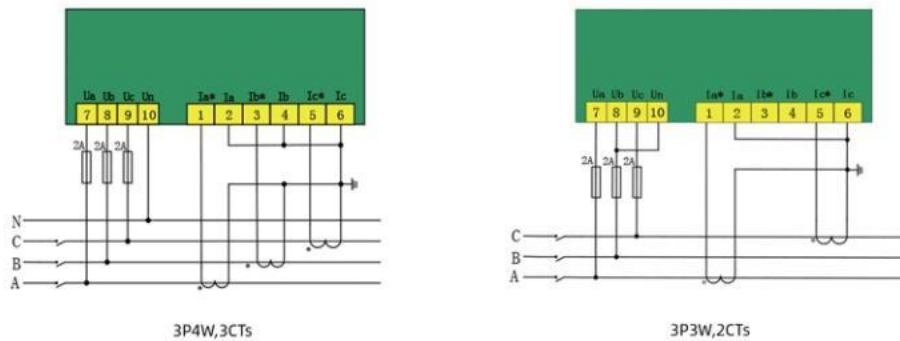


Installation Dimensions

(Units:mm, Tolerance:±0.5)



Wiring

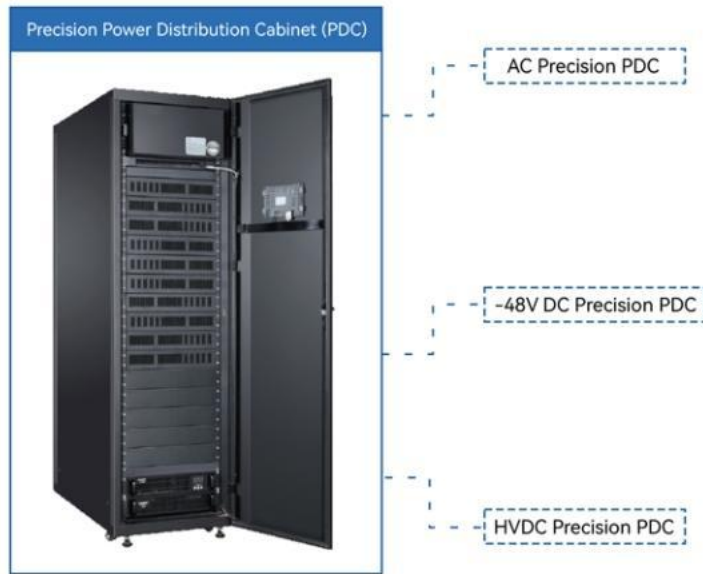


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Precision Power Distribution Cabinet Monitoring Unit



Data Center Solutions



Main Functions

Comprehensive Power Monitoring

- Dual-circuit incoming line & 144-channel outgoing line monitoring
- Full electrical parameters: voltage, current, power, energy, harmonics, zero-ground voltage
- Optional temperature & humidity sensing for complete environmental visibility Accurate, reliable data for total power system control

Proactive Risk Management

- 2-stage threshold alarms with configurable delay for early fault warning Real-time local & remote audible/visual alerts via HMI & communication
- Minimize downtime, prevent equipment damage, and ensure operational safety

High-Speed, Reliable Connectivity

- Dual RS485 (Modbus-RTU) + RJ45 (Modbus-TCP/IP) communication ports Seamless integration with SCADA/EMS background systems
- 1s fast response for switching values, 1000-byte high-speed data transmission Stable, real-time data for critical power management decisions

Flexible, Retrofit-Ready Design

- Universal wiring, compatible with 1/3-phase load layouts
- 8-core Ethernet cable connection (no extra power cables for slaves)
- Adapts to load unbalance & phase adjustment without metering disruption
- No phase sequence required for branch monitoring, ideal for new builds & retrofits
- Easy installation, reduced on-site labor, and fast project deployment

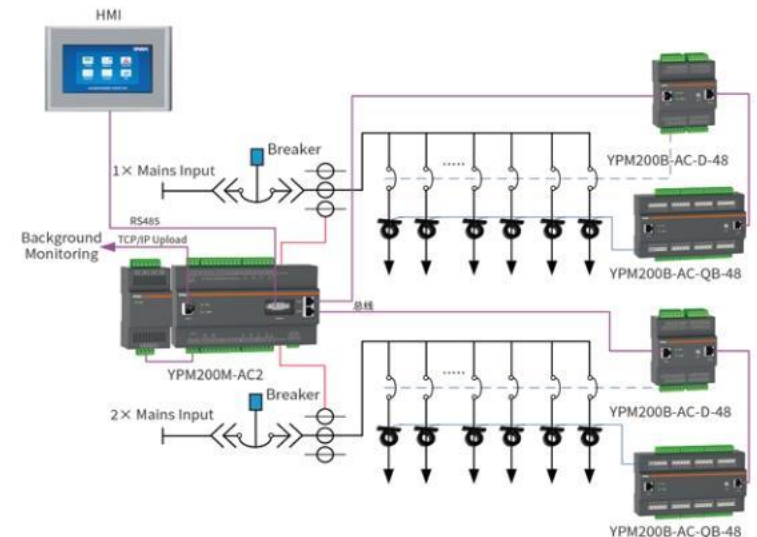
Data Center Solutions



AC Power System Configuration

AC Monitoring Solution

(Incoming & Feeder Circuits, Full Electrical Parameters, Switch Status, Switch Fault Status)

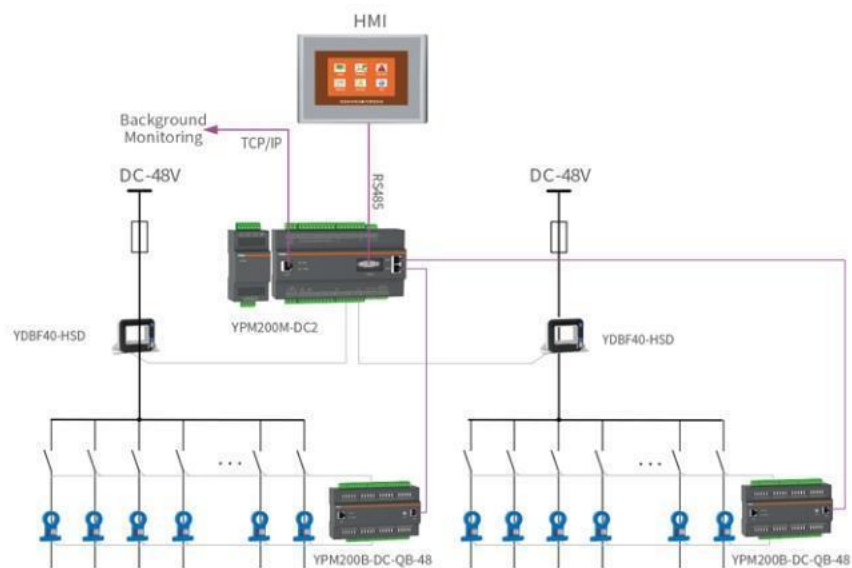




DC Power System Configuration

DC48V System Monitoring Solution

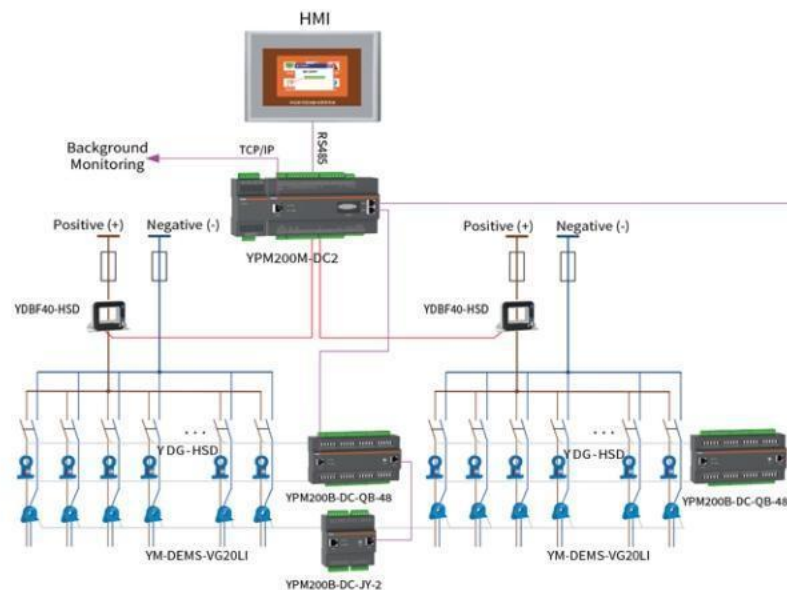
(Main Circuit, Branch Circuit Full Electrical Parameters, Switch Status)



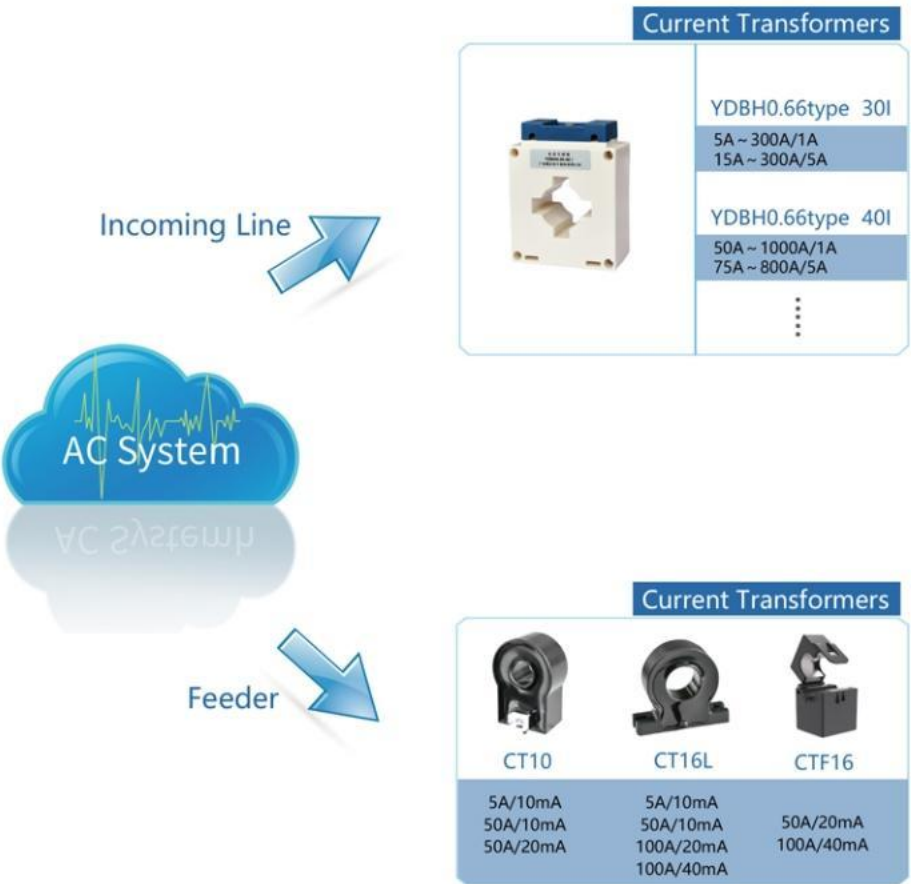
High-Voltage DC Power System Configuration

High-Voltage DC Monitoring Solution

(Incoming & Outgoing Lines, Branch Insulation Monitoring for High-Voltage Systems)



Hall Sensors & Current Transformers



Intelligent Busbar Monitoring System and Device



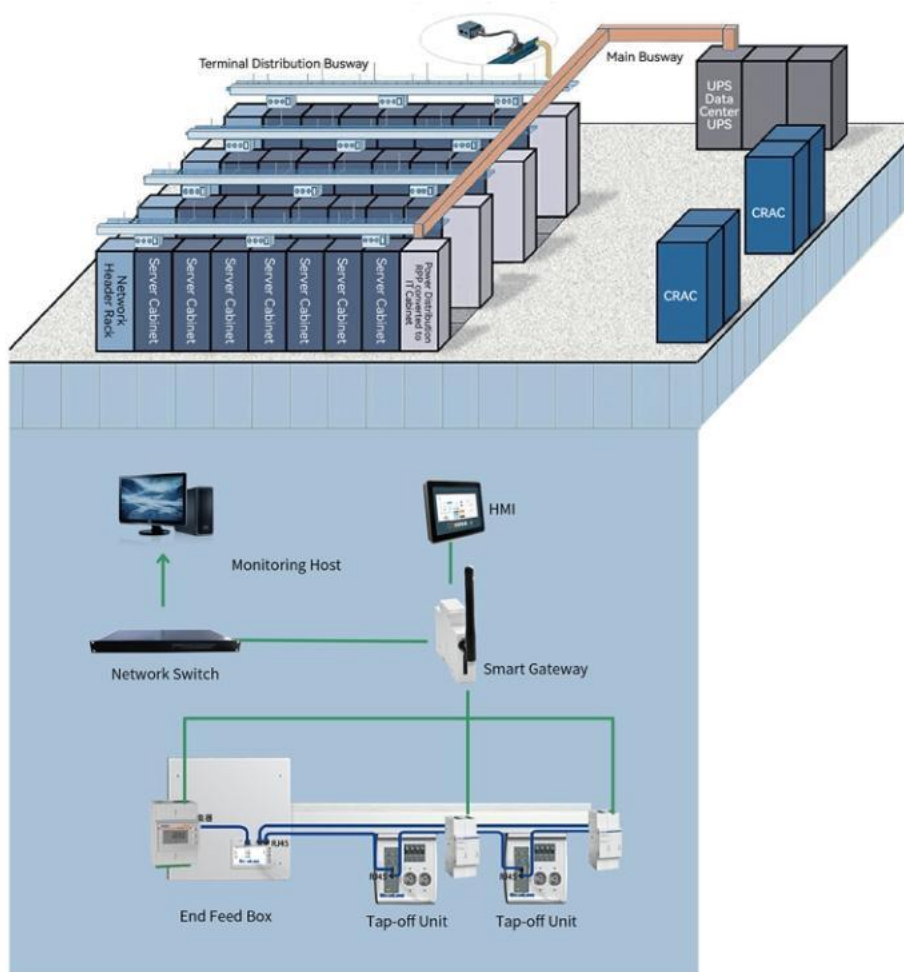
Intelligent Busbar Monitoring System

It provides an overall solution for the terminal power distribution systems of intensive busbars and air-insulated busbars. Corresponding on-line monitoring hardware devices for AC busbars and DC busbars have been developed to monitor the temperature of busbar connector plug-in boxes and electrical parameters on line, and provide alarm and protection functions. This effectively prevents sudden faults and ensures the safe operation of the entire electrical system in the data center; it complies with the requirements of relevant industry technical specifications and China Mobile's rack power distribution busbar technical requirements.



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In response to the monitoring requirements of intelligent small busbars, it monitors electrical parameters such as voltage, current, harmonics, power and electricity of the busbar incoming box and plug-in box on line, as well as the temperature at the connection pins. It alarms various fault states during operation to ensure the stable operation of the system.



Data Center Solutions

Smart Bus Trunking Monitoring Device

● Data Acquisition Terminal (DAT)



Technical Specifications:

- 1、Selectable 7-inch / 10-inch HMI (Touchscreen)
- 2、1x RS485 Serial Interface, Network: 1x 10/100M Adaptive Ethernet Port (RJ45)
- 3、Customizable User Interface (UI) / Tailored HMI Design
- 4、Modbus-RTU、YD/T1363Protocol Support: Modbus-RTU, YD/T1363

● Smart Gateway

Data Logger



Data Center Solutions

● End Feed & Tap-off Unit Monitoring Device

AC Tap-off Unit Busway Monitoring Unit

- Full Electrical Parameter Measurement (V, I, P, E)
- Power Quality Monitoring: Harmonic Analysis (THD)
- 4-Channel Temperature Monitoring & Protection
- Set-point Violation Alarm & Switch Status Monitoring
- External Split-core CT support for Live-line Installation
- RS485 Communication Interface



Suitable for Monitoring Sandwich Busway and Track Busway Tap-off Units.

Communication start-up box bus monitoring device

- Full power measurement: voltage, current, power, energy
- Power quality monitoring: harmonic measurement, imbalance measurement
- 4 channels of temperature monitoring and protection
- Setting value out-of-limit alarm, switch status monitoring, alarm output
- Rate measurement, demand measurement
- LCD display, operation and alarm indication, key query and setting
- RS485 communication interface



Applicable to dense busbars, the terminal boxes of small busbars, and the monitoring of plug-in boxes.

DC bus monitoring device

- Dual-channel DC measurement: voltage, current, power, energy
- Current and power demand measurement
- 4-channel temperature monitoring and protection
- Limit alarm for set values, switch status monitoring, audible and visual alarm output
- LCD display, operation and alarm indication, key for query and setting
- External Hall measurement, RS485 communication

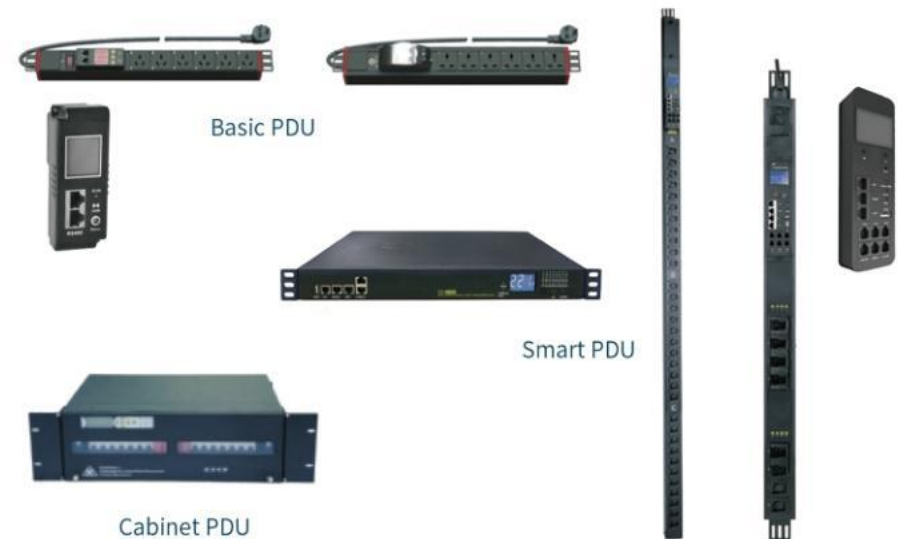


Interface applicable to dense busbars, the terminal boxes of small busbars, and the monitoring of plug-in boxes.

Data Center Solutions

Power Distribution Unit (PDU)

Power Distribution Units are mainly used for power distribution and management within server cabinets in equipment rooms. They support monitoring of various electrical and environmental parameters, feature a modular structure and multi-function integration, meet the requirements for safe, stable and reliable power supply of critical equipment in equipment rooms, and enable precise management of terminal power distribution.



Data Center Solutions

Smart PDU



Intelligent Meter Head

Intelligent Meter Head features hot-swappable capability and supports monitoring of current, voltage, power, power factor, electric energy, temperature, humidity and other parameters. It is equipped with two RS485 interfaces via RJ45 connectors, enabling convenient and flexible cabling.

Data Center Solutions

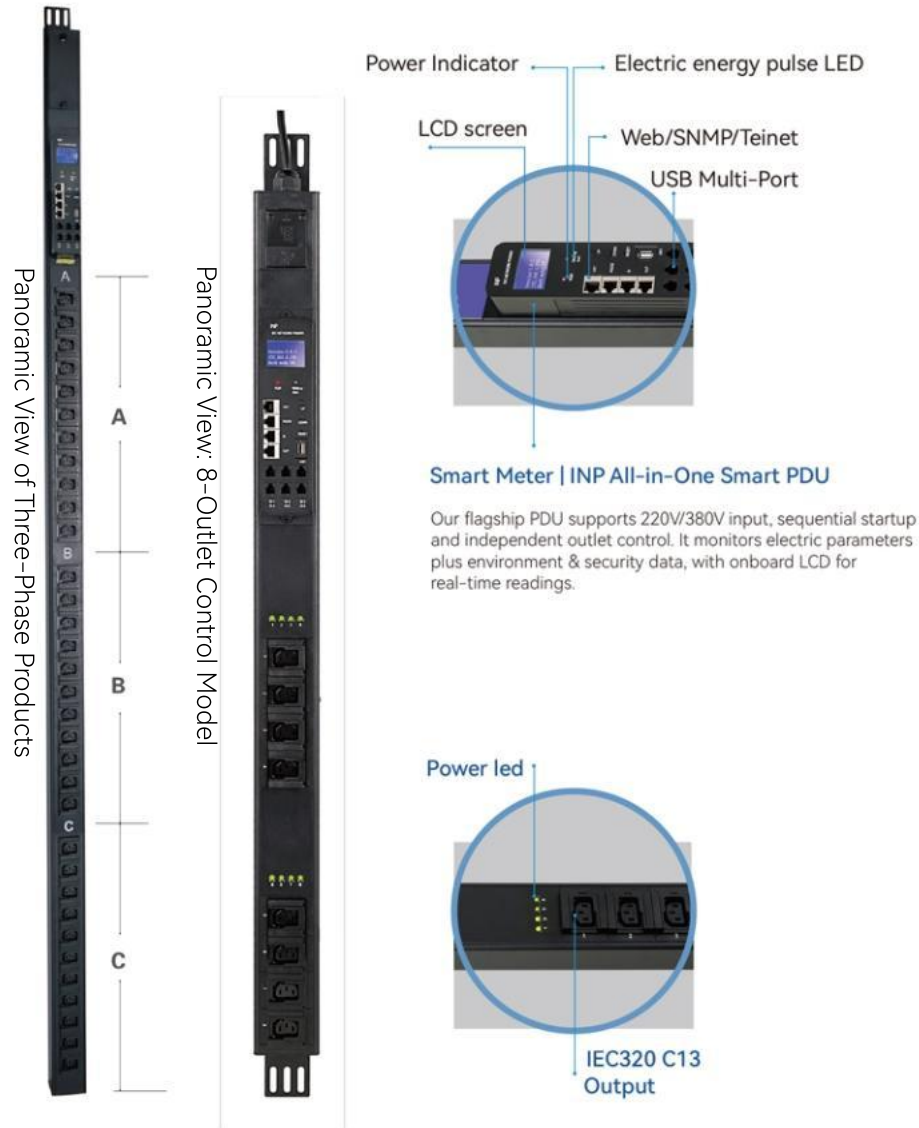
New Generation Smart PDU

It provides fully functional network management interfaces and integrates a variety of practical functions to meet users' performance requirements for remote intelligent monitoring of PDUs. It supports both 220V and 380V power input, and can monitor total circuit voltage, current, electric energy, power, power factor, etc. It also monitors equipment ambient temperature, humidity, smoke detection, water leakage, access control and other parameters.

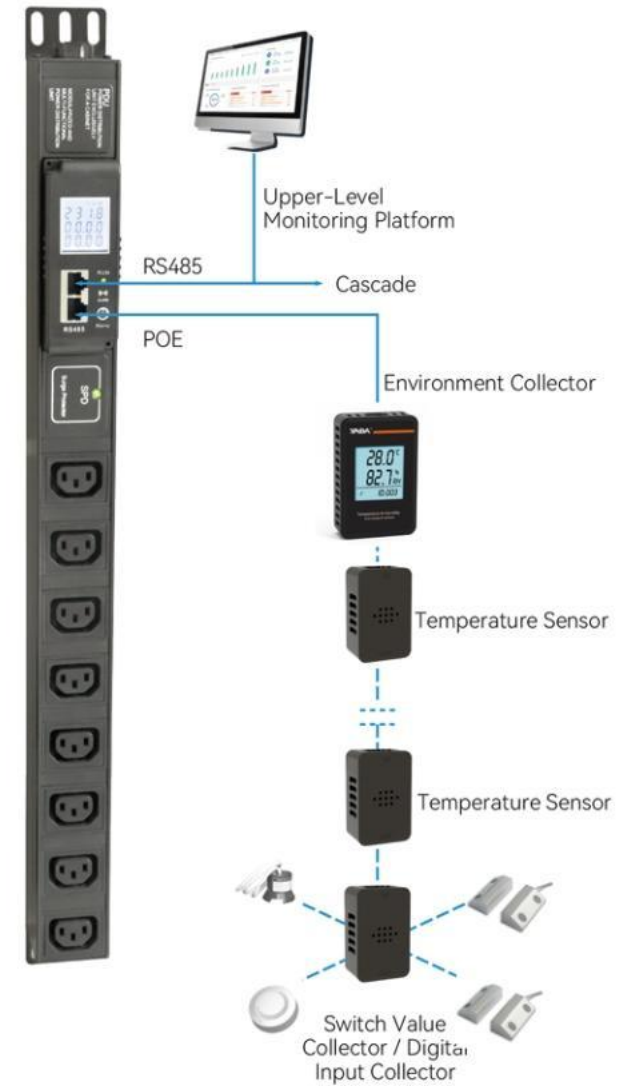


Data Center Solutions

New Generation Smart PDU



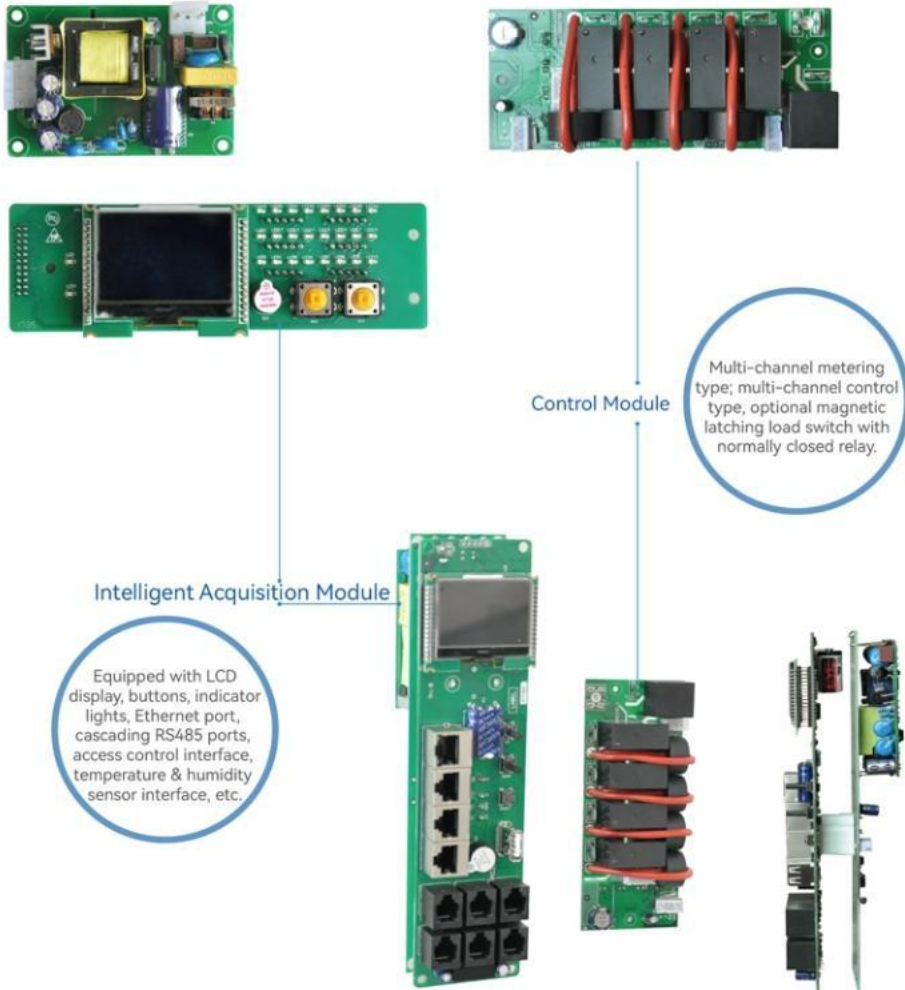
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Data Center Solutions

Intelligent PDU Monitoring Unit

The Intelligent PDU Monitoring Unit consists of an acquisition unit and branch modules, integrating network communication, power monitoring, energy metering, and power distribution control functions.



Data Center Solutions

Temperature Measurement Solution for Micro-Module Cabinets

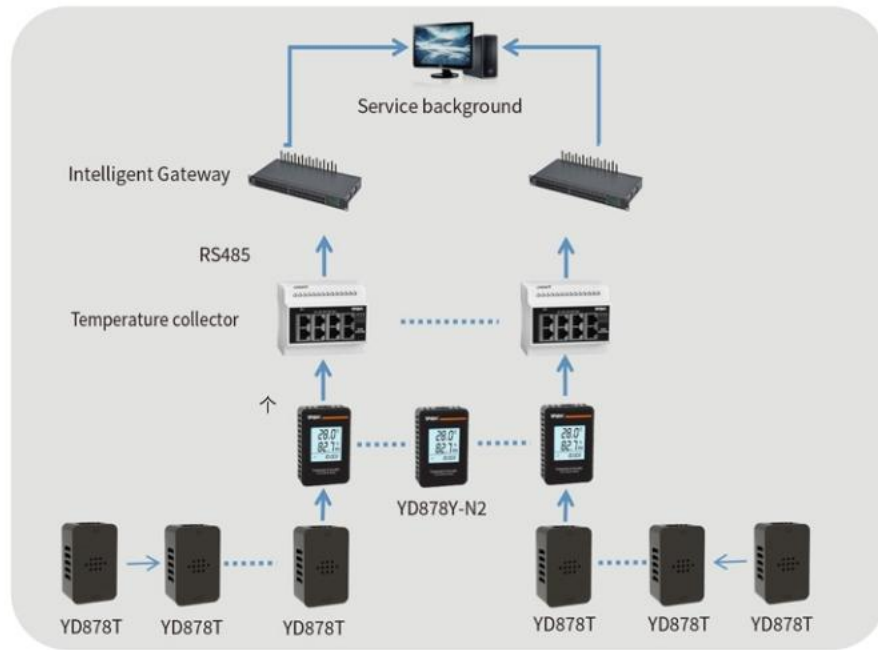
The YD876 Series Temperature and Humidity Acquisition Terminals include: multi-channel temperature and humidity collectors, temperature measurement acquisition modules, and temperature measurement modules. They can form an independent system network, upload data to the monitoring platform through the temperature and humidity collectors, monitor real-time temperature changes in each environmental area, and issue timely alarms when over-temperature areas are detected. It can be applied to data computer rooms and micro-module environment temperature measurement.

Solution Structure



Data Center Solutions

System Topology Diagram



System Features

- RJ45 cascade connection
- Communication and power supply via network cable
- Magnetic mounting
- Centralized power supply by the collector
- Each temperature & humidity measurement module supports up to 31 temperature points
- Multichannel collector supports up to 256 temperature points and is equipped with a TCP/IP interface