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THE VERY BEGINNING OF THE NEW WORLD

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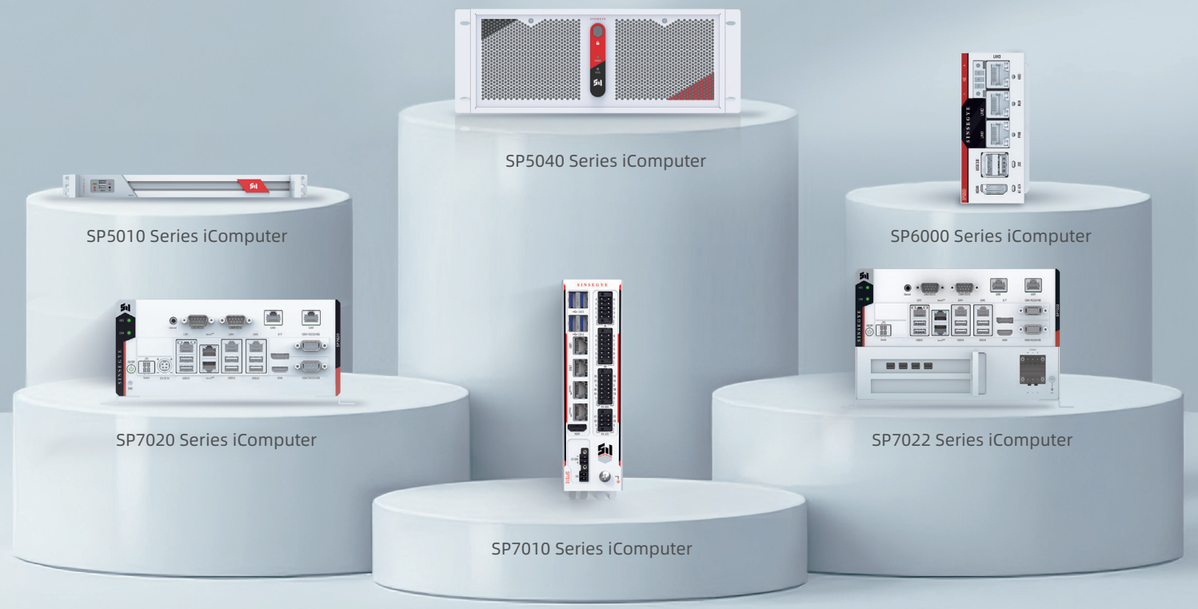
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中科时代 SINSEGYE

Product Catalog of IPC Industrial Intelligent Computer (iComputer)

Epoch-making Operating Platform and Solutions



THE VERY BEGINNING OF THE NEW WORLD

COMPANY PROFILE

Sinsegye is a product-driven company, with R&D technology originating from the Institute of Computing Technology, Chinese Academy of Sciences. Its founding team consists of core experts from the Institute, all with nearly 20 years of experience in R&D of industrial intelligent computing control. Meanwhile, led by two academicians from the Chinese Academy of Engineering at the Institute of Computing Technology, Chinese Academy of Sciences, the company possesses strong technical advantages in PC control, dual operating system development, automation control, and industrial software algorithms, providing a solid foundation for its tech innovation. Sinsegye clearly proposes “achieving industrial intelligence based on intelligent PC technology and software-defined technology”, with core technologies securing national invention patents and utility model patents. Sinsegye's core strength lies in its sustained, high-intensity R&D capabilities in full-stack PC technologies, covering motion control chip design, AI chip toolchains, parallel computing, compilers, runtime, real-time microkernels, operating system isolation, virtualization, motion control acceleration, industrial buses, IDEs, and algorithms. The company adopts a flexible product portfolio with iComputer as the driving force, Automation as the core, and IO/Motion as a supporting component, thereby achieving integrated control and computation of “PLCs + Industrial Computer + Motion Controllers + Edge Servers”. It provides efficient, stable, and reliable industrial automation and intelligent solutions for industrial scenarios, which have been successfully applied in advanced manufacturing, new energy, process industries, and other fields.

Sinsegye will further advance domestic industrial chips, domestic virtualized dual operating systems, and domestic industrial software technologies, building an independently controllable industrial infrastructure centered on the “iComputer”. By changing its track into next-generation computers—computing-control machines, it aims to overcome industrial bottlenecks, accelerate China's shift from China’s manufacturing to China’s intelligent manufacturing, challenge global competitors, drive national industrial progress, and pioneer computable manufacturing.

Leading advantage
Independently controllable
Flexible architecture

Efficient response
24-hour response
72-hour problem resolution

Global coverage
Global
9 branches

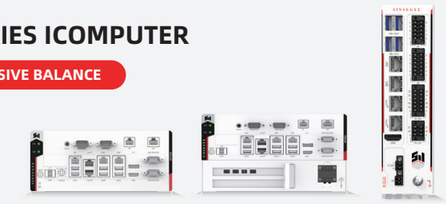
Independent intellectual property
100+ Intellectual property/patents

CONTENTS

SP70 SERIES ICOMPUTER
COMPREHENSIVE BALANCE
10

SP60 SERIES ICOMPUTER
EXTREMELY LIGHTWEIGHT
18

SP50 SERIES ICOMPUTER
POWERFUL COMPUTING POWER
21







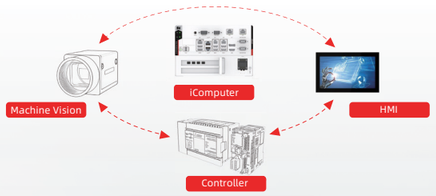
PRODUCT FEATURES

Amid rapid technological advancements, the manufacturing industry is undergoing a profound intelligent transformation. This trend has not only fundamentally impacted production methods, but also reshaped the competitive landscape throughout the industry. As market demands for product quality standards continue to rise, flexible adjustments in production processes and comprehensive management of equipment data have become core elements of intelligent manufacturing. Currently, manufacturing plants face multiple challenges in advancing intelligent upgrades, including the complexity of system architecture, high equipment deployment costs, and increasing implementation difficulties.Sinsegye is committed to promoting the development of intelligent manufacturing and has launched a multi-functional iComputer integrating PLC, industrial computer, motion controller, and edge server capabilities. This iComputer combines motion control, machine vision, logic control, SCADA display, edge computing, and adopts a dual-domain architecture to ensure system security and real-time performance, offering a novel smart solution for the market.

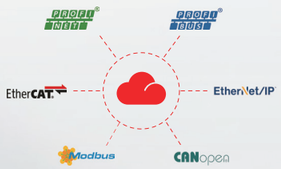
Promoting Industrial Intelligence Based on PC Technology



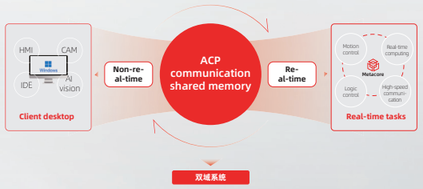
Open System Ecosystem



Efficient data transmission



Multi-end interconnectivity

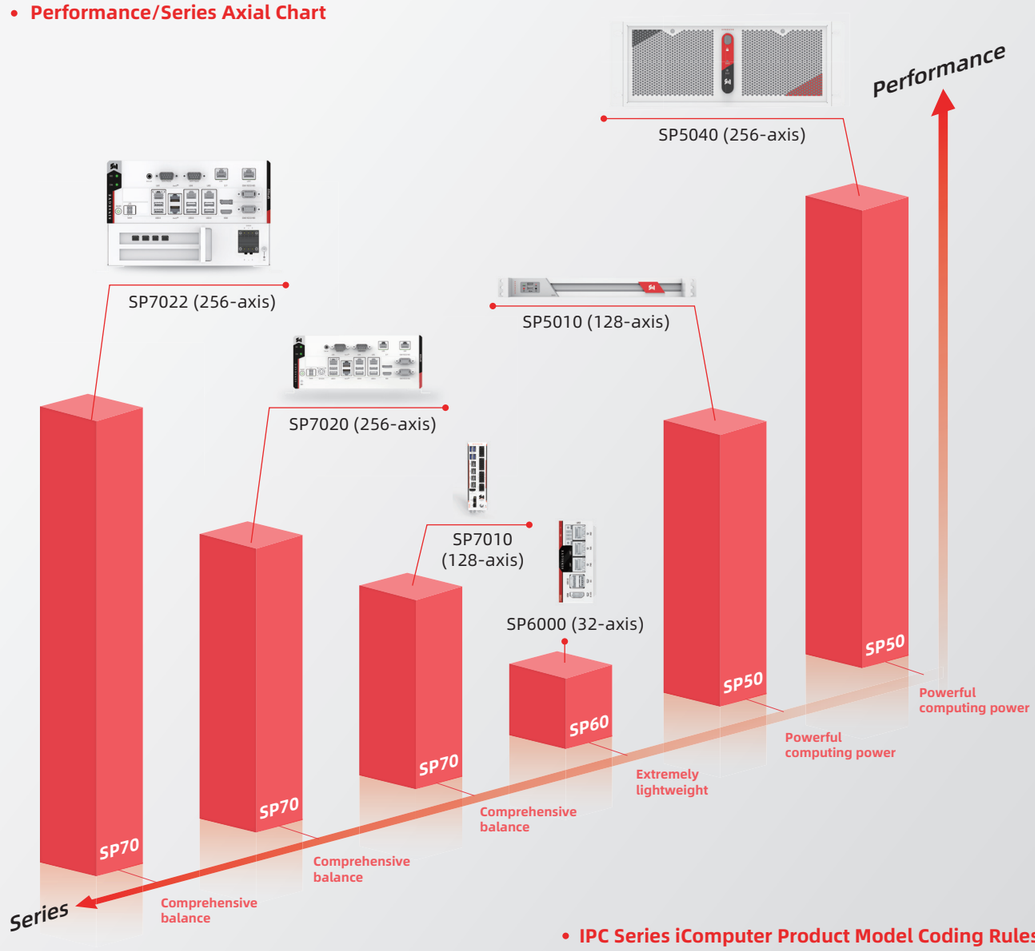


High real-time performance and strong reliability, with outstanding capabilities



PRODUCT LINEUP

- **Performance/Series Axial Chart**



- **IPC Series iComputer Product Model Coding Rules**

SPXXXX--C 0 0 S
① ② ③ ④ ⑤

①: Product Series	②: CPU	③: Memory Size	④: Hard Drive Capacity	⑤: Operating System
SP5040	Different characters represent different types of CPUs	0:64GB	0:64GB	0:Linux
SP5010		1:128GB	1:128GB 2:256GB	1:Linux+Windows
SP6000		2:16GB	3:512GB	2:Linux+Centos
SP7010		3:32GB	4:1T	3:Linux+Ubuntu
SP7020		4:64GB	5:2T	
SP7022		5:128GB	6:4T	4:Linux + UnionTech UOS

For Item ①, the meanings are as follows:

SP 5 0 4 0
① ② ③ ④ ⑤

①: Product Line	②: Product Series	③: Reserved	④: Product Sub Series Form	⑤: Sub-Series Under Product Form
SP: Standard IPC product line	5: 50 Series		0: Ultra-compact	
	6: 60 Series		1:50 Series 1U rackmount, 70 Series BOX type 2: Compact	
	7: 70 Series		4:4U rackmount	

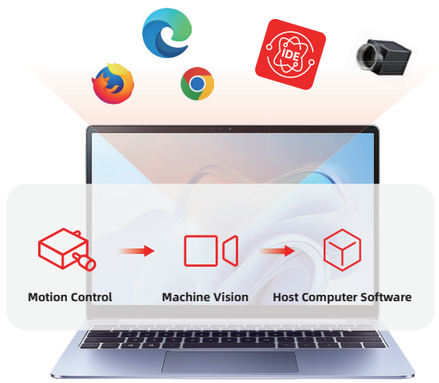
Feature 1 Open system ecosystem

The IPC-type iComputer PC features an open ecosystem (Windows/Linux) and rich software functions, enabling users to rapidly conduct system development on its platform. The open system ecosystem ensures users to seamlessly inherit existing software assets, effectively avoiding redundant development. Additionally, functions like database management, environment diagnostics, and software integration provide more powerful feature extensions for original solutions.

Open system ecosystem

- It supports multiple desktop ecosystems, enabling rapid migration of existing software assets, including industrial applications such as equipment intelligent care diagnosis system Instaguard, production decision support system MesApps, vision monitoring and tracking SparkCV, and robotic arm module sensing and control system Octo.





Multi-platform feature integration

- A set of programming platform supporting motion control, machine vision, logic control, SCADA programming, enabling informationized database, cloud platform interaction, and third-party software integration. It adopts modular design principles and open, standardized interfaces, integrating complete PLC programming/debugging functions, complete C/C++ programming and debugging functions, Motion functions, and AI functions to meet the development needs of artificial intelligence and industrial machine learning projects.

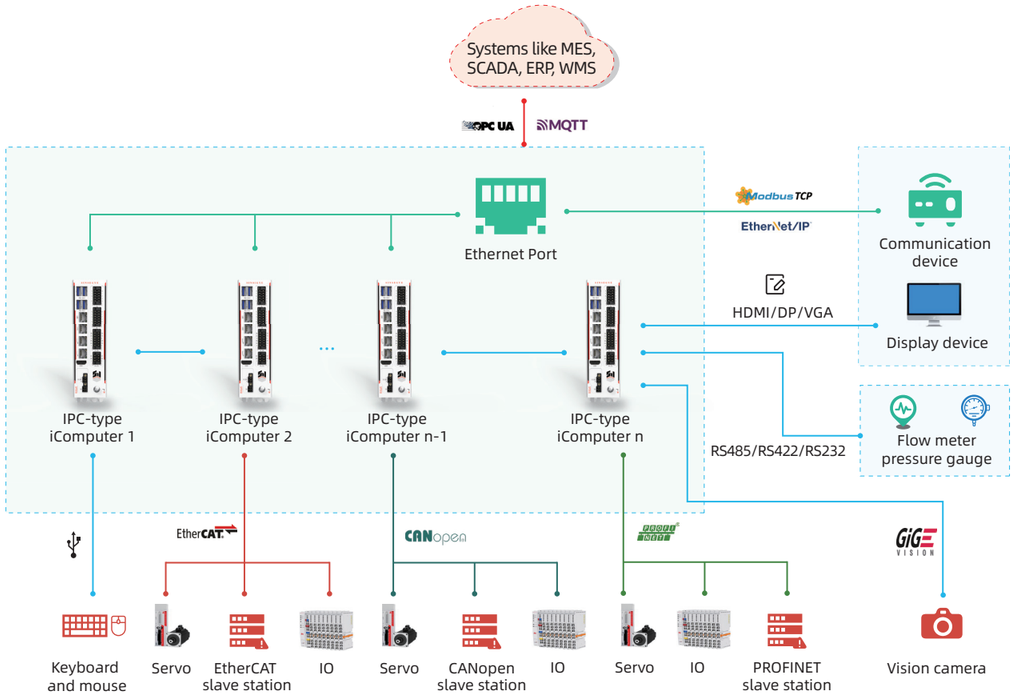
Multi-application extension

- It supports basic functional plugins for PLC, Motion, HMI, communication, and more.
- It supports key functions such as fault alarms, log recording, data visualization, and reports
- It provides standardized program frameworks for key industries and equipment control applications
- The frameworks shorten the R&D cycle for customers' existing models and new models



Feature 2 Full-end interconnectivity

The IPC-type iComputer PC features multiple industrial bus protocols and programming languages, complies with IEC61131-3 standard programming specifications (LD/ST/SFC/FBD/CFC), and also supports high-level languages such as C, C++, Java, C#, Go Lang, enabling rapid data interaction among heterogeneous devices.



Rich variety of industrial bus types

- EtherNET/IP
- TCP/IP
- ModbusTCP
- MQTT
- OPC UA
- EtherCAT
- PROFINET
- CANopen
- Gige

Multiple programming languages

- **IEC 61131-3 standard programming methods**
  - Ladder Diagram (LD)
  - Sequential Function Chart (SFC)
  - Function Block Diagram (FBD)
  - Structured Text (ST)
  - Continuous Function Chart (CFC)
- **High-level languages**
  - C language
  - C#
  - C++
  - Java
  - Go lang

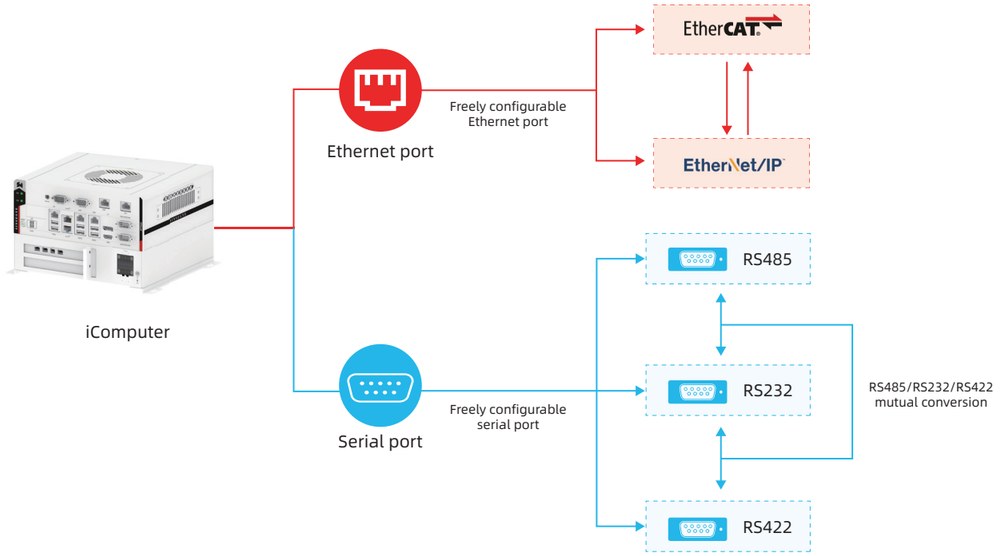
Rich communication interfaces

- Gigabit Ethernet interface
- USB 3.0
- HDMI/DP/VGA
- RS485
- RS232
- RS422
- PCIe

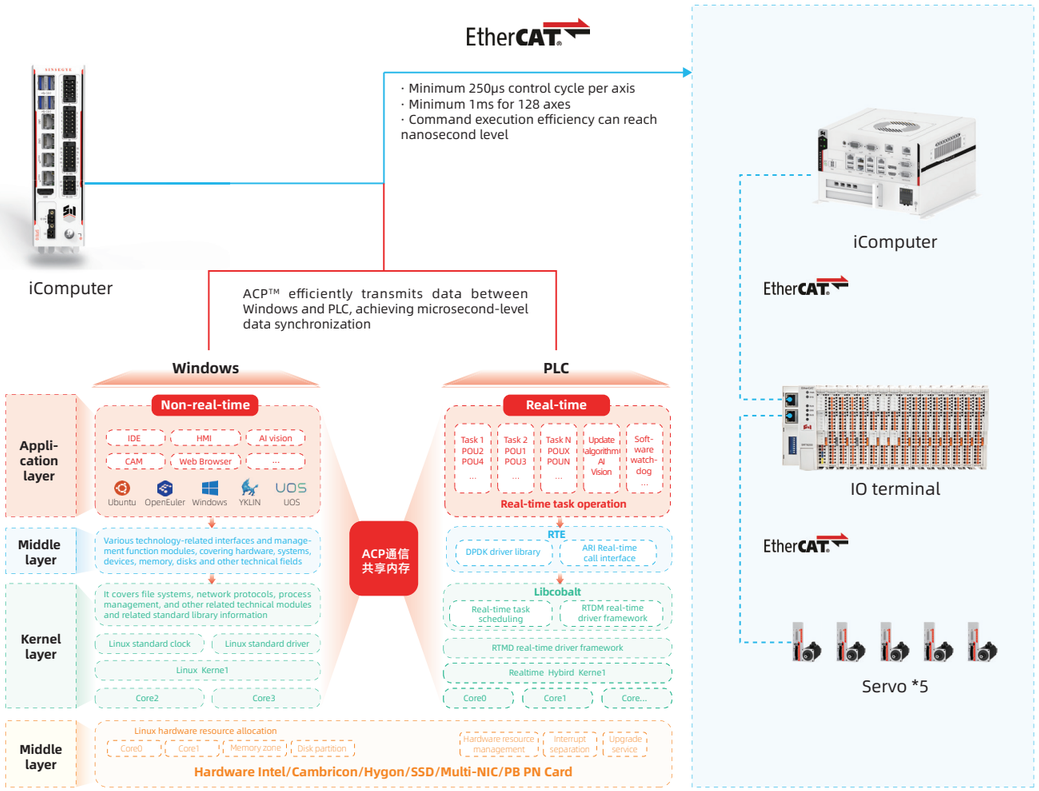
Multiple topology structures

- Star
- Ring
- Tree
- Bus

Feature 3 Freely configurable interfaces



Feature 4 High-speed data transmission



Feature 5 High reliability, high real-time performance, and excellent performance

High security

Operating system:
It complies with GBT 20272 Security technical requirements for operating system

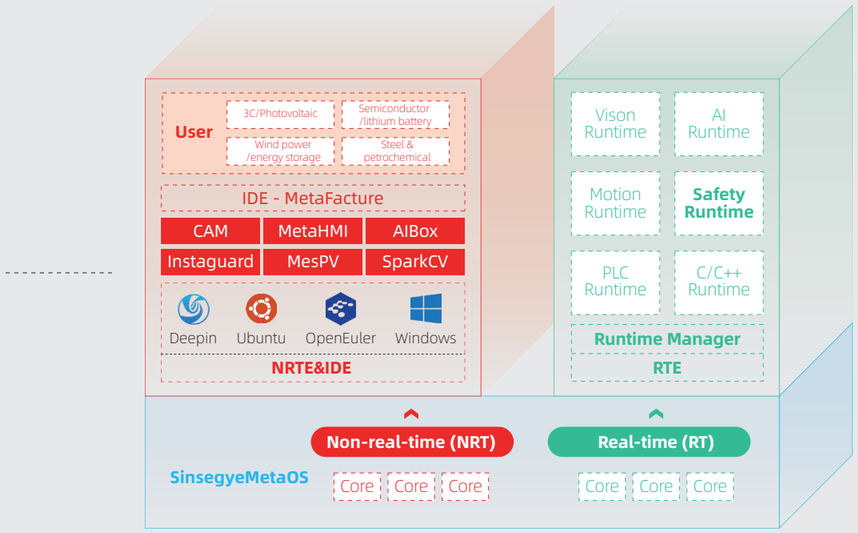
Data security:
User project encryption, POU task encryption, object file encryption

Network security:
Encrypted inter-domain communication, network isolation between external non-real-time domain and internal real-time domain

Rich functions

Inter-domain communication:
ACP™ provides efficient interaction and serves as an efficient communication bridge between kernel mode and user mode. It achieves microsecond-level data synchronization based on the DDS architecture, significantly outperforming traditional TCP protocols

Real-time control:
Real-time domain task cycles can be as low as 50μs, with interrupt response reaching microsecond level, command execution efficiency achieving nanosecond scale, surpassing industry standards



High reliability

Dual-domain architecture:
The dual domains are isolated and do not interfere with each other, completely avoiding risks caused by Windows system instability. Even if the desktop system crashes, the real-time kernel remains unaffected

Multiple-network port design:
Multi-network port design supports ring network redundancy and ensures stable system operation during network node failures; meanwhile, each port has an independent IP, enabling secure isolation during control layer networking, information layer networking, and vision networking, with fast system recovery

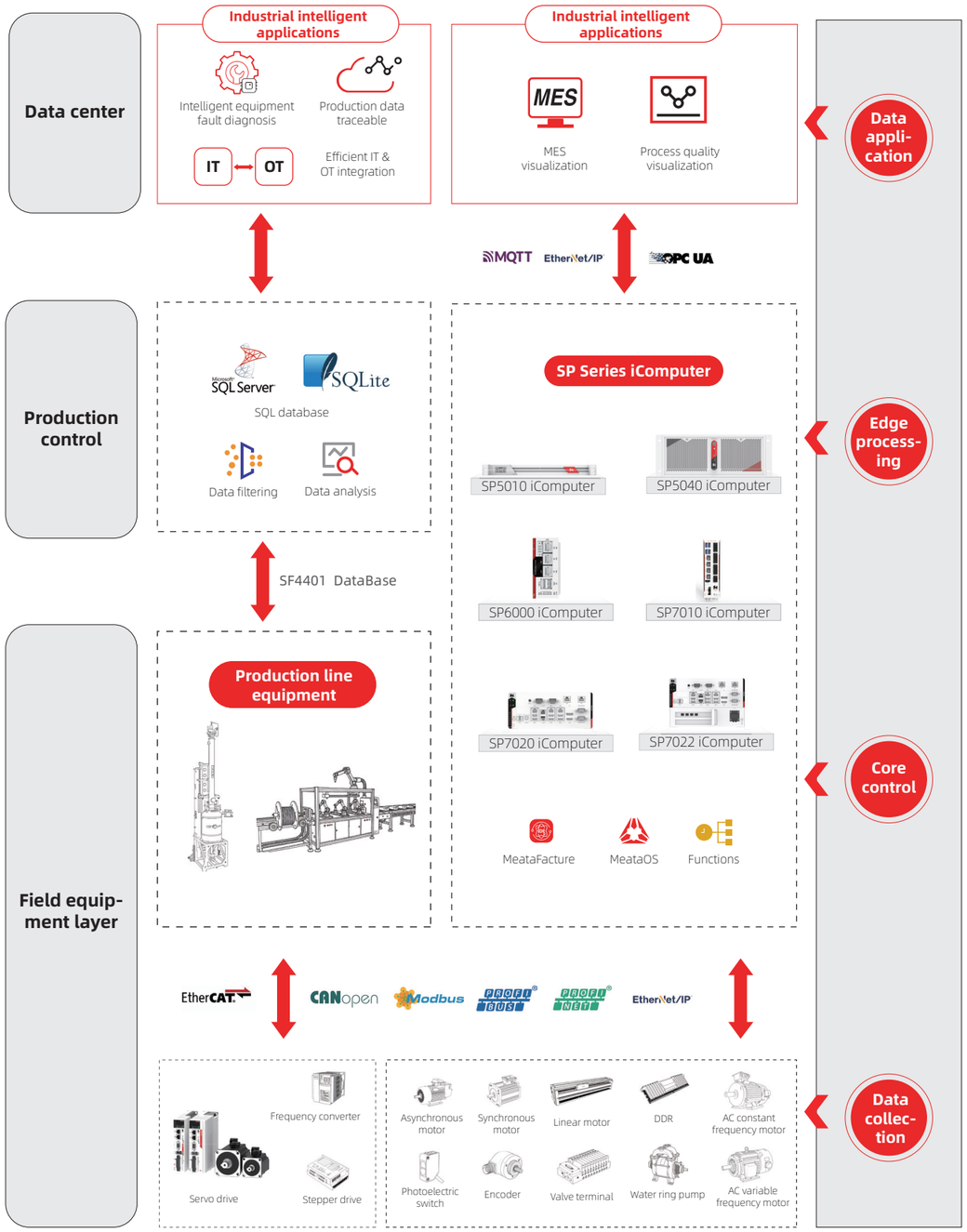
Quick response

Motion control:
PLCopen-certified POU library enables single-axis and multi-axis horizontal collaborative motion

Graphic editing:
Self-developed CamMore, integrating CAD/CAM/CNC with comprehensive interpolation control

Vision algorithms:
ST Vision library supports basic algorithms like image preprocessing calibration, defect recognition, and positioning

Promoting factory digitalization based on PC technology

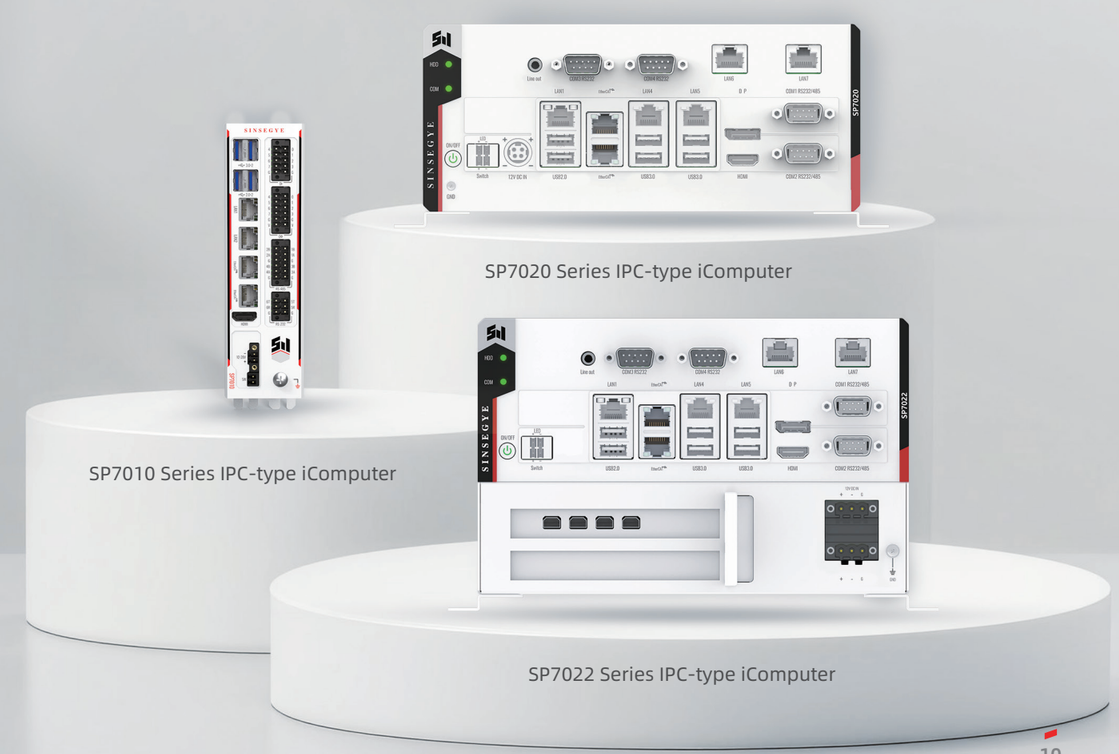


SP70 SERIES ICOMPUTER

Compact size, powerful intelligence

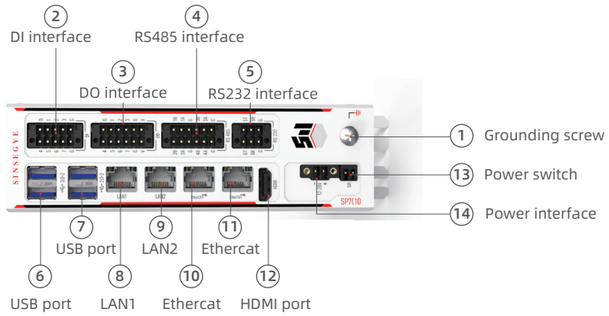
Balanced performance, comprehensive coverage

Integrated control and computation | strong compatibility | rich interfaces



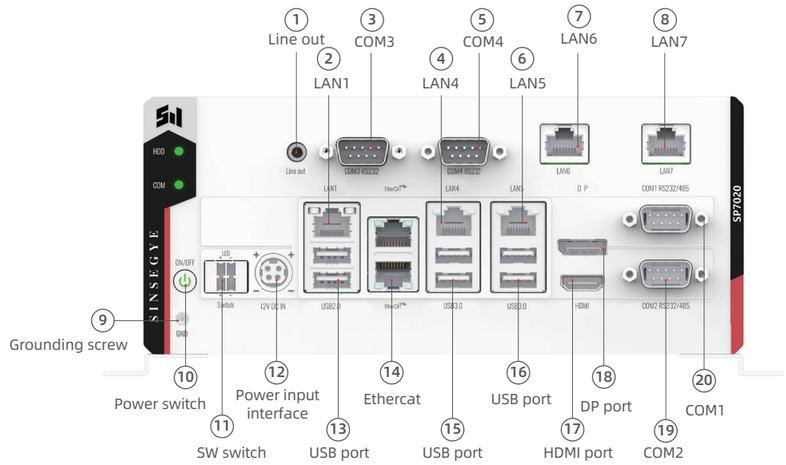
Component interface diagram

SP7010



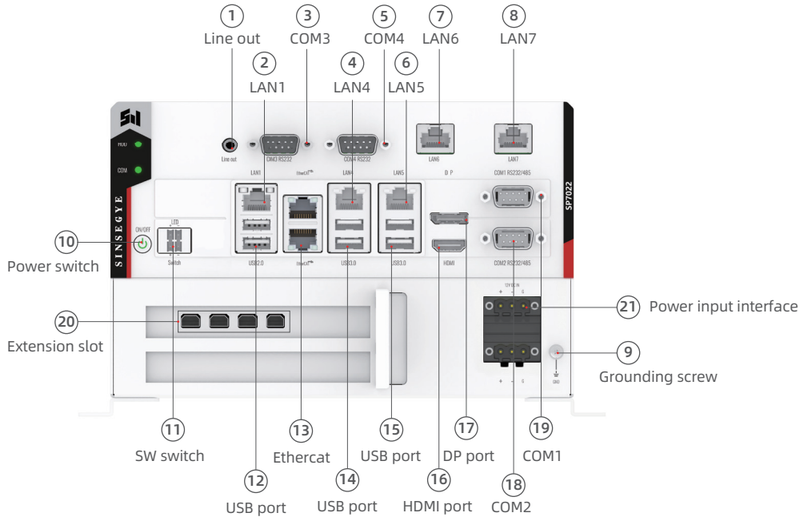
Serial No.	Interface name	Description
①	Grounding screw	M4 grounding screw
②	DI interface	8-channel input, supports NPN and PNP
③	DO interface	8-channel output, supports NPN and PNP
④	RS485 interface	4-channel 485 serial port
⑤	RS232 interface	2-channel 232 serial port
⑥	USB port	Type-A interface, USB 3.0 protocol
⑦	USB port	Type-A interface, USB 2.0 protocol
⑧	LAN1	Gigabit Ethernet port, network name: enp1s0 IPV4: 192.168.1.200 subnet mask: 255.255.255.0
⑨	LAN2	Gigabit Ethernet port, network name: enp2s0
⑩	Ethercat	EtherCAT master station, network name: enp3s0
⑪	Ethercat	EtherCAT master station, network name: enp4s0
⑫	HDMI port	HDMI display interface
⑬	Power switch	System power on/off
⑭	Power interface	24V power input

SP7020



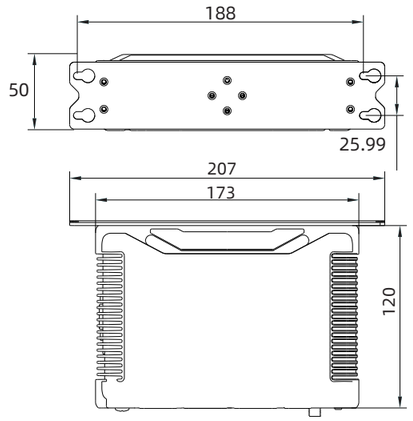
Serial No.	Interface name	Description
①	Line out	Audio output
②	LAN1	Gigabit Ethernet port, IPV4: 192.168.1.200 Subnet mask: 255.255.255.0
③	COM3	RS232 serial port
④	LAN4	Gigabit Ethernet port
⑤	COM4	RS232 serial port
⑥	LAN5	Gigabit Ethernet port
⑦	LAN6	Gigabit Ethernet port
⑧	LAN7	Gigabit Ethernet port
⑨	Grounding screw	M4 grounding screw
⑩	Power switch	System power on/off
⑪	SW switch	Remote power-on signal
⑫	Power input interface	220VAC power adapter input 12V power supply
⑬	USB port	Type-A interface, USB 2.0 protocol
⑭	EtherCAT	EtherCAT master station, network name: enp8s0, enp1s0
⑮	USB port	Type-A interface, USB 3.0 protocol
⑯	USB port	Type-A interface, USB 3.0 protocol
⑰	DP port	DP display interface
⑱	HDMI port	HDMI display interface
⑲	COM2	RS232/485 serial port
⑳	COM1	RS232/485 serial port

SP7022

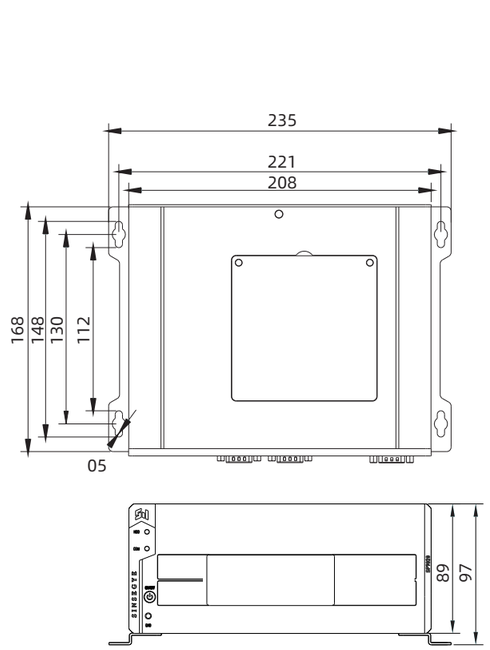


Serial No.	Interface name	Description
①	Line out	Audio output
②	LAN1	Gigabit Ethernet port, IPV4：192.168.1.200 Subnet mask: 255.255.255.0
③	COM3	RS232 serial port
④	LAN4	Gigabit Ethernet port
⑤	COM4	RS232 serial port
⑥	LAN5	Gigabit Ethernet port
⑦	LAN6	Gigabit Ethernet port
⑧	LAN7	Gigabit Ethernet port
⑨	Grounding screw	M4 grounding screw
⑩	Power switch	System power on/off
⑪	SW switch	Remote power-on signal
⑫	USB port	Type-A interface, USB 2.0 protocol
⑬	EtherCAT	EtherCAT master station, network name: enp8s0, enp1s0
⑭	USB port	Type-A interface, USB 3.0 protocol
⑮	USB port	Type-A interface, USB 3.0 protocol
⑯	HDMI port	HDMI display interface
⑰	DP port	DP display interface
⑱	COM2	RS232/485 serial port
⑲	COM1	RS232/485 serial port
⑳	Extension slot	Extension slot
㉑	Power input interface	220VAC power adapter input 12V power supply

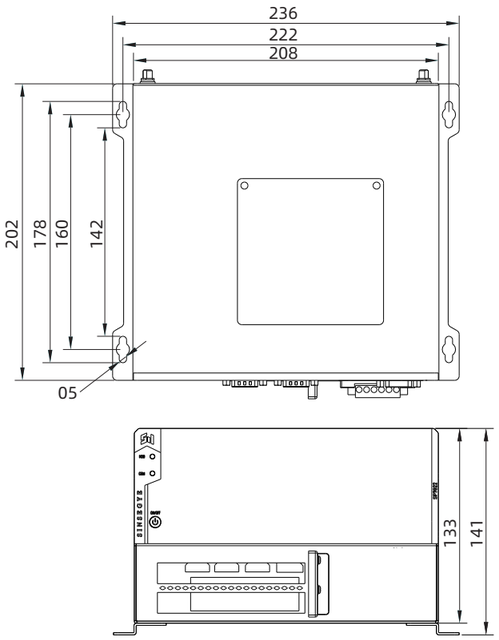
Dimension drawing



SP7010 assembly dimensions (unit: mm)



SP7020 assembly dimensions (unit: mm)



SP7022 assembly dimensions (unit: mm)

Specifications

Project model		S7010-1211
Product form		
Basic parameters	CPU	Intel® N-series
	Memory	16GB
	Hard disk 1	128GB SSD
	Hard disk 2	128GB SSD
Hardware interface	Number of basic USB ports	2*USB3.0+2*USB2.0
	Number of basic network ports	4* Gigabit Ethernet ports
	Number of basic serial ports	4*RS 485+2*RS 232
	Display interface	1*HDMI
	Audio	1*Mic in+Line out
	Number of Basic I/Os	8*DI+8*DO, supports PNP and NPN input/output
	Extension slot	/
Software specifications	Programming language	Supports IEC61131-3 (LD/ST/CFC/SFC/FBD)
	Program download	Supports binary object code download and user project (active/passive) download
	Program upload	Supported
	Program encryption	Supports user project and POU encryption, and object file encryption
	Controller encryption	Supports controller locking/unlocking
	Power-down retention	Supported
	Automatic library addition	Supported
	NC CORE	Supported
	Online system upgrade	Supported
Motion control	Number of axes	128 axes
	Axis performance	16 axes/500 μs; 32 axes/1ms
Desktop operating system		Linux+Windows10
Power supply	Rated voltage	DC 24V
	Power consumption	50W
Environmental conditions	Operating temperature	-10~50℃
	Storage temperature	-20~70℃
	Storage humidity	10%RH～ 95%RH
EMC		EN61131-2 Zone B/EN61000-6-2/EN61000-6-4
Appearance	Dimensions	173*50*121mm (W*H*D)

Specifications

Project model		SP7020-2231	SP7020-7231
Product form			
Basic parameters	CPU	Intel® Core™ i5-12th	Intel® Core™ i7-12th
	Memory [1]	16GB	16GB
	Hard disk 1	128GB SSD	128GB SSD
	Hard disk 2 [2]	512GB SSD	512GB SSD
Hardware interface	Number of basic USB ports	4*USB 3.0+2*USB 2.0	
	Number of basic network ports	7*Gigabit Ethernet ports (onboard)	
	Number of basic serial ports	4*COM(2*RS485/RS232+2*RS232)	
	Display interface	1*HDMI+1*DP	
	Audio	1*Line Out	
	Extension slot	/	
Software specifications	Programming language	Supports IEC61131-3 (LD/ST/CFC/SFC/FBD)	
	Program download	Supports binary object code download and user project (active/passive) download	
	Program upload	Supported	
	Program encryption	Supports user project and POU encryption, and object file encryption	
	Controller encryption	Supports controller locking/unlocking	
	Power-down retention	Supported	
	Automatic library addition	Supported	
	NC CORE	Supported	
	Online system upgrade	Supported	
Motion control	Number of axes	256 axes	
	Axis performance	8 axes/250 μs; 64 axes/500 μs	
Desktop operating system		Linux+Windows10	
Power supply	Rated volta	DC 12V	
	Power module	150W AC220V power adapter	
Environmental conditions	Operating temperature	-10~50℃	
	Storage temperature	-20~70℃	
	Storage humidity	10%RH～ 95%RH	
EMC		EN61131-2 Zone B/EN61000-6-2/EN61000-6-4	
Appearance	Dimensions	208*168*89mm (W*H*D)	208*168*89mm (W*H*D)

- [1][2]Memory and hard disk can be configured according to actual application requirements, with memory supporting up to 32GB and hard disk supporting up to 1T. Different capacities correspond to different product models. If configuration changes are needed, please contact our sales team in advance.

Project model		SP7022-2231	SP7022-2331	SP7022-2341	SP7022-2442
Product form					
Basic parameters	CPU	Intel® Core™ i5-12th			
	Memory [1]	16GB	32GB	32GB	64G
	Hard disk 1	128GB SSD	128GB SSD	128GB SSD	128GB SSD
	Hard disk 2 [2]	512GB SSD	512GB SSD	1T SSD	1T SSD
Hardware interface	Number of basic USB ports	4*USB 3.0+2*USB 2.0			
	Number of basic network ports	7*Gigabit Ethernet ports (onboard)			
	Number of basic serial ports	4*COM(2*RS485/RS232+2*RS232)			
	Display interface	1*HDMI+1*DP			
	Audio	1*Line Out			
	Extension slot	1*PCIEX16+1*PCIEX4			
Software specifications	Programming language	Supports IEC61131-3 (LD/ST/CFC/SFC/FBD)			
	Program download	Supports binary object code download and user project (active/passive) download			
	Program upload	Supported			
	Program encryption	Supports user project and POU encryption, and object file encryption			
	Controller encryption	Supports controller locking/unlocking			
	Power-down retention	Supported			
	Automatic library addition	Supported			
	NC CORE	Supported			
	Online system upgrade	Supported			
Motion control	Number of axes	256 axes			
	Axis performance	8 axes/250 μs; 64 axes/500 μs			
Desktop operating system		Linux+Windows10			Linux+Centos
Power supply	Rated voltage	DC 12V			
	Power module	450W AC220V			
Environmental conditions	Operating temperature	-10~50℃			
	Storage temperature	-20~70℃			
	Storage humidity	10%RH ~ 95%RH			
EMC		EN61131-2 Zone B/EN61000-6-2/EN61000-6-4			
Appearance	Dimensions	208*202*133mm (W*H*D)			

- [1][2]Memory and hard disk can be configured according to actual application requirements, with memory supporting up to 64GB and hard disk supporting up to 1T. Different capacities correspond to different product models. If configuration changes are needed, please contact our sales team in advance.

SP60 SERIES ICOMPUTER

Ultra-compact size

Lightweight and intelligent, leading the new industrial future

Motion Control | Ultra-lightweight | Human-Machine Interaction

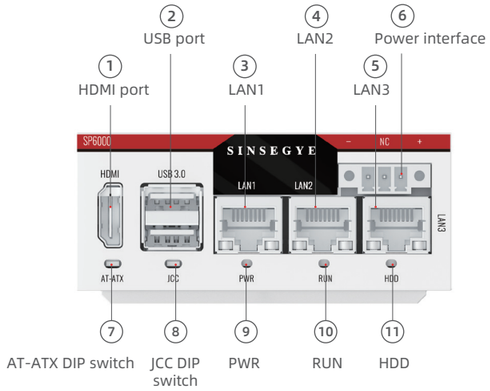


SP6000 Series IPC-type iComputer

Component interface diagram

- **Front panel**

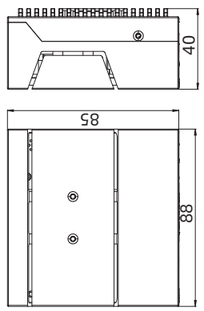
SP6000



Serial No.	Interface name	Description
①	HDMI port	HDMI display interface
②	USB port	Type-A interface, USB 3.0 protocol
③	LAN1	Gigabit Ethernet port, IPV4：192.168.1.200 Subnet mask: 255.255.255.0
④	LAN2	EtherCAT master station, network name: eth1
⑤	LAN3	EtherCAT master station, network name: eth2
⑥	Power interface	24V power input
⑦	AT-ATX DIP switch	Left AT: auto-start on power supply Right ATX: no auto-start on power supply
⑧	JCC DIP switch	Right: restore BIOS to factory defaults; left: normal status
⑨	PWR	Power indicator
⑩	RUN	Operation indicator
⑪	HDD	Hard disk indicator

Dimension drawing

SP6000 assembly dimensions (unit: mm)



Specifications

Project model		SP6000-0000
Product form		
Basic parameters	CPU	Intel Atom® Processor
	Memory	4GB
	Hard disk	64GB
Hardware interface	Number of basic USB ports	1*USB 3.0+1*USB 2.0
	Number of basic network ports	3*Gigabit Ethernet ports
	Number of basic serial ports	/
	Display interface	1*HDMI
	Extension slot	/
Software specifications	Programming language	Supports IEC61131-3 (LD/ST/CFC/SFC/FBD)
	Program download	Supports binary object code download and user project (active/passive) download
	Program upload	Supported
	Program encryption	Supports user project and POU encryption, and object file encryption
	Controller encryption	Supports controller locking/unlocking
	Power-down retention	Supported
	Automatic library addition	Supported
	NC CORE	Supported
	Online system upgrade	Supported
Motion control	Number of axes	32 axes
	Axis performance	8 axes/1ms
Desktop operating system		Ubuntu
Power supply	Rated voltage	DC 24V
	Power consumption	30W
Environmental conditions	Operating temperature	0~40℃
	Storage temperature	-20~70℃
	Storage humidity	10%RH ~ 95%RH
EMC		EN61131-2 Zone B/EN61000-6-2/EN61000-6-4
Appearance	Dimensions	88*85*40mm (W*H*D)

SP50 SERIES ICOMPUTER

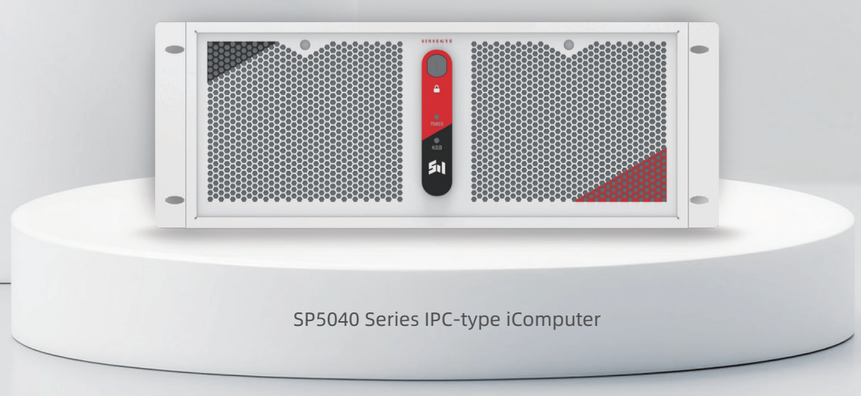
High computing power/strong expandability

Powerful computing drives industrial intelligence to new heights

Machine Vision | Hardware Controllable | Powerful computing GPU



SP5010 Series IPC-type iComputer



SP5040 Series IPC-type iComputer

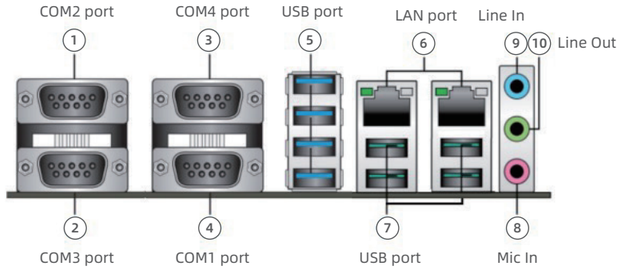
Component interface diagram

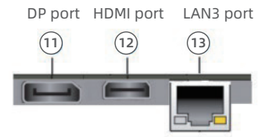
- **Front panel**

SP5010



- **Rear panel**



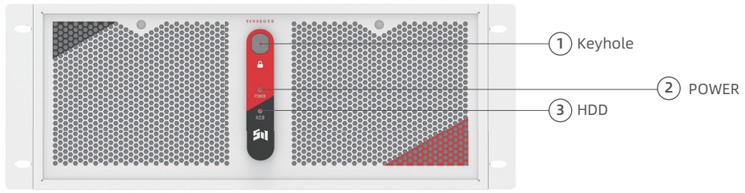


Serial No.	Interface name	Description
①	COM2 port	RS485 serial port
②	COM3 port	RS485 serial port
③	COM4 port	RS232 serial port
④	COM1 port	RS232 serial port
⑤	USB port	Type-A interface, USB 3.0 protocol
⑥	LAN port	Gigabit Ethernet port
⑦	USB port	Type-A interface, USB 2.0 protocol
⑧	Mic In	Audio signal input
⑨	Line In	Audio signal input
⑩	Line Out	Audio signal output
⑪	DP port	DP display interface
⑫	HDMI port	HDMI display interface protocol
⑬	LAN3 port	EtherCAT master station

Component interface diagram

• SP5040 front panel

SP5040

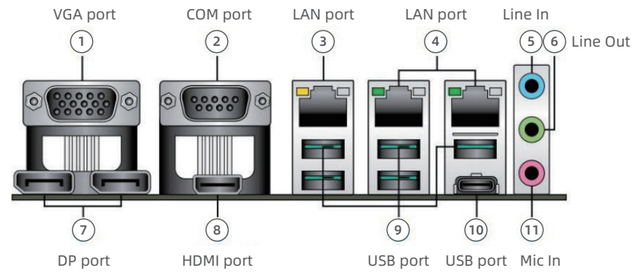


Serial No.	Interface name	Description
①	Keyhole	The key can control the opening and closing of the front panel cover
②	POWER	Power indicator
③	HDD	Hard disk indicator

• SP5040-3331 rear panel

Serial No.	Interface name	Description
①	VGA port	VGA display interface
②	COM port	RS232/422/485 serial port
③	USB port	Type-A interface, USB 2.0 protocol
④	LAN port	Gigabit Ethernet port
⑤	Line Out	Audio signal output
⑥	DP port	DP display interface
⑦	HDMI port	HDMI display interface
⑧	USB port	Type-A interface, USB 3.0 protocol
⑨	USB port	Type-A interface, USB 3.0 protocol
⑩	Mic In	Audio signal input

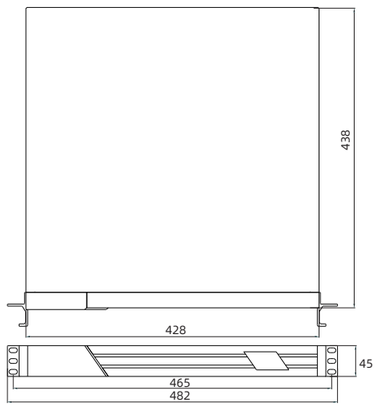
• SP5040-4331 rear panel



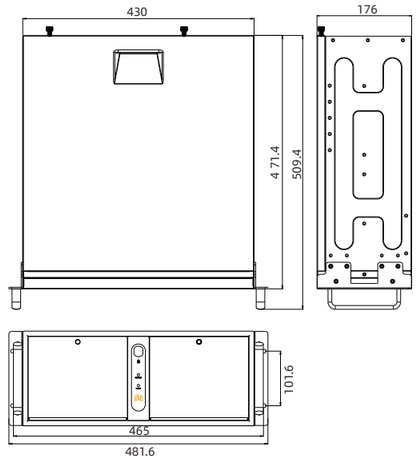
Serial No.	Interface name	Description
①	VGA port	VGA display interface
②	COM port	RS232/422/485 serial port
③	LAN port	Gigabit Ethernet port
④	LAN port	Gigabit Ethernet port
⑤	Line In	Audio signal input
⑥	Line Out	Audio signal output
⑦	DP port	DP display interface
⑧	HDMI port	HDMI display interface
⑨	USB port	Type-A interface, USB 3.0 protocol
⑩	USB port	Type-C interface, USB3.0 protocol
⑪	Mic In	Audio signal input

Dimension drawing

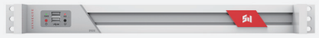
SP5010 assembly dimensions (unit: mm)



SP5040 assembly dimensions (unit: mm)



Specifications

Project model		SP5010-5231
Product form	1U	
Basic parameters	CPU	Hygon
	Memory [1]	16GB, supports up to 128GB
	Hard disk 1	256GB SSD
	Hard disk 2 [2]	512GB SSD
	Graphics card	Independent graphics card
Hardware interface	Number of basic USB ports	4*USB3.0+6*USB 2.0
	Number of basic network ports	2 onboard + 1 extension
	Number of basic serial ports	2*COM(RS485)+2*COM(RS232)
	Display interface	1*HDMI+1*DP
	Audio	1*Mic In+1*Line In +1*Line Out
	Extension slot	Not supported
Software specifications	Programming language	Supports IEC61131-3 (LD/ST/CFC/SFC/FBD)
	Program download	Supports binary object code download and user project (active/passive) download
	Program upload	Supported
	Program encryption	Supports user project and POU encryption, and object file encryption
	Controller encryption	Supports controller locking/unlocking
	Power-down retention	Supported
	Automatic library addition	Supported
	NC CORE	Supported
	Online system upgrade	Supported
Motion control	Number of axes	128 axes
	Axis performance	16 axes/500 μs;32 axes/1ms
Desktop operating system		Linux+Windows10 [3]
Power supply	Rated voltage	AC220V/AC110V
	Power supply capacity	350W
Environmental conditions	Operating temperature	0~40℃
	Storage temperature	-20~70℃
	Storage humidity	10%RH ~ 95%RH
EMC		EN61131-2 Zone B/EN61000-6-2/EN61000-6-4
Appearance	Dimensions	428*45*438mm (W*H*D)

- [1][2]Memory and hard disk can be configured according to actual application requirements, with memory supporting up to 128GB and hard disk supporting up to 1T. Different capacities correspond to different product models;
- [3] The system is compatible with Chinese domestic operating systems and also needs to adapt to the Windows ecosystem. It defaults to Windows, with the option of selecting Chinese domestic operating systems such as UnionTech UOS, Kylin, or openEuler (among other operating system options).;
- For any configuration changes regarding the above [1][2][3], please contact our sales team in advance.

Project model		SP5040-3331	SP5040-4331
Product form	4U		
Basic parameters	CPU	Intel® Core™ i7-13th	Intel® Core™ i9-12th
	Memory [1]	32GB, up to 64GB supported	32GB, up to 128GB supported
	Hard disk 1	256GB SSD	256GB SSD
	Hard disk 2 [2]	512GB SSD	512GB SSD
Hardware interface	Number of basic USB ports	4*USB3.0+6*USB 2.0	6*USB3.0+2*USB 2.0
	Number of basic network ports	2 onboard + 4 PCIe extension	3 onboard + 4 PCIe extension
	Number of basic serial ports	2*COM(RS232/RS422/RS485)	2*COM(RS232/RS422/RS485)
	Display interface	1*HDMI+1*DP+1*VGA	1*HDMI+2*DP+1*VGA
	Audio	1*Mic In +1*Line Out	1*Mic In +1*Line Out
	Extension slot	1*PCIe x16 + 1*PCIe x16 (x4 mode) 1*PCIe x1 + 4*PCI	1*PCIe x16 + 1*PCIe x16 (x8 mode) 3*PCIe x4 + 2*PCI
Software specifications	Programming language	Supports IEC61131-3 (LD/ST/CFC/SFC/FBD)	
	Program download	Supports binary object code download and user project (active/passive) download	
	Program upload	Supported	
	Program encryption	Supports user project and POU encryption, and object file encryption	
	Controller encryption	Supports controller locking/unlocking	
	Power-down retention	Supported	
	Automatic library addition	Supported	
	NC CORE	Supported	
	Online system upgrade	Supported	
Motion control	Number of axes	256 axes	256 axes
	Axis performance	8 axes/250 μs; 64 axes/500 μs	8 axes/250 μs; 64 axes/500 μs
Desktop operating system		Linux+Windows10	Linux+Windows10
Power supply	Rated voltage	AC220V/AC110V	AC220V/AC110V
	Power supply capacity	650w	1000w
Environmental conditions	Operating temperature	0~40℃	0~40℃
	Storage temperature	-20~70℃	-20~70℃
	Storage humidity	10%RH ~ 95%RH	10%RH ~ 95%RH
EMC		EN61131-2 Zone B/EN61000-6-2/EN61000-6-4	
Appearance	Dimensions	430*176*471mm (W*H*D)	

- [1][2]Memory and hard disk can be configured according to actual application requirements, with memory supporting up to 64GB and hard disk supporting up to 1T. Different capacities correspond to different product models. If configuration changes are needed, please contact our sales team in advance.

Quick reference table for IPC product models (including iComputer/IO/accessories)

	Product model	Product description
SP60 Series iComputer	SP6000-0000	Atom/4GB memory/64GB SSD/Linux
SP70 series iComputer	SP7010-1211	N-series/16GB memory/128GB SSD+128GB SSD/Linux-+Windows10
	SP7020-2231	i5-12th/16GB memory/128GB SSD+512GB SSD/2 extension slots/450W power supply/Linux+Windows10
	SP7022-7231	i7-12th/16GB memory/128GB SSD+512GB SSD/150W power supply/Linux+Windows10
	SP7022-2231	i5-12th/16GB memory/128GB SSD+512GB SSD/2 extension slots/450W power supply/Linux+Windows10
	SP7022-2331	i5-12th/32GB memory/128GB SSD+512GB SSD/2 extension slots/450W power supply/Linux+Windows10
	SP7022-2341	i5-12th/32GB memory/128GB SSD+1TB SSD/2 extension slots/450W power supply/Linux+Windows10
	SP7022-2442	i5-12th/64GB memory/128GB SSD+1TB SSD/2 extension slots/450W power supply/Linux+Centos
	SP7020-7231	i7-12th/16GB memory/128GB SSD+512GB SSD/150W power supply/Linux+Windows10
	SP7122-2231	i5-12th/16GB memory/128GB SSD+512GB SSD/2 extension slots/240W power supply/Linux+Windows10
SP50 series iComputer	SP5010-5231	1U/Hygon/16GB DDR4/256GB SSD+512GB SSD/Yeston GT730 4G graphics card/minpcie i210 NIC/350W/Linux+Windows10
	SP5040-3331	4U/i7-13th/32GB memory/256GB SSD+512GB SSD/4-port NIC/650W power supply/Linux+Windows10
	SP5040-4331	4U/i9-12th/32GB memory/256GB SSD+512GB SSD/4-port NIC/1000W power supply/Linux+Windows10

- Memories, hard disks and systems can be selected according to actual application requirements. Different configurations correspond to different models. If configuration changes are needed, please contact our sales team in advance.

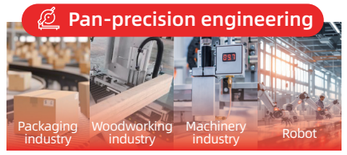
Accessory category	Product name	Product model	Product description
Graphics card	P1000 graphics card	P1000	NVIDIA Quadro P1000 4GB GDDR5
	RTX3060 graphics card	Colorful RTX 3060 Mini OC 12G L	Colorful RTX 3060 Mini OC 12G L
	Gigabyte RTX 4060 graphics card	GV-N4060D6-8GD	Gigabyte ITX single fan mini graphics card GeForce RTX™4060 D68G GV-N4060D6-8GD
NIC	PCIE X1 82571 gigabit dual-port NIC	Gigabit dual-port NIC (Intel82571)	ZT-NET PCIE X1 82571 gigabit dual-port NIC
	Six-port gigabit NIC	PE350-T6T8	PERCKO Intel I350-T6 six-port gigabit NIC PE350-T6T8
	Gigabit 4-port NIC	WYI350T4V2	Winyao PCI-E X4 gigabit 4-port NIC I350T4 WYI350T4V2
	PCIE X4 I210 4-port NIC	EB-I210-T4	EB-LINK intel I210 chip PCI-E X4 gigabit 4-port NIC
	PCIE X4 I210 dual-port NIC	EB-I210-T2	EB-LINK Intel I210 chip PCI-E X4 gigabit dual-port NIC
	PCIE X1 I210 single port NIC	EB-I210T1	EB-LINK Intel I210 chip PCI-E X1 gigabit single port NIC
Serial port card	PCIE 2-Port RS232 serial port card	ZE792	Z-TEK PCI-E to RS232 2 serial port card ZE792
	PCIE 2-port RS422/485 serial port card	ZE790	Z-TEK PCI-E to RS422/485 serial port adapter 2 serial ports ZE790
UPS	UPS	UPS-7010	UPSTJ-ZK01(9688-BJJ-ZK01 battery case + 2000mAh 9688 battery)

APPLICATION CASE

Pan-semiconductor



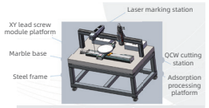
Pan-precision engineering



Pan-energy



Laser industry Customer pain points



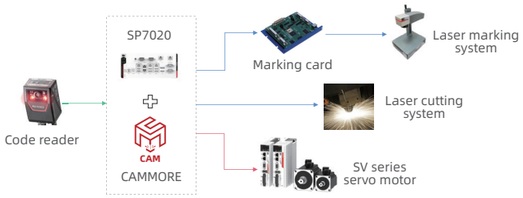
Complete equipment

Industry Pain Points

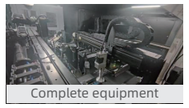
- **Original control system:** industrial computer + marking machine + motion control card + motion control card + laser control card + marking software + cutting software + motion trajectory editing software, etc.
- **Difficulties of equipment control system:** handling the diversity of customer materials; comprehensive functions needed, including code reading, CCD visual recognition, axis control, laser marking, and laser cutting.

Solution advantages

- **Cost reduction and efficiency improvement:** 1. One machine with multiple functions, improving production efficiency 2. Overall cost reduction by 60%
- **Integrated control and computation:** 1. Repeat positioning accuracy: +0.02mm 2. Dual-domain isolation prevents hard crashes, achieving the integration of laser marking and cutting processes.



3C industry Customer pain points

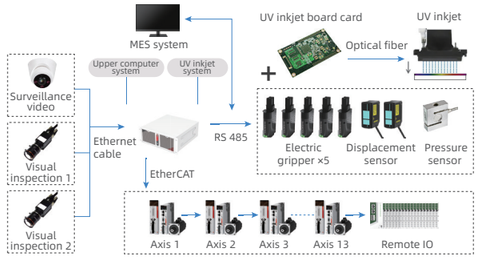

Complete equipment

Industry Pain Points

- **Original control system:** industrial computer*2+PLC+HMI
- **Disadvantages:** 1. High system cost 2. Insufficient stability 3. Inconvenient system maintenance

Solution advantages

- **Cost reduction and efficiency improvement:** 1. Reduce hardware costs by 30% 2.One iComputer can replace the original control system, simplifying hardware.
- **Integrated control and computation:** 1. Possess the original hardware scalability of industrial computers
  2. Use GPU for accelerated image processing
  3. Possess real-time control and non-real-time control systems, with dual systems operating independently.



Semiconductor industry Customer pain points

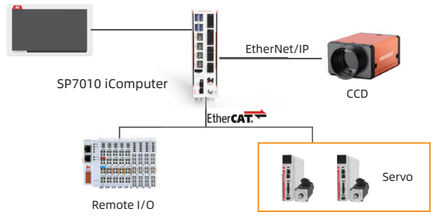

Complete equipment

Industry Pain Points

- **Complex deployment system:** The original control system consists of PLC + industrial computer;
- **Equipment process pain points:** The opening/closing operation cycle is long (including Mapping), affecting the efficiency of the whole machine.

Solution advantages

- **Integrated control and computation:** One iComputer can simultaneously meet the functions of industrial computer and PLC, simplifying hardware configuration and reducing customer costs.
- **User-friendly and open:** 1. Improve system response efficiency through Sinsegye's ACPTM communication protocol
  2. Remote access and control via B/S architecture supported for higher operational flexibility
  3. A custom-developed E84 function block for seamless integration with OHT, enabling intelligent logistics coordination.



CNC industry Customer pain points


Complete equipment

Industry Pain Points

- **Equipment development:** Different models of edge banding machines require new material selection and development, with long maintenance or equipment change cycle.
- **Heterogeneous networking:** It is difficult to associate different protocols among different devices, making it difficult to achieve efficient collaboration among devices.

Solution advantages

- **User-friendly and open:** 1. it supports the development language programming defined by IEC61131-3 standard
  2.Rich communication protocols, supporting DeviceNet, EtherCAT, EtherNet/IP, Modbus, OPC UA, and other industrial communication protocols
  3.Integrated visual programming environment for less redundant variable declarations and higher programming efficiency
  4. Embedded with rich functional blocks, supporting custom encapsulated library files
  5.Cross-platform and cross-device compatibility, no need to modify existing programs when changing hardware devices.

