

FACTORY AUTOMATION PRODUCTS CATALOG



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ENTERPRISE PROFILE



Established in 1993, HollySys is a leading supplier of automation and IT solutions in China. HollySys is expanding its business both at home and abroad. Headquartered in Beijing, the Group has offices for R&D, production or services based in Hangzhou, Xi'an, Singapore, India, Malaysia, and Indonesia, along with dozens of service agencies spread throughout the country.

Hollysys' intelligent business is committed to providing automation, informatization and intelligent overall solutions for discrete manufacturing and infrastructure. The core products include: programmable controllers, motion controllers, human-machine interfaces, drive systems, large-scale integrated monitoring systems, etc. Industrial automation products are widely used in water affairs, water conservancy, integrated pipe gallery, tunnel, oil and gas, metallurgy, chemical industry, electric power, heavy equipment, woodworking machinery, textile machinery, electronic manufacturing and other important industries involving the national economy and people's livelihood, for the safe and reliable operation of large-scale infrastructure Escort and provide equipment manufacturers with more efficient, cost-effective and reliable product solutions.

CONTENT

01

Programmable Logic Controller

- | | |
|------------------------------------|--------|
| · LK Series Large Scale PLC | P4/10 |
| · LKS Series Functional Safety PLC | P11/16 |
| · LE Series Compact PLC | P17/26 |



02

Supervisory Control and Data Acquisition (SCADA) System

- | | |
|-------------|--------|
| · HollyView | P27/30 |
|-------------|--------|



03

Human-Machine Interface (HMI)

- | | |
|----------------------------|--------|
| HT8001 Series Touch Screen | P31/34 |
|----------------------------|--------|



04

Network Products

- | | |
|-----------------|--------|
| Ethernet Switch | P35/38 |
|-----------------|--------|



05

Isolation and Protection Products

- | | |
|-----------------|-----|
| Safety Barrier | P40 |
| Isolator | P41 |
| Surge Protector | P42 |



Network Architecture

Edge-Cloud Collaboration

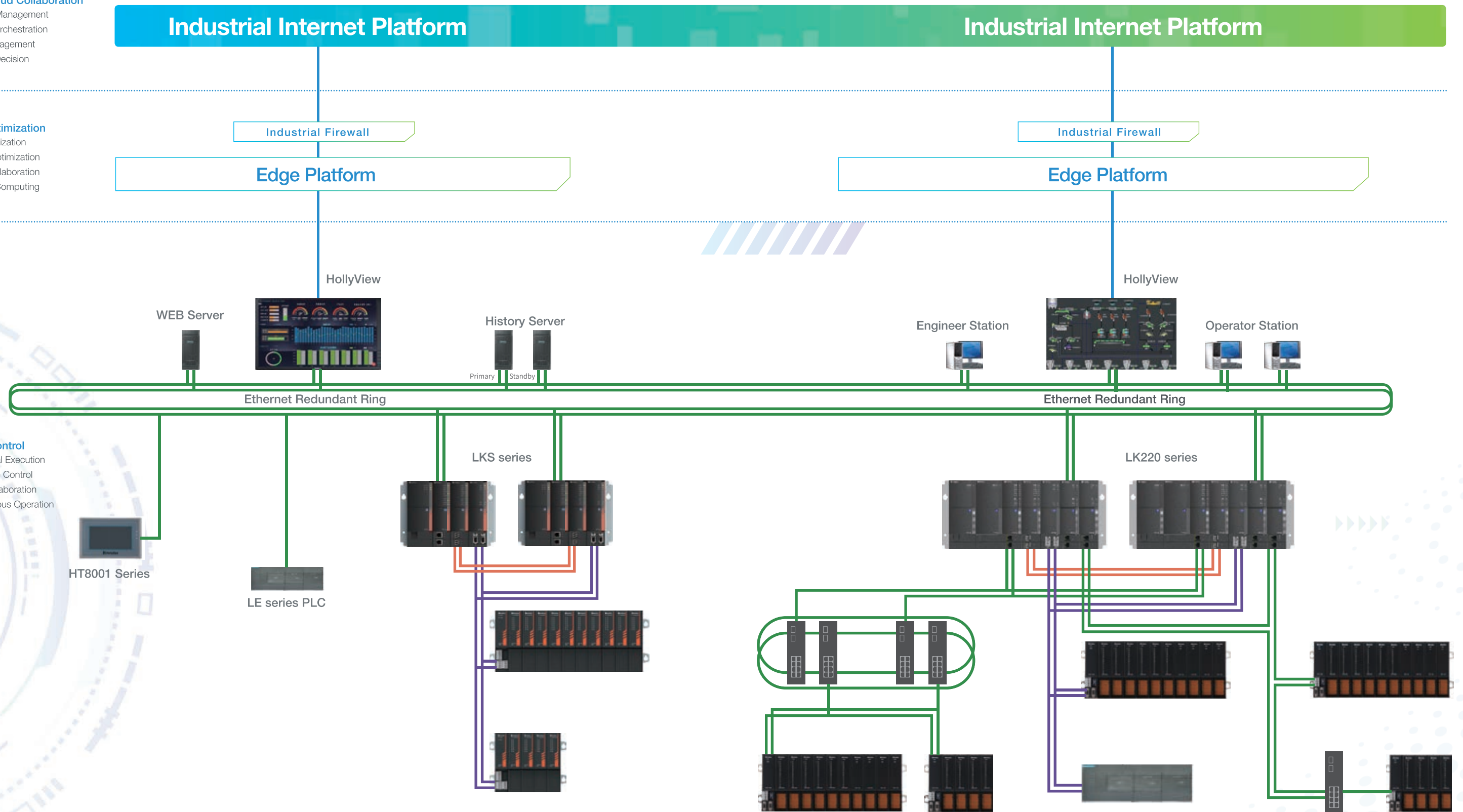
Resource Management
Business Orchestration
Safety Management
Intelligent Decision

Edge Optimization

Data Optimization
Process Optimization
Service Collaboration
Intelligent Computing

Edge Control

Perceptual Execution
Real-Time Control
Edge Collaboration
Autonomous Operation



Programmable Logic Controller

LK series/LKS series/LE series

LKS series



LK series



LE series

LK Series Large Scale PLC

LK220 Series



- Single-rack or dual-rack redundancy configuration
- High performance controller, adopts industrial-grade processor, operating at speeds up to 766MHz
- Support a variety of general protocols, and expand different types of I/O modules in various ways
- All boards are coated with protective paint, anti-moisture, anti-salt spray, anti-mold
- High system reliability, with isolation, self-diagnosis, and output preset functions
- All modules support hot-plug and anti-mixing pin
- operating temperature -40~+70°C , storage temperature -40~+80°C

LK Series Large Scale PLC

LK series PLC fully integrates the latest achievements of international industrial electronic technology and industrial control technology, strictly follows international advanced industrial standards, comprehensively reflects the requirements of discrete process and continuous process automation, and can handle both equipment automation and process automation.

LK series PLC features high reliability, rich functions, excellent performance, high integration, good expansibility, small size and easy to use. It can provide personalized solutions for different industrial fields.

LK series PLC fully integrates the advantages of PLC and DCS, which not only embodies the characteristics of PLC standardization, integration, openness, and fast discrete control, but also integrates the powerful analog control functions of DCS. And also integrate redundancy , hot-plug, strong usability and high stability.

LK series PLC has passed CE, UL certification. In order to adapt to special environmental applications, LK series PLC adopts high-end industrial-grade chips and professional design. All modules have undergone strictly professional testing and three-proof treatment.



In 2016, the LK220 series PLC was released, which is the first dual-rack redundant PLC in China. At the same time, the LK220 series PLC obtained the Achilles certification, which is the first large-scale PLC in China to obtain this certification.

Applications

- ⦿ Metallurgy
- ⦿ Rail
- ⦿ Water conservancy
- ⦿ Water treatment
- ⦿ Pipeline lane
- ⦿ Tunnel
- ⦿ Chemical
- ⦿ Oil and gas
- ⦿ Hydropower
- ⦿ Energy
- ⦿ Heating
- ⦿ Mining



LK general technical indicators

System power supply	24VDC	Supply voltage	24VDC (-15%, +20%)
		Ripple	<5%
		reversal protection of power supply polarity	Support
Electromagnetic compatibility	immunity	Electrostatic discharge	IEC61000-4-2 Contact discharge 6kV and air discharge 8kV
		Radiated, radio-frequency	IEC61000-4-3 10V/m(80MHz-1GHz)
		Fast transient burst immunity	IEC61000-4-4 1kV
		High-energy surge immunity	IEC61000-4-5 1kV(CM)
		RF Field Conduction Immunity	IEC61000-4-6 10V(0.15~80MHz)
		Power supply magnetic field immunity	IEC61000-4-2 Steady Continuous Magnetic Field Test Magnetic Field Intensity 30A/m
	Electromagn-etic radiation	Radiation interference	IEC61131-2 30~230MHZ quasi-peak value less than 40 dB (V/m) 230-1000MHZ quasi-peak value less than 47 dB (V/m) The quasi-peak value of 1~3 GHz is less than 70 dB (V/m), and the average value is less than 56 dB (V). The quasi-peak value of 3~6 GHz is less than 80 dB (V/m), and the average value is less than 60 dB (V).
		Conducted immunity	IEC61131-2 0.15~0.5 MHz quasi-peak value less than 79 dB (V/m) and average value less than 66 dB (V) 0.5~30 MHz quasi-peak value less than 73 dB (V/m) and average value less than 60 dB (V)
Environmental adaptability	Climatic environment	Operating temperature	-20℃ ~+70℃
		Operating humidity	5% to 95%, non-condensing
		Working Altitude	0~3000m
		Storage temperature	-40℃ ~+80 ℃
		Storage Humidity	5% to 95%, non-condensing
	Mechanical environment	Vibrations	IEC60068-2-6:1.75mm displacement when 5 ≤ f ≤ 8.4; 0.5 acceleration when 8.5 ≤ f ≤ 150
		Shock	IEC60068-2-27:15g, duration 11ms
	Enclosure protection	Enclosure protection rating	IEC60529 IP20 (Protection against foreign matter over 12 mm in size, no waterproof)

LK220 series PLC

The LK220 series PLC products can be used either in single unit or in redundant mode.

When a single PLC is used, only one set of main control unit is required, including the power module and CPU module. Other modules are optional.

In redundancy mode, configure two sets of identical main control units, including the power module, CPU module, and redundant communication module. Other modules are optional.



The main control unit consists of the following modules:

· Power module - LK921 / LK922

LK921: DC power adapter module, input voltage: 12–30 V DC, can be installed on the LK130 andLK132 backplane.

LK922: redundant DC power module. The input voltage ranges from 19.5 V DC to 60 V DC. The LK130, LK132, and LK133 can be installed on the backplane. The fault diagnosis output function is provided.

· CPU module - LK220 / LK222 / LK224

The CPU module has two built-in 10/100 Mbps ethernet interfaces, which can be used as program download interface, runtime upgrade interface, and communication interface with Modbus TCP master/slave protocol. The key switch on the panel can be used to control the working mode of the CPU.

· Redundant communication module-LK240 (not required for a single configuration)

It is used to implement redundant communication between system A and system B. It is connected through redundant optical fibers and backs up programs and data through high-speed optical fiber synchronization technology.

· Main station communication module-LK241 / LK249

LK241: POWERLINK main-station communication module, which integrates two RJ45 interfaces and forms a POWERLINK ring network with the LK235 interface module to establish communication connection with the I/O module.

LK249: The communication module of the Profibus-DP master station integrates two DB9 communication interfaces and connects to the extension backplane LK117/LK118 through a DP cable to establish communication connection with the I/O module.

· Ethernet communication module - LK246

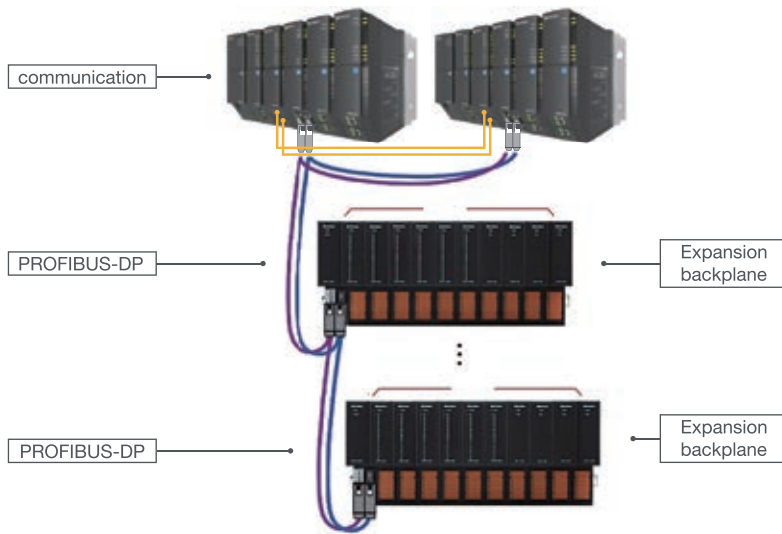
Integrated 2-way 10/100/1000Mbps Ethernet interface for AT, HMI or third-party configuration software.

· Main control backplane module - LK130/LK132/LK133

Used to install the CPU module, power module, and communication module of the main station. The backplanes are slot 4, slot 6, and slot 7.

Redundant functionality

- Backplane redundancy
- CPU Redundancy
- Ethernet Redundancy
- Bus Redundancy
- Power Supply Redundancy



Technical specifications of the LK220 series CPUs

Main Technical Specifications		LK220	LK222	LK224
Controller dominant frequency		600MHz	667MHz	766MHz
Instruction execution time	Bit operation	15ns	10ns	7ns
	Fixed-point operation	15ns	10ns	7ns
	Floating-point operation	25ns	18ns	12ns
Memory	Integrated memory (program + data)	24MB	32MB	64MB
	Power-loss retentive memory	512 KB MRAM (R Area:64KB;M zone:4 KB)	512 KB MRAM (R Area:96KB;M zone:6 KB)	512 KB MRAM (R Area:128KB;M zone:8 KB)
Communication interface	Integrated Ethernet	2*RJ45 Interface, 10/100M adaptive, dual-network-port redundancy, Supporting Modbus TCP protocol, HolliTCP protocol		
Communication Connection Resources	Modbus TCP	The maximum number of master-slave connections is 16	The maximum number of master-slave connections is 32	The maximum number of master-slave connections is 64
	Powerlink	Maximum 128 PL slaves	Maximum 256 PL slaves	Maximum 256 PL slaves
	Profibus-DP	Maximum 124 PL slaves	Maximum 124 PL slaves	Maximum 124 PL slaves
	Number of Communication Modules	LK240*1, LK249*1, LK246*2、LK241*1	LK240*1, LK249*1, LK246*2、LK241*2	LK240*1, LK249*1, LK246*2、LK241*2
Configuration capacity	Input Variable Area (I)	Maximum space is 32 KB	Maximum space is64 KB	Maximum space is128 KB
	Output Variable Area (Q)	Maximum space is32 KB	Maximum space is64 KB	Maximum space is128 KB
	Global variable area (N)	1MB	4MB	6MB
	Free variable region (M)	1MB	2MB	4MB
	Power-off holding area (R)	Maximum space is 64 KB	Maximum space is 96 KB	Maximum space is 128 KB

LK Series PLC Catalog

No.	Model	Specifications
CPU Module		
1	LK130	4-slot control backplane
2	LK132	6-slot control backplane
3	LK133	7-slot control backplane
4	LK220	600 MHz, 24 MB integrated storage zone, and redundancy
5	LK222	667 MHz, 32 MB integrated storage zone, and redundancy
6	LK224	766 MHz, 64 MB integrated storage zone, and redundancy
7	LK240	Redundant synchronization module, two optical fiber communication interfaces, LC interface type
8	LK241	POWERLINK master station communication module
9	LK246	Ethernet communication processor module, two 10/100/1000 Mbit/s Ethernet ports
10	LK249	PROFIBUS-DP master station communication module, 2-channel DB9 communication interface
11	LK921	DC power adapter module, input voltage: 12–30 V DC
12	LK922	Redundant DC power module, input voltage: 19.5–60 V DC
13	LKA102	LK220 battery power box module
14	LKA103	LK220 capacitor power box module
15	LKA104	PROFIBUS-DP bus connector
16	LKA106	Synchronous fiber,1m
17	LK141	Empty module of the main control backplane
18	GACS-1312-20ID	Optical module, single-mode, 20 km transmission distance, hot-plug, used for the LK240 module
19	GACS-8512-02ID	Optical module, multi-mode, 2 km transmission distance, hot-plug, used for the LK240 module
Power Module		
1	LK910	Power module, 24 V DC@5 A output
2	HPW2405G	85-264 VAC input, 24 VDC@5A output
3	HPW2410G	85-264 VAC input, 24 VDC@10 A output
4	HPW2420G	85-264 VAC input, 24 VDC@20 A output
5	HPWR01G	Input: 22–60 VDC, 20 A; Output Vin-0.65V, 20A@MAX
Communication Module		
1	LK255	PROFIBUS-DP Slave Station Communication Module for Access to Third Party Master Station
2	LK238	4-channel serial port communication module
3	LK239	Modbus RTU master/slave station communication module
No.	Model	Specifications
Interface Module		
1	LK231	PROFIBUS-DP Communication Transfer Module
2	LK232	PROFIBUS-DP Bus Repeater Module with Relay Function
3	LK233	PROFIBUS-DP Bus Photoelectric Transceiver
4	LK234	Ethernet interface module, used with LK220 series PLC
5	LK235	POWERLINK interface module, used with LK220 series PLC
6	LK250	PROFIBUS-DP communication interface expansion module, which can expand 10 Profibus-DP slave modules
7	LE5406	PROFIBUS-DP to LE bus communication interface expansion module, used with LK220 series PLC

Digital I/O Module		
1	LK610	16-channel digital input module, 24VDC, leaking type
2	LK616	32-channel digital input module, 24VDC, leaking type
3	LK710	16-channel digital output module, 10-30VDC, transistor output, 0.5A capacity
4	LK716	32-channel digital output module, 24VDC, transistor output
5	LK720	8-channel normally open relay output module, 10–265VAC/5–125VDC, relay output, 2A@MAX
Analog I/O Module		
1	LK410	8-channel analog input module, voltage type, -10.25V ~ 10.25V/0 ~ 10.25V/0 ~ 5.125V
2	LK411	8-channel analog input module, current type, 0–20 mA/4–20 mA
3	LK412	6-Channel Analog Input Module, Voltage/Current Type, ±10-Channel 0-5V/0-10V/0-20mA/4-20mA, Inter-Channel Isolation
4	LK430	6 Channel analog input module, PT100/200/500/1000, Ni 100/120/200/500, Cu 10/50
5	LK432	8-Channel Isolated Thermoresistive Analog Input Module
6	LK441	8-channel analog input module, B/C/E/J/K/N/R/S/T thermocouple, -12mV to 32mV (78mV), with cold end compensation
7	LK511	4-channel analog output module, current type, 0–20 mA/4–20 mA, inter-channel isolation
8	LK512	8-channel analog output module, voltage/current type, 0 -20mA/4 -20mA/0 -5V/0 -10V/1 -5V/-5 -5V/-10 -10V
Special Function Module		
1	LK620	2-channel high-speed counting module up to 1 MHz
2	LK630	16-channel SOE module with a resolution of 1 ms, used with LK210 series PLC
3	LK631	14-channel SOE module, event resolution 0.5 ms, time scale precision 1 ms, used with LK220 series PLC
I/O Backplane		
1	LK117	Extension backplane, 11 slots, DB9 interface
2	LK118	Extension backplane, 5 slots, DB9 interface
POWERLINK Switch		
1	SP100-2FP4T-SFP	POWERLINK I Ethernet switch, 2 SFP optical ports, 4 Ethernet electrical ports, ring network, star topology, dual 24 V power inputs, and guide rail installation
2	SP010-1FP1T-SFP	POWERLINK industrial Ethernet optical-to-electrical converter, one SFP optical port, one Ethernet electrical port
3	SFP-FS-LC	Optical module, single-mode, 20 km transmission distance, hot-plug, used for SP100/SP010 modules
4	SFP-FM-LC	Optical module, multi-mode, 2 km transmission distance, hot-plug, used for SP100/SP010 modules
Accessories		
1	LKX1030	DIO prefabricated cable, 3m, color ring
2	LKX1130	AIO prefabricated cable, 3m, color ring
3	LKX1030L	DIO prefabricated cable, 3m, number tube, tubular terminal
4	LKX1130L	AIO prefabricated cable, 3m, number tube, tubular terminal
5	LKF003	Backplate anti-mixing pin rotating tool
6	LKC131	Empty slot module
7	LKC171	Terminal cover

LKS Series Functional Safety PLC



- System with 1001D architecture and SIL2 certification
- Dual-rack redundancy configuration design, supporting Power, CPU, communication redundancy
- Dual-core CPU with asymmetric AMP heterogeneous technology
- The controller adopts the safety and security fusion technology
- The diagnosis coverage is over 90% and the MTBF is over 100,000 hours
- International safety standards such as process industry, rail industry and safety protocols
- Operating temperature -40 to +70° C; storage temperature -40 to +80° C

Functional Safety Related Products

- In 2011, the subway train control system independently developed by HollySys passed the SIL4 safety certification – The train control vehicle-mounted and train control ground electronic unit
- In 2012, HollySys independently developed China's first SIS security instrument system that passed SIL3 certification - HiaGuard.
- In 2017, HollySys independently developed China's first set of dual-rack redundant large-scale safety PLC product (LKS) that passed SIL2 certification.

Technical strengths of functional safety

- TV Rhine Certified Reliability Test Center
- Successful implementation of hundreds of functional safety projects
- Participate in the preparation of national functional safety standards.
- TV South German Certification Functional Safety Design Engineer

Product overview

The LKS series PLC products are the first set of dual-rack redundant safety PLC developed by HollySys and passed the SIL2 certification of TÜV South German. The product adopts the latest electronic technology and design process and complies with IEC61508, IEC61511 and EN50128, EN50129, EN50126 and IEC61784-3 standards. It can be applied to safety-related applications requiring a safety integrity level of SIL2 or below.

The LKS adopts the single-loop diagnostic architecture (1oo1D)

design, and is applicable to ESD emergency shutdown system, PSD process shutdown system, and BMS Burner Management System. Fire & Gas System (FGS), Emergency Trip System (ETS), and Gas Detection System (GDS) provide safe and reliable solutions for different fields. Widely used in chemical industry, energy, power generation, gas plant, pharmaceutical, metallurgy, natural gas and other industries.

Composition of the main control unit

The LKS can be used in a single-node system or in a redundant architecture to meet the requirements of a higher availability and security system. When the single unit is used, only one set of main control unit is required, including power transfer module, CPU module and DP master station communication module. In the case of redundancy, two sets of identical main control units shall be configured, including power transfer module, CPU module, redundant synchronous communication module and DP master station communication module. The main control unit consists of the following modules:

1.Safety 24 V power transfer module LK921S:

Two 24 V DC inputs, which are converted into single 24 V DC outputs after redundancy processing, provide two redundant 24 V DC power supplies for the backplane and module in four slots.

2.Secure CPU module LK220S:

The CPU module has two built-in 10/100Mbps Ethernet interfaces, which can be used for downloading user engineering, upgrading controller, and can also be used as MODBUS TCP master/slave station to communicate with host computer or instrument equipment. The panel has SD card slots for controller upgrades and user files storage. Different working modes of the controller are realized through the key switch of the panel. In the redundant system, the two controllers are in the master-slave relationship. When the master fails, the slave automatically becomes the master and the master becomes the slave.

3.Secure Redundant Synchronous Communication Module LK240S:

It is used to implement redundant communication between system A and system B. It supports redundant optical fiber connection and self-developed secure communication protocol. It backs up programs and data by using high-speed optical fiber synchronization technology.



4.Safety DP main station communication module LK249S:

The LK249S module supports the Profi-safe secure master station communication protocol. Two built-in redundant communication interfaces are connected to the I/O station through DP cables.

5.Control backplane module LK130:

Installs the LK220S, LK921S, LK240S, and LK249S, and supports the high-speed local backplane bus for data exchange between modules.

LKS Functional Safety PLC Certification



SIL2 System Safety
Certification Certificate

CE certificate

G3 Corrosion Protection
Certificate

Design Architecture

The LKS system adopts the single-channel 1001D architecture with diagnostics. Under this architecture, the SIL2 diagnosis coverage should reach 90% or above, and is used in the safe input and output modules. Data is transmitted between the controller and the security 10 module through the Profi-safe protocol. The controller, communication module and communication bus adopt redundancy design, which effectively improves the availability of the system. The controller design uses an asymmetric AMP processing design to protect the system against network storms or virus attacks while ensuring reliable and secure control.

Product Features

Safety:

The diagnostic loop design (1oo1D) is adopted, and the availability of the safety loop can reach 99.99%.

The module has the diagnosis function, and the diagnosis coverage rate reaches over 90%.

Reliability:

Dual-rack dual-CPU redundancy structure, including backplane redundancy, power redundancy, CPU redundancy, and network redundancy.

High efficiency:

The typical redundancy switching time is 90 ms, the minimum task scheduling time is less than 100us, and the system fastest loop control period is 50 ms.

Scalable:

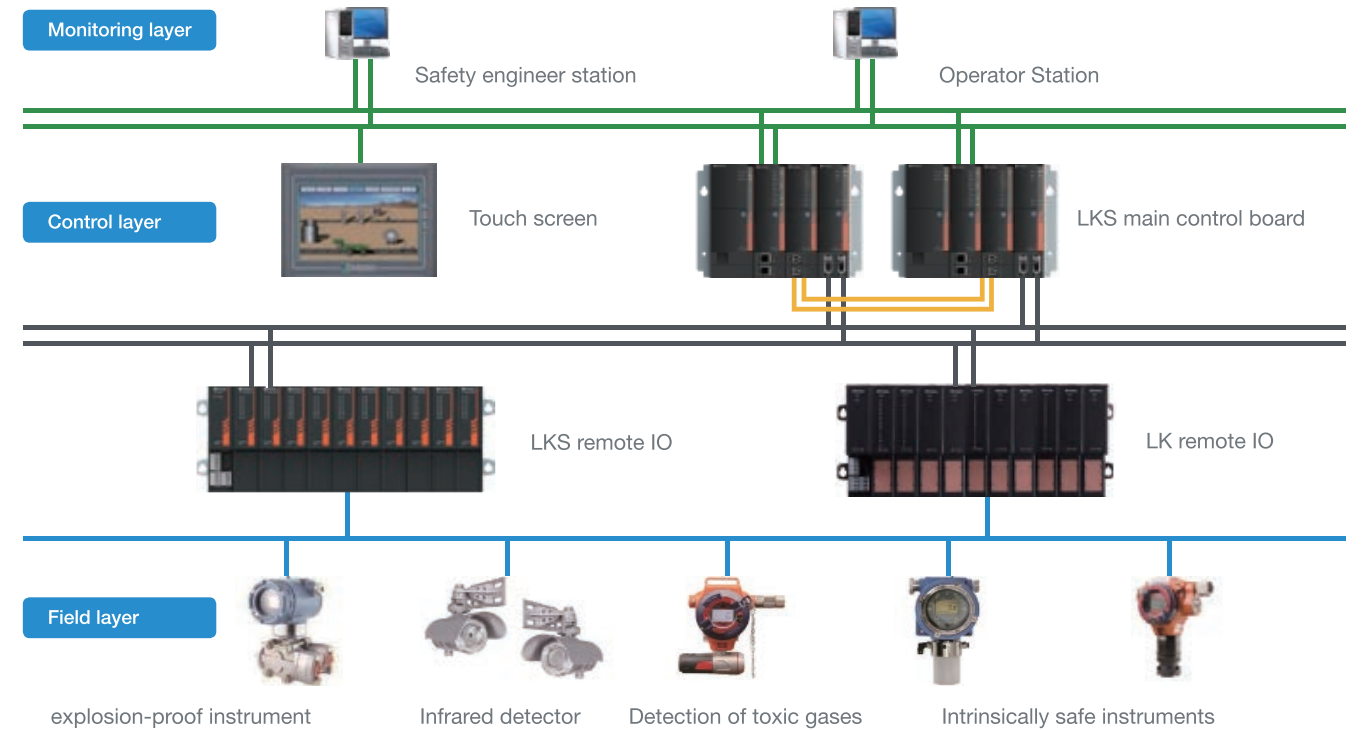
124 IO slave stations can be added to a single control station. The system supports a maximum of IO capacity of more than 900 points.

Flexibility:

The HollySys LK series I/O can be combined into a hybrid system to meet both process control requirements and security protection.

System composition

The LKS system consists of the safety engineer station, operator station on the monitoring layer, PLC on the control layer and instruments on the field layer. The process information, equipment information and alarm information of LKS system are shared by the controller and host computer system through Ethernet communication. When integrating with third-party devices, data is exchanged using Modbus TCP/RTU. The following figure shows the system network architecture.



Software Introduction

The LKS system programming software is Safety FA-AutoThink, which is specially developed by HollySys for safety control systems. The software completes the configuration and function configuration of hardware modules, and can design the configuration of application function control logic. It follows IEC61131-3 standard support LD and FBD configuration languages, and ensures the consistency of user logic and the loading program through decompile method, and guarantees the system security.

Product Features

Good compatibility:

Windows XP SP3 (32-bit) and Win7/Win10 (32/64 bit)

Easy to install:

small installation file, only tens of megabytes, fast installation

Easy maintenance:

The log function is supported to record the installation, running, and monitoring operations related to the communication with the controller.

Easy to use:

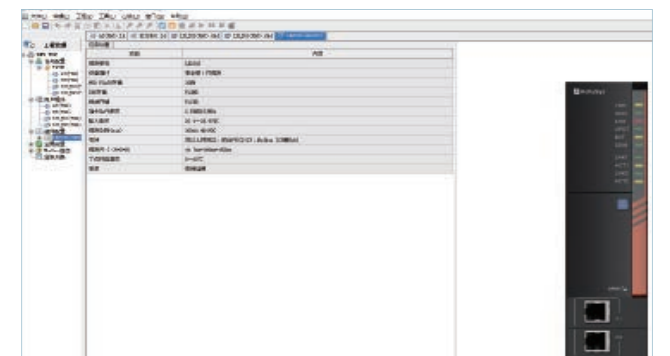
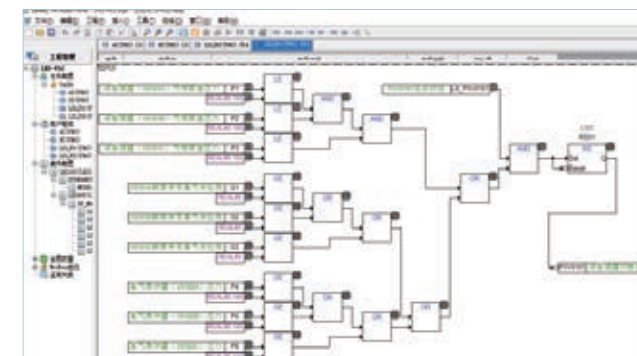
The programming environment supports simplified Chinese and English. The programming instructions are abundant.

Secure and reliable:

Comprehensive IPR protection, multi-level password and data protection mechanism

Simple and intuitive configuration:

hardware configuration, task configuration, user program configuration, data configuration, etc.



The LKS system meets the requirements of the following standards

- ◎ IEC 61508-1~4

◎ IEC 61010-2-201

◎ EN 50159

◎ EN 50126

◎ IEC 61000-6-7

◎ EN 50125-3
- ◎ EN 50129

◎ IEC 61000-6-2

◎ EN 50124-1

◎ IEC 61131-6

◎ GB/T 191

◎ IEC 61000-6-4
- ◎ IEC 61784-3

◎ IEC 61511-1

◎ IEC 61326-1

◎ ANSI/ISA 71.04

◎ EN 50128

◎ IEC 61326-3-1
- ◎ EN 50121-1/-4

◎ IEC 61131-3

◎ IEC 61010-1

◎ IEC 60950-1

◎ IEC 61131-2

Technical specifications of LKS series CPUs

Safety CPU Module LK220S	
Operation Speed	
CPU dominant frequency	Dual-core, 667 MHz
instruction execution speed	Typical value: 2.5DMIPS/MHz
Memory	
Program storage	32 MB (16 MB for the system and 16 MB for users)
Memory	512 MB, 800 Mbit/s, 32-bit width
Power-off hold	512 KB
Expanding Storage	SD card, up to 32 GB
Ethernet	
10/100M	Two-channel, dual-network-port redundancy, Modbus TCP protocol supported
Real Time Clock	
Data Format	Year:month:day: hour: minute:second, BCD code
Clock accuracy	Not more than 1 minute/month @25° C
Backplane bus	
communication speed	2.5 Gb/S
Load capacity	1×4 route
Hot Swap	
Module hot swap	Support
System Capacity	
I/O Capacity	The I/O capacity supported by the system is greater than 900 points
Configuration Capacity	
Input Variable Area (I)	Maximum space: 128 KB
Input Variable Area (Q)	Maximum space: 128 KB
Global variable area (G)	Maximum space: 1 MB
Free variable zone (M)	Maximum space: 1 MB
Power-off holding area (R)	Maximum space: 64 KB
Special register area (S)	16 KB
Power	
Power supply	Provided by backplane
Module Power Consumption (max.)	300mA @24VDC
Backup battery	Capacitor power supply
Redundancy	
Dual backplane redundancy	Support hot-standby

Start Time	
Duration from module power-on to user project start	≤ 60s
Physical characteristics	
Installation Mode	Backplane Slot
Module dimensions (W×H×D)	44.7 mm ×166 mm ×152 mm
Weight	382g
Environmental conditions	
Operating temperature	0°C ~+60°C
Storage temperature	-40°C ~+70°C
Relative humidity	5% to 95% non-condensing

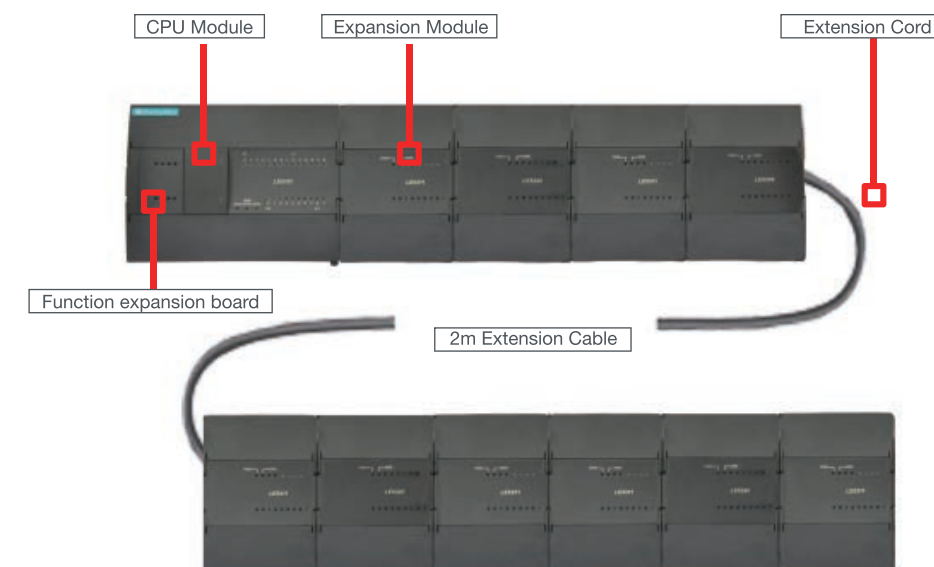
LKS Series PLC Product Catalog

No.	Model	Specifications
CPU Module		
1	LK220S	Safety CPU module, 667MHz, bit instruction 0.013 ms/K, program 32MB, power-off data holding: 512 KB
2	LK240S	Safety redundant synchronous communication module, 2-channel redundant optical fiber communication interface, interface type: LC
3	LK249S	Safety Profi-safe master station communication module, dual DB9 connectors, dual redundant bus links, support for hot plugging
4	LK921S	Safety 24 V DC power module, input voltage 12~30 V DC, input terminals can be independently plugged.
5	LK130	Backplane module, 4 Slots, 235×166×44.3 mm, 4 CPCI pin-based interface
6	LKA103	Capacitive power supply box
7	LKA104	bus connector
8	LKA106	Synchronous fiber, 1 m
9	GACS-1312-20ID	Optical module, single-mode, 20 km transmission distance, hot-plug, used for LK240S
10	GACS-8512-02ID	Optical module, multi-mode, 2 km transmission distance, hot-plug, used for LK240S
Interface Module		
1	LK232S	Safety Profi-safe bus repeater module with terminal resistor
Digital I/O Module		
1	LK610S	Safety 8-channel digital input module, non-polarity dry contact input, field voltage 20.4 VDC~28.8 VDC
2	LK611S	Safety 8-channel digital input module, non-polarity dry contact input (with line fault detection function), field voltage 20.4VDC~28.8VDC
3	LK630S	Safety 8-channel digital input module, supporting SOE event recording, non-polarity dry contact input, field voltage 20.4VDC~28.8 VDC
4	LK710S	Safety 8-channel digital output module with output voltage range: 20.4 VDC ~ 28.8 VDC
Analog I/O Module		
1	LK411S	Safety 8-channel analog input module, 0~20 mA/4~20 mA, supporting 2-wire and 4-wire instruments
I/O Backplane		
1	LK117	Expansion backplane module, 11 slots, 385×166×55.5 mm, DB9 hole seat is adopted for DP interface
2	LK118	Expansion Backplane Module, 5 Slots, 210×166×55.5 mm, DB9 hole seat is adopted for DP interface
Power Module		
1	QS10.241	Safety power module, 220 V AC, 10 A, 24 V
2	QS20.241	Safety power module, 220 V AC, 20 A, 24 V
3	YR2.DIODE	Redundant module, 24 V DC/10 A input, 20 A output
4	YR40.242	Redundant module, 24 V DC/20 A input, 40 A output
Accessories		
1	LKC132	I/O backplane empty module
2	LK141	Empty module of the main control backplane

LE Series Compact PLC



- Compact and functional
- Strong Expansion Capability, with a maximum of 20 I/O modules
- Support for dedicated data storage cards and bulk encrypted downloads
- Powerful motion control and analog control
- Various communication modules supporting fieldbus, wireless network and industrial Ethernet interfaces
- The programming software is easy to understand, supports wizard function, recipe function, drag configuration.
- Super program confidentiality function, function block, program encryption



Naming scheme

- LE: LE series PLC products
- 5: 5 series PLC
- X: function distinguishing number
- X: function sub-No.
- X: serial number
- X: additional distinguishing number

LE 5 X X X X

Function Distinguishing Number	Function Sub No.	SN	Additional Distinguishing Number
1. CPU module	Combination code range: 00 - 99 Even number: 24 V DC power supply, DO output transistor, odd number: 220 V AC power supply, DO output relay		E: built-in analog I/O L: economical; default: standard
2. Digital I/O module	1 Input module	Code range: 0 - 9	default
	2 Output module	Code Range: 0 - 9 Even: Transistor Output Odd: Relay Output	
	3. Input and output hybrid module		
3. Analog I/O module	1 Input module	Code Range: 0 - 9	default
	2 Output module		
	3. Input and output hybrid module		
4. Communication module	Combination code range: 00 - 99		default
6. Function expansion board	0 Communication module	Code range: 0 - 9	default
	1 Input module		
	2 Output module		

CPU Expansion Capability and Power Consumption

Model			Digital I/O Qty.		Analog I/O Qty	
LE5107L	On-board I/O		24 (14 DI + 10 DO)		0	
	Max. expandable I/O		80 DI or 42 DO		24 AI or 12 AO	
LE5118	On-board I/O		40 (24 DI + 16 DO)		0	
	Max. expandable I/O		640		160	
LE5119	On-board I/O		40 (24 DI + 16 DO)		0	
	Max. expandable I/O		684		162	
CPU Module	System Comsumption		Supply for Expansion Bus		Supply for Peripheral Device	
	24VDC	220VAC	24VDC	220VAC	24VDC	220VAC
LE5107L	-	300mA	190mA	550mA	-	-
LE5118	2200mA	-	950mA	2500mA	400mA	-
LE5119	-	1000mA	950mA	2500mA	400mA	-
Expansion Module 24VDC			Required Power by Expansion Bus			
			5VDC			
LE5210			0mA		50mA	
LE5211			0mA		65mA	
LE5212			0mA		105mA	
LE5220			0mA		90mA	
LE5221			60mA		50mA	
LE5223			120mA		135mA	
LE5224			0mA		265mA	
LE5310			15mA		95mA	
LE5311			0mA		75mA	
LE5340			0mA		135mA	
LE5341			0mA		80mA	
LE5342			0mA		130mA	
LE5320			0mA		90mA	
LE5321			0mA		45mA	
LE5330			0mA		35mA	
LE5401			0mA		145mA	
LE5403			0mA		210mA	

General Technical Specification

General Technical Specification				
Environmental conditions	Transportation and storage	Temperature	Standard: IEC 60068-2-1	-40 ~+70° C
		Humidity	IEC 60068-2-2	5% to 95%, non-condensing
		Dumping and overturning	Standard: IEC 60068-2-30	50 mm falls 4 times, unpacked
		Free fall	Standard: IEC 60068-2-31	1 m 5 times, transport and packaging
	Working conditions	Temperature	Standard: IEC 60068-2-1 IEC 60068-2-2	0 ~+60° C
		Temperature variation	Standard: 1 EC 60068-2-14	5-55° C, 3° C/min
		Mechanical vibration	Standard: IEC 60068-2-27	15G, 11 ms pulse, 6 times per axial direction
		Sine wave vibration	Standard: 1 EC 60068-2-6	Peak-peak 0.3mm, frequency 10-57Hz, 2G/panel installation, guide rail installation, 57-150Hz, 10 vibrations per axis, 1 frequency range/minute
		Mechanical protection rating	Standard: EN 60529	IP20
Electromagnetic compatibility	All interfaces	Electrostatic discharge	Standard: IEC61000-4-2	Contact discharge: 4kV; air discharge: 8kV
		Power frequency magnetic field immunity	Standard: IEC61000-4-8	Steady continuous magnetic field test Magnetic field strength 30A/m
		Radio frequency electromagnetic field	Standard: IEC61000-4-3	80MHz~1GHz 10V/m, 80% modulated with 1KHz signal
		RF Field Induced Conductive Disturbance	Standard: IEC61000-4-6	0.15-80MHz, 3V RMS
	AC power supply	Voltage dips and interruptions immunity test	Standard: IEC61000-4-11	0.5 cycles of each polarity interruption
		Fast transient burst immunity test	Standard: IEC61000-4-4	2kV
		Surge immunity	Standard: IEC61000-4-5	Line-to-line 1kV, line-to-GND 2kV
	Communications	Surge immunity	Standard: IEC61000-4-5	Line to ground 1kV
	I/O	Fast transient burst immunity test	Standard: IEC61000-4-4	1kV
Electromagnetic radiation	Test of Radiated Interference		Standard: IEC 61131-2	30~230 MHz 10 m quasi-peak value less than 40 dB (μV) 230-1000MHz 10 m quasi-peak value less than 47dB (μV)
	Test of Conducted Interference		Standard: IEC 61131-2	0.15~0.5 MHz quasi-peak value less than 79 dB (μV) and average value less than 66 dB (μV) The quasi-peak value of 0.5~30 MHz is less than 73 dB (μV), and the average value is less than 60 dB (μV)

Powerful scalability

CPU ontology support function Expansion

Supports extended digital input, digital output, analog input, analog output, and communication serial port.



A maximum of 20 I/O modules can be expanded

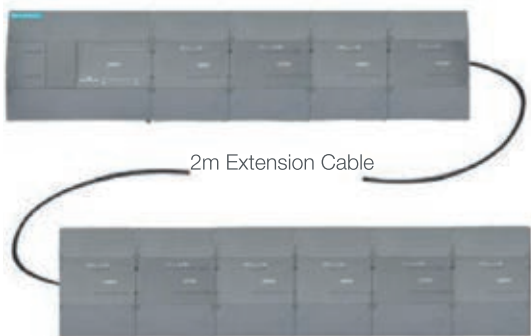
A maximum of 20 expansion modules can be added. The maximum number of digital parameters can be extended to 684 points, and the maximum number of analog parameters can be extended to 100 points.



CPU Module Up To 20 Modules Can Be Expanded

Supports extra-long extension cables.

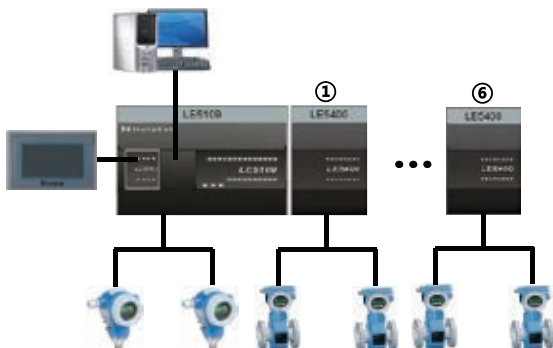
Used for "line-slip" expansion of modules to provide flexible installation of system hardware. 2 meters in length and can be extended to 3 rows.



Rich communication interfaces and open communication protocols

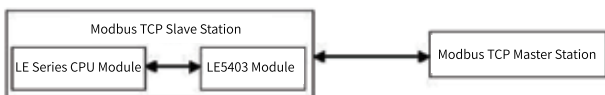
The CPU can be expanded to 15 serial ports

The CPU has two RS485 communication interfaces, and one RS485/RS232 communication interface can be extended through the main body function expansion board. The LE5109/LE5109L supports extended communication modules. A maximum of 12 RS485/RS232 communication interfaces can be extended. Both the LE5109/LE5109L support Modbus RTU master/slave protocol and free protocol communication.



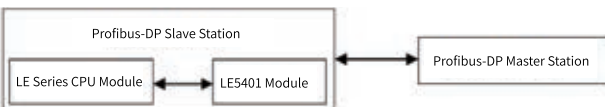
Supports Ethernet communication and download

Supports Ethernet communication and download, facilitating download and monitoring programs through LAN or VPN.



Support for Profibus-DP communication

The LE5401 communication module acts as a Profibus-DP slave to communicate with third party PLCs or devices.



The LE5406 is a Profibus-DP-to-LE-BUS gateway module for the LK220 series master extension connection LEIO module.



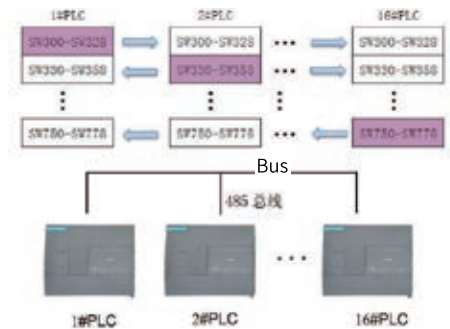
Dedicated data memory card

function can realize the batch download of user program. The program of downloading data memory card can prevent users from uploading and decompile the program, thus improving the confidentiality of the program.



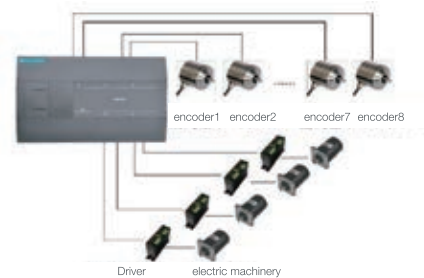
Multi-computer interconnection

The RS485 interface provided by the LE can implement multi-computer interconnection without programming. Data sharing can be implemented between a maximum of 16 CPUs.



Powerful movement control

The standard CPU supports a maximum of eight 200 kHz high-speed counters and four 100 kHz high-speed pulse outputs. LE5128 has special motion control instruction, which can realize the control functions such as data locking, origin regression, linkage, electronic gear, fixed-period fast PID adjustment, position definition, continuous pulse output, frequency measurement, etc. Supports up to four channels of fast PID adjustment with a fixed period of 1-50 ms. The analog output or high-speed pulse output can be selected to realize PID superposition.



Detachable terminal

Removable terminal blocks eliminate the need for rewiring during product replacement, saving time for module replacement.



Powerful and easy-to-use programming software

The AutoThink supports four programming languages: LD, SFC, CFC, and ST, and complies with the IEC61131-3 standard. Hardware configuration and instruction invoking can be dragged. Communication configuration does not require complex programming, and can be implemented by simple interface configuration. Programs, function blocks, functions, and programming interfaces can be copied and pasted.



Program confidentiality function

Supports user-defined library files.
Supports encryption of function blocks, libraries, and programs.
Program upload function optional



LE Series CPU Technical Specifications

Product Model		LE5107L	LE5118	LE5119
Product Type		Economical	Standard	
On-board digital input/output		14 DI / 10 DO	24 DI / 16 DO	
Digital output type		Relay	Transistor	Relay
On-board analog input/output		0		
Number of expansion modules supported		4	20	
Function expansion board support		YES		
High speed counter	Single phase counter	2 channels, 5KHz	8 channels, 200KHz	
	Double phase quadruple frequency	1 channel, 20KHz	4 channels, 100KHz	
High speed counter range		-231~231-1		
High speed output		N/A	4 channels, 100KHz	N/A
Pulse capture		2 channels, 200μs	8 channels, 10μs	
Fast external interruption		2 channels, 200μs	6 channels, 10μs	
Immediate output		N/A	16 channels	N/A
External memoy		USB flash drive	TF card	
Program upload support		NO	YES	
Forced function support		NO	YES	
Real-time clock	Built-in clock	YES		
	Clock accuracy	± 3 minutes/month		
Program memory		128K bytes	256K bytes	
Data memory		10496 bytes	64 K bytes	
Power-loss retentive memory		2K bytes	8K bytes	
Operation speed (bit operation instruction)		0.1μs		
Communications	Communication interface	2*RS485	1*RS485, 1*Ethernet	
	Communication protocol	Modbus master/slave station, free port protocol, multi-PLC interconnection (only for terminal connection)	Modbus master/slave station, free port protocol, multi-PLC interconnection (only for terminal connection), AT communication (for program uploading and downloading)	
Input power voltage		100~240VAC	24VDC	100~240VAC
Output power voltage		N/A	24VDC	
Dimension (W × H × D) mm		116*97*90	147*97*90	



LE5107L Module Appearance



LE5118 Module Appearance



LE5119 Module Appearance

LE Series PLC Product Catalog

No.	Model	Specifications
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CPU Module

1	LE5107L	24-channel CPU module, 220VAC power supply, 24 I/O, DI 14 × 24VDC, DO 10 × relay output, economical
2	LE5118	40-channel CPU module, 24VAC power supply, 40 I/O, DI 24 × 24VDC, DO 16 × transistor output
3	LE5119	40-channel CPU module, 24VAC power supply, 40 I/O, DI 24 × 24VDC, DO 16 × relay output

Digital I/O Module

1	LE5210	8-channel digital input module, DI 8×DC24V input
2	LE5211	16-channel digital input module, DI16 × DC24V input
3	LE5212	32-channel digital input module, DI 32 × DC24V input
4	LE5220	8-channel digital output module, DO 8×DC24V transistor output
5	LE5221	8-channel digital output module, DO8× relay output
6	LE5223	16-channel digital output module, DO 16× relay output
7	LE5224	32-channel digital output module, DO32×DC24V transistor output
8	LE5230	8-channel digital input module / 8-channel transistor output module
9	LE5231	8-channel digital input module / 8-channel relay output module

Communication Module

1	LE5400	Dual serial port (RS485/RS232) communication module
2	LE5401	PROFIBUS-DP Slave Communication Module
3	LE5403	Ethernet communication module
5	LE5406	Profibus-DP to LE bus gateway module

No.	Model	Specifications
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Analog I/O Module

1	LE5310	4-channel analog input, 4-20mA/0 ~ 20mA/0-10V
2	LE5311	8-channel analog input, 4 ~ 20mA/0 ~ 20mA/0 ~ 10V
3	LE5320	2-channel analog output, 4-20mA/0-20mA/0 ~ 10V
4	LE5321	4-channel analog output, 4~20 mA/0~20 mA/0~10 V
5	LE5330	4-channel analog input, 4~20 mA/0~20 mA/0~10V, 2-channel analog output,4 -20mA/0 - 20mA/0 - 10V
6	LE5340	4-Channel Thermocouple Input, Type J, K, E, N, T, R, S, B Thermocouple/±80mV
7	LE5341	4 Channel Thermal Resistor Input, Cu50, Pt100(385), Pt100 (3916)
8	LE5342	8-Channel Thermistor Input

Function Expansion Board

1	LE5600	RS232 communication expansion board
2	LE5601	RS485 communication expansion board
3	LE5610	4-channel digital input function expansion board
4	LE5620	4-Channel Transistor Digital Output Function Expansion Board
5	LE5611	2-channel analog input expansion board, 4~20 mA/0~20 mA/0~10 V
6	LE5621	1-channel analog output expansion board, 4~20 mA/0~20 mA/0~10 V

Accessories

1	LEX5810	485 round connector-to-USB download cable, 3 m
2	LEX5812	Extension cable, 2 m
3	LEX5813	485 round connector to two-core 485 cable, 3 m
4	LEX5817	Communication cable between LE and HT8001 (round connector to DB9), 3 m
5	LEA5820	Memory card for backup/restore procedures
6	LE5405	MCTOLE-IO Gateway Communication Module
7	LEX5820	MC200X Expansion LE Module Cable

Supervisory Control and Data Acquisition (SCADA) System

HollyView



HollyView

- Supports importing images and abundant images.
- Secondary authorization and protection of rights and interests
- Easy to use, automatic line-changing of buttons and batch replacement of texts.

Product Overview

HollyView is a set of products developed by HollySys company according to the current development trend of automation technology, facing high-end automation market and application, aiming at enterprise integration. This product aims at building a strategic industrial application service platform and can provide an effective platform for enterprises to aggregate, analyze and manage data in the whole production process, which enables enterprises to obtain information and react in a timely manner to get optimal results



Main Functions

- The modular design provides a wide range of configuration options for flexibility.
- Supports data collection through multiple protocols and supports communication such as GPRS, SMS, and OPC.
- Built-in scripts, supporting multiple forms of timing and event triggering, and providing customized functions for convenient application expansion.
- Run efficient, rich graphics system, provide various industries commonly used graphic library genie.
- Real-time, historical trend analysis chart of variety.
- The built-in report system can be used to customize real-time and historical reports. Provides wizard-based report development. No script is required to quickly configure and generate data reports in the HollyView history database, industrial real-time database, and relational database.
- Built-in alarm system rich functions, real-time print output, or send alarm SMS as required.
- Built-in high-performance historical database for long-term data storage.
- The ActiveX control is supported to facilitate application expansion.
- Supports SQL and flexible access to relational databases.
- Supports the recipe function.
- Abundant redundancy functions, such as dual-system redundancy, dual-device redundancy, and dual-network redundancy, providing high redundancy switchover performance and a response speed of up to 1 second.
- The C/S and B/S architectures are supported.

Software Features

HollyView has the characteristics of stable running and convenient use. According to the feedback and opinions of many domestic users, some functions have been improved and expanded. The historical curve, temperature curve and formula functions of the product have been greatly improved and improved, and the functionality and usability of the software have been greatly improved.



- Unsurpassed power and flexibility, with full script and graphic animation.
 - You can save a portion of the screen for later analysis or printing.
 - Variable import and export function: Variables can be exported to the, which facilitates modification of attributes such as variable names, and then imported into a new project. This implements the secondary utilization of variables and saves development time.
 - Powerful distributed alarm and event processing, and distributed storage of real-time and historical data.
 - The powerful script language processing helps you implement
- complex logic operations and decision-making.
 - The new Web server architecture supports the publishing of images, real-time data, historical data and database data.
 - Convenient recipe handling function.
 - Rich device support library, supporting common intelligent modules.
 - Supports two authorization modes: hard encryption and soft authorization.

Connection and acquisition

HollyView can connect to thousands of industrial automation equipment such as PLC, intelligent instrument, board card, module, frequency converter and so on. The wide range of supporting equipment is comparable with the similar software abroad. The communication modes are flexible and varied, which provides sufficient choice space for users and can meet the needs of various design schemes. Currently, HollyView supports the following communication modes:

- Serial port communication mode
- Ethernet mode
- GPRS communication mode
- Lonworks Fieldbus Mode
- BacNet Fieldbus Mode

HollyView provides multiple interfaces for third-party software to access engineering data. It can conveniently perform secondary calculation on the data and apply various advanced algorithms to meet the special requirements of engineering. The following communication interfaces are supported:

- OPC2.0
- DDE
- Open real-time data using OCX controls.
- Accessing historical data in Excel tables

HollyView Product catalog

Type	Model	Specifications
General version	HollyView	HollyView, general version, 64 points, Integrated development and operation
	HollyView	HollyView, general version,128 points, Integrated development and operation
	HollyView	HollyView, general version,256 points, Integrated development and operation
	HollyView	HollyView, general version,512 points, Integrated development and operation
	HollyView	HollyView, general version,1024 points, Integrated development and operation
	HollyView	HollyView, general version, unlimited points, development and operation integration
General network version	HollyView+Web	HollyView, 64 points, development and operation integration, supporting WEB release,10 / 30 User
	HollyView+Web	HollyView,128 points, development and operation integration, supporting WEB release,10 / 30 User
	HollyView+Web	HollyView, 256 point, development and operation integration, supporting WEB Release,10 / 30 User
	HollyView+Web	HollyView,512 points, development and operation integration, supporting WEB release,10 / 30 User
	HollyView+Web	HollyView,1024 points, development and operation integration, supporting WEB release,10 / 30 User
	HollyView+Web	HollyView, infinity points, development and operation integration, supportWEBRelease,10 / 30User

Human-Machine Interface (HMI)

HT8001 Series Touch Screen



Simple Script Program



Extensible Serial Ports



Expandable serial port

- Perfect combination of specialization and humanization to create new ideas of human-machine interface
- 4.3-inch to 15-inch
- 1677 million colors, exquisite and traceless picture, display effect comparable to LCD display
- Super-fast response for downloading, starting, running, and trinity
- Support for macro instruction functions, calculation, free protocol writing, drawing, increased programming freedom.
- Rich gallery, the picture is relatively more comfortable

Product Overview

The HT8001 series uses the embedded technology and low-power ARM Cortex-A8 CPU chip to quickly invoke complex graphics, meeting the needs of most users. Direct communication with PLC is supported. PLC data transmission does not require any special program. It has the functions of simulating operation, running on the computer with large capacity of user program storage space, and simple script program to meet the customer's requirements. It can

quickly and effectively complete the field data collection, calculation and control. Faced with the huge market of single machine and small control system and the urgent demand of users to reduce production cost. HollySys has successfully introduced the text display after the HT8001 touch screen. Both touchscreens and text displays provide greater performance, easier operation and faster response times.

Product catalog

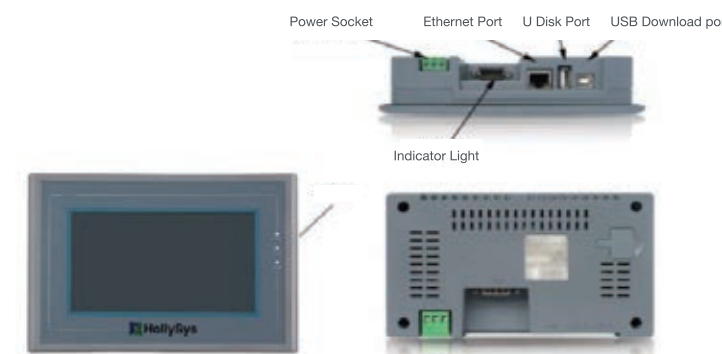
No.	Model	Specifications
1	HT8421T	4.3 "Touch screen/HT8421T/480*272/16.77 million color
2	HT8421TE	4.3 "Touch screen/HT8421TE/480*272/16.77 million color/Network port
3	HT8701T	7 "touch screen/HT8701T/800M80/16.77 million color
4	HT8721T	7 "touch screen/HT8721T/800M80/16.77 million color/economic
5	HT8701TE	7"touch screen /HT8701TE/800*480/16.77 million color/network port
6	HT8A01T	10.2 "touch screen/HT8A01T/1024*600/16.77 million color
7	HT8A01TE	10.2 "touch screen/HT8A01TE/1024*600/16.77 million color/network interface
8	HT8C01T	12.1"touch screen /HT8C21T/1024*768/16.77 million color/network interface
9	HT8F01T	15"touch screen /HT8F01T/1024*768/16.77 million color/network interface

Product Features

16.77 million true color display, more perfect three-dimensional image, support BMP, JPG, GIF format image import, personalized image display, support Windows system all fonts, can change the language according to user requirements; Advanced embedded technologies, Linux embedded operating system, ARM Cortex-A8; One USB SLAVE is integrated to quickly download the configuration program, greatly improving the work efficiency. Supports multiple interfaces, including RS232, RS422, RS485, and Modbus Tcp. The high-capacity FLASH memory supports large-capacity data storage without loss. It can also expand the SD card and USB flash drive

storage. Supports communication with current mainstream PLC and controllers, and can also quickly customize communication drivers according to user requirements. The HT8001 series touch panel adopts embedded and low power consumption technology, which makes the touch panel of HT8001 series low power consumption, faster running speed, and higher reliability. The HT8001 series touch screen software is powerful and easy to learn. It supports personalized logo import, perfect event recording, intelligent recipe editing, powerful macro program, convenient simulation mode and reliable password protection.

Product Structure



Touchscreen Technical Specifications

model	HT8421T		HT8421TE		HT8721T		HT8701T		HT8701TE		HT8A01T		HT8A01TE		HT8C01T		HT8F01T		
Performance specifications										Performance specifications									
Display dimensions	4.3 "(Length: Width = 16: 9)				7 "(length:width = 16:9))				7 "(length:width = 16:9)		10.2 "(Length: Width = 16:9)				12.1 a (L:W = 16:9)			15 "(L:W = 4:3)	
Resolution	480*272				800*480				800*480		1024*600				1024*768				
Display Color	16.77 million								16.77 million										
luminance	400cd/m²				450cd/m²				450cd/m²		500cd/m²								
backlight	LED 50000 hours								LED 50000 hours										
Touch screen	4-wire high precision touchpad								4-wire high precision touchpad										
CPU	ARM Cortex-A8								ARM Cortex-A8										
Storage Expansion	None			One USB flash drive					One USB flash drive										
Ethernet	None		1		None				1		None		1		1		1		
Program Download	1 USB								1 USB										
Communication interface	One RS232/RS485/RS422				Two RS232/RS485/RS422 ports						Two RS232/RS485/RS422 ports								
Electrical specifications										Electrical specifications									
Rated power	3W				6W				6W		7W				8W			8W	
Voltage range	24VDC(-15%——+15%)								24VDC(-15%——+15%)										
Pressure withstand test	1000VAC, 1 minute								1000VAC, 1 minute										
Structural specifications										Structural specifications									
Housing Material	Engineering plastic ABS+PC								Engineering plastic ABS+PC										
Shell size (mm)	173*95*39				203*145*40		227*153*40		227*153*40		275*211*44				340*256*54			365*302*58.2	
Hole size (mm)	163*85				192*138		210*144		210*144		259*201				330*246			355*293	
Weight (kg)	0.2				1.5				1.5		2.2				1.8			3	
Environmental specifications										Environmental specifications									
Operating temperature	- 20 - 65 degrees Celsius								- 20 - 65 degrees Celsius										
Operating humidity	10 - 90% RH (non-condensing)								10 - 90% RH (non-condensing)										
Degree of protection	IP65 front panel								IP65 front panel										
Cooling mode	Natural air cooling								Natural air cooling										
Product certification										Product certification									
Certification	CE/FCC								CE/FCC										

Network Products

Ethernet switch



Ethernet switch

- High-strength metal shell, shock-resistant and durable
- Fanless design to avoid dust accumulation caused by the use of fans
- A variety of interface types, suitable for various scenarios and network scales

Industrial Ethernet Switch

GM010-ISW-8L-A Industrial Ethernet Switch

• Product Overview

The GM010-ISW-8L-A Ethernet switch is a communication device designed for industrial customers to support redundant ring network topology. Considering the reliability requirements of industrial control for the communication system, the GM010-ISW-8L-A Ethernet switch adopts the unique "Supreme-Ring" ring network protocol. The link fault recovery time is less than 20 ms, and the closed metal fold heat dissipation structure is adopted. It is suitable for harsh environments such as high temperature, dust, and strong electromagnetic.

GM010-ISW-8L-A integrates six 10/100M twisted pair ports (RJ45) and two 100M optical ports to form a "Supreme-Ring" optical fiber redundancy ring network, providing redundant link connection for industrial field control equipment. Failures in any of the backbone communication channels will be detected within 20 ms and redundant links will be activated to transfer data, keeping your automation system working.



• Product Features

- Compliant with Ethernet standards such as IEEE802.3, IEEE802.3U, and IEEE802.3X
- Store-and-forward switching mode, providing non-blocking full line-speed forwarding
- Plug-and-play design, easy to operate
- Supports the S-Ring protocol and can form multiple network topologies, such as ring, chain, and star.
- Twisted Pair Port Adaptive 10/100Base-TX, Adaptive MDI/MDI-X Connections and Full/Half Duplex
- Provides IEEE802.3X flow control in full duplex mode and backpressure flow control in half duplex mode.
- Dual power inputs, internal redundant power modules, and relay alarm output
- Enclosed alloy enclosure design complies with IP40 industrial protection standard, fanless design
- Support for industrial guide rail installation
- LED indicator shows port activity for easy network fault detection
- Port-based VLAN division and IEEE 802.1q-based VLAN tag division
- The latest QoS measures include IEEE 802.1p and port-based multi-priority.
- Support port mirroring, port trunking and IGMP snooping
- Broadcast storm protection
- Supports the console, web, and SNMP NMS modes.

GM010-ISW-24L Industrial Ethernet Switch

Product Overview

GM010-ISW-24L NM rack-mounted industrial Ethernet switch, providing twenty-four 10/100 Base -TX ports; Two 100/1000Base-FX optical modules can be expanded. The storage and forwarding switching mode is used. The backplane bandwidth of 17.6 Gbit/s is supported. Provides full line-speed non-blocking forwarding, eliminating network bottlenecks, and provides IEEE802.3X flow control in full duplex mode and backpressure mode in half duplex mode. Supports traffic control, automatic port negotiation, automatic network structure learning, rack installation and arbitrary plane installation, and is mainly used for the access of application terminals such as intelligent substations and automatic power distribution



networks to industrial Ethernet. The GM010-ISW-24L NM rack-mounted industrial Ethernet switch has a wide operating temperature of -40° C to 85° C. It has passed multiple CE and FCC certifications and supports 85 to 265 V AC and DC power input. Provides industrial-grade power protection such as overcurrent, overvoltage, short circuit, and overheating.

Product Features

- Compliant with Standards
 - IEEE 802.3/801.3u, (Ethernet, Fast Ethernet)
 - IEEE 802.3x (Flow Control)
 - IEEE 802.3ad (Link Aggregation Control Protocol)
 - IEEE 802.1D/1w (Spanning Tree Protocol)
 - IEEE 802.1p (QoS on the MAC level)
 - IEEE 802.1Q (Virtual LANs)
 - IEEE 802.1X (Port Based Network Access Control)
- Network Management
 - Supports NMS modes such as ConSOle, Web, Tdnet, SNMP v1/v2, RMON 1, 2, 3, 9 group.
 - Supports multicast snooping, IGMP snooping, and 256 multicast entries.
 - IEEE 802.1d Rapid Spanning Tree Protocol
 - Supports SNMP V1 and V2 protocols and complies with RFC-1157.
 - Supports TELNET and CONSOLE management.
 - Supports the web-based NMS, and supports the browsers of Netscape 4.0 and Internet Explorer 5.0 or later.
- Redundant performance
 - Network Redundancy Support Supreme Ring, STP, and RSTP
 - Power Supply Redundancy Optional Redundant Power Modules
 - Port redundancy supports port trunks.
- Store-and-forward switching mode, providing non-blocking full-line forwarding
- Port performance
 - Support port mirroring, port aggregation and MAC address-based load balancing
 - Supports limit on the number of users on a port, static MAC address binding, and MAC address binding to protect against virus attacks.
 - Supports rate limiting, including the broadcast packet rate, multicast packet rate, DLF, and bidirectional rate of each port.
 - Supports port-based VLANs. A maximum of 4K VLANs are supported.
 - Broadcast storm protection
- Supports rack installation.
- Enclosed alloy enclosure design complies with IP40 industrial protection standard, no fan design
- LED indicator shows port activity for easy network fault detection

GM010-PW-8L-DT Industrial Ethernet Switch

Product Overview

The GM010-PW-8L-DT Layer 2 non-manageable card rail switch integrates eight 10/100Base-T(X) ports, adaptive MDI/MDI-X connections, and full/half duplex. The DIP switch on the top of the device can be used to enable or disable broadcast storm suppression. The supports dual 24 V AC/DC power supplies. When any one of the power supplies fails, the device can run normally, improving the reliability of network operation. The IP30 metal housing with a wide temperature range of -40 to 75° C meets the requirements of various industrial applications and ensures fast and reliable data transmission in harsh industrial environments.



Product Features

- Standards compliant
 - IEEE 802.3i (10Base-T)
 - IEEE 802.3u (100Base-TX 和 100Base-FX)
- Power supply performance
 - Redundancy protection
 - Supports overload protection
 - Supports reverse connection protection
- Enables or disables broadcast storm suppression.
- Supports installation of industrial clamp rails.
- Enclosed alloy enclosure design complies with IP30 industrial protection standards, naturally cooled, fanless design
- LEDs indicate port activity for easy detection of network failures

Product Selection List		
Series	Model	Specifications
A	GM010-ISW-8L-A-A01	Network management card rail industrial switch, 6*10/100 BaseTX, 2*100 BaseFX (multi-mode), power supply: 24 V DC, protection level: IP40, operating temperature: -40 to 85° C, relative humidity: 0 to 95% (no condensation)
	GM010-ISW-8L-A-A01-20	Network management card rail industrial switch, 6*10/100 BaseTX, 2*100 BaseFX(single-mode 20 km), power supply: 24VDC, protection level: IP40, working temperature: -40 to 85° C, relative humidity: 0° C. ~ 95% (no condensation)
	GM010-ISW-24L-C01	Network management rack industrial switch, supporting port fault isolation, loopback detection, and storm limit, 24 ports 10/100 Base-TX/2 * optical module slots, power supply: 85-265 V AC, protection level: IP40, working temperature: -40-85° C Relative humidity: 0 to 95% (no condensation)
	GM011-ISW-24L-A01/1U	Network management industrial Ethernet switch, 24 * gigabit electrical ports/4* optical module slots, power supply: 85-265 V AC/DC auto-sensing, protection level: IP40, working temperature: -40 to 85° C, relative humidity: 0 to 95% (no condensation)
	GM012-ISW-24L-A01/1U	Network management three-layer industrial Ethernet switch, 24 * gigabit electrical ports/4 * optical module slots, power supply: 85-265 VAC/DC auto-sensing, protection level: IP40, working temperature: -40 to 85° C, relative humidity: 0 to 95% (non-condensing)
B	GM010-PW-8L-DT	Rack-type switch with eight 10/100BaseT(X) electrical ports; Power supply 24VDC/AC; protection level: IP30; working temperature: -40 to 75° C; Relative humidity: 5 to 95% (no condensation)

Isolation and Protection Products

Safety Barrier / Isolator / Surge Protector



- Isolation and protection to ensure on-site equipment
- Easy installation and high conversion accuracy
- High anti-interference and stable operation
- Easy configuration and flexible use
- EMC performance and high-precision detection
- Various models and flexible configuration

AM1000EX Series Safety Barriers (Isolation Barriers)

• Product Description

The AM1000EX series safety barrier adopts electromagnetic coupling technology to achieve reliable isolation of power supply, signal input and signal output. It is more reliable and safe than the Zener barrier, and does not need the intrinsic safety grounding, which greatly enhances the anti-interference capability of detection and control circuits. It is a universal isolated safety barrier that can be matched to a variety of field intrinsically safe instruments.



• Accreditation Standards

GB 3836.1-2000 Electrical Equipment for Explosive Gas Environment Part 1: General Requirements

GB 3836.4-2000 Electrical equipment for explosive gas atmospheres - Part 4: Intrinsically safe types

GB/T19001-2008 Equivalent ISO 9001:2008 Quality Management System Requirements

• Product certification

National Explosion Protection Certification of Instruments and Instruments (NEPSI)

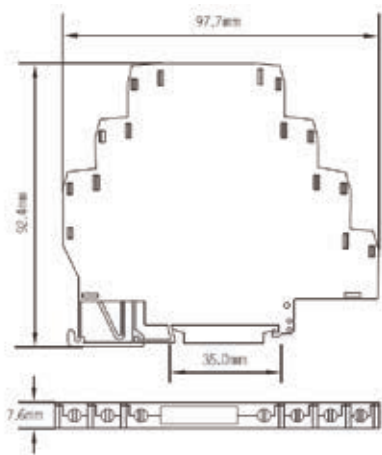
Safety Barriers Product Catalog				
Product Type	Product Model	Product Specifications	Number of channels	width
Safety barrier	AM1061EX	RTD: thermal resistance input	1 in and 1 out	12.5mm
Safety barrier	AM1051EX	TC: Thermocouple Input	1 in and 1 out	17.5mm
Safety barrier	AM1041EX	AO: analog output	1 in and 1 out	12.5mm
Safety barrier	AM1032EX	AI: analog input	1 in and 2 out	17.5mm
Safety barrier	AM1031EX	AI: analog input	1 In and 1 out	12.5mm
Safety barrier	AM1022EX	DO: Boolean value output	1 in and 2 out	17.5mm
Safety barrier	AM1021EX	DO: Boolean value output	1 In and 1 out	12.5mm
Safety barrier	AM1012EX	DI: Boolean value input	1 in and 2 out	17.5mm
Safety barrier	AM1011EX	DI: Boolean value input	1 In and 1 out	12.5mm
Safety barrier	AM1013EX	DI: Boolean value input	1 in and 2 out	17.5mm
Safety barrier	AM1052EX	TC: Thermocouple Input	1 in and 2 out	17.5mm
Safety barrier	AM1062EX	RTD: Thermal resistor input	1 in and 2 out	17.5mm
Isolation type safety barrier	AM1011EX.SIL	DI: Boolean value input	1 In and 1 out	12.5mm
Isolation type safety barrier	AM1012EX.SIL	DI: Boolean value input	1 in and 2 out	17.5mm
Isolation type safety barrier	AM1013EX.SIL	DI: Boolean value input	1 in and 2 out	17.5mm
Isolation type safety barrier	AM1021EX.SIL	DO: Boolean value output	1 in and 1 out	12.5mm
Isolation type safety barrier	AM1031EX.SIL	AI: analog input	1 In and 1 out	12.5mm
Isolation type safety barrier	AM1041EX.SIL	AO: analog output	1 in and 1 out	12.5mm
Isolation type safety barrier	AM1051EX.SIL	TC: Thermocouple Input	1 in and 1 out	17.5mm
Isolation type safety barrier	AM1061EX.SIL	RTD: thermal resistance input	1 in and 1 out	12.5mm

AMG1000 Series Signal Isolators

Product Description

The AMG1000 series signal isolator is an electrical device connected between the industrial field instrument and the control room. It effectively solves the interference problem of industrial automation control system by reliable isolation between power supply, input and output, and ensures the stability and reliability of the system.

Ultra-thin type, 7.6 mm wide, space-saving and low power consumption design, can ensure dense installation and long-term reliable operation screw connection mode, 35 mm guide rail installation.



Product Features

- Isolation voltage: 1500VAC; 1min
- Electromagnetic compatibility meets the application requirements of GB/T18268 industrial equipment (equivalent to C61326-1).
- Static electricity: air discharge 8 kV
- Pulse group: power supply to ground 2kV, signal to ground 1kV
- Surge: 2kV line-to-ground, 1kV line-to-line
- RF: 10 V/m

Signal Isolator Product Catalog				
Product Type	Product Model	Product Specifications	Tong Beer	width
isolator	AMG1051H	RTD/TC Thermocouple/Thermistor Input Loop Power Supply	1 in and 1 out	7.6mm
isolator	AMG1051D	RTD/TC Thermocouple/Thermistor Input Loop Power Supply	1 in and 1 out	7.6mm
isolator	AMG1041	AO: analog output	1 in and 1 out	7.6mm
isolator	AMG1031	AI: analog star input	1 in and 1 out	7.6mm
isolator	AMG1032	AI: analog input	1 in and 2 out	17.5mm
isolator	AMG1041H	AO: Analog output HART	1 in and 1 out	7.6mm
isolator	AMG1055	PI: frequency input	1 in and 2 out	22.5mm
isolator	AMG1031H	AI: Analog Input HART	1 in and 1 out	7.6mm

AML1000 Series Surge Protectors

Product Description

The AML1000 series surge protectors are designed for industrial automation control systems that are susceptible to lightning surge damage. The AML1000 series surge protectors can connect the protected lines to the equipotential system in the shortest time, thus limiting the surge to a certain voltage protection level. The high voltage pulse energy caused by lightning strike is rapidly released to the ground, and the potential difference between the wirings is reduced, thus protecting the power distribution equipment of the user. The signal and DC power surge protectors adopt multi-stage combined protection circuit design. The effective protection includes: two-wire pressure, flow, temperature transmitter, valve positioner, solenoid valve, proximity switch, thermocouple, thermal resistance, signal communication and DC power supply. Intrinsically safe surge protector is widely used in Ben-safe explosion-proof automatic control system.



Product Features

- Signal and DC power surge protectors
- 7.6 mm ultra-thin design saves space
- Various voltage ranges for various process I/O designs
- 10kA (8/20μs) surge resistance
- Terminal grounding or grounding via DIN35 rail
- Intrinsically safe Exia II.C T4 certified AC power surge protector
- 20kA (8/20ns) surge resistance
- Working status indication window; green; Normal; red: invalid
- Surge module: supports hot swap and easy maintenance.

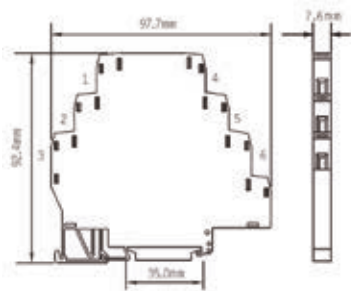


Accreditation Standards and Product Certifications

- GB18802.21-2004 Low Voltage Surge Protector No. 2: Part: Performance Requirements and Test Methods for Surge Protectors (SPDs) for Telecommunications and Signal Networks (IEC 61643-21:2000)
- GB18802.1-2002 Surge Protectors (SPDs) for Low Voltage Distribution Systems Part 1: Performance Requirements and Test Methods (IEC 61643-1:1998)

Product certification

- China Shanghai Lightning Protection Products Testing Center Lightning Protection Performance Testing
- National Instruments, Meter Explosion Protection Supervision and Inspection Station Explosion Protection Certification



Surge Protector Product Catalog		
Product Type	Product Model	Product Specifications
Surge Protector	AML1005B	Three-wire thermal resistance signal surge protector
Surge Protector	AML1005A	Two-wire thermal resistor and thermocouple signal surge protector
Surge Protector	AML1021	Two-wire transmitter signal surge protector
Surge Protector	AML1021B	three-wire surge protector
Surge Protector	AML1021X	Field Mounted, 2-wire Signal Surge Protector
Surge Protector	AML1021X-3	Field Mounted, 3-wire Signal Surge Protector
Ethernet Signal Surge Protector	AML10RJ45	Ethernet Signal Surge Protector
telephone signal surge protector	AML10RJ11	telephone signal surge protector
Video Surge Protector	AML10BNC-1	Signal section
Video and Power Supply Combination Surge Protector	AML10BNC-2	Power section
Video, Power, and Control Surge Protector	AML10BNC-3	control section
Surge Protector	AML1024	24VDC power surge protector
Surge Protector	AML1220A	220VAC power surge protector/1500V, single-phase two-wire, three-wire
Surge Protector	AML1220B	220VAC surge protector HollySys/1500V, three-phase four-wire TT
Surge Protector	AML1220C	220VAC Power Surge Protector/1500V, Three-Phase Five-wire TN-S
Surge Protector	AML1220D	220VAC Power Surge Protector/1500V, Three-Phase Four-wire TN-C
Class II AC Power Surge Protector	AML1220A- II	220V AC power surge protector/2200V, single-phase two-wire, three-wire
Class II AC power surge protector	AML1220B-II	220VAC Power Surge Protector HollySys / 2200V, Three-Phase Four-wire TT
Class II AC power surge protector	AML1220C- II	220VAC Power Surge Protector/2200V, Three-Phase Five-wire TN-S
Class II AC Power Surge Protector	AML1220D- II	220VAC Power Surge Protector/2200V, Three-Phase Four-wire TN-C
Class II AC power surge protector	AML1220-G	220VAC power surge protector to protect distribution lines

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