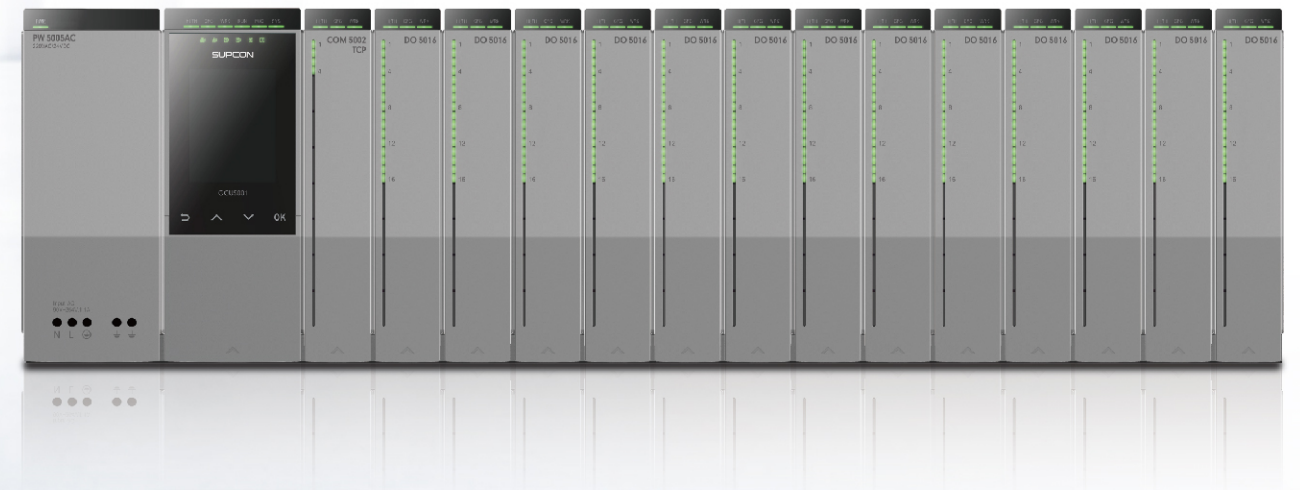


G5Pro System

Programmable Logic Controller



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HW-GM-CAT-HW-PLC-EN-V01

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Network



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Hardware

OVERVIEW

G5Pro belongs to GCS control system platform which adopts UCP (unified control protocol) framework based communication network. The series can support wide ranges of distributed applications in oil & gas pipeline, rail transportation, heating pipe network, sewage treatment, intelligent water supply, traffic tunnel, utility tunnel, nuclear power, equipment and other fields.

Main Features

Strong Network

- Highly reliable industrial Ethernet. Support secure and real-time communication.
- Multiple networks capability. Support distributed applications based on wireless network and public network.
- Redundant network topology. Support multiple topologies such as star, bus, ring, and daisy chain.

Reliable Control

- Multi-task operating system supports periodic, cyclic scanning and event triggering operation, and integrates process, batch, discrete, drive and motion control into a unified automation platform.
- Multiple online download methods covers point download, function download, whole/ optional region download, etc. Online download security mechanism ensures risk-free

online modification and maintenance of control strategy.

- Rich process control logic library facilitates overall solution of process control, drive control and motion control. Large capacity of high-speed logic control supports < 2ms interlocking response.
- Producer-consumer mode enables efficient data share and interaction.
- Fault diagnosis security mechanism supports fault analysis, early warning, automatic fault removal and protection at channel level. Overall efficiency optimization by fast engineering development and one-time tag defining, etc.

Flexible Interconnection

- Open interfaces (such as MODBUS, TCP, and OPC, etc.) support easy data sharing and interaction with third-party

systems and devices.

- Support interconnection with intelligent equipment and instruments via HART, PROFIBUS, MODBUS, etc.
- Compatible with a wide variety of HMI software.
- Support easy import and upgrade of existing systems and external system configurations.

Comprehensive Software

- Powerful distributed architecture supports maximum scalability. Process control, batch control, discrete control, safety control and multiple-strategy control all share the same real-time information from the unified real-time database, which is easier to integrate, faster to start up, configure and debug. Information are encrypted by user password.
- Configuration software support IEC61131-3 international standard programming language, meeting flexible and diverse programming needs; Rich and efficient function blocks and commends support standard/ customized automatic operation and production applications and information management.

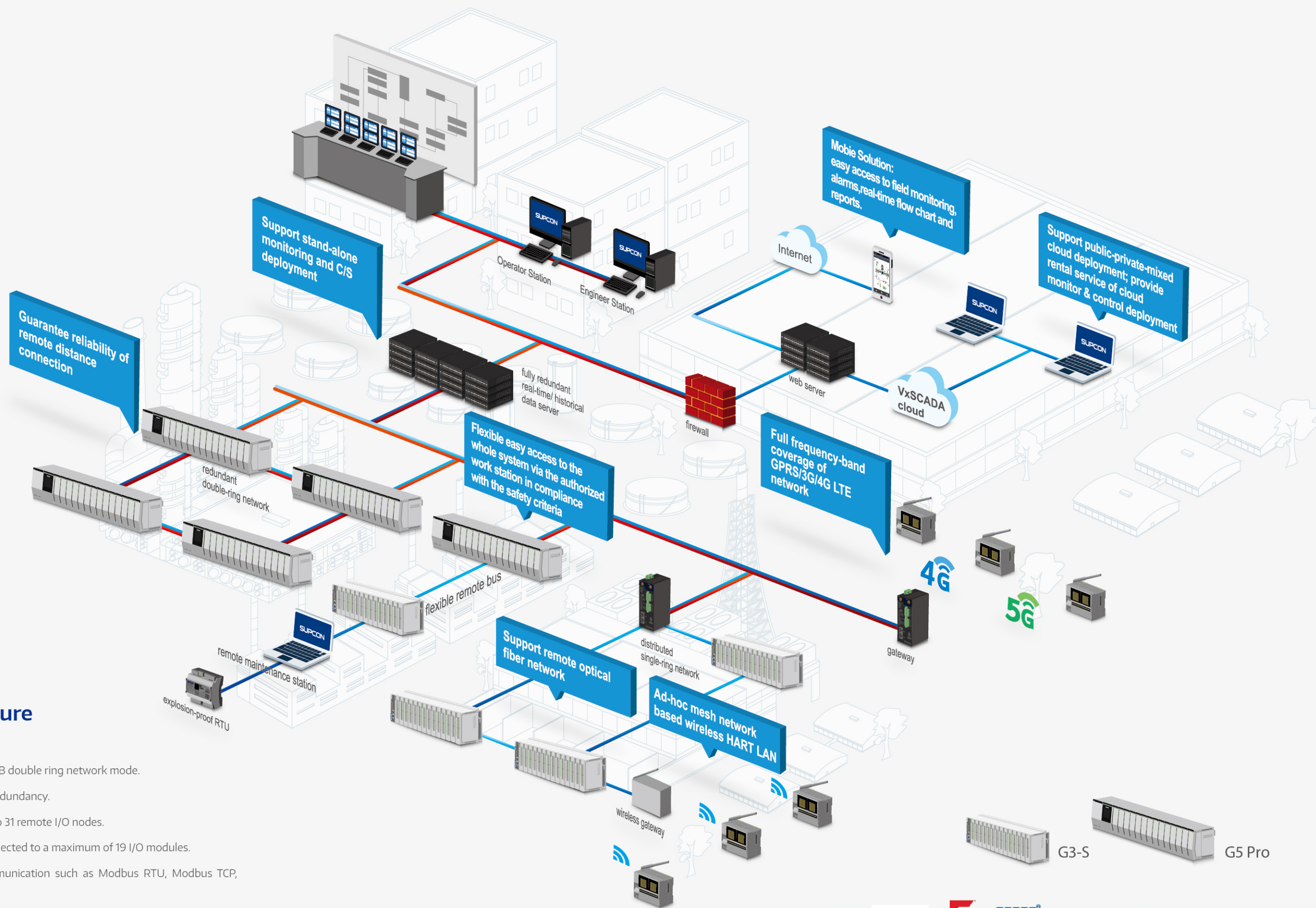
- Monitoring software VxSCADA adopts real-time client/server structure. Excellent performance can be guaranteed whether the client and server run on independent computers or apply complex distributed data acquisition and control system on the network.

- High-fidelity process simulation software with rich graphics, text and template libraries; Support flexible alarm configuration, classification, filtering and view of the whole process of information through the panel and viewer.

- Objectification technology makes it easier to configure, log, and maintain real-time and historical data.

Robust Hardware

- Flexible and simple installation allows easy adjustment of monitoring points according to the control cabinet and installation space.
- Specially treated components support reliable operation at wide-range temperature, high altitude, and meet anti-corrosive, explosion-proof requirements in various harsh and hazardous environments.



System Architecture

- Supports operation network AB double ring network mode.
- The controller supports rack redundancy.
- The remote bus supports up to 31 remote I/O nodes.
- Each remote node can be connected to a maximum of 19 I/O modules.
- Support heterogeneous communication such as Modbus RTU, Modbus TCP, Profibus DP, and OPC UA, etc.

WirelessHART

Fieldbus

PROFIBUS

DNP3

IEC60875-5-104

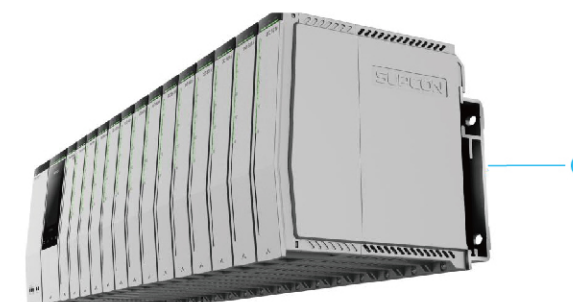
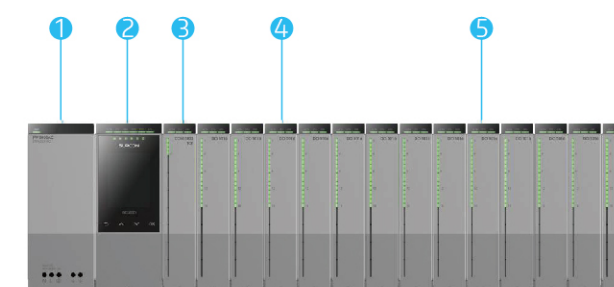
DLT 645

Performance Indicators

Parameters	Description	
Electrical Specification		
Power Supply	AC/DC Card:	90V AC~264V AC or 120V DC~300V DC, 47Hz~63Hz
	DC/DC Card:	18V DC~75V DC
Ground Resistance	Normal condition:	<4 Ohm
	Special condition:	<1 Ohm
Group Impulse	220V Input Power / Ethernet / I/O Input Signal/ DP interface / RS-485 interface: 3B	
Surge	220V Input Power / Ethernet / I/O Input Signal/ DP interface / RS-485 interface: 3B	
Static Electricity	3B	
Working Conditions		
Working Temperature	-20°C~70°C	
Working Humidity	0% to 95%,without condensation	
Working Altitude	Below 4,000 meters above sea level	
Vibration	Constant amplitude	0.0075m@10-58Hz
	Constant acceleration	1g@58-150Hz
Preservative Treatment	G3 anti-corrosion grade	
Working Conditions		
Shell	Electrostatic discharge	CD6KV, AD8KV
	Radio frequency electromagnetic radiation	10V/m
	Power frequency magnetic field	30A/m
AC Power	Voltage dip, short interruption and voltage change	0.5 period, 100%
	Electrical fast transient	2KV
	Surge	1KV/2KV
	Conduction disturbance induced by radio-frequency field	3V
DC Power	Electrical fast transient	1KV
	Surge	1KV
	Conduction disturbance induced by radio-frequency field	3V
I/O	Electrical fast transient	2KV
	Surge	1KV/2KV
	Conduction disturbance induced by radio-frequency field	3V

HARDWARE

System Components



1 **Power module:** Provides power for the rack baseboard in AC/DC and DC/DC mode.

6 **Rack:** A backplane with power ports, address ports, and communication ports.



2 **Controller module:** Support rack redundancy configuration and single-card application mode with two RJ45 interfaces. Support 10/100/1000Mbps full-duplex self-adaptation network redundancy, equipped with two optical fiber ports serving as inter-rack synchronous communication links.



3 **Extension communication module:** Realize data communication between the controller rack and expansion rack, supporting hierarchical network structure building. It has two RJ45 interfaces and can form a ring network.



4 **Heterogeneous communication module:** Modbus RTU/TCP heterogeneous access module, Profibus DP heterogeneous access module, and OPC UA communication module, etc.

5 **I/O module:** AI/AO/DI/DO, TC/RTD, PI, HART, SOE modules, etc.

GCU5001-S01 Controller

GCU5001-S01 controller is the core of GCS G5Pro, which can complete data collection, processing, control output and other functions in the system. The controller uses UCP (Unified control protocol) to connect with the control network (operator station, engineer station) to receive the management information from the upper layer, meanwhile transmit real time process data upwards. The real-time process information from the field is periodically collected through the signal input module, and the control signal is output after processing according to the user algorithm thus to realize real-time control of the field control objects.

- Support multi-task scheduling based on priority of cyclic tasks, periodic tasks, event tasks, start tasks, and abnormal handling tasks.
- Support single card and rack redundancy modes.
- Provide IEC61131 standard function blocks and general function blocks library.
- Support fault diagnosis, real-time data disconnection diagnosis and program abnormal monitoring.
- Check configuration consistency during operation.
- Support offline and online configuration updates. The complete configuration archive can be saved to the controller and uploaded .
- Through the Modbus RTU slave interface, ModbusTCP server interface, and Profinet slave interface, other master devices can access the open memory of the controller.
- Information encryption function can ensure the information security of the control system.
- The local bus can connect up to 18 I/O modules.
- The remote bus supports a maximum of 31 remote I/O nodes, and each node can connect with a maximum of 19 I/O modules. HD LCD Panel can display basic controller information, diagnosis information, and set the controller.

Performance Indicators

Parameters		Description
Power Specifications	Power supply	19.2V DC~28.8V DC
	Static power	<10W
	Overload and short circuit protection	Fuse checked
Basic functions	Redundancy	Rack redundancy
	Calibration/detection function	Support
	Online Firmware Upgrade	Support
	Hot swapping	Support

Parameters		Description
CPU	Processor	Cortex-A7 Dual Core
	Dominant frequency	1000MHz
	FLASH	64M Bytes
	DDR4	1G Bytes+512M Bytes ECC
	MRAM	512K Bytes
Hardware real-time clock (RTC) accuracy		≤1s/day
RTC backup battery	Specification	3V button battery
	Capacity	>200mAh
Communication Indicators	SD card slot	Standard SD2.0,supports a maximum of 32GB
	EI	UCP protocol, bus topology
Communication Indicators	Ethernet	2 Ports, . It is used for dual network redundancy. Communication rate:10/100/1000BASE-TX10M/100M/1000M adaptive Communication protocol: ucp/snmp/Profinet(B network)/Modbus TCP/IP MODBUS communication command: FC01 (Read coil status), FC02 (read input status), FC03 (read holding register), FC04 (read input register), FC05 (write single coil), FC06 (write single register), FC15 (write multiple coils), FC16 (write multiple registers) Modbus Work mode: It works as MODBUS server, connecting up to 64 client devices.
	RS-485	Interface: one set of three terminals, RS485 interface Baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps Communication protocol: the Modbus RTU Modbus communication commands: FC01 read coil status, FC02 read input status, FC03 read hold register, FC04 read input register, FC05 write to a single coil, FC06 write to a single register, FC15 write to multiple coils, and FC16 write to multiple registers Modbus working mode: slave station, address can be set through configuration software
Communication Indicators	Rack redundancy communication	Port:2 channel Communication rate:128.0Mbps Fiber optical port:SFP Fiber optical mode:single mode Connector type:LC-LC Transmission distance:Maximum 10km Central wave length:1310nm
	Light indicator	11 double color status light indicators
Mode switch	A key switch is adopted for switching the working modes of the controller module.	
Information security switch	Rotary DIP switch is adopted for setting the access permission of the controller module for the master PC software.	

Communication Module Indicators (COM5004RTU and COM5004TCP)

Parameter	Description	
Module Type	COM5004RTU	COM5002TCP
Local bus interface		
Communication rate	128Mbps	
Topology	Bus, with branching	
Plug port	Hot plug	
Remote bus interface		
Communication interface	4 isolated, RS485	One Ethernet, two ports
Communication rate	BPS (1200 ~ 115200)	10/100Mbps
Control protocol (TCP)	Modbus RTU: user-defined protocol	Modbus TCP/IP: user-defined protocol
Redundancy	Main station supports redundancy	Client mode supports redundancy
Capacity	Support maximum 64 devices	Support maximum 64 links
Diagnosis	Local bus diagnosis	Ethernet address conflict diagnosis, local bus diagnosis
Hardware indicator		
Power supply mode	The rack provides 24V redundant power supply	
Input voltage	24V±5%	
Power consumption	<5W	<5W
Redundancy switchover time	≤1s	
Module quality (G)	<800	
Module size (W×H×D) (mm)	30*150.5*147	

Remote Extension Module Indicators

Parameter	Description	
Local bus interface		
Communication rate	128Mbps	
Topology	Bus, with branching	
Plug port	Hot plug	
Redundancy mode	Modules support rack or pedestal redundancy	
Remote bus interface		
Communication interface	Two interfaces, industrial Ethernet	
Communication rate	10/100Mbps	
Control protocol (TCP)	UCP	
Topology specification	Star type, mixed star ring type	
Capacity	32 nodes	
Diagnosis	Network diagnosis, local bus diagnosis	Power diagnosis, operating status diagnosis
Hardware indicator		
Power supply mode	The rack provides 24V redundant power supply	
Input voltage	24V±5%	
Power consumption	<5W	
Redundancy switchover time	<1s	
Module size (W×H×D)	30*150.5*147	

I/O Module

The G5Pro system rack-mounted I/O module includes various input and output modules, which can be adapted to a variety of applications from high-speed discrete control to process control.

- All kinds of analog and digital signal acquisition, output and processing.
- All analog and digital modules support redundancy .
- Electrical isolation among channels, and between channels and system.
- Channel level fault self-diagnosis and module hot swap.
- Anti-reverse insert/ mixed insert/ misinsert installation.
- High speed counting, positioning, steam turbine control, motor control and other industrial-specific measurement & control.

Digital Input Module Indicators

Parameter	Description		
Power Supply	Power supply voltage	20.4V DC~28.8V DC	
	System side isolation	√	
	Reverse polarity protection	√	
	Redundant power input	√	
	Input buffer time	<5ms	
	Power consumption	<3.5W	
Channel	IO channel number	16	
	Channel indicator light	With reference to 1.2.6	
	Signal types	Contact type	ON: ≤1kΩ; OFF: ≥100kΩ
		Type level	ON: ≥15V DC; OFF: ≤5V DC
	Channel input current	Rated 2.5mA	
	Input delay time	Configurable: 4ms/8ms/16ms/32ms	
	Input type	NPN/PNP	
	Isolation type between onsite and system	Photoelectric isolation	
	Type of isolation between channels	Unified isolation	
	Pressure isolation	1500V AC,1 minute	
Bottom interface	ECI	2 x 128Mbps Communication speed: 128Mbps Communication protocol: UCP Topology: Bus	
	Redundant communication channels	1	
	Redundant switching channels	1	
	Slot address	5bit+1bit,Odd check support	
In-position Measurement	√		
Calibration/detection	√		
Online Firmware Upgrade	√		
Module Redundancy	Support single card work or redundant work		
Hot Plug	√		
Type of Installation	Wire specifications	Supports 2.5mm² cables with a diameter greater than 600m	
	Installation	Front outgoing cable or terminal conversion	
Size	30*150.5*147mm		

Digital Output Module Indicators

Parameters		Description		
Power Supply	Power supply voltage	20.4V DC~28.8V DC		
	System side isolation	√		
	Reverse polarity protection	√		
	Redundant power input	√		
	Input buffer time	<5ms		
	Power consumption	<2W		
	Auxiliary power consumption	<15W		
Channel characteristics	IO channel number	16 port		
	Channel indicator light	With reference to 1.2.6		
	Signal types	Transistor contact output (passive)		
	Output current	Rated at 100mA/ each channel, single channel supports a maximum of 500mA		
	Output delay time	<2ms		
	Output load	Maximum 48Ω, minimum 12kΩ		
	Output ON voltage drop	<0.3V		
	Output OFF leakage current	<0.1mA		
	Isolation type between onsite and system	Photoelectric isolation		
	Type of isolation between channels	Unified isolation		
	Pressure isolation	1500V AC,1 minute		
	Bottom interface	ECI	2 x 128Mbps	Communication speed: 128Mbps Communication protocol: UCP Topology: Bus
		Redundant communication channels	1	
Redundant switching channels		1		
Slot address		5bit+1bit,odd check support		
In-position Measurement	√			
Calibration/detection	√			
Online Firmware Upgrade	√			
Module Redundancy	Support single card work or redundant work			
Hot Plug	√			
Type of Installation	Wire specifications	Supports 2.5mm ² cables with a diameter greater than 600m		
	Installation	Front outgoing cable or terminal conversion		
Size	30*150.5*147			

Analog Input Module (AI Current Card) Indicators

Parameters		Description		
Power Supply	Power supply voltage	20.4V DC~28.8V DC		
	System side isolation	√		
	Reverse polarity protection	√		
	Redundant power input	√		
	Input buffer time	<5ms		
	Power consumption (power distribution mode)	<7W		
	Power consumption (non-power distribution mode)	<2.5W		
Channel	IO channel number	8		
	Signal types	(0~10)mA, (4~20) mA		
	Maximum signal input range	(0~10)mA	(0~12.5)mA	
		(4~20)mA	(2~24)mA	
	Free range function	√		
	Short circuit protection	√		
	Precision	±0.1%FS@25°C		
	Resolution	16bit		
	Stability	±0.05%		
	Type of isolation between channels	Unified isolation		
	Temperature drift	±100ppm/°C		
	Sampling period (software selection)	Resistance to power frequency	500ms	
		Rapid sampling	50ms	
	Distribution port	Support power distribution and non-power distribution		
	Input impedance	power on	280Ω~300Ω	
		power off	≥2MΩ	
	Common mode rejection ratio	≥100dB		
	Series-mode rejection ratio	≥60dB		
	Interchannel Crosstalk	≥60dB		
	Disconnection detection function	Type III signal support		
	Isolation type between onsite and system	Magnetic isolation		
	Type of isolation between channels	Unified isolation		
	Pressure isolation	2000V AC,1 minute		
Bottom interface	ECI	2 x 128Mbps	Communication speed: 128Mbps Communication protocol: UCP Topology: Bus	

Analog Input Module (AI Voltage Card) Indicators

Parameters		Description	
Power Supply	Power supply voltage	20.4V DC~28.8V DC	
	System side isolation	√	
	Reverse polarity protection	√	
	Redundant power input	√	
	Input buffer time	<5ms	
	Power consumption	<3W	
Channel	IO channel number	8	
	Signal types	(0~10)mA、(4~20)mA	
	Maximum signal input range	(0~10)mA	(0~12.5)mA
		(4~20)mA	(2~24)mA
	Free range function	√	
	Short circuit protection	√	
	Precision	±0.1%FS@25℃	
	Resolution	16bit	
	Stability	±0.05%	
	Type of isolation between channels	Unified isolation	
	Temperature drift	±100ppm/℃	
	Sampling period (software selection)	Resistance to power frequency	500ms
		Rapid sampling	50ms
	Distribution port	Support power distribution and non-power distribution	
	Input impedance	power on	280Ω~300Ω
		power off	≥2MΩ
	Common mode rejection ratio	≥100dB	
	Series-mode rejection ratio	≥60dB	
	Interchannel Crosstalk	≥60dB	
	Disconnection detection function	Type III signal support	
Isolation type between onsite and system	Magnetic isolation		
Type of isolation between channels	Unified isolation		
Pressure isolation	2000V AC,1 minute		
Bottom interface	ECl	2 x 128Mbps	Communication speed: 128Mbps Communication protocol: UCP Topology: Bus

Analog Output Module (AO Current Card) Indicators

Parameters		Description	
Power Supply	Power supply voltage	20.4V DC~28.8V DC	
	System side isolation	√	
	Reverse polarity protection	√	
	Redundant power input	√	
	Input buffer time	<5ms	
	Power consumption	<7W	
Channel	IO channel number	8	
	Signal types	II type signal	(0~10)mA
		III type signal	(4~20)mA (0~20)mA
	Maximum signal input range	(0~10)mA	(0~12.5)mA
		(0~20)mA	(0~24)mA
		(4~20)mA	(0~24)mA
	Free range function	√	
	Short circuit protection	√	
	Precision	±0.1%FS@25℃	
	Fail-safe feature	Keep output	
	Temperature drift	±30ppm/℃	
	Output response time	10%~90% step:<100ms	
	Output maximum load impedance	(0~10)mA	1,5kΩ
		(4~20)mA	750Ω
		(0~20)mA	750Ω
Isolation type between onsite and system	Magnetic isolation		
Type of isolation between channels	Unified isolation		
Pressure isolation	2000V AC, 1 minute		
Bottom interface	ECl	2 x 128Mbps	Communication speed: 128Mbps Communication protocol: UCP Topology: Bus
		Redundant communication channels	1
		Redundant switching channels	1
Diagnostic function	Slot address	5bit+1bit,odd check support	
	Supports fault diagnosis, working status, communication status, power status, and redundancy status		

Thermocouple Input Module (TC) Indicators

Parameters		Description	
Power Supply	Power supply voltage	20.4V DC~28.8V DC	
	System side isolation	√	
	Reverse polarity protection	√	
	Redundant power input	√	
	Input buffer time	<5ms	
	Power consumption	<2.5W	
Channel	IO channel number	8 port	
	Signal types	(0~20)mV,(0~100)mV,Type E, J, K, N, T, B, S, R thermocouple	
	Cold end compensation function	√	
	Common mode rejection ratio	100dB@50Hz	
	Precision	Local cold end compensatin	
		temperature: ±1°C	
		E Type: ±2.2°C	
		J Type: ±1.9°C	
		K Type: ±3.0°C	
		N Type: ±2.6°C	
		T Type: ±2.0°C	
		S Type: ±3.2°C	
		R Type: ±3.2°C	
		B Type: ±2.6°C	
	Signal range	(0~100)mV: ±0.2%	
		(0~20)mV: ±0.4%	
		E Type: -200°C~900°C	
		J Type: -200°C~750°C	
		K Type: -200°C~1300°C	
		N Type: 0°C~1300°C	
T Type: -200°C~350°C			
S Type: 0°C~1600°C			
R Type: 0°C~1600°C			
B Type: 500°C~1800°C			
(0~100)mV: (0~20)mV			
(0~20)mV: (0~100)mV			

Thermal Resistance Input Module (RTD) Indicators

Parameters		Description	
Power Supply	Power supply voltage	20.4V DC~28.8V DC	
	System side isolation	√	
	Reverse polarity protection	√	
	Redundant power input	√	
	Input buffer time	<5ms	
	Power consumption	<2.5W	
Channel	IO channel number	8	
	Signal types	(1~400)Ω, Pt100, Cu50	
	Common mode rejection ratio	100dB@50Hz	
	Precision	Pt100: ±1°C	
		Cu50: ±1°C	(0~24)mA
		Pure resistance: ±0.1% (0~24)mA	
	Signal range	Pt100: -200°C~850°C	
		Cu50: -50°C~150°C	
		Pure resistance: (1~400)Ω	
	Maximum signal input range	Full- scale value ±10%	
	Measuring principle	Sigma-delta	
	Rresolution	16bit	
	Sampling period	1s	
	Isolation type between onsite and system	Magnetic isolation	
	Isolation type	Unified isolation	
Isolation of pressure	2000V AC, 1 minute		
Bottom interface	ECI	2 x 128Mbps	Communication speed: 128Mbps Communication protocol: UCP Topology: Bus
	Redundant communication channels	1	
	Redundant switching channels	1	
	Slot address	5bit+1bit,odd check support	
Diagnostic function	Supports fault diagnosis, working status, communication status, power status, and redundancy status		
In-position measurement	√		
Calibration/detection function	√		
Online upgrade	√		

Universal Module (UIO) Indicators

Parameters	Description		
Power Supply	Power supply voltage	20.4V DC~28.8V DC	
	System side isolation	√	
	Reverse polarity protection	√	
	Redundant power input	√	
	Input buffer time	<5ms	
	Power consumption	<13W	
Channel characteristics	IO channel number	8	
	Isolation type between onsite and system	Magnetic isolation	
	Pressure isolation	2000V AC,1 minute	
	Isolation type	Unified isolation	
	Signal Type 1	Digital input	
	Input type	NPN/PNP	
	Signal types	Contact type	ON: ≤1kΩ; OFF: ≥100kΩ
		Type level	ON: ≥15V DC; OFF: ≤5V DC
	Signal Type 2	Digital output	
	Signal types	Transistor contact output (active)	
	Output current	Single channel Max. 100mA. Overall Max. 320mA	
	Output delay	<2 ms	
	State of the output	ON: Output voltage (20-24) V@24	
		OFF: Channel leakage current ≤0.1mA	
	Signal Type 3	Analog input	
	Signal types	(4~20)mA	
	Maximum signal input range	(2.4~21.6)mA	
	Distribution port	Power distribution	
	Resolution	16bit	
	Sampling period (software selection)	Rapid sampling	250ms
		Normal Sampling	500ms
	Common mode rejection ratio	100dB@50Hz	
	Serial mode rejection ratio	60dB@50Hz	
Precision	±0.1%FS@25°C		
Signal Type 4	Analog output		
Signal types	(4~20)mA		
Signal output range	(2.4~21.6)mA		
Resolution	12bit		
Load	700Ω		
Response time	10%~90%. step response:<10ms		
Precision	±0.2%FS@25°C		

Power Modules (PW5005AC and PW5005DC) Indicators

Parameter	PW5005AC	PW5005DC
Installation	Slot installation	Slot installation
Input voltage	90V AC~264V AC 或 120V DC~300V DC	18V DC~75V DC
	Hz: 47Hz~63Hz	Input undervoltage: <16V DC
Output voltage	Voltage range: 20.4V DC~28.8V DC	Voltage range: 20.4V DC~28.8V DC
	Ripple/noise: <240mVp-p	Ripple/noise: <250mVp-p
Maximum output current	5A	5A
Efficiency	86%@5A	90%@5A
Power	120W	120W
Power overload (current limiting) protection	Yes	Yes
Automatic recovery	Yes	Yes
Over voltage protection	Yes	Yes, over temperature protection: Once >105°C, output off
Undervoltage shut off	Yes	Yes
Output voltage working indication	Yes	Yes
Redundancy	Support	Support
Module size	60*150.5*147	30*150.5*147

System Accessories

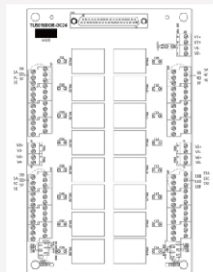
G5Pro system accessories include racks, cables, and terminal boards

Rack




6 slot rack, 18 slot rack and 22 slot rack. The rack can be installed with various modules, such as power supply, controller, communication module, and I/O module.

Slot Number	Rack Bus Length(mm)	Slot Address	Installation Port	Rack Redundancy And Extension
6	180	Rack address + slot number	Aluminum groove guide rail	Supports local rack redundancy and remote rack extension
18	540			
22	660			

Terminal Block

Type	Component	Shape	Dimensions (length, width and height) (mm)	Use Range	Function Description
TU5016DOR-DC24	Relay output terminal board		240*150*62	Single channel can be configured for passive normally open signal output, active normally open signal output	16 ports, supporting one non-redundant DO module or a pair of redundant DO modules

Cable and Wiring Terminal

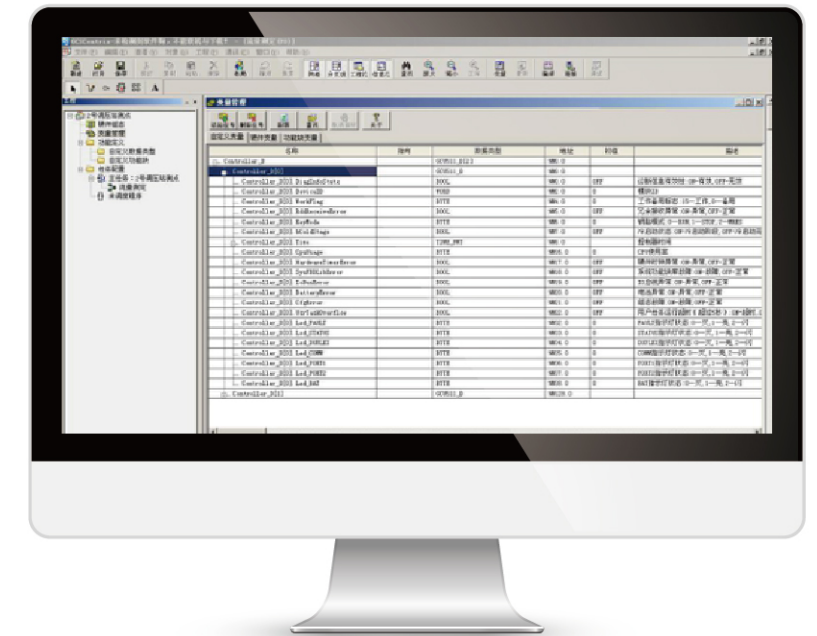
Connection	joint wiring	direct wiring
Products	overhead 	Spring terminal 
	Single 	Screw terminal 

SOFTWARE

Configuration Software

Overview

GCSConrix software is the general configuration software for GCS series PLC products. The software is based on Windows and conforms to IEC61131-3 international standard. The core component is control station configuration software, bit number configuration software, control scheme configuration software, function block programming software and user task configuration software. It supports offline/ online download/ upload, and seamless connection with other monitoring software supporting OPC.



Features

- Clear configuration architecture, user-friendly operation interface.
- High openness.
- The configuration of the control algorithm follows IEC61131-3 standard. It supports combination of graphics configuration and language configuration. Custom function block programming language supports LD, FBD, SFC, ST.
- Control scheme based on multi-task.
- Batch processing capability supports configuration, review and download of master recipe, control recipe, and production recipe.
- Support I/O data access bit operations to improve system responsiveness and data capacity.
- Structured data encapsulation.
- Unified configuration file format specification and archive by format type.
- Project configuration upload.
- Stable online download.

Monitoring Software

Overview

GCS system supports a variety of general monitoring configuration software, and SUPCON VxSCADA monitoring software platform is recommended. SUPCON VxSCADA is a general large-scale distributed supervisory control software, providing systematic and modularized configuration development tools. It is widely used in data acquisition, monitoring and process control in many industries, including digital oil field, pipeline, power, utility, chemical and etc.



Features

- Seamless Connection with GCS Series Products**
 VxSCADA supports automatic configuration files import from GCScontrix, and provides secondary editing function, supporting customize of bit number information.
- High Performance Distributed C/S Architecture**
 The overall system architecture of VxSCADA is based on C/S architecture. The server is responsible for data collection, processing, and distribution. Real-time data can be processed in a distributed manner by configurable strategy, and the data can be viewed in subscription mode by lightload HMI clients.
- Modular System Architecture**
 Each VxSCADA subsystem is based on the modular design concept. Users can select functional modules according to specific demands, including reports, alarms, and historical databases, so as to meet various

customized solutions and OEM products.

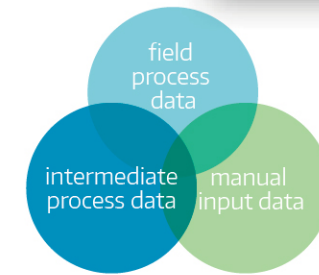
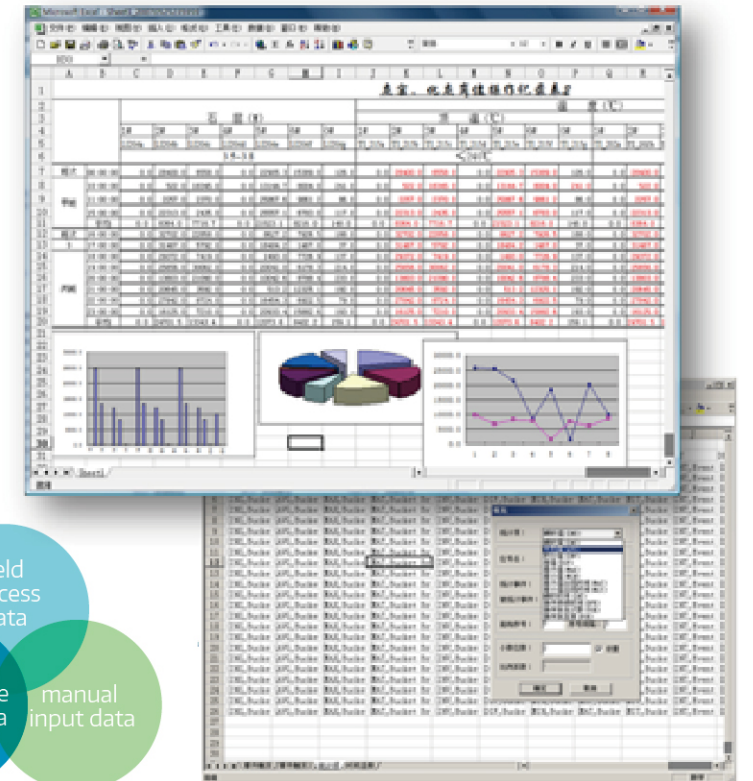
- User-friendly Configuration**
 Support multi-language switch. Configuration check in and check out function can support multiple people to configure on different computers at the same time, thus to accelerate the project configuration progress. The platform can publish the configuration online without shutdown. Configuration separation, merge, import and export can realize easy transplantation of configuration.
- Object-Oriented Design and Operation**
 Support user-defined objects. Abundant objects library covers process information, control structures, flow chart templates, and all other related information, and can be reused, which can improves engineering efficiency significantly.

Communication Server Software

1:1 backup and bumpless communication channel switching. Support public network and metropolitan area network topology. Embedded with VBS script language and scheduling (based on time or event. Provide simultaneous access to multiple data sources, pre-processing and data forwarding services. Support OPC, MODBUS, IEC104 protocol and other industry standard interfaces.

Reporting Software

Based on production real-time data, it provides powerful Excel mode and regular mode online statistics application. You can customize report templates, time, and events to meet the requirements of shift reports and daily reports.



OPC Server Software

OPC server software mainly publishes the real-time data of control system through OPC service. The OPC client can access the real-time data of the control system from the OPC server.

SAMS Asset Management System Software

SUPCON Asset Management System offers comprehensive management and maintenance of intelligent devices supporting HART, FF and other protocols.