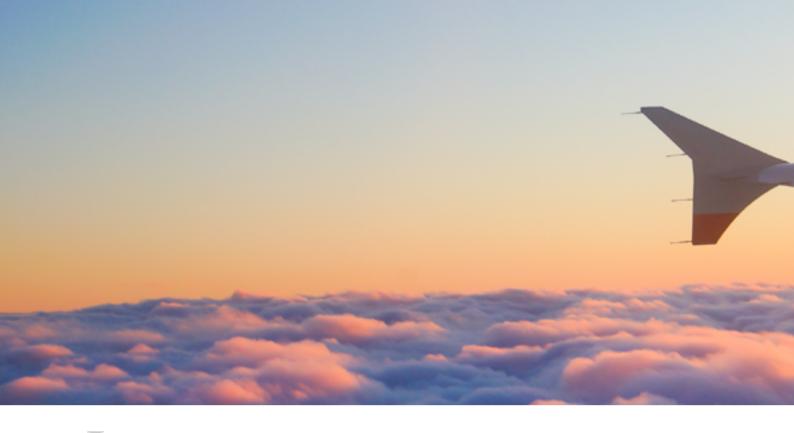


SUPCON INSTRUMENT

COMPREHENSIVE PRODUCT BROCHURE



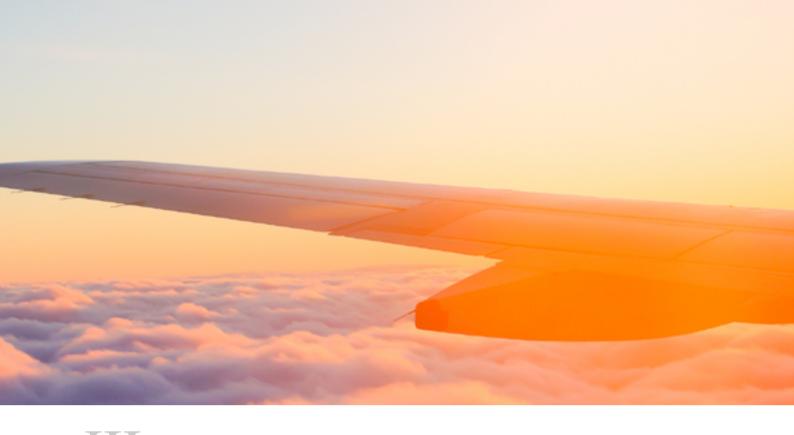


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Solution for Automated Loading and Unloading Control Industry

SUPCON IIOT Solution

19.2% / MARKET SHARE

4,300 / EMPLOYEES

11,000 / GLOBAL CUSTOMERS

30,000 / INSTALLED BASES



01 COMPANY PROFILE

About the Group

Zhejiang Supcon Technology Co., Ltd. (abbreviated as "Supcon Technology" or "Company", 688777.SH) was established in 1999 and is a high-tech enterprise and a national technological innovation demonstration enterprise. Always adhering to the mission of "making work and life easier", we are committed to providing intelligent manufacturing products and solutions with automation control systems as the core, covering industrial software, instrumentation, and operation and maintenance services for industrial enterprises dominated by process industries. Empower users to improve the level of automation, digitization, and intelligence, and realize industrial production automation, digitization, and intelligent management.

About Us

Zhejiang SUPCON Instrument Co., Ltd. (hereinafter referred to as "SUPCON Instrument") is a holding subsidiary of Zhejiang SUPCON Technology Co., Ltd. and a high-tech enterprise in Zhejiang Province. SUPCON Instrument is an excellent R&D and production enterprise of industrial instruments in China.

Since its establishment, SUPCON Instrument has continuously enriched its product line, and established two major product systems: field instruments and intelligent instruments. Its products include pressure instrument, temperature instrument, flowmeter, level instrument, gas detection instrument, valve positioner, recording instrument, control instrument, signal instrument, tool instrument, intelligent gateway, etc. The products have been granted by the international authorities the SIL, classification society, CE and ATEX certifications. The SUPCON pressure transmitter and safety barrier have been successfully shortlisted in the procurement framework of PetroChina and Sinopec. In addition to providing high-quality instrument products, depending on its more than 20 years of deep understanding and experience of automation in process industry, the Company also provides users with "one-stop automatic

loading and unloading", "smart energy monitoring management", "wireless data acquisition and edge computing" and a series of excellent automation solutions.

SUPCON pressure transmitters and safety barrier products have successfully entered the procurement framework of PetroChina and Sinopec. In addition to providing high-quality instrument products, the company has more than 20 years of deep understanding and experience accumulation in process industry automation, and can provide users with "A series of outstanding automated overall solutions such as "One-card automated loading and unloading trucks", "Smart Energy Monitoring and Management", "Wireless Data Collection and Edge Computing".



PEPPERL+FUCHS

(intel)

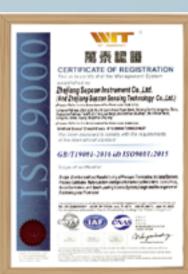


03 | HONOR CERTIFICATE



















04 CXT SERIES SMART PRESSURE TRANSMITTER

Overview

CXT series high-precision smart pressure transmitter is provided with high-performance monocrystalline silicon composite sensor chip, with unique sensor packaging technology, to ensure the product excellent performance and long-term stability. Various corrosion-resistant isolation diaphragms can be provided to meet the demands of users in different sectors. Through special process structure design, it is capable of reliably operating and running under severe operating conditions such as high temperature and high vacuum. CXT series of high-precision smart pressure transmitters are widely applied in measuring pressure, flow and liquid level in petroleum, electric power, chemical, metallurgical, pharmaceutical, light industry and other sectors, and are compatible with HART and FF protocols.

Features

- Maximum accuracy ± 0.035%
- Monocrystalline silicon composite pressure sensor
- Range: 100Pa ~ 40MPa
- \odot Long-term stability up to \pm 0.1% /10 years
- Range ratio up to 100:1, up to 10 times compression accuracy lossless
- Optional HART, FF protocol, Zigbee/GPRS wireless communication
- Process interface, remote transmission device, flange specification, filling liquid and diaphragm type can be customized

- Degree of protection: IEC IP67
- Gold-plated to effectively inhibit hydrogen permeation
- Integrated overload diaphragm protection design
- Applicable to high temperature and high vacuum operating condition
- Customization: exclusive customization according to process difficulties to meet customer requirements
- National electrical explosion-proof and dust-proof certification (intrinsically safe/flameproof/intrinsically safe + flameproof)











Petroleum Ele

Electricity

Metallurgy

Pharmaceuticals

Light Industry

Long-term stability

CXT Series High Accuracy Pressure Transmitters





Nominated for PetroChina Class A Supplier



Nominated for SINOPEC Procurement Framework



SKC Differential Pressure (Flow) Transmitter

Range: 1kPa ~ 3MPa

Maximum accuracy ± 0.05%

Maximum static pressure 42MPa

Optional diaphragm materials: 316L,

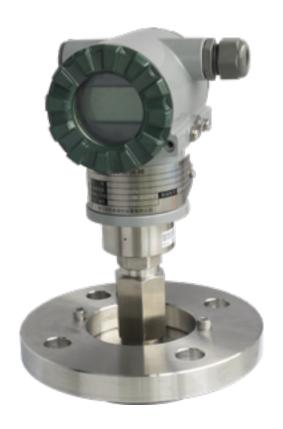
HaC, gold-plated, tantalum, etc.

SKQ/SKR Flanged Pressure Transmitter

Range: 40kPa ~ 40MPa

Maximum accuracy ± 0.1%

Optional diaphragm materials: 316L, HaC, gold-plated, tantalum, etc.





SKG/SKA Pressure Transmitter

Range: 40kPa ~ 40MPa

Maximum accuracy ± 0.05%

Optional diaphragm materials: 316L, HaC, gold-plated, tantalum, etc.

SKP/SKH In-Line Pressure/Absolute Pressure Transmitter

Range: 40kPa ~ 40MPa

etc.

Maximum accuracy ± 0.05%

 $Optional\ diaphragm\ materials:\ 316L,\ HaC,\ gold-plated,\ tantalum,$





SKB/SKW Single Flange Remote Pressure Transmitter

Range: 40kPa ~ 40MPa Optional diaphragm materials: 316L, HaC, tantalum, titanium, nickel, Monel, gold-plated, etc.

Maximum accuracy ± 0.05% Multiple filling fluids available



SKD/SKX Double Flange Remote Differential Pressure (Flow) Transmitter

Range: 6kPa ~ 3MPa Optional diaphragm materials: 316L, HaC, tantalum, titanium, nickel, monel, gold-plated, etc.

Maximum accuracy ± 0.1% Multiple filling fluids available



SKE/SKY Level Transmitter

Range: 6kPa ~ 3MPa

Maximum Accuracy ± 0.1%

Optional diaphragm materials: 316L, HaC, tantalum, titanium, nickel, Monel, gold-plated, etc.

Multiple filling fluids available

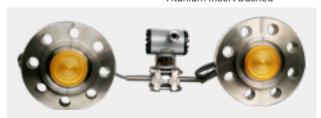
Special Customization



450mm insertion barrel



Sprained PFA for Structural All Titanium Insert Bushed



Gold-plated Diaphragm



Special Small Flanges

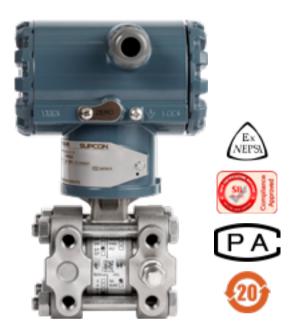


Zigbee/GPRS Transmission



Small-bore Insertion Cylinder Pressure Transmitter for Hightemperature Vacuum

05 | CJT SERIES SMART PRESSURE TRANSMITTER



Overview

CJT series smart pressure transmitter is a smart pressure (differential pressure) instrument with HART communication function, developed using the micro displacement capacitive sensor technology. The microprocessor serves as the core of the electronic circuit, and digital compensation technology is applied for compensation to ensure the accuracy of the whole product up to 0.1 level. Through the hand-held communicator or other HART protocol, the product can be deployed in the control room, transmitter field, for query, configuration or adjustment, easy to use.

CJT series smart transmitter is applicable to the pressure, flow and liquid level measurement in petroleum, electric power, chemical industry, metallurgy, pharmacy, light industry and other sectors.

Features

- Modularized design
- Accuracy: ± 0.1%
- Range ratio: 40: 1
- Degree of protection: IEC IP67
- Stability: ± 0.1% FS/year

- Compatible with HART protocol
- Built-in parameter debugging menu
- Self-diagnostic
- Strong resistance to unidirectional overload
- Flameproof: Ex d IIC T4 ~ T6 Gb
- Intrinsically safe: Ex ia IIC T4 ~ T6 Ga
- Applicable in various corrosive media
- Fully digital signal conditioning technology



Differential Pressure/Pressure/Absolute Pressure Transmitter

Accuracy: ± 0.1% Measured medium: gas, steam and liquid

Range ratio: 40: 1 Overvoltage limit: maximum 60Mpa



Plug-in Flange Level Transmitter

Accuracy: ± 0.2% Measured medium: gas, steam and liquid

Range ratio: 40: 1 Static pressure: does not exceed the maximum operating pressure of the flange



Double Flange Remote Transmitter

Accuracy: ± 0.2% Measured medium: gas, steam and liquid

 $\ maximum\ operating\ pressure\ of\ the\ flange$



Plug-in Flange Level Transmitter

Accuracy: ± 0.2% Measured medium: gas, steam and liquid

Range ratio: 40:1 Static pressure: does not exceed the

maximum operating pressure of the flange

General Specifications

External adjustment of zero position, full, if LCD meter is available, it can be configured locally

Explosion-proof: intrinsically safe and explosion-proof

Transmitter function configurable: linear, square root, free programming

Communication protocol: HART

06 | SP10 SERIES PRESSURE GAUGE



Technical Parameters

Nominal Diameter	Ф40	Ф50	Ф60	Ф75	Ф1	100	Ф150
Joint Thread	M10×1 M14×1.5			M20×1.5			
Accuracy Class	2.5						.6
	Vacuum:(-0.1~0)						
Pressure vacuum: $(-0.1\sim0.06)$; $(-0.1\sim0.15)$; $(-0.1\sim0.3)$; $(-0.1\sim0.5)$; $(-0.1\sim0.9)$; Installation Type							
(MPa) Pressure: $(0 \sim 0.1)$; $(0 \sim 0.16)$; $(0 \sim 0.25)$; $(0 \sim 0.4)$; $(0 \sim 0.6)$; $(0 \sim 1)$; $(0 \sim 1.6)$; $(0 \sim 2.5)$; $(0 \sim 4)$; $(0 \sim 4)$; $(0 \sim 6)$; $(0 \sim 10)$; $(0 \sim 25)$; $(0 \sim 40)$; $(0 \sim 60)$ Nominal diameters of φ60 and φ100 include $(0 \sim 100)$ MPa; Φ150 include $(0 \sim 100)$ MPa, $(0 \sim 160)$ MPa							
							50)MPa
Environmental Conditions for Use	Temperature: (-5~55)°C ; (-25~55)°C						
Installation Type	Radial edge-free; Radial back edge (T); Axial front-edge (ZQ); Axial edge-free (Z)						
Other Types	Optional diaphragm, shock-resistant, stainless steel, electrical contact, magnetic contact, explosion-proof induction, etc.						

07 | W SERIES TEMPERATURE TRANSMITTER



Product Introduction

- Thermal resistance (RTD) is divided into three categories: platinum thermal resistance, copper and nickel thermal resistance, which temperature measurement is based on that the resistance value of metal conductor increases with the increase of temperature
- Thermocouple (TC) is composed of two ends of conductors with different components connected into a loop. When the temperatures of the two junction points are different, electromotive force will be generated in the loop. This electromotive force is called thermoelectric potential, the magnitude of the thermoelectric potential is only related to the nature of the material of the conductor and the temperature difference at the points at its two ends.
- The integrated temperature transmitter is composed of temperature transmitter and thermal resistance or thermocouple, which directly converts the temperature signal into two-wire (4~20)mA signal and is compatible with HART communication, LCD and LED display.
- Thermal resistance, thermocouple, integral temperature transmitter and bimetallic thermometer are used to measure the surface temperature of liquid, vapor and gas medium and solid in the temperature range of (-200~1600) °C . It is generally used with display instrument, recorder, regulator, PLC and DCS system.
- In the bimetallic thermometer, the bimetallic sheet is applied as the temperature sensing element, one end of the bimetallic sheet is fixed, and the other end is the free end connected with the indicator needle. The connection point generates displacement with the change of temperature, and drives the pointer to rotate to indicate the temperature. The bimetallic thermometer is applicable to the field of medium and low temperature measurement, and can directly measure the temperature of liquid, steam and gas medium within the range of (-80~+600) °C in various production processes.



- Minor flows can be measured as low as 2L/h
- Positive/negative flow measurement
- With non-linear correction of instrument coefficient, the parameters can be modified online
- No flow blocking piece, no pressure loss, and it is not easy to block
- Compatible with ModBus, HART and other Communication protocols
- Compatible with multiple power supply modes such as battery and solar power supply

- GPRS and Bluetooth wireless transmission available
- Good adaptability to highly corrosive and abrasive media
- Stainless steel mesh technology to be used under negative pressure
- Stable performance, good repeatability and high accuracy (up to level 0.2)
- Applicable to flow measurement of various conductive liquids (conductivity> 1 µs/cm)
- Bluetooth and infrared remote control of mobile phone are supported to operate without opening the cover.

09 | LUGB VORTEX FLOWMETER



Overview

Vortex flowmeter is a velocity flowmeter, with a wide range of applications. It is applicable to the flow metering, measurement and control of liquids, steam and most gases. It is designed as a new structure with resistance to mechanical vibration, impact and dirt. No moving parts, wear and mechanical maintenance are required.

Low pressure loss, high accuracy, easy to install and use, stable performance.

The sensor and signal converter can be matched as customized.



- Geomagnetic compensation function
- Dual indicator System
- Powerful software capabilities
- Scientific Lead Interface
- Superior anti-interference performance

- Self-damping indicator
- Various types of indicator
- Easily connected opto-isolated output
- Unique measuring tube and magnetic coupling structure
- Multiple installation and power supply modes are available



Overview

The turbine meter is based on the principle of torque balance, as a velocity type flowmeter. The utility model has the advantages of high accuracy, good repeatability, simple structure, small pressure loss and convenient maintenance. It is applied in measuring the volume flow of low viscosity liquid in sealed pipes. It can be widely applied in the petroleum, chemical, metallurgy, water supply, paper and other sectors.

The turbine flowmeter is applicable to the measurement of the liquid with stainless steel 1Cr18Ni9Ti, 2Cr13, corundum Al2O3 and cemented carbide in the closed pipeline, which is anti-corrosive and is free of impurities such as fibers and particles, it can also be used to measure conventional gases and vapors.

12 CVP2000 SMART VALVE POSITIONER



Overview

CVP2000 smart valve positioner is a new generation valve positioner with remote configuration and communication functions, which is installed on the actuator of pneumatic straight stroke or angular stroke. This product integrates the advanced technology and characteristics of similar products at home and abroad, and can be widely used in petroleum, chemical industry, chemical fiber, light textile, metallurgy, electric power and other sectors. The product is compliant with the explosion-proof standards of GB3836.1-2010, GB3836.4-2010 and GB3836.20-2010. The explosion-proof mark of the product is Ex ia II C T4/T5/T6 Ga.

- Intrinsically safe, explosion-proof, safe and reliable
- Less mechanical parts and good seismic performance
- Adjustment accuracy up to 0.5% FS
- The display is made of OLED and can operate at lower temperature.
- Two-wire (4-20)mA standard signal
- Parameters can be set locally or remotely
- Low power, low gas consumption, low operating cost

13 DMD SERIES POINT GAS DETECTOR



Overview

Gas detector with LED display is a gas detection instrument, which is widely used in petrochemical, metallurgical, coal mine, medicine, electricity and city gas sectors.

Flameproof design is adopted for the product, and standardized digital interface is adopted between the modules, which can flexibly realize hot-plug replacement of the sensor in the field.

- LED super highlight
- Modularized design
- Zero drift automatic compensation
- Left and right double inlets, external audible and visual alarm
- Smart sensor technology, self-identifying sensor characteristics

- Multiple status indicator
- Plug and play and replaceable sensor
- Programmable alarm relay output
- Smart I-sensor technology
- Infrared remote control operation, non-open-cover configuration and calibration

DMC SERIES COMBUSTIBLE GAS ALARM CONTROLLER

DMC3000 combustible gas alarm controller

- TFT color 5 "high resolution display
- 4 sets of high-power programmable relay contact outputs
- Compatible with 6-way 2/3-line (4-20) mA current signals and 64-way RS485 bus signal gas detectors
- Users are allowed to select real-time gas concentration histogram monitoring interface or tabular display interface according to their needs
- The external control equipment can be automatically controlled, and the action delay time (0~30) seconds can be selected

DMC6000 combustible gas alarm controller



- 32-way isolated (4~20) mA output signal
- 64-way 2/3-wire (4-20)mA current signal gas detector
- TFT color 7 "high resolution display (800x 480 pixels, 65K)
- Built-in 32-bit processor with CAN bus connection inside the module
- Audible and visual alarm, with sound ≥ 85dBA, divided into low-limit alarm, high-limit alarm and fault alarm
- 256-channel RS485 bus signal gas detector system with 3 sets of high-power programmable relay contact outputs
- The system has 8 slots, any of the following 4 types of plug-in modules: current loop input module, current loop output module, bus module, relay module

GDS COMBUSTIBLE GAS AND TOXIC GAS DETECTION SYSTEM



- Multiple LED status indicators
- TFT color 5 "high resolution display
- Adjustable points for audible and visual alarm and two-level alarm
- All interfaces have lightning protection design and EMC protection
- The most recent 1000 alarms, 1000 faults, switch on/off and other event history and query functions
- It can monitor the connection line, sensor fault and alarm status of the detector and display the gas concentration value of each detector in real time

14 | SL90 RADAR LEVEL GAUGE



- Non-contact radar, no wear, no pollution
- Small antenna size for easy installation
- Shorter wavelength for better reflection on inclined solid surfaces
- The measuring blind area is smaller, and good results can be obtained for the measurement of small tanks.
- The beam angle is small, the energy is concentrated, the Echo capability is enhanced, and the disturbance is avoided

- Not affected by corrosion and foam
- Severe dust environment will not affect electromagnetic wave operation
- High signal-to-noise ratio, excellent performance even in fluctuating conditions
- High frequency, suitable for the measurement of solids and low dielectric constant media
- Unaffected by changes in water vapor, temperature and pressure in the atmosphere

15 | SL80 MAGNETOSTRICTIVE LEVEL GAUGE/LEVEL TRANSMITTER



Main Features

- Non-contact and never worn
- Multiple output modes including voltage, current, and RS485
- The sensor does not require repeated calibration or regular maintenance
- High resolution, high accuracy, stable and reliable, fast response
- The output signal provides multiple position and temperature outputs

Product Application

- Tank level measurement
- Liquid level control in chemical process
- Potable water and sewage treatment
- Industrial field level measurement and control
- Inspection and control of guide vane opening of water turbine

- TDam water level monitoring
- Tank level control
- Food and beverage liquid tank control
- Inspection and control of the opening of the air-lock valve of the steam turbine

16 | SL20 FLOAT LEVEL GAUGE

Overview

The float level gauge is divided into a float level transmitter and a float level controller.

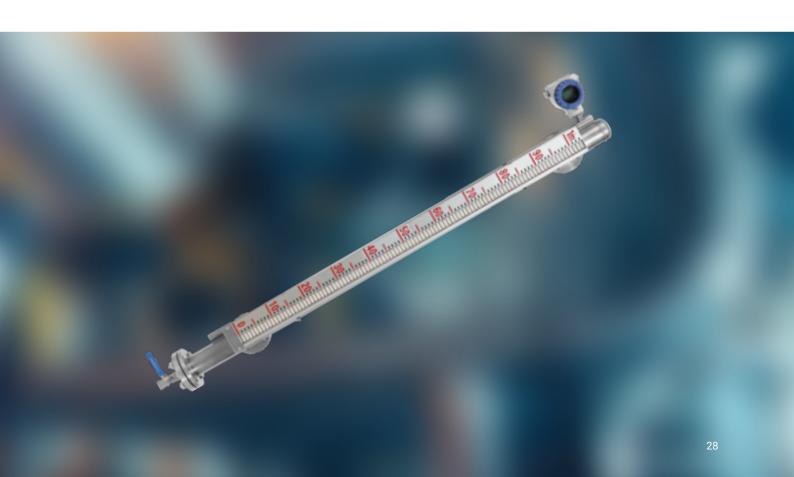
Float liquid level transmitter can be locally displayed, also on an on-site basis, it is capable of measuring liquid level change and converting (4~20)mA standard signal output, at a conventional operating power supply of DC 24V, with a two-wire system; the transmitter can be used for on-line measurement and control in petroleum, chemical, metallurgy, environmental protection and other sectors.

Float level controller, also known as float level switch, is the simplest and the most practical level control switch. It can be divided into side-mounted type (horizontal side-mounted) and top-mounted type (vertical top-mounted) by its installation form; or it can be divided into common type, explosion-proof type and marine type by its application; or it can be divided into the common type and self-test type by its detection method.



17 | SL10 MAGNETIC LEVEL GAUGE

- Corrosion-resistant, explosion-proof, intuitive display, variable direction
- Simple structure, convenient installation and easy maintenance
- The display component is completely isolated from the measured medium, and the sealing is reliable.
- Optional field display, remote transmitter, level controller
- Applicable to liquid level measurement of liquid medium in container



HD5500 SERIES 18 HD5500 SERIES SAFETY BARRIER





















Overview

HD5500 series safety barrier isolates power supply, input terminal signal and output terminal signal through optical, electrical and magnetic isolation technology, so as to realize the isolated transmission of digital/analog signals between the field intrinsically safe equipment and the control room equipment, therefore it is an ideal isolation interface unit between the field intrinsically safe equipment and the control room equipment. HD5500 series isolated safety barrier shall be designed in accordance with national standards (GB3836.1-2010, GB3836.4-2010, GB3836.20-2010, GB12476.1-2013 and GB12476.4-2010), meet intrinsically safe and explosion-proof requirements, and have strict isolation and energy limitation capabilities, the intrinsically safe explosion-proof system can be formed together with intrinsically safe explosion-proof equipment installed in dangerous places, and the electric energy flowing to the dangerous area can be limited through the internal comprehensive pressure-limiting and current-limiting design, so as to ensure the safety of electrical equipment and personnel in dangerous places.

HD5500 series isolated safety barrier is labeled with [Ex ia Ga] combustible gas, [Ex ia Da] combustible dust intrinsically safe and explosion-proof mark, and has been granted National

Explosion-proof Certificate (Certificate No: GYB18.1862 ~ 1872/GYB19.1195), International Explosion Protection Certificate (Certificate No: CN/NEP/QAR19.0011/00), European Union Explosion Protection Certificate (Certificate No: baseefa19ATEX0105 ~ 0109) and CE Certificate (Mode B + Mode C); it can be used in explosive gas and dust explosion-proof places of various groups.

HD5500 full series isolated safety barrier covers the following equipment functions: thermal resistance temperature signal transmitter, thermocouple temperature signal transmitter, millivolt signal transmitter, distributor, signal distributor, intermediate drive relay, etc.

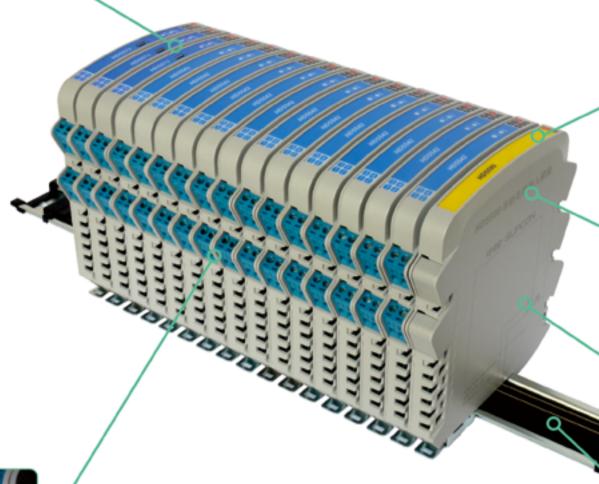
- High conversion accuracy
- No grounding is required to eliminate the interference caused by the grounding loop.
- Various configuration schemes: dedicated communication cable, wireless Bluetooth configuration
- It can significantly reduce the quantity of wires in the cabinet and is available in the power supply function of guide rail
- 12.5mm ultra-thin design, compliant with the modern control of intensive installation requirements, space-saving, further integrated
- Low power consumption and effective heat dissipation structure design effectively reduce the temperature rise of the cabinet under intensive installation conditions, improve product reliability and prolong service life

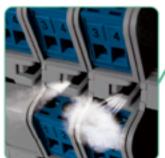
- Design of Triple Redundancy Circuit
- hot-swappable, each terminal can be hot-swapped, easy to install and maintain
- Complete line fault indication to facilitate rapid location and search of fault points on site
- Functional serialization to meet the widest range of functional requirements in process control such as signal isolation, power distribution, and signal transformation
- Three-port isolation of input/output signal and power supply constitutes a fully floating system, greatly simplifying the handling of field problems
- Isolate the fault point to avoid the impact of one point fault on the whole system, even in the event of lightning strike, the system can be prevented to the greatest extent
- [Ex ia Ga]IIC explosion-proof grade, applicable to the most dangerous zone 0 dangerous places and the most dangerous medium. With [Ex iaDa] flammable dust safety and explosion-proof Mark, can be used in each group of explosive dust explosion-proof sites



Easier Configuration Interface

Adapted to the special Bluetooth module, configurable via mobile phone.





Housing is designed in accordance with thermal design code for more effective heat dissipation

Convection heat dissipation hole design between terminals is adopted to bring more perfect hot runner and more complete heat dissipation, making high density installation possible.

International advanced low power circuit design

New power module design, power consumption lower than the previous generation of products up to 40%.



Better environmental adaptability and longer service life

The imported "three-proofing" coating line is adopted to improve the moisture-proof, dust-proof and corrosion-proof performance of the internal panels comprehensively.



Higher severity-consistency and stability

Imported high-speed SMT production is installed to realize the planarization and thinning of the internal plate, and bring higher product consistency and stability.



Extremely thin design for denser installation

More advantaged than similar products, it is 12.5mm thick, to achieve high-density installation, saving more than 30% of the space of the cabinet.



Flexible power supply

In addition to the traditional terminal block power supply, "Power supply module + power supply guide rail can be used for power supply, effectively reducing the work of power supply wiring. Facilitate rapid installation and system expansion.



19 | HD2000 SERIES SAFETY RELAY

Overview

Safety relay is the main component of safety control loop, which receives safety control signal input, outputs relay switch signal and is connected to the control loop of equipment.

It is capable of receiving wide voltage (16~35)VDC control switch signal; it can achieve safe and reliable isolation circuit through triple redundancy technology, automatic protection technology, contact fusion bond protection technology and other technologies.it allows single-circuit or double-circuit operation and is compatible with rail and baseplate mounting. The product is in compliance with the requirements of IEC61508 standards, and the safety function integrity reaches SIL3 level.

- Triple redundancy protection
- Compatible with DIN35 rail, baseplate mounted
- Compatible with wide voltage and non-polarity input of control power supply
- The housing is thin and small, minimizing the space for installation
- Protection design for channel limitation of relay output switch
- Compatible with upper port and supporting backplane input control power supply
- The terminals "plug and play" can be hot-swappable with electricity for easy installation and maintenance



20 | HD1000 SERIES BARRIER

Overview

HD1000 series barriers isolate power supply, input terminal signal and output terminal signal using optical, electrical and magnetic isolation technology, so as to realize isolated signal transmission between field equipment and control system, it is an isolation interface unit between the field equipment and the control room equipment; The isolation technology completely isolates the input and output signals electrically, greatly improving the anti-interference and reliability of the electronic system, at present, more and more interfaces between industrial control systems and field devices are equipped with isolated interface units to replace the original non-isolated units.

HD1000 full series barrier covers the following equipment functions: thermal resistance temperature signal transmitter, thermocouple temperature signal transmitter, millivolt signal transmitter, distributor, signal distributor, intermediate drive relay, etc.

- No grounding required
- High isolation voltage
- DIN rail independently mounted
- High density installation
- Hot-swappable
- Isolate the fault point
- Three-port isolation of input/output signal and power supply

- Provide one-in and two-out functions
- High conversion accuracy
- Serialization of modules



21 SURGE PROTECTION DEVICE (SPD.)

H SERIES SIGNAL SPD



Overview

H series signal type SPD is mainly used to protect field devices such as transmitters, switches, frequency signals, communication equipment, thermal resistance, thermocouples, etc. connected in two-wire and three-wire systems, as well as control indoor safety barriers, I/O, DCS, PLC and other equipment to protect it from lightning, surge, impulse voltage or operating overvoltage damage.

Explosion-proof parameters

- Explosion-proof mark: Ex ia C T4 T6 Ga
- Explosion-proof certificate number: GYB20.1413X
- Standards compliant:

GB 3836.1 Explosive atmosphere Part 1: General requirements for equipment

GB 3836.4 Explosive atmosphere Part 4: Equipment protected by intrinsically safe "i"

GB 3836.20 Explosive atmosphere Part 20: Equipment with equipment protection level (EPL) of Ga level

- Hot-swappable, uninterrupted after dialing out
- Lightweight design, save space
- The rail is directly grounded
- High bandwidth, low insertion loss, suitable for all kinds of signals

S SERIES SIGNAL SPD

P SERIES DC POWER SPD





Overview

S series signal SPD is mainly used to protect field equipment such as transformers, switches, frequency signals, communication equipment, thermal resistance, thermocouple, etc. which can be connected in two-wire and three-wire modes, as well as safety barrier in control room and I/O, DCS, PLC and other equipment, and can protect it from lightning surge impingement to electrical voltage or operating overvoltage.

Overview

P series DC power SPD is designed according to IEC, GB and other standards, which can connect the protected line into the equipotential system at the moment of surge generation, and limit the voltage to a certain level, thereby protecting the consumer's electrical equipment properly.

Main Features

- Intrinsically safe and explosion-proof certification
- 7.6mm ultra-thin, space-saving
- Grounded via the earthing terminal or directly via the guide rail
- High bandwidth, low insertion loss, suitable for all kinds of signals

- Operating status indication
- Hot-plug compatible with easy maintenance
- Remote signaling function (specified when ordering)

22 | SMART SECONDARY INSTRUMENT





Overview

1994, China's first paperless recorder was born in the SUPCON. Over the past 25 years, more than 200000 control room instruments have been applied in 6000 companies around the world. With its excellent design, reliable quality and wide adaptability, the SUPCON products have been highly praised by the industry.

The products are complete in series, rich in models, with open software and hardware platform, realizing the functions of data collection, recording, analysis and operation, and having complex control functions. Through the powerful host computer software, the field data can be remotely monitored and managed, and the data can be transmitted in an abundant manner.

- Universal signal point isolation input
- Event recording/trigger recording
- Data acquisition manual automatic start/stop
- Analog/switching/time proportional output

- PID parameter self-tuning
- Operation function: 60
- Minimum sampling and control period: 125ms
- Timer/program/PID/ON_OFF control optional



AR7000 Touch Screen Paperless Recorder

Analog input: 24 ways Switch output DO:16 ways

Pulse input PI:3 ways Analog output A0:6 ways

Switching input DI:3 ways Way time proportional output

PWM:8 ways



AR7100 Touch Screen Batch Recorder

7 'Touchscreen Interface Operational expression function

3-way DI +16-way DO

6-way AI +2-way AO

(extensible)

Ethernet +485 interface

Full compliant with FDA 21 CFR

PART11



C3900 Process Controller

4-way PID control PID parameter self-tuning

3-way program control Operational expression function

6-way ON/OFF control Synchronous/asynchronous

program control mode



F1000 Flow Totalizer

Flow accumulation RS232/RS485 communication

Printing function Flow calculation and temperature

compensation Information sheet

PAPERLESS RECORDER

	R1000	25416.7 	AR3000/AR4000
CPU Type	32-bit ARM	32-bit ARM	32-bit ARM
Type of LCD	STN Monochrome	STN Monochrome	5.6 "TFT True Color/Blue Screen
Backlight Type	LED	LED	LED
Screen Resolution	128*64	128*64	320*234
Maximum Number of Al Ways	3	3	12
Input Signal Type	Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal	III standard signal, millivolt	Frequency signal, Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal
Minimum Sampling Period	1s	1s	1s
Display Refresh Velocity	1s	1s	1s
Maximum Accuracy	± 0.05%	± 0.05%	± 0.05%
Maximum Number of DO Ways	4-way	4-way	12-way
Power Distribution Output	24VDC,30mA/60mA/100mA Optional	24VDC,30mA/60mA/100mA Optional	24VDC,30mA/60mA/100mA Optional
Flow Accumulation/Temperature Compensation	Yes	Yes	Yes
Flow/Heat Report			Yes
Operation Function			
Switching Value Recording Function			
Communication Interface	RS232/RS485	RS232/RS485	RS232/RS485/Ethernet
Communication Protocol	Modbus	Modbus	Modbus
Internal Storage Media	3MB FLASH	3MB FLASH	32MB NAND FLASH
External Storage Media			USB drive
Protection Class of Front Panel	IP54	IP54	IP54
Safety Standards	IEC61010-1:2001	IEC61010-1:2001	IEC61010-1:2001
EMC Standard	IEC61000	IEC61000	IEC61000
Dimensions of Openings (mm)	152*76	152*76	138*138
Power Supply	(100~240)VAC or 24VDC	(100~240)VAC or 24VDC	(100~240)VAC or 24VDC

	AR3100/AR4100	R5000	AR7000
CPU Type	32-bit ARM	32-bit ARM	32-bit ARM
Type of LCD	5.6 "TFT True Color/Blue Screen	10.4 "TFT True Color	7 inch TFT True Color Touch Screen
Backlight Type	LED	LED	LED
Screen Resolution	320*234	640*480	800*480
Maximum Number of Al Ways	12	32	24
Input Signal Type	Frequency signal, Type II/ III standard signal, millivolt signal, thermocouple, thermal resistance signal	Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal	Frequency signal, Type II/ III standard signal, millivolt signal, thermocouple, thermal resistance signal
Minimum Sampling Period	0.125s	1s	0.5s
Display Refresh Velocity	1s	1s	1s
Maximum Accuracy	± 0.05%	± 0.05%	± 0.05%
Maximum Number of DO Ways	12-way	32-way	16-way
Power Distribution Output	24VDC,30mA/60mA/100mA optional	24VDC,30mA/60mA/100mA optional	24VDC,150mA
Flow Accumulation/Temperature Compensation	Yes	Yes	Yes
Flow/Heat Report	Yes	Yes	Yes
Operation Function	Yes		Yes
Switching Value Recording Function	Yes		Yes
Communication Interface	RS232/RS485/Ethernet	RS232/RS485	RS232/RS485/Ethernet
Communication Protocol	Modbus	Modbus	Modbus
Internal Storage Media	Maximum 128MB NAND FLASH	Maximum 128MB NAND FLASH	1GB NAND FLASH
External Storage Media	USB drive	USB drive	USB drive
Protection Class of Front Panel	IP54	IP54	IP65
Safety Standards	IEC61010-1:2001	IEC61010-1:2001	IEC61010-1:2001
EMC Standard	IEC61000	IEC61000	IEC61000
Dimensions of Openings (mm)	138*138	282*282	138*138
Power Supply	(100~240)VAC or 24VDC	(100~240)VAC	(100~240)VAC

PROCESS CONTROLLER

	C1000	C3900
CPU Type	32-bit ARM	32-bit ARM
Type of LCD	STN Monochrome	5.6 "TFT True Color
Backlight Type	LED	LED
Screen Resolution	128 × 64	320*234
Maximum Number of Al Ways	3	12
Input Signal Type	Frequency signal, Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal	Frequency signal, Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal
Minimum Sampling Period	1s	0.125s
Display Refresh Velocity	1s	1s
Maximum Accuracy	± 0.05%	± 0.05%
Number of PID Control Loops	1	4
Maximum Number of DO Ways	4-way	12-way
Power Distribution Output	24VDC,30mA/60mA/100mA optional	24VDC,30mA/60mA/100mA optional
Flow Accumulation/Temperature Compensation		Yes
Operation Function		Yes
Switching Value Recording Function		Yes
Communication Interface	RS232/RS485	RS232/RS485/Ethernet
Communication Protocol	Modbus	Modbus
Internal Storage Media	3MB FLASH	128MB FLASH
External Storage Media		USB drive
Protection Class of Front Panel	IP54	IP54
Safety Standards	IEC61010-1:2001	IEC61010-1:2001
EMC Standard	IEC61000	IEC61000
Dimensions of Openings (mm)	152*76	138*138
Power Supply	(100~240)VAC or 24VDC	(100~240)VAC or 24VDC

	E6500	C7000
CPU Type	32-bit ARM	32-bit ARM
Type of LCD	5.6 "TFT True Color	7 inch TFT True Color Touch Screen
Backlight Type	LED	LED
Screen Resolution	320*234	800*480
Maximum Number of Al Ways	12	24
Input Signal Type	Frequency signal, Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal	Frequency signal, Type II/III standard signal, millivolt signal, thermocouple, thermal resistance signal
Minimum Sampling Period	0.125s	0.5s
Display Refresh Velocity	1s	1s
Maximum Accuracy	± 0.05%	± 0.05%
Number of PID Control Loops	4	8
Maximum Number of DO Ways	12-way	16-way
Power Distribution Output	24VDC,30mA/60mA/100mA optional	24VDC,150mA
Flow Accumulation/Temperature Compensation	Yes	Yes
Operation Function	Yes	Yes
Switching Value Recording Function	Yes	Yes
Communication Interface	RS232/RS485/Ethernet	RS232/RS485/Ethernet
Communication Protocol	Modbus	Modbus
Internal Storage Media	128MB FLASH	1GB FLASH
External Storage Media	USB drive	USB drive
Protection Class of Front Panel	IP54	IP65
Safety Standards	IEC61010-1:2001	IEC61010-1:2001
EMC Standard	IEC61000	IEC61000
Dimensions of Openings (mm)	138*138	138*138
Power Supply	(100~240)VAC or 24VDC	(100~240)VAC

23 | SUPX600 INTERACTIVE SMART CALIBRATOR





Integrating Process Calibrator/HART Handheld Communicator as a whole

- Compatible with HART communication
- The accuracy of process calibrator can be up to 0.01



Allowing separate operation, as a site engineer's best solution

- Operator module and signal measurement module can be used separately
- It is easy in signal spot check or commissioning for equipment within 10 m range



Industrial aesthetic design, friendly humancomputer interaction

- Wiring Method of Dynamic Prompt
- 5.5 "HD full-color display, icon-touched
- Multiple means are optional to set the output
- Its output may be set by step value \fast \rectangular wave, triangular wave, stepped wave, etc.



Built-in rich value-added functionality

- Built-in signal recording function to record signal changes over time
- Built-in thermocouple and thermal resistance conversion tool for fast calculation
- Built-in process calibration function for rapid calibration of safety barriers, temperature transmitters, etc.



X207 HART Handheld Communicator is a portable device that communicates with a HART protocol smart pressure transmitter, which is fully compliant with the HART protocol second master device specification, it is a necessary tool for testing and parameter adjustment of transmitter in industrial field. X207 which not only supports basic commands such as reading device type, reading master variable, modifying tag number, modifying range, etc., and also supports reading various process variables, modifying the output mode and other general commands and special commands such as sensor adjustment and output adjustment.

- Accuracy: 0.02%
- Chinese operation interface
- Battery level indication
- Miniaturized design for hand-held portability
- 4.2Ah lithium battery
- 24V power distribution output
- Voltage/current measurement
- Universal micro-usb charging interface with mobile phone
- Compatible with HART protocol
- 3.5-inch white LED-backlit LCD
- Integrated two-color casing, strong and durable and non-staining
- Coexistence of function keys and numeric keys



The X Series Process Calibrator is a high-precision handheld signal measurement/output instrument, which is capable of simultaneously measuring and output voltage, current, resistance, frequency, thermocouple, thermal resistance, pulse and other industrial process signals, with the highest accuracy of \pm 0.01% FS.

X series process calibrator can replace current signal source, voltage signal source, resistance box, electronic potentiometer, frequency meter and other measuring and calibration instruments, independent dual-way design, can be measured and output at the same time. Built-in 90 International Temperature Scale, thermal resistance, thermocouple two-way look-up table operation.

Main Features

- Pulse count
- Calibration function
- Voltage measurement/output
- Switching of Celsius and Fahrenheit scales
- Frequency measurement/output
- Signal measurement/output reset
- 2/3/4-wire system thermal resistance measurement
- Two-way indexing of 90 International Temperature Scale
- Current measurement/output
- Analog two-wire transmitter signal
- Synchronous display of temperature value and signal value
- 24V DC power supply with overcurrent protection

46 46

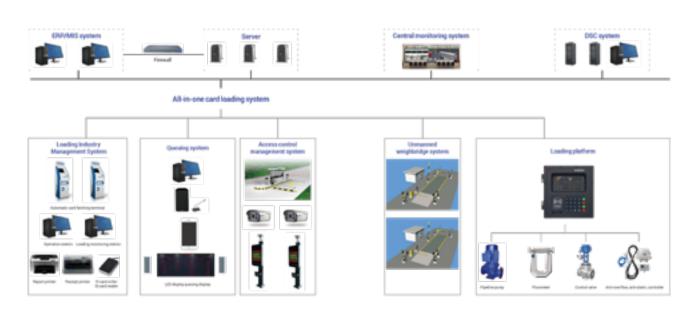


The centralized supQFS smart loading system is a part of the smart storage and transportation management system in the tank farm. The system takes loading and unloading control as the core, and the whole process of sales, planning, production and other links will be opened up, on the basis of ensuring safe loading and unloading operation. The whole process of loading and unloading business can be controlled, scheduled and managed on a "smart" basis.

The system is modularized and integrates electronic, network, explosion-proof, radio frequency identification, quantitative control and other technologies to realize functional information interaction, business data sharing and management. The system can solve the enterprise security, function, information and other applications of pain points, difficulties, optimize the business experience of customers.

The SUPCON smart loading system is provided with two kinds of architecture, the distributed control system based on SQI series batch controller and the centralized control system based on DCS and field operator. The system includes controller, operator, flowmeter, electro-hydraulic valve/pneumatic two-stage Ball Valve, electrostatic oil spill protector, vehicle key manager, fuel delivery pump and other equipment and instrument terminals, integrated SQS loading integrated management software, therefore the control of loading and unloading of liquid materials is safer, more precise and more efficient.





SQI SERIES BATCH CONTROLLER







SQI Series Batch Controllers are designed for loading and unloading of petroleum, chemical raw materials and other liquid products. They are matched with high-precision volume or mass flowmeter, and depending on necessary safety interlocking functions, such as anti-static and anti-overflow, they are capable of automatically controlling valve pump's operation with high safety, high precision and high efficiency of liquid products for mass delivery. The user interface of the equipment is friendly, safe, reliable and beautiful.

Main Features

- Support material proportioning and filling
- 7-inch large color screen monitoring to support real-time monitoring of Field Instrument Status
- Compatible with the control of numerical control valve (electric hydraulic valve), two-stage Ball Valve, on-off valve and regulating valve, and the control parameters can be configured
- Multi-way RS485 communication, Batch Controller supports communication with the loading host computer, and supports direct communication and interaction with the third-party system
- Compatible with real-time temperature compensation, with the compensation period up to 500ms, complying with GB/T 1885-1998
- Both remote and local modes are supported, with a maximum of 9999999 Kg or L for a single lot

- All-in-one card and digital password authentication, support all kinds of IC cards, support multi-level authority management
- Flow rate control in the whole process to prevent the accumulation of static electricity in petroleum products and to prevent the water hammer effect
- Anti-static, anti-oil spill, emergency shutdown and other interlocking, supporting self-defined interlocking signal, equipped with two-way reliable emergency shutdown control of software and hardware
- Power-down data protection function, supporting data not to be lost after power-down, and the operation document can be restored after power-on

Technical Indicators

Indicators	Parameters
Explosion-proof class	Exd II BT6 Gb
Protection class	IP65
I/O Way	AI (4 ~ 20mA), AO(4 ~ 20mA), DI (dry contact), DO (dry contact), PI(5V/24V level)
Communication port	RS485 bus (4-way)
Operating voltage	$(180\sim260)$ VAC, $(47\sim63)$ Hz, power consumption ≤ 30 W
Operating temperature	(-40 ∼ +60)°C
Relative humidity	(5 ~ 95)%RH
Keyboard	Hall effect reinforced keys, protected from corrosion by common chemicals



SQH Series Train Quantitative Loading Business Software

SQH series quantitative loading service software is characterized by batch order, order batch distribution, distinct data error recognition, and one-button loading, etc. Through the efficient operation management of software, it can make quantitative control on train loading in a more automated, humane and safe manner.

Main Features

- Business Information Management Function
- Material Information Management Function
- Automatic configuration of controller and Crane position
- Automatic identification of tank type, allocation of capacity according to regulations
- Management of Crane position grouping information, supporting sequential filling and one-key batch grouping
- Loading batch query, operation record query, report statistics, etc. are printed and exported to excel sheets

- System parameter management and user information management function
- Functionalization of crane location information to make information data more accurate
- Business function of batch order making, realizing sequential automatic rule loading
- RTN data point management: tabular management of the required data point table information

Software Interface



Crane tube position information management



Controller management



Batch material binding editing



Bulk production-screening for crane locations



SQS Series Quantitative Vehicle Loading Business Software

SQS series vehicle loading software provides detailed management from sales billing, driver pick-up, loading and unloading monitoring, accounting and reporting of the tanker, and allows putting the entire loading and unloading business process in scientific management, control, metering, alarm monitoring, as well as event recording and other functions.

Main Features

- Compatible with remote billing
- Compatible with redundant backups of critical data
- Complete business system and report system to meet various application scenarios on site
- Available in communication with ERP, tanker queuing and calling system, access control, weighbridge and other systems
- Integrated control, data acquisition, billing and reporting
- Allowing IC card operation, and avoiding misoperation function
- Available in the traceability and diversified collection of measurement data to ensure more fair and accurate measurement

Software Interface



Landing



Communication Service Software



Crane position monitoring interface



Parameter settings

27 | SUPCON IIOT SOLUTION

Overview

The Industrial Internet of Things (IIoT) solution of SUPCON integrates the sensing technology, communication technology, transmission technology, data processing technology, control technology, Internet of Things technology and rich field application technology as a whole, and it aims to provide safe and reliable technical guarantee and equipment operation guarantee for all kinds of enterprises and institutions. Finally, it is available in the modernization of relevant business management, standardization of procedures, scientific decision-making and networking of services.

The solution takes the SupBox series smart data gateway and InscanESM software platform as the core, and realizes the communication and interconnection of various equipment, PLC, DCS and other smart terminals, complete data collection, edge calculation, forwarding and security defense, and process, present and release all kinds of data information.



Picture	Product Model	Product Description	Communication protocol
	SupBox510	Power supply:(9~24) VDC Interface: 1 RS485,1 Ethernet interface Dimensions: 155mm × 106mm × 32mm	
	SupBox511	Power supply:(9~24) VDC Interface: 4 RS485,1 Ethernet interface Dimensions: 188mm × 133mm × 35mm	M o d b u s - R T U Modbus-TCP DL/ T645-1997 DL/ T645-2007 CJ/ T188-2004 Available in protocol "pass-through" transmission
	SupBox520	Power supply:(9~24) VDC Interface: 1 RS485,1 Ethernet interface Wireless: 4G All Netcom Interface Dimensions: 155mm × 106mm × 32mm	
	SupBox521	Power supply:(9~24) VDC Interface: 4 RS485,1 Ethernet interface Wireless: 4G Netcom interface WiFi interface Dimensions: 188mm × 133mm × 35mm	
	SupBox310	Power supply: 24VDC Interface: 2 RS485,1 Ethernet interface Wireless: 4G All Netcom Interface Host: 4 DI input, 4 DO output Extension: expandable 10 IO modules Dimensions: 45mm × 125mm × 127mm	M o d b u s - RTU Modbus- TCP supports transparent transmission
	SupBox320	Power supply: 24VDC Interface: 2 RS485,2 Ethernet, 1 RS232 and 1 USB Wireless: 4G All Netcom Interface Host: 4 DI input, 4 DO output, 4~8 ways Al universal input Extension: expandable 10 IO modules Dimensions: 162mm x 120mm × 64mm	Modbus-RTU Modbus-TCP Available in protocol "pass-through" transmission supports PLC communication
The Assertion of the Control of the	SupBox210	Power supply:(5~36) VDC Interface: 1 RS485 interface Wireless: LoRa Antenna interface Dimensions: 97mm × 89mm × 24mm	Transmission mode relay mode

INSCAN ESM DATA MONITORING MANAGEMENT SYSTEM





Configurable ability

C# Code editor

H5 configurable monitoring process

Excel Custom report

Third-party data mining work



Business functions

Plant Energy Metering

Building energy consumption control

Number of stations

Small Production Line Management



Data acquisition capability

Conventional communication protocol access

SupBor device communication access

Networking device access

Custom drive access



Technology/Tools

Front end/mobile terminal fast configuration software

Image Identification

Automated deployment tools



Interface Services

Data protection service subscription window interface

Top connection window

Message-based interface



Edge calculation processing capability

Organization of data based on device objects

Ce-based custom programming features

Data processing services based on plug-ins

The data monitoring and management platform is available in data signage, data analysis, statistical report, alarm information, flow chart monitoring, optimization control, visual report, comprehensive query, mobile access and information push, etc. Through the network and digital information collection, it is capable of expanding the coverage of industrial data, improving the comprehensiveness, timeliness and accuracy of data management, and achieving the safety of industrial data and information interconnection. It offers MQTT, HTTP, OPC and other data interfaces to seamlessly interface with SCADA, MES, ERP and other third-party systems to realize all-round data docking among systems.

Edge Calculation Data Acquisition Software

- Compatible with access of Modbus, OPC, MQTT, data collector and other drivers
- Compatible with the edge calculation programming function based on C# language, and realize the functions of data processing, cleaning, multi-dimensional calculation, etc.
- Allowing multiple service functions such as data alarm, storage traceability, upper platform push, etc., and support custom editing and
 insertion functions of driver, plug-in and service

Upper Layer System Software

- Compatible with calculation services based on Excel report templates, compatible with custom data preprocessing calculation services
- Allowing data modeling, unit modeling, categorical statistics, hierarchical structure display and comprehensive statistics display
 functions adopt HTML5 technology and Compatible with data access based on PC and mobile terminals, showcases switch-able
 between the two
- Communicated with edge computation data acquisition software through fast data interface, and allowing multiple service functions such as data linkage processing, multi-level alarm response, upper data interface, etc.







Home page

Real-time data matrix

GIS

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