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Shanghai Infracwin Energy Co., LTD.



Shanghai Infracwin Energy Co., LTD., founded in 2009, is a high-tech enterprise listed on the New Third Board in 2017, focusing on intelligent power distribution and energy management.

Infracwin integrates R&D, manufacturing, sales, import and export business. Our company has obtained 40 patents (including 7 invention patents) and has been rated as Shanghai High-tech Enterprise, Shanghai Science and Technology Small and Medium-sized Enterprise, Shanghai 'Specialized and Sophisticated' Enterprise, Shanghai Expert Workstation.

Adhering to the core values of 'green, environmental protection and sustainable development', Infracwin is committed to the digitalization and intelligent transformation of comprehensive energy, focusing on the R&D and manufacturing of intelligent high and low voltage switchgear, automation control cabinet, integrated energy management system and GBR low-carbon water treatment equipment. Infracwin improves the core competitiveness and technical level continuously with innovative technology and intelligent manufacturing.

Certificates



Medium-voltage Switchgear

PV-12 AC Metal Enclosed Switchgear



Product Introduction

PV-12 AC Metal Enclosed Switchgear is used for single-bus or single-bus sectionalized system with nominal system voltage 3~12kV and rated frequency 50Hz.

It can be used as indoor power distribution equipment that accepts and distributes electric energy, implements control, protection and monitors the circuit.

Product Performance Standards

GB/T 3906	3.6kV~40.5kV AC Metal-Clad Switchgear and Control Equipment
GB/T 11022	Common Technical Requirements for High-Voltage Switchgear and Control Equipment Standards
DL/T 404	Technical Requirements for Ordering Indoor AC High-Voltage Switchgear
EC 62271-200	AC Metal-Clad Switchgear and Control Equipment Rated above 1kV and up to and including 52kV

Equipment Technical Parameters

Item		Unit	Parameter
Rated voltage		kV	3, 6, 7.2, 12
Rated insulation level	1min rated short-time power frequency withstand voltage	kV	42
	Rated lightning impulse withstand voltage (peak)	kV	75
Rated frequency		Hz	50
Rated current of main bus		A	630, 1250, 2000, 2500, 3150, 4000
Rated current of the branch bus		A	630, 1250, 2000, 2500, 3150, 4000
Rated short-time withstand current (4S)		kA	25, 31.5, 40, 50
Rated peak withstand current		kA	63, 80, 100, 125
Class of protection		/	Enclosure IP4X, circuit breaker room door open IP2X
Height dimension		mm	2200
Width dimension	Branch bus rated current $\leq 1250A$	mm	800
	$1250A < \text{Branch bus rated current} \leq 2000A$	mm	800, 1000
	Branch bus rated current $> 2000A$	mm	1000
Frame depth dimension		mm	1500

P/V-12(D)W550 Removable AC Metal Enclosed Switchgear



Product Introduction

P/V-12(D)W550 AC Metal Enclosed Switchgear is designed to use in single-bus or single-bus sectionalized systems with nominal system voltage of 3~12kV and rated frequency of 50Hz. It serves as an indoor power distribution equipment for accepting and distributing electric energy and implementing control, protection and monitoring for the circuit. Each device is configured with 2 vacuum circuit breaker circuits, which is suitable for scenes with narrow space.

Enhanced Features Compared To Traditional Cabinets

- Compact double-deck design
- The minimum width of the cabinet: 550mm
- Wall-mounted structural design
- 5 innovative patents

Product Performance Standards

GB/T 3906	3.6kV~40.5kV AC Metal-Clad Switchgear and Control Equipment
GB/T 11022	Common Technical Requirements for High-Voltage Switchgear and Control Equipment Standards
DL/T 404	Technical Requirements for Ordering Indoor AC High-Voltage Switchgear
IEC 62271-200	AC Metal-Clad Switchgear and Control Equipment Rated above 1kV and up to and including 52kV

Equipment Technical Parameters

Item		Unit	Parameter
Rated voltage		kV	12
Rated insulation level	1min rated short-time power frequency withstand voltage	kV	42
	Rated lightning impulse withstand voltage (peak)	kV	75
Rated frequency		Hz	50
Rated current of main bus		A	1250, 4000
Rated current of the branch bus		A	630, 1250
Rated short-time withstand current (4S)		kA	31.5
Rated peak withstand current		kA	80
Class of protection		/	Enclosure IP4X, circuit breaker room door open IP2X
Height dimension		mm	2400
Width dimension		mm	550
Frame depth dimension		mm	1650

P/V-12 D200-50 Removable Motor Control Equipment



Product Introduction

P/V-12 D200-50 Removable Indoor Metal-Clad Electric Motor Control Equipment is a power distribution device designed for single busbar or single busbar sectionalized system, operating at a nominal system with voltage of 3-12kV, rated frequency of 50Hz and maximum rated current of 200A. It facilitates control, protection, and monitoring for motor circuits.

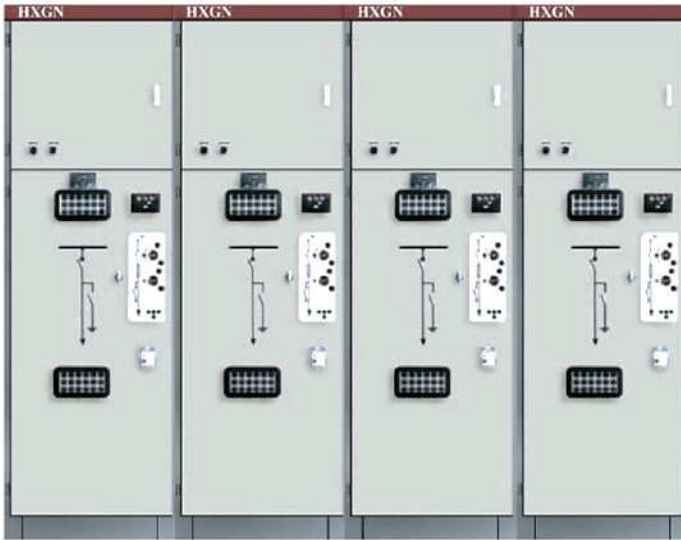
Product Performance Standards

GB/T 3906	3.6kV~40.5kV AC Metal-Clad Switchgear and Control Equipment
GB/T 14808	High-voltage AC contactors, contactor-based controllers, and motor starters
GB/T 11022	Common Technical Requirements for High-Voltage Switchgear and Control Equipment Standards
DL/T 404	Technical Requirements for Ordering Indoor AC High-Voltage Switchgear
IEC 62271-200	AC Metal-Clad Switchgear and Control Equipment Rated above 1kV and up to and including 52kV

Equipment Technical Parameters

Item		Unit	Parameter
Rated voltage		kV	3, 6, 7.2, 12
Rated insulation level	1min rated short-time power frequency withstand voltage	kV	42
	Rated lightning impulse withstand voltage (peak)	kV	75
Rated frequency		Hz	50
Rated current of main bus		A	630, 1250, 2000, 2500, 3150, 4000
Rated current of the branch bus		A	630, 1250, 2000, 2500, 3150, 4000
Rated short-time withstand current (4S)		kA	25, 31.5, 40, 50
Rated peak withstand current		kA	63, 80, 100, 125
Class of protection		/	Enclosure IP4X, circuit breaker room door open IP2X
Height dimension		mm	2200
Width dimension	Branch bus rated current $\leq 1250A$	mm	800
	$1250A < \text{Branch bus rated current} \leq 2000A$	mm	800, 1000
	Branch bus rated current $> 2000A$	mm	1000
Frame depth dimension		mm	1500

HXGN-12 Box-type Fixed AC Metal Ring Switchgear



Product Introduction

HXGN-12 Box-type Fixed AC Metal Ring Switchgear is a three-phase AC system with a rated voltage of 3-12kV and a frequency of 50Hz. It serves as an integrated distribution device for indoor applications, catering to power distribution systems in engineering enterprises, residential communities, high-rise buildings, schools, parks, etc., functioning both as a ring network power supply and general bus section system power supply.

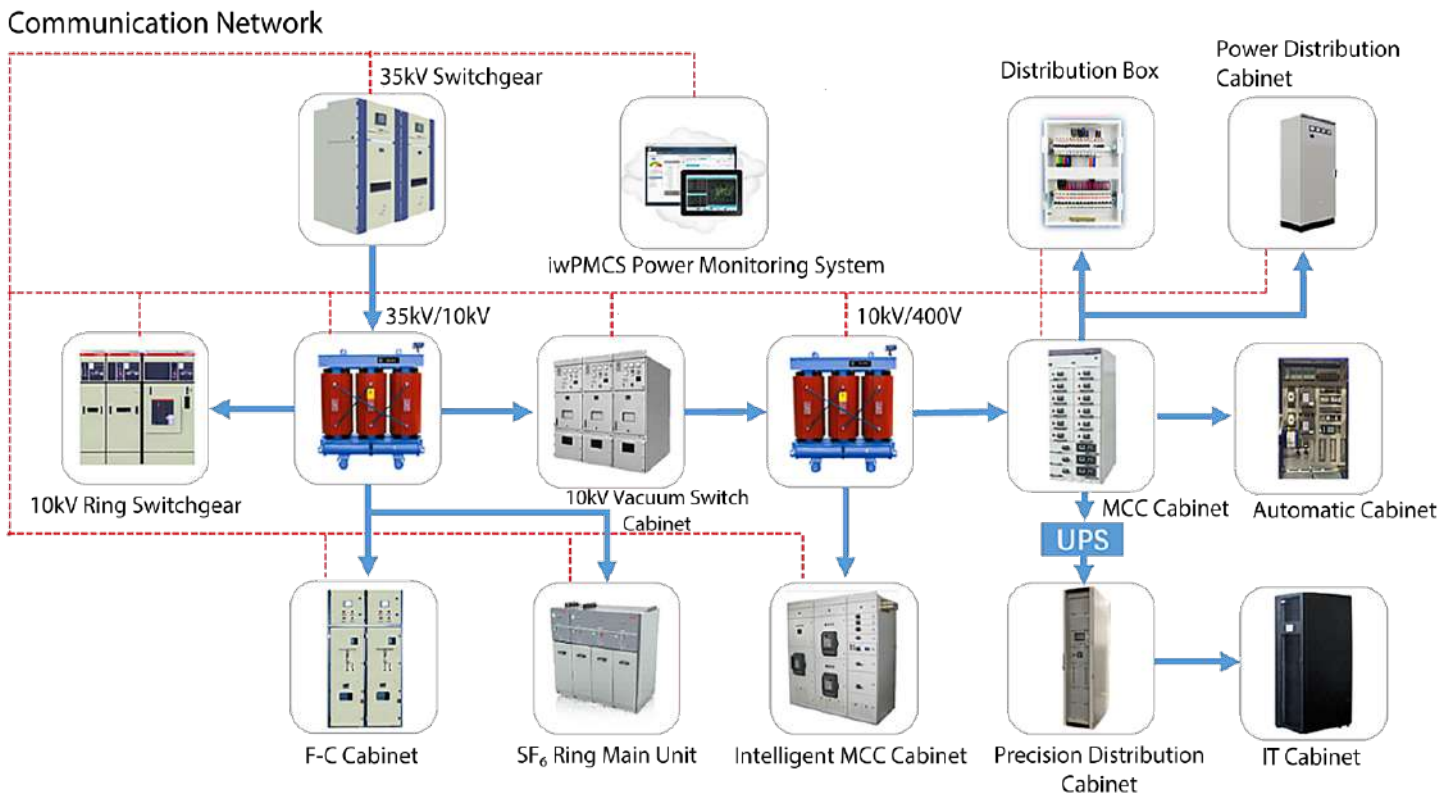
Product Performance Standards

GB/T 3906	3.6kV~40.5kV AC Metal-Clad Switchgear and Control Equipment
GB 16926	High-voltage AC Load Switch-Fuse Combination Devices
IEC 62271-105	AC Metal-Clad Switchgear and Control Equipment Rated above 1kV and up to and including 52kV
IEC 62271-200	AC Metal-Clad Switchgear and Control Equipment Rated above 1kV and up to and including 52kV

Equipment Technical Parameters

Item	Unit	Load switch cabinet	Load switch-fuse combination electrical cabinet
Maximum voltage	kV	12	
Rated voltage	kV	10	
Rated short-time power frequency withstand voltage (1min)	kV	42	
Rated lightning impulse withstand voltage (full wave)	kV	75	
Load switch rated current	A	630	
Rated load breaking current	A	630	/
Rated maximum bus current	A	1250	
Switch off transformer no-load current	A	16	/
Break the cable without load current	A	25	/
Rated short-time withstand current (4S)	kA	25	/
Rated peak withstand current	kA	63	/
Rated short-circuit switching current (peak)	kA	63	80
Maximum rated current of fuse	A	/	100
Rated short-circuit breaking current	kA	/	31.5
Rated transfer current of combination apparatus	A	/	1200
Class of protection	/	IP4X	

iwPMCS Power Monitoring System



Product Introduction

'iwPMCS' is a highly versatile software system that enables real-time monitoring and control of power facilities and equipment, making it suitable for various substations in power distribution systems. It offers comprehensive analysis of electricity statistics, encompassing consumption, power quality, load variations, and efficiency, thereby creating a visually enhanced platform for electricity management.

The system facilitates four remote functions: telemetry - monitoring equipment status and issuing alarms; telecontrol - monitoring and recording electrical parameters; teleprotection - controlling switch operations; and telemetering - configuring operating and protection parameters. This enhances the intelligence and efficiency of monitoring substations, prefabricated substations, power distribution boxes, as well as terminal distribution boxes within power supply and distribution systems.

Product Features

- Flexible screen design
- Multiple alarm notifications
- Seamless integration of hardware and software
- Real-time tracking of historical trends
- Robust operational permissions for enhanced security
- Comprehensive data recording
- Statistical analysis functionalities
- Compatibility with a wide range of protocols

Application Scenarios

Industrial plants, commercial parks, educational institutions, data centers, transportation hubs, airports, medical facilities and commercial real estate, etc.

Low-voltage Switchgear

Ri4Power-ZN Intelligent Low Voltage Switchgear



Product Introduction

Ri4Power-ZN is a smart modular low-voltage switchgear system jointly developed by Rittal and Infracwin. It is an assemblage of standardized components, designed for indoor power distribution systems operating at rated frequency of 50(60)Hz, rated voltage of $\leq 690V$, and rated current of $\leq 6,300A$.

This system facilitates the efficient distribution, transformation, control, and reactive power compensation of electrical energy within indoor power distribution systems. Its versatile applications include power plants, petrochemical facilities, offshore platforms, metallurgical operations, papermaking industries as well as public infrastructure projects.

Product Performance Standards

- IEC 60439 Low-voltage switchgear and controlgear
- IEC 60529 Protection degree of enclosures (IP code)
- EN 61439 Low-voltage switchgear and controlgear assemblies
- GB/T 7251.1 Low-voltage switchgear and controlgear - Part 1: Type tests and partial type tests of complete assemblies
- GB/T 7251.2 Low-voltage switchgear and controlgear - Part 2: Complete power switchgear and controlgear
- GB/T 7251.8 Low-voltage switchgear and controlgear - General technical requirements for intelligent complete assemble
- GB/T 14048.1 General requirements for low-voltage switchgear and controlgear
- GB/T 15576 Low-voltage complete power compensation devices for reactive power

Equipment Technical Parameters

Item	Parameter	
Rated operating voltage (Ue) V	Main circuit	AC380V-AC690V
	Auxiliary circuit	AC220V-AC380V; DC110V-DC220V
Rated insulation voltage (Ui) V	Main circuit	AC500V-AC690V
Rated impulse withstand voltage kV(1.2/50 μ s)	Main bus	8kV
	Feed circuit	6kV
Rated current A	Horizontal bus	1000A-6300A
	Vertical busbar	1000(drawer type), 1500A(drawer type expansion type), ≤ 2000 (plug-in MCCB)
Rated short-time withstand current(4S)	Horizontal bus	50, 80, 100
	Vertical busbar	50, 80, 90
Rated peak withstand current	Horizontal bus	105, 176, 220
	Vertical busbar	105, 176, 198
Class of protection	Close the door	IP3X, 42, 54
	Open the door	IP2X

MLS-V Low-voltage Switchgear

Product Introduction

MLS-V Low-voltage Switchgear is a standardized assembly of low-voltage switchgear modules, designed to use in power distribution and supply systems with AC 50(60)Hz, rated working voltage up to 400V, and rated working current up to 6300A. Its primary function is the distribution, conversion, control and reactive power compensation.



Product Performance Standards

- GB/T 7251.2 Low-voltage switchgear and controlgear - Part 2: Power distribution switchgear and controlgear
- GB/T 7251.8 Low-voltage switchgear and controlgear - Intelligent switchgear and controlgear general technology
- IEC 60439-1 Low-voltage switchgear and controlgear assemblies
- JB/T 9661 Low-voltage withdrawable switchgear

Equipment Technical Parameters

Item		Parameter
Rated operating voltage (Ue) V	Main circuit	≤AC400V
	Auxiliary circuit	≤AC380V, ≤DC220V
Rated insulation voltage (Ui) V	Main circuit	AC690V
Rated impulse withstand voltage kV(1.2/50μs)	Main circuit	6, 8
Rated current A	Horizontal bus	≤6300
	Vertical busbar	630, 1000, 1250, 1600(withdrawable), ≤2500 (plug-in MCCB)
Rated short-time with stand current(4S)	Horizontal bus	50, 80, 100
	Vertical busbar	50, 80
Rated peak with stand current	Horizontal bus	105, 176, 220
	Vertical busbar	105, 176
Class of protection	IP30, IP40, IP41, IP42, IP54	

RiMatrixS-PDR Precision Intelligent Power Distribution Cabinet



Product Introduction

Precision Intelligent Distribution Cabinet, serving as the end-of-line power distribution product in a data center, represents the closest power unit to IT equipment. Its safe and reliable operation plays a crucial role in ensuring the normal functioning of IT equipment. It empowers data center managers to monitor load status at each cabinet constantly, track individual power branch circuit statuses along with various parameters, and accurately measure electricity consumption across different machine groups.

Product Performance Standards

- GB/T 7251.1 Low-voltage switchgear and controlgear - Part 1: Type testing and partial type testing of complete sets of equipment
- GB/T 7251.2 Low-voltage switchgear and controlgear - Part 2: Complete sets of power switchgear and controlgear
- GB/T 7251.8 Low-voltage switchgear and controlgear - Part 8: General technical requirements for intelligent complete sets of equipment for low-voltage switchgear and controlgear

Equipment Technical Parameters

Item	Parameter
Rated operating voltage (Ue) V	AC400V/230V
Rated insulation voltage (Ui) V	690V
Rated frequency	50 Hz
Rated current (InA)	400A~32A
Rated short-time withstand current (4S)	6 kA
Class of protection	IP20/IP30/IP40/IP41/IP42/IP54

XF Series Low-voltage Power Distribution Cabinet



Product Introduction

This product is suitable for low-voltage power and lighting applications in three-phase four-wire or three-phase five-wire systems, with an AC rated frequency of 50Hz and a maximum AC voltage of 400V. It has a rated current not exceeding 630A. Depending on specific design requirements, it incorporates lightning protection, leakage protection, short circuit protection, overload protection, overvoltage protection, undervoltage protection, as well as automatic power supply switching functions.

It finds extensive usage in power plants, substations, factories, mines, enterprises, hotels, hospitals, high-rise buildings and other user facilities. Users can select different models and current ratings of circuit breakers to meet their specific needs.



Product Performance Standards

- IEC 61000-4 Amendment 1 - Electromagnetic compatibility (EMC)
- EN 61439 Low-voltage switchgear and controlgear assemblies
- GB/T 14048.1 General requirements for low-voltage switchgear and control equipment
- GB/T 7251.2 Low-voltage switchgear and control equipment
- IEC 60439 Low-voltage switchgear and control equipment
- IEC 60364 Low-voltage electrical installations
- IEC 60529 Protection against ingress of water and dust (IP code)
- IEC 61000-4 Amendment 1 - Electromagnetic compatibility (EMC)
- EN 61439 Low-voltage switchgear and controlgear assemblies

Equipment Technical Parameters

Item	Parameter	
Rated operating voltage (Ue) V	Main circuit	≤AC400V
	Auxiliary circuit	AC220V, AC380V, DC110V, DC220V, DC24V
Rated insulation voltage (Ui) V	Main circuit	AC690V
Rated impulse withstand voltage kV(1.2/50μs)	Main circuit	6 kV
Rated operating current (InA)	Main circuit	≤630A
Rated frequency	Main circuit	50 Hz
Class of protection	IP30, IP31, IP32, IP40, IP41, IP42, IP43, IP54, IP65	

PZ30 Series Low-voltage Power Distribution Cabinet



Product Introduction

PZ30 series is a device designed for the installation of terminal electrical components, capable of accommodating various types of miniature circuit breakers, series residual current circuit breakers, and fuses for use in electrical distribution, energy metering, and control applications.

It utilizes modular technology with rail mounting and features a sleek and lightweight design. The compact arrangement of electrical components allows for flexible assembly schemes, ensuring safety during usage and ease of installation.

This device is suitable for implementation in modular terminal circuits operating at a frequency of 50 Hz and rated voltages of 230 V and 400 V.

Product Performance Standards

- GB/T 7251.3 Low-voltage switchgear and controlgear
- IEC 60439 Low-voltage switchgear and controlgear
- IEC 60529 Protection against ingress of water and solid foreign bodies (IP code)

Equipment Technical Parameters

Item	Parameter
Rated operating voltage (Ue) V	AC400V, AC230V
Rated insulation voltage (Ui) V	AC400V
Rated impulse withstand current kA	5kA
Rated operating current (In)A	≤80A
Rated frequency	50Hz
Class of protection	IP40(Operating board) IP20C, IP54

Automatic Control Equipment

PLC Control Cabinet



Product Introduction

The PLC Control Cabinet, also referred to as a programmable logic controller (PLC) control cabinet, serves as the central automation control equipment that seamlessly integrates a programmable logic controller, electrical components, inverters, contactors, relays, circuit breakers, signal indication devices, and essential auxiliary components (such as terminal blocks and power modules).

Product Performance Standards

IEC 60204-1	Safety of Machinery - Part 1: General Requirements
IEC 61000-6-2	Emission Standards for Electromagnetic Compatibility in Industrial Environments
GB/T 40329	Industrial Machinery Electrical Equipment and Systems – Programming Language for Numerical Control PLC
GB 50303	Code of Practice for Construction of Automation Instrumentation Projects in Industry

Application Scenarios

PLC cabinets are extensively utilized across various industries, including manufacturing, chemical, pharmaceutical, food and beverage, cement, mining, metallurgy, automotive, building automation, and power systems.

- a) In the manufacturing industry, PLC cabinets are employed for precise control of production processes by regulating diverse machinery equipment such as machine tools, robots, assembly lines etc.
- b) Within the chemical, pharmaceutical and food and beverage industries PLC cabinets ensure product quality and safe production through controlling various production processes like mixing, stirring, heating cooling and drying.
- c) PLC cabinets in the cement, mining and metallurgy sectors enable automated processing of raw materials and products by managing conveyor belts, crushers and screening machines.

Drive Control Cabinet



Product Introduction

Drive Control Cabinets consist of inverters, rectification units, inversion units, filters, reactors, braking units, etc., and are available in single-machine and common bus configurations. They supply the motor with the required power supply voltage based on actual needs to achieve energy saving and speed regulation objectives.

Moreover, the drive cabinet incorporates various protection functions such as overload, short circuit, phase loss protection as well as motor overheating and leakage protection. It also offers a comprehensive status display along with multiple working modes, backup switching methods, and starting techniques.

Product Performance Standards

GB 50093	Automation Instrumentation Engineering Construction and Acceptance Code
GB 50055	Electrical Power Distribution Design Code for General Electrical Equipment
GB/T 2423	Environmental Testing for Electrical and Electronic Products
IEC 60204-1	Safety of Machinery - Part 1: General Requirements
IEC 61000-6-2	Emission Standards for Industrial Environmental Electromagnetic Compatibility

Application Scenarios

- a) Large-scale production lines: Ideal for synchronized operation of multiple motors in large automated production lines, such as those found in the automotive manufacturing, food processing, papermaking, and textile industries. These systems are powered by a shared bus bar, simplifying electrical design and enhancing overall system efficiency.
- b) Data centers and server rooms: The common bus bar architecture ensures uninterrupted power supply and efficient management, facilitating easy maintenance and expansion while providing stable and reliable power distribution.
- c) Laboratory testing: Motor performance tests and control strategy verification are conducted within research and testing environments.

Servo Control Cabinet



Product Introduction

Servo Control Cabinet is a specialized control cabinet that integrates a servo drive and associated electrical equipment, enabling precise position control, speed regulation, and torque management of servo motors. This product combines high-performance servo motor control, advanced motion control algorithms, and an intuitive user interface to deliver stable, efficient, and energy-saving drive and control solutions for diverse manufacturing equipment.

Product Performance Standards

GB/T 16439	General Technical Requirements for AC Servo Systems
IEC 60204-1	Safety Requirements for Electrical Equipment - Part 1: General Requirements
IEC 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use
IEC 61000-6-2	EMC (Electromagnetic Compatibility) Emission Standards for Industrial Environments

Application Scenarios

The utilization of servo control cabinets is prevalent in the realm of industrial automation, encompassing applications such as industrial robotics, computer numerical control (CNC) machinery, packaging systems, printing apparatuses, textile manufacturing equipment, semiconductor fabrication facilities, medical devices, automated storage and retrieval systems (AS/RS), as well as new energy vehicles.

Frequency Converter Control Cabinet



Product Introduction

Frequency Conversion Control Cabinet is an electrical control cabinet that integrates a frequency converter and related control equipment. It is primarily utilized for regulating the speed of AC motors, achieving precise motor operation speed control by altering the frequency and voltage of the motor's power supply.

The main applications of frequency conversion control cabinets encompass energy conservation, starting control, speed regulation, overload protection, and simplification of controls. The cabinets could significantly enhance system efficiency, reduce energy wastage, and prolong motor lifespan.

Application Scenarios

The application of this technology is extensive, encompassing production lines, pumps, fans, air conditioners, elevators, logistics warehouses, metallurgy and various other industrial sectors.

Product Performance Standards

GB/T 12668.3	Variable-Speed Electrical Drives - Part 3
IEC 61800-2	Variable-Speed Electrical Drives - Part 2: General Requirements
IEC 60204-1	Safety of machinery - Part 1: General requirements
IEC 61000-6-2	Electromagnetic compatibility (EMC) - Part 6-2: Emission standard for industrial environments

MCC Motor Control Cabinet



Product Introduction

MCC Motor Control Cabinet is a centralized electrical equipment for controlling motors, typically comprising contactors, circuit breakers, relays, indicators, and buttons.

Its primary function is to initiate, halt, regulate, and safeguard motors while monitoring their status and electrical systems to ensure the secure, dependable, and efficient operation of the electrical systems. It enables remote or local motor control for achieving automation and intelligent equipment management.

Product Performance Standards

IEC 60529	Protection of enclosures against water and dust ingress (IP code)
IEC 60204-1	Safety of machinery - Part 1: General requirements
IEC 61439-2	Low-voltage switchgear and controlgear - Part 2: Power circuit breaking switchgear and controlgear
-	
IEC 61000-6-2	EMC (Electromagnetic Compatibility) - Part 6-2: Emission standard for industrial environments

Application Scenarios

- Industrial Production: Drive motor equipment on production lines such as conveyor belts and compressors.
- Water/Sewage Treatment: Regulate water pump systems to maintain stable water pressure and improve energy efficiency.
- Building management: Integrate elevator and HVAC system control for achieving building automation.
- Energy Generation: Adjust wind turbine and solar tracking devices to enhance energy capture ability.
- Logistics and Warehousing: Control automatic equipment, speeds up sorting and storage processes.
- Transportation: Control automatic equipment in airports and subways.

UL508A Control Cabinet



Product Introduction

The UL508A control cabinet is specifically designed for industrial environments and fully complies with safety standards in the United States and Canada. This standard primarily focuses on ensuring the reliability and safety of equipment by addressing design, construction, and installation requirements for industrial control cabinets operating in hazardous environments.

Product Performance Standards

UL508A STANDARD FOR SAFETY Industrial Control Panels

Application Scenarios

Manufacturing, building, oil, chemical, water treatment equipment, energy, electric power, food processing, logistics, etc.

Equipment Technical Parameters

The UL508A standard does not specify voltage and current ranges. It outlines a comprehensive set of technical requirements for the design, construction, electrical performance, mechanical performance, and safety of industrial control cabinets. UL508A-certified control cabinets encompass various voltage levels such as AC 110/120V, 220/240V, 254/277V, 380/415V, 440/480V, and 560/600V along with corresponding DC voltage ranges. The current capacity varies depending on the specific equipment and application scenario ranging from milliamp-level signal control to thousands of ampere-level main circuit control devices.

CE Control Cabinet



Product Introduction

CE Control Cabinet is a high-standard electrical equipment specifically designed to meet the safety and compliance requirements of the European market. It has successfully undergone a rigorous CE certification process, ensuring adherence to the EN 61439 series of standards encompassing various product safety aspects such as mechanical safety, electromagnetic compatibility, low voltage, and noise.

The structure exhibits robustness and stability while possessing the necessary IP protection rating, safeguarding against external environmental interference and guaranteeing user and product safety and compliance.

Product Performance Standards

2014/35/EU	Low Voltage Directive
2014/30/EU	Electromagnetic Compatibility Directive
EN 61000-6-2	EMC Immunity Testing for Industrial Environments
EN 60204-32	General Requirements for Electrically Powered Safety-Related Machinery

Application Scenarios

- a) Industrial Manufacturing: Controlling various motors, pumps, and fans in automated production lines in industries such as automobiles, electronics, and food processing.
- b) Energy & Infrastructure: Applied to electrical control systems for power distribution, renewable energy sources (such as wind power plants, solar power stations), and motor control for water supply and wastewater treatment.
- c) Logistics & Warehousing: Controlling and monitoring conveyor belts, stackers, and sorting equipment in automated warehouse systems.
- d) Transportation: Signal control and station equipment automation in railways and subways, and ground support equipment control at airports.
- e) Mining & Heavy Industry: Remote control and protection of heavy machinery such as excavators, cranes, and mining equipment.



New Energy Equipment

Intelligent Acquisition Terminal, Intelligent Gateway



Intelligent Acquisition Terminal



Intelligent Gateway

Product Introduction

Intelligent Acquisition Terminal is a cost-effective intelligent power monitoring terminal device developed for power management system, which takes industrial microprocessor as the core, provides high processing speed, high-precision three-phase voltage, current and power and other basic measurement data, and has harmonic calculation, fixed value over limit and temperature protection functions.

Intelligent Gateway is a new generation of highly integrated embedded intelligent communication device, which is an important part of the substation automation system. It is used to collect the information of the entire substation site and send it to the local substation monitoring system or remote dispatching automation system. At the same time, the control command of substation monitoring system or dispatching automation system is transmitted to each measurement and control device to achieve local or remote control. The device provides RS485/RS232 communication downward, serial port, wired network communication upward, and wireless communication.

Product Performance Standards

GB/T 13729-2002	Standard for Insulation Resistance
GB/T 4793.1-2007	Standard for Pulse Voltage Test
GB/T 11287-2000	Standard for Vibration Test
GB/T 17626.2-2006	Standard for Electrostatic Discharge Immunity Test
GB 9254-2008	Standard for Radio Frequency Interference Limits

Commercial Liquid Cooled Energy Storage Cabinet



Product Introduction

Commercial Liquid Cooled Energy Storage Cabinet integrates a battery system, advanced liquid cooling technology, and intelligent management to achieve precise temperature control. This is made possible through the utilization of cutting-edge liquid cooling technology, which not only extends battery life but also enhances system safety and stability. It is highly adaptable for power peak shaving, renewable energy integration, as well as industrial and commercial energy storage applications due to its exceptional flexibility.

Product Performance Standards

GB/T 34,120-2023	Technical Requirements for Energy Storage System Power Converters in Electrochemical Energy Storage
GB/T 34,133-2023	Procedure for Testing Energy Storage Converters
GB/T 36,276-2023	Lithium Ion Batteries for Power Energy Storage in Power Systems
GB/T 36,558-2023	General Technical Requirements for Electrochemical Energy Storage Systems in Power Systems
GB/T 43,526-2023	Technical Requirements for Integrating Electrochemical Energy Storage Systems into Distribution Grid at User Side
GB/T 43,528-2023	Communication Requirements for Battery Management in Electrochemical Energy Storage Systems

Equipment Technical Parameters

DC parameters		AC parameters	
Battery type	Lithium iron phosphate	Rated power (kW)	100
Cell capacity	3.2V/280Ah	Rated current (A)	145
Rated capacity of battery	215kWh	Rated voltage on AC side	400V AC
Rated battery voltage	DC768V	AC access method	3P+N+PE
Battery voltage range	DC672~876V	Rated grid frequency	50/60Hz
Charge/discharge ratio	0.5C	Power factor range	0.99~+0.99
Battery cooling method	Liquid cooling	Full power charge/Discharge conversion time (ms)	<100
System parameters			
Life cycle	≥8000	Operating humidity range	0% to 95% (no condensation)
Maximum system efficiency	≥90%	Weight (kg)	≤2500
Class of protection	IP54	Fire configuration	Perfluorohexanone(PFH) PACK immersion + active early warning
Class of anticorrosive	C3	Working altitude	2000m (more than 2000m need to be derated)
Operating temperature range	0 to 50°C(charging), 20 to 50°C(discharging)	Dimensions (WxDxH)	1300x1400x2300mm
Storage temperature range	20 to 45°C(within 1 month), 0 to 35°C(within 3 months)	Installation location	Outdoor
Communication interface	RS485, Ethernet	/	/

Smart Charging Pile



Product Introduction

Infraswin Smart Charging Station is specifically designed for electric vehicle charging, supporting both DC and AC charging with a power range of 7kW to 160kW. It features advanced 4G communication capabilities and offers comprehensive billing functions. This versatile solution comes in various specifications, including wall-mounted and pole-mounted structures, catering to diverse needs in different scenarios. Operating flawlessly within the temperature range of 20°C to 50°C at an altitude of up to 2000 meters, this charging station boasts IP54/IP65 protection levels.

Product Performance Standards

NB/T 33008.1-2018	Inspection and Testing Requirements for Electric Vehicle Charging Equipment - Part 1: Non-vehicle Chargers
NB/T 33001-2018	Technical Requirements for Non-vehicle Inductive Charging of Electric Vehicles
GB/T 18487.1-2015	Electric Vehicle Conductive Charging System - Part 1: General Requirements
GB/T 34657.1-2017	Interoperability Testing Specification for Electric Vehicle Conductive Charging - Part 1: Supply Equipment
Q/GDW 10591-2018	Inspection and Testing Requirements for Non-vehicle Chargers for Electric Vehicles
Q/CSG 1211013-2016	Inspection and Testing Requirements for Non-vehicle Chargers for Electric Vehicles
Q/GDW 10233-2018	General Requirements for Non-vehicle Chargers for Electric Vehicles

Equipment Technical Parameters

Model	GDES-750V/30kW	GDES-750V/60kW	GDES-750V/120kW	GDES-750V/160kW	GDES-AC007D
Rated power	30kW	60kW	120kW	160kW	7kW
Output voltage range	DC200~750v				AC220v
Max output current	90A	150A	402A	536A	0~32A
Input voltage	380vac				AC220v±15%
Input voltage range	304~456vac				AC220v±15%
Input frequency range	45~65Hz				45~55Hz
Billing method	DC				AC
Communication interface	4G (optional)				4G (optional)
Size	Width 620mm * depth 300mm * height 1200mm	Width 700mm * depth 600mm * height 1900mm			Width 326mm * depth 300mm * height 160mm (excluding column)
Charging cable and length	Single gun, 3.5 meters long	Double gun, 4 meters long	Double gun, 5 meters long	Double gun, 5 meters long	Single gun, 3.5 meters long
Net weight	252kg	294kg	378kg	462kg	5kg (without column)
Plug connector	Gb/t 20234, css	Gb/t 20234, css	Gb/t 20234, css	Gb/t 20234, css	Gb/t
Working environment	Below 2000m above sea level, -20°C~50°C				Below 2000m above sea level, -20°C~50°C
Protection ratings	IP54				IP65

Smart Power-saving Device



Product Introduction

The IW Energy Saving Master X power Series is an advanced intelligent energy-saving device developed by Infracwin. It incorporates a unique three-dimensional magnetic structure that enables compensation of the three-phase electrical quantities as they pass through the coil, thereby optimizing control over the consistency of induced electromotive force in each phase.

Additionally, this device utilizes specialized techniques to effectively suppress harmonics, ensuring that the harmonic value in the shielded winding aligns with the induced harmonic value in the working winding. As a result, it cancels out harmonic magnetic flux and prevents transmission of harmonics within the power supply system.

Product Performance Standards

GB/T 3797-2016	Electrical Control Equipment
GB/T 1094.1-2013	Part 1: General Requirements for Power Transformers
GB/T 20641-2014	General Requirements for Low-voltage Enclosed Switchgear and Controlgear Cabinets

AI Modular Electrical Container



Product Introduction

The pre-assembled AI Modular Electrical Containerized Substations primarily consist of a substation container, skid-mounted electrical modules, combined substation container, and mobile substation container mounted on a vehicle. These containers integrate electrical equipment within a standardized steel structure box, achieving the modularization of the electrical system.

Additionally, they can be equipped with AI cameras and AI power intelligent management modules to enable intelligent monitoring, analysis, and optimization of the power system.

Equipment Technical Parameters

The provision of tailored designs and technical specifications is available to meet the specific requirements of our customers.

Product Features

The design is modular, ensuring fast delivery and a small footprint. It also offers strong mobility, intelligent configuration, low lifecycle cost, wide applicability, and environmental friendliness.

AI Intelligent Inspection Robot



Product Introduction

AI Intelligent Inspection Robot is an automated inspection equipment specifically designed for indoor substation and transformer room scenarios. It features a track-mounted design and integrates video surveillance, infrared temperature measurement, environmental detection, and voice communication functions. It enables unmanned inspections by leveraging advanced AI algorithms to recognize video content, monitor equipment status and environmental parameters.

The robot offers both automatic inspection and manual remote inspection modes while generating comprehensive inspection reports automatically on the backend to provide detailed data support for maintenance personnel. Moreover, it can seamlessly integrate with Infracwin Cloud Platform to enhance data collection capabilities and leverage cloud-based services for expanded intelligent monitoring and analysis functionalities.

Product Performance Standards

- GB 50229 Fire Protection Standards for Thermal Power Plants and Substations
 DL 5027 Typical Fire Protection Regulations for Power Equipment
 GB/T 7261 Basic Test Methods for Relay Protection and Safety Automation Devices

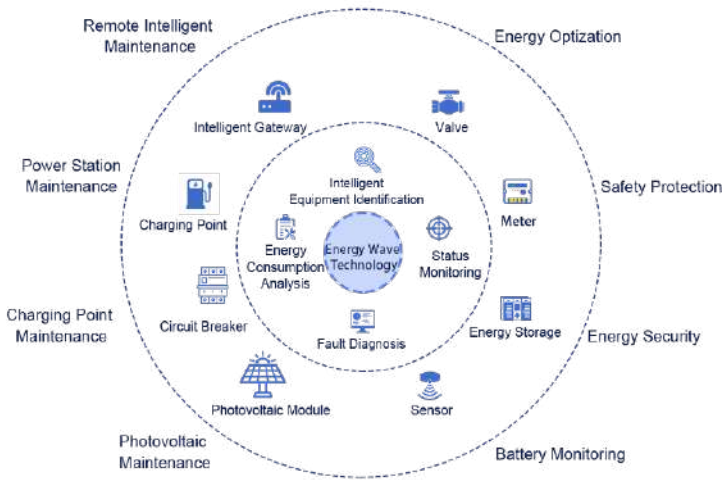
Equipment Technical Parameters

Category	Content	Standard configuration	Optional configuration
Whole machine features	Overall dimensions	380(L)mm×200(W)mm×420(H)mm	
	Machine weight	≤10kg	
	Inspection efficiency	10s/ inspection points	
	Switch meter counts recognition rate	≥98%	
Athletic performance	Maximum walking speed	0.3m/s	
	Emergency braking distance	0.1m	
	Walking positioning accuracy	≤±10mm	
	Maximum lift stroke	1.5m	
	Maximum lifting speed	0.2m/s	
	Lifting positioning accuracy	≤±10mm	
	Motion obstacle avoidance detection	Front and back and bottom of a total of 3, detection distance 1m, action distance 0.2m	
	Rotating range of the head	Horizontal ±180°, vertical ±90°	
Function module	Head rotation accuracy	≤0.2°	
	Video capture	200W pixels/autofocus	400W pixels with 16x digital zoom
	Infrared temperature measurement	Infrared thermal imager, 384×288, ±2°C, focal length: 7mm	
	Environmental Monitoring	Temperature 40°C~+80°C, 0.1~99.9%RH	
	Gas detection	/	O ₂ , CO, CH ₄ , H ₂ S
Power supply mode	Sliding cable full time power supply		
Power supply unit	Slip wire	DC24V	
Communication method	Wired communication	100M slide touch line power carrier	
	Wireless communication	Wifi+4G	
Track unit	Turning radius	500mm	
	Type of track	Standard aluminum alloy profile	
	Track load	100kg	



Infraswin Digital Cloud Platform

Infraswin Digital Cloud Platform



Platform Introduction

Infraswin Digital Cloud Platform is a digital management tool independently developed by Infraswin, which combines cloud computing, big data, Internet of Things and artificial intelligence technologies to provide comprehensive digital energy management solutions for enterprises.

The combination of edge computing and cloud platform, with energy wave technology as the core, enables multi-dimensional waveforms to be sampled and analyzed at super high frequencies in random fluctuating energy lines. This allows for device type identification, status analysis, energy consumption monitoring, and fault warning in complex scenarios with multiple loads, ultimately achieving complete digitalization of energy.

Smart Energy Module

Product Introduction

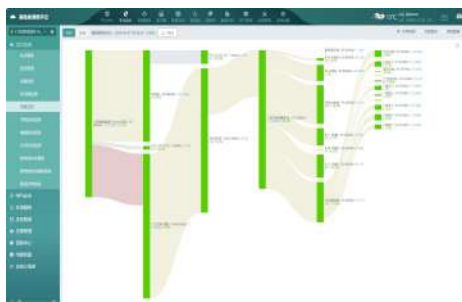
The Smart energy module is dedicated to the efficient management and optimization of energy through the use of advanced information technology. Through a hierarchical management structure, the module can conduct detailed integrated energy efficiency management and real-time monitoring of various energy sources such as water, electricity, wind and gas. Through the comprehensive collection and analysis of energy use data, the module can provide accurate energy consumption management tools for different types of enterprise users, help users save energy and reduce consumption, and promote the green and low-carbon transformation of enterprises.

Product Features

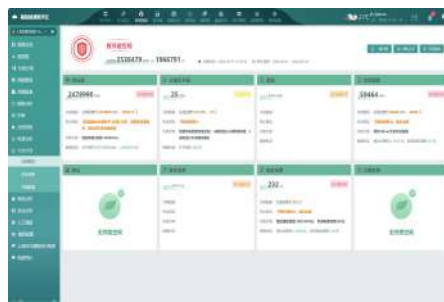
- a) Flexible deployment (on-premises and cloud-based)
- b) Low code deployment
- c) Flexible networking, strong adaptability
- d) Layered architecture, stable and reliable
- e) Flexible, fast and easy to expand
- f) Open up data islands to achieve centralized management

Application Scenarios

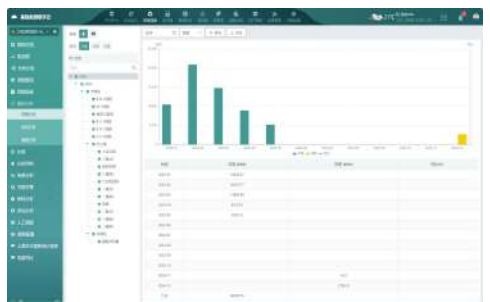
Industrial plants, industrial and commercial parks, schools, data centers, rail transit, airports, hospitals, commercial real estate, etc.



Energy Flow Diagram



Energy Efficiency Analysis



Categorical And Itemized Statistical Comparison

Microgrid Module

Product Introduction

Microgrid module is an application module developed for the integrated management of traditional high and low voltage power supply and distribution system and new energy power system, mainly composed of distributed energy (wind power, photoelectric, firewood, hydropower), energy storage, charging pile, power grid and other subsystems. The microgrid module ensures the stable operation of the microgrid and the efficient use of energy by controlling the cooperation of each subsystem module.

Product Features

Integrated multi-energy management, AI intelligent optimization, visual monitoring, flexible configuration, stable and reliable, energy saving and carbon reduction, strong compatibility, security, remote control, intelligent reporting.

Application Scenarios

Industrial plants, industrial and commercial parks, schools, data centers, rail transit, airports, hospitals, commercial real estate, etc.



Microgrid Dashboard



Data Analysis



Power Analysis

Smart Photovoltaic Module

Product Introduction

Smart photovoltaic module is designed for seamless access of photovoltaic system to power distribution system. Through accurate real-time data acquisition, in-depth analysis and detailed reporting, the module ensures that the photovoltaic power generation system is operating at its best to achieve maximum efficiency and performance. Through this module, users can easily monitor the performance of the photovoltaic system, timely adjust the operation and maintenance strategy, and ensure the long-term stable power supply of the photovoltaic system, so as to achieve the green energy transformation of the enterprise and the improvement of economic benefits.

Product Features

Real-time monitoring and diagnosis, fault alarm, remote operation and maintenance, safety and reliability, reduce operation and maintenance costs, improve the efficiency of photovoltaic power generation, to meet the needs of large-scale.

Application Scenarios

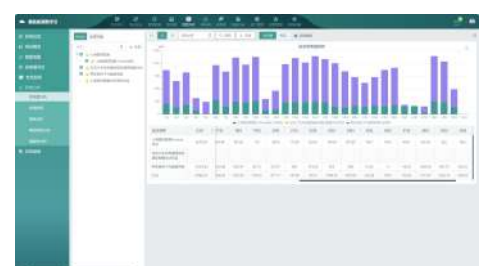
Industrial plants, industrial and commercial parks, schools, data centers, rail transit, airports, hospitals, commercial real estate, etc.



Single Station Overview

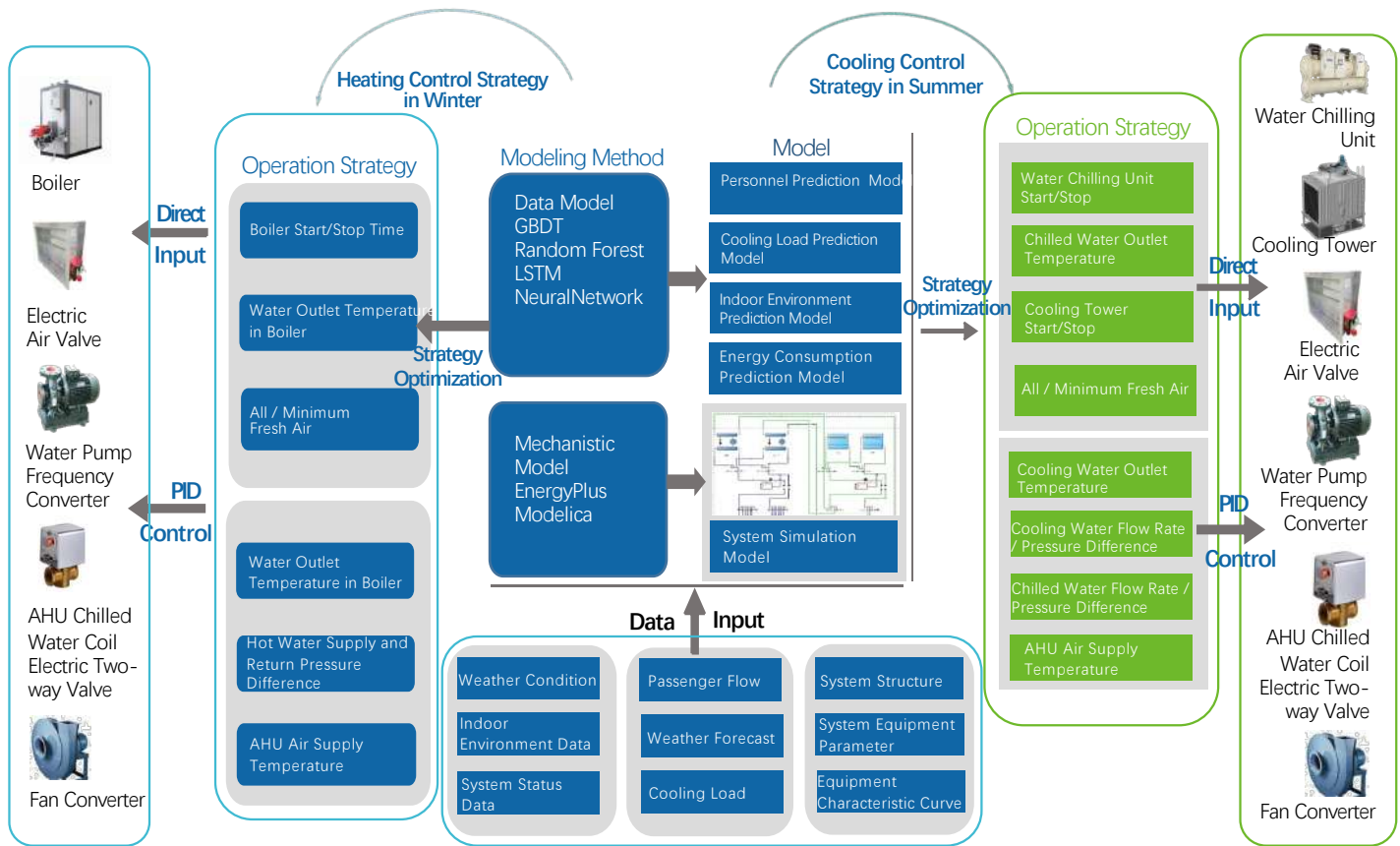


Inverter Evaluation



Power Generation Analysis

AI Energy-saving Central Air-conditioning System



Product Introduction

The achievement AI Energy-saving Central Air-conditioning System is realized through the establishment of system-specific models for the hardware architecture of specific enterprises, implementation of intelligent algorithms for optimization, and utilization of cloud computing for big data analysis. The system continuously optimizes control strategies based on the analysis results and supports local deployment to ensure data security and prompt response. By combining global optimization with point-specific optimization strategies, it intelligently adjusts air conditioning parameters according to changes in indoor and outdoor environments as well as user habits, thereby enhancing energy efficiency.

Product Features

Intelligent optimization enables rapid response to data security, predictive maintenance, enhanced comfort, as well as energy savings and emission reduction.

Application Scenarios

Large-scale shopping malls, data centers, and advanced manufacturing facilities equipped with extensive centralized air conditioning systems.

Low Carbon Water Treatment System

Product Introduction

Low Carbon Water Treatment System utilizes digital technologies such as SMQ smart water system platform, Internet of Things and cloud computing. It could improve the efficiency of water treatment and energy utilization, reduce plant energy consumption, drug consumption and labor, thereby reducing operating costs.

Product Features

Full-time monitoring and early warning, data analysis and maintenance services, mobile access, data security, reduce operation and maintenance costs, improve processing efficiency.

Application Scenarios

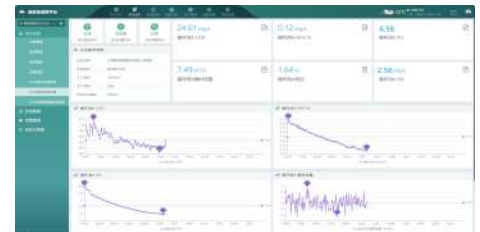
Distributed domestic wastewater treatment systems, municipal wastewater treatment plants, industrial park wastewater treatment plants, industrial water supply systems, industrial production water treatment systems, industrial wastewater treatment systems, etc.



Station Dashboard



Historical Data



Real-time Monitor

Carbon Management Module

Product Introduction

Carbon Management Module is designed for carbon emission management. Through efficient data processing and accurate calculation, the module improves the enterprise's carbon management capabilities, helps enterprises effectively reduce the cost of carbon emission management, and promotes the realization of carbon neutrality.

Product Features

Automated collection and calculation, accurate emission calculation, emission source identification, automatic report generation, easy integration, continuous optimization.

Application Scenarios

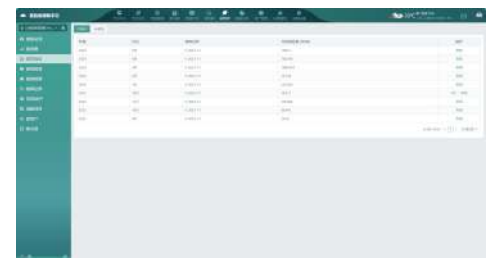
Industrial plants, industrial and commercial parks, schools, data centers, rail transit, airports, hospitals, commercial real estate, etc.



Carbon Emissions Overview



Carbon Asset Management



Carbon Emission Report

One-stop Dual-carbon Certification Service For Enterprises



Product Introduction

Infraswin offers comprehensive dual carbon certification services, encompassing carbon auditing, carbon footprint assessment, carbon asset and trading management, to assist enterprises in establishing a robust carbon management system. Our service integrates cutting-edge green big data technology with industrial applications to drive low-carbon transformation and digitalization within organizations while enhancing their environmental image and market competitiveness.

Product Features

Comprehensive dual carbon certification services to facilitate the swift establishment of carbon management systems for enterprises.



Energy Solutions

Digital Microgrid Solutions

Solution Introduction

The Smart Microgrid Solution enables the establishment of a self-governing distribution system that integrates distributed power sources, new energy storage systems, electronic power equipment, load consumption, and supporting measurement/monitoring/protection devices and energy management systems.

We could support users for carbon accounting and trading functions which enable effective coordination between energy usage and carbon emissions management. This empowers users to meet their energy needs while facilitating enterprises in achieving energy transformation goals for low-carbon development.

Solution Features

The Smart Microgrid Solution features an economically efficient and secure integrated design, encompassing 'source, network, load, and storage' integration as well as 'photovoltaic, storage, direct current, and soft power' integration.

It also includes intelligent dispatch capabilities for optimizing the utilization of renewable energy sources while maintaining power balance within the network. Additionally, it offers system optimization features such as fault detection and quality protection to ensure low-carbon emission reduction.



Application Scenarios

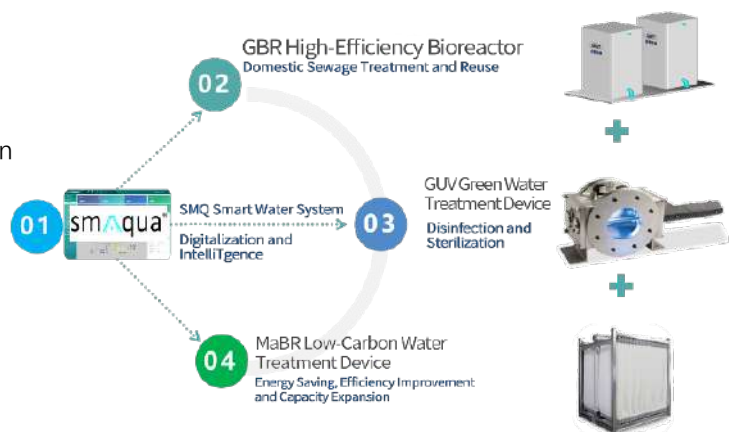
Industrial plants, industrial and commercial parks, schools, data centers, rail transit, airports, hospitals, commercial real estate, etc.

Low-carbon Water Treatment Solutions

Solution Introduction

The digital low-carbon water treatment solution is a comprehensive water management system that integrates technologies for water resource recycling, energy conservation and consumption reduction, intelligent monitoring, and environmental protection.

This solution addresses the pain points of data collection, analysis, and prediction while achieving seamless information integration and connectivity. It offers customers professional, digitalized, intelligent, green-oriented yet low-carbon overall solutions for water treatment.

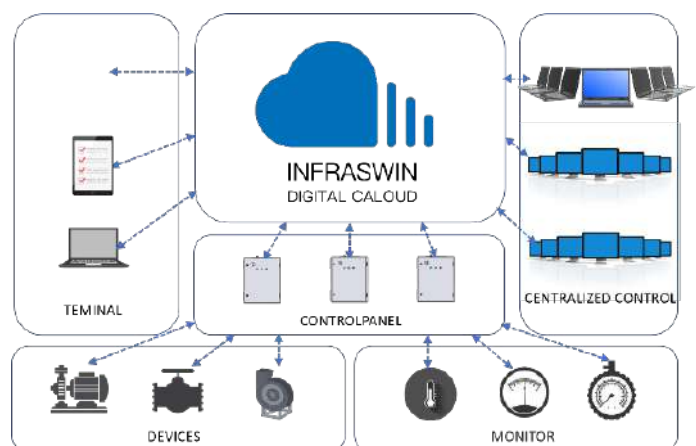


Solution Features

The efficient utilization of water resources, ensuring the continuity and stability of water treatment processes, intelligent monitoring to enhance the quality and experience of water treatment, compatibility in design for water resource recycling, as well as energy-saving and cost-reducing considerations.

Application Scenarios

Thermoelectric/wind power/photovoltaic area, park/tourist attraction/zoo, rural living area, resort/villa area, hotel/commercial buildings, ships/cruise ships, highway service area/toll stations, food and beverage production plant area, data center, livestock/fish farming.



Engineering Services

Integrated Energy Engineering Services EPC (Power, Water Treatment, New Energy)

Infraswin is a leading provider of comprehensive energy engineering services (EPC) in the fields of power, water treatment and new energy.

In the field of electric power, our company specializes in EPC mode for power transformer and distribution engineering, catering to the construction of new power equipment, substation transformations, and development of new energy generation facilities. Our EPC services offer integrated management, optimized resource allocation, shortened construction timelines, enhanced project quality while reducing costs. Moreover, we ensure transparency throughout the project lifecycle by providing comprehensive services to our esteemed clients.

In the field of water treatment, we are dedicated to delivering professional digital solutions that are intelligent and low-carbon while focusing on water resource recycling as well as energy-saving measures. We provide high-efficiency and low-carbon water treatment products such as the SMQ Smart Water System Platform, GBR High-Efficiency Biological Reactor MaBR Low-Carbon Water Treatment Device along with Gbetz High-Efficiency Water Treatment Agent. These innovative products facilitate businesses in achieving an intelligent upgrade for their water treatment systems while promoting green efficiency and sustainable development.

In the field of new energy, our company offers comprehensive services for various projects including photovoltaic power stations, microgrids, intelligent operation and maintenance, power engineering, and comprehensive energy management. Leveraging advanced cloud platform technology, we provide customers with end-to-end equipment supply for new energy power station and microgrid projects. With extensive project experience, we have successfully designed and constructed multiple rooftop distributed photovoltaic systems as well as intelligent microgrid systems for industrial and commercial parks.

Our commitment lies in delivering efficient, reliable, and innovative EPC services to facilitate our customers' green and sustainable development goals. Let us collaborate towards promoting sustainable development and creating a better future in the realm of energy.



Power EPC Project



Water Treatment EPC Project



New Energy EPC Project

Energy Changes Your Future

One-stop supplier for energy management solutions





Address: 720 Yuandong Rd, Fengxian, Shanghai, China

Email: info@infraswin.com

Website: www.infraswin.com

Online shop: shshjjs.en.alibaba.com