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2024 V1.0

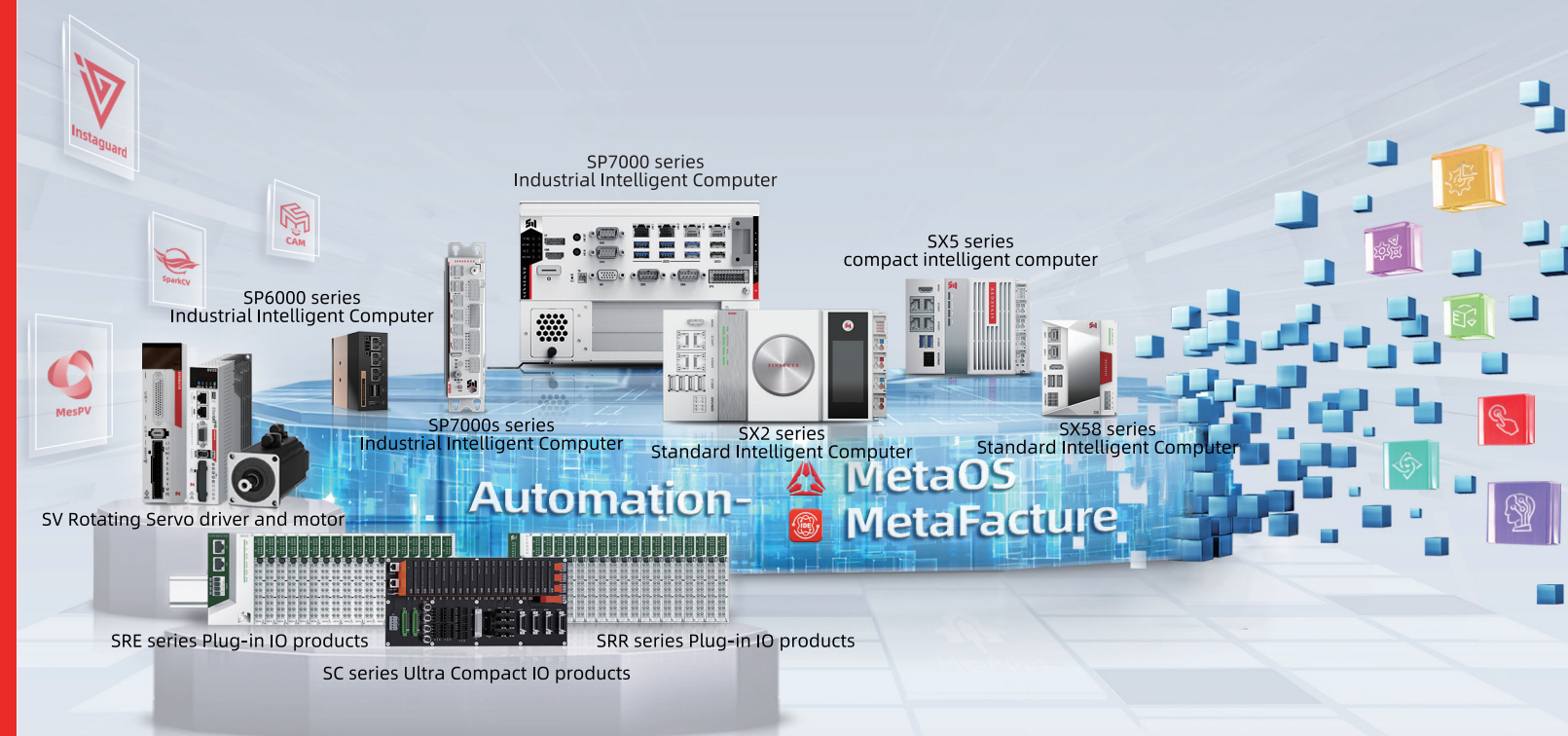


# A New Era of Industrial Intelligent Computer Based on PC Technology

PC based iComputer comes SINSEGYE



Product Cataloge



THE VERY BEGINNING OF THE NEW WORLD

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## Industrial Intelligent Computer

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# Industrial intelligent computer

## SX series embedded controller

### 1. Computing + Control:

A set of controller integrates the functions of motion control, logic control, machine vision, configuration display and edge computing. A set of software is compatible with the development of motion control, logic control, machine vision, and configuration display. A set of programs simultaneously solves the applications of motion control, logic control, machine vision, and configuration display.

#### a. Software stringency, high programming efficiency, and everyone can program

Integrate PLC control, PC, motion control, machine vision, edge computing and other functions in the same control platform. Seamlessly connect PLC control, machine vision, database, and cloud platform, and integrate third-party software to achieve high real-time automation control. Besides, it is easier to achieve the integration of motion control and machine vision, as well as the integration of IT and OT.

#### b. Rich algorithms and simpler control

Integrate PLCopen (part1, part2, part4) standardized functional blocks and Basic (CAM)/CNC/Robotics. Built in visual basic algorithms such as image pre-processing, image calibration, visual measurement, defect recognition and localization, OCR and QR code.

#### c. Realize high real-time, strong computing, speed and accuracy

Equipped with the latest X86 architecture processor, support 64 bit floating-point computing, it can provide 1000Mbps communication link to connect IO modules and third-party devices, greatly improving the real-time capabilities and accuracy of SX series products in transmitting and processing big data.

#### d. More interfaces and strong interconnectivity

Support up to 4 Gigabit Ethernet interfaces, 4 x USB 3.0, 1 x 485/232/422, 1 x CAN, and 1x HDMI.

### 2. Compact and flexible, with flexible expansion:

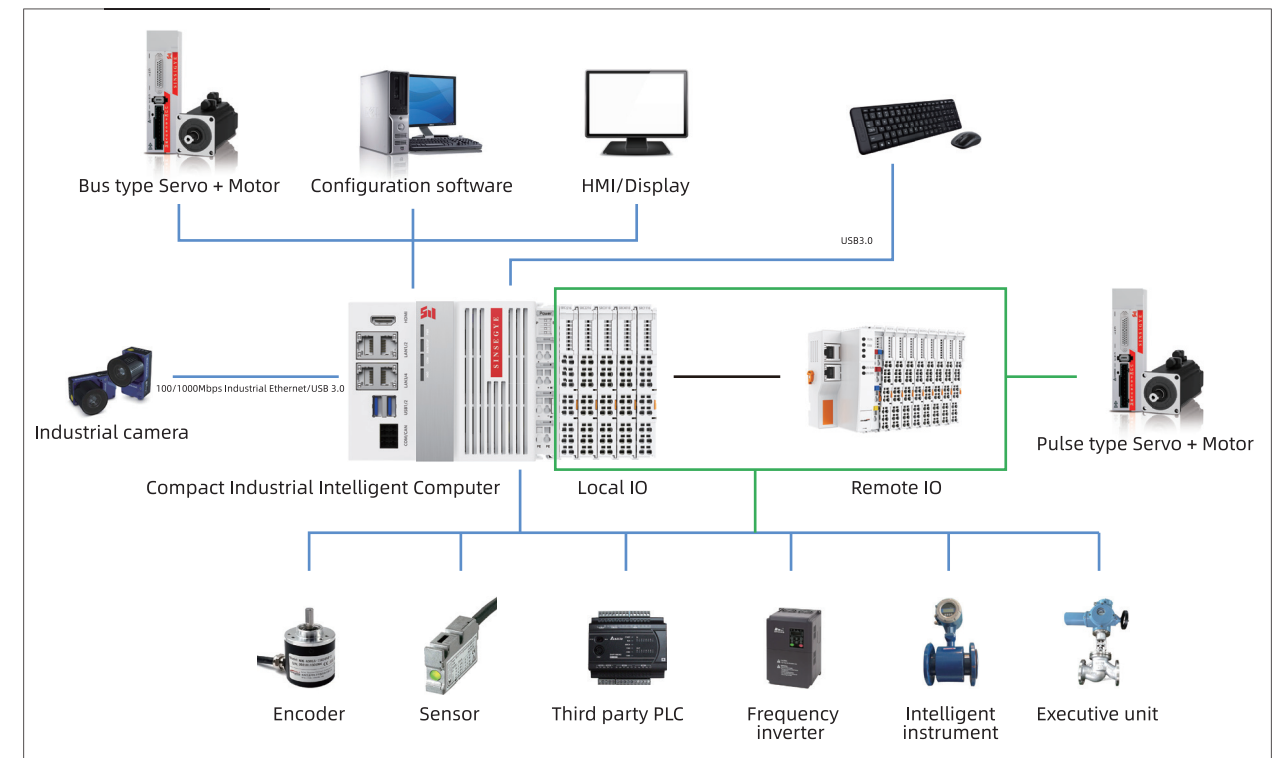
- Compact structure, standard DIN rail installation method, saving 75% installation space.
- Modular design enables to maintain scalability and accurate matching, meet practical needs and avoid wasting additional equipment resources.
- Support local expansion modules and remote IO modules, providing users with diverse I/O and process modules for data collection, control, and transmission.

### 3. Safe and reliable :

- More ports, realize high response axis control and easily achieve EtherCAT ring networking.
- Independent network card design, safely isolate control layer network and information layer network.
- Customize heat dissipation profiles and apply high-quality thermal conductive materials.
- Comply with the requirements for EMC level 3 and front IP20, and meet strict industrial application requirements.

### System architecture:

An intelligent computer can simultaneously meet different control needs in complex industrial environments, promoting the development of industrial manufacturing towards intelligence and efficiency.



#### Highly real-time capability:

- **Single axis minimum control cycle: 125us;**
- **128 axis minimum control cycle: 0.8ms;**
- The efficiency of instruction execution can reach ns level;
- Axis capacity greater than 256 axes.

#### Various connection and networking methods :

- Support up to 4 Gigabit Ethernet interfaces, 4 x USB 3.0, 1 x 485/232/422, 1 x CAN, and 1x HDMI;
- Support OPC/UA data services, Modbus, EtherCAT, Profinet, CANopen and Ethernet/IP;
- Can directly connect mainstream industrial cameras that support up to 3 Gige/USB 3.0 interfaces;
- Support up to 4 EtherCAT communication channels, supporting star, bus, tree, and ring networking.

#### Rich algorithm modules:

- With PLCopen certified POU library, achieve single axis and multi axis lateral collaborative motion;
- CNC control (graphical DIN 66025 editor (support G code)/online CAM editor and CNC editor/3D CNC application tutorial example/-comprehensive interpolation function from linear to spline interpolation/CNC tool radius compensation, etc.);
- Robotics (multiple standard robot models (gantry robot (2/3/5 axis), tripod robot and SCARA robot)/comprehensive path planning of multi-coordinate robot coordinate values, etc.);
- ST Vision library (basic visual algorithms such as image pre-processing, image calibration, visual measurement, defect recognition and localization, OCR and QR code).

#### Rich applications:

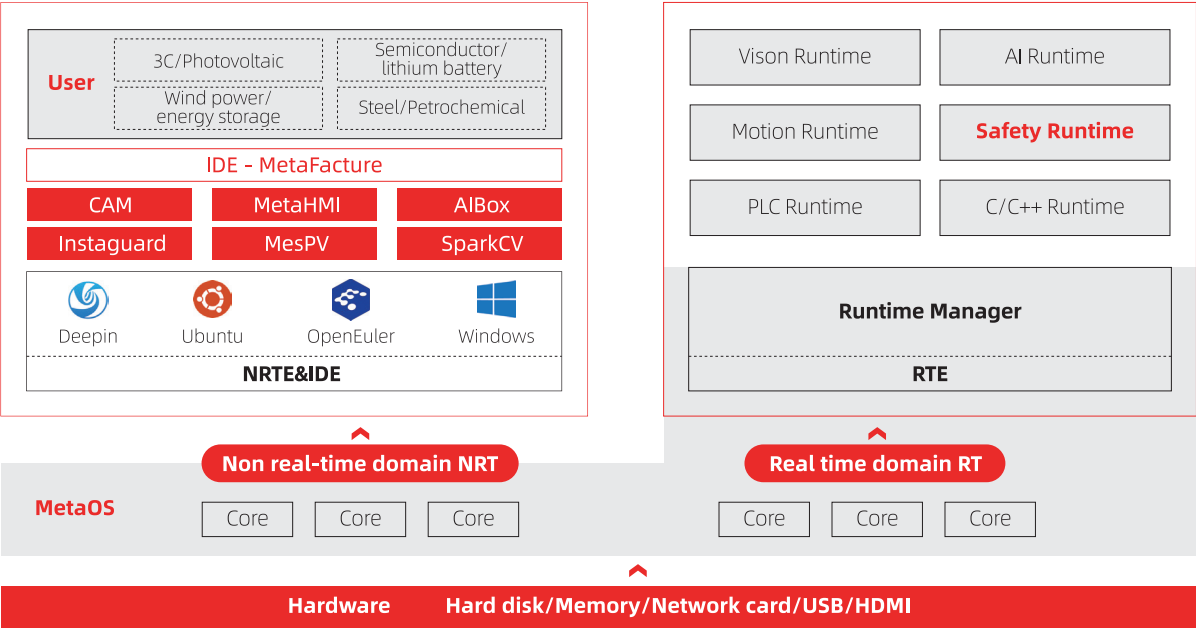
- Support data collection, data storage, and other data applications;
- Pre-install four industry apps, including Instaguard for intelligent monitoring and diagnosis, MesPV for process optimization and control of polycrystalline silicon reduction furnaces, MesApps for injection molding process optimization recommendation, and Spark-Cv for visual intelligent monitoring;
- Compatible with third-party applications based on Linux ecosystem;
- Supports edge Qclouds.

#### Rich programming methods :


- Real-time side: IEC61131-3 standard programming methods (ladder diagram (LD)/structured text (ST)/sequential function chart(SFC)/functional block dimension(FBD)/continuous function chart (CFC)), support C and C++-interface;
- Non real-time side: high-level languages such as C, C++, Java, C # and Go Lang.



Build in dual domain operating system with integrated computing and control:

To ensure the openness and real-time control of Ubuntu, Meta dual cores (non real-time core + real-time core) are running on the same CPU hardware platform. Real time and non real-time domains can flexibly allocate hardware resources according to on-site usage scenarios, ensuring the real-time performance of the system. Compared with traditional PLC+industrial control computers and other forms of products, dual domain communication can achieve high-speed information exchange through shared memory/MODBUS/tag communication and other information exchange methods, and data is what you see is what you get. In case desktop system crashes, the real-time core is not affected.



Product features and application scenarios:

| Product series   | Product features  | Typical application scenarios   |
|--|---|---|
| <br>SX2 standard intelligent computer | <p><b>1. Computing + control.</b></p> <p>2. All core components are made-in-China. The domestic operating systems can be safely and stably supplied due to deep real-time development.</p> <p>3. Support I/O, serial port, network port, graphics card, 4G/5G/WIFI module expansion, accurately matching to meet practical needs.</p> <p>4. X86 architecture processor, gigabit network communication link, support graphics card expansion; Meet the needs of big data, high real-time, and large computing ability.</p> <p><b>5. Compatible with domestic operating systems and Windows operating system ecosystem; Ensure localization while quickly inheriting third-party software.</b></p> <p>6. Support 4 network ports, 4 USB 3.0 ports, and can expand up to 4 network ports and 2 serial ports.</p> | <p>1. 3C: High precision control, multi axis group or multi axis linkage high-precision control.</p> <p>2. Semiconductors and photovoltaic: high-precision control, multi axis group with more than 80 axes.</p> <p>3. Packaging: High speed visual quality inspection, logic control, with axis capability.</p> <p>4. Printing: Multi axis group networking, high-speed visual quality inspection.</p> <p>5. Digital business in the process industry, equipped with self-developed application software such as Instagard, Messapp and Sparkcv.</p> <p>6. Laser processing: high-precision multi axis linkage, high-speed visual detection and positioning.</p> |

| Product series   | Product features   | Typical application scenarios   |
|--|--|---|
| <br>SX5 series compact intelligent computer   | <p><b>1. Computer + control.</b></p> <p>2. The latest Atom processor, with a maximum main frequency of 2.0 GHz, can meet the requirements of big data and high real-time computing.</p> <p>3. Support common DI/DO, AI/AO local extensions.</p> <p>4. Support process module expansion.</p>  | <p>1. 3C Electronics, semiconductors, and photovoltaic: Solid crystal machines, dispensing machines (visual + motion control), laminating machines (axis capability + real-time capability), sorting machines (motion control).</p> <p>2. Packaging inspection: Lamp inspection machine (visual + motion control), tobacco machine packaging.</p> <p>3. Printing industry: Full wheel offset printing machines (with networking capabilities and visual inspection technology) .</p> <p>4. Software + hardware (small production line level control) polycrystalline silicon reduction furnace, injection molding machine + module automatic parameter adjustment.</p>  |
| <br>SX58 series compact intelligent computer | <p><b>1. Computing + control.</b></p> <p>2. Developed based on the SX5 series intelligent computer, SX58 series intelligent computer has more compact structure and can meet various integrated computing and control application scenarios.</p> <p>3. Equipped with a Celeron processor, have low power consumption and a maximum main frequency of 2.0GHz, have four cores and four threads, meeting the requirements of big data and high real-time computing.</p> <p>4. Support high and low speed local expansion modules (adaptive).</p> | <p>1.3C Electronics, semiconductors and photovoltaic: Solid crystal dispensing machine (visual + motion control), high-precision multi axis linkage, high-speed visual positioning.</p> <p>2. Packaging inspection: Lamp inspection machine (visual+motion control), tobacco machine packaging.</p> <p>3. Printing industry: Full wheel offset printing machines (with networking capabilities and visual inspection technology) .</p> <p>4. Software + hardware (small production line level control); Polycrystalline silicon reduction furnace, injection molding machine+module automatic parameter adjustment.</p> <p>5. Wind power, energy storage (large computing power + software definition + networking capability).</p> |

Product parameters:

|                    |                   | SX20 series                         | SX21 series                         | SX5 series                     | SX5H series           | SX58 series              |
|--------------------|-------------------|-------------------------------------|-------------------------------------|--------------------------------|-----------------------|--------------------------|
| CPU                | Architecture      | X86 processor                       | X86 processor                       | Intel Atom® processor          | Intel Atom® processor | Intel Celeron® processor |
| Memory             |                   | 16G memory Support memory expansion | 16G memory Support memory expansion | 4G                             | 8G                    | 4G                       |
| Graphics card      |                   | External graphics card              | External graphics card              | Integrated graphics            | Integrated graphics   | Integrated graphics      |
| Storage            |                   | Default 256G, can expand to 1T      |                                     | Default 128G, can expand to 1T |                       | Default 64G, can expand  |
| Hardware interface | Network interface | 4                                   | 4                                   | 2/4                            | 2/4                   | 2                        |
|                    | USB               | 4                                   | 4                                   | 2                              | 2                     | 2                        |
|                    | Serial port       | 1*RS232/485/422                     |                                     |                                |                       |                          |
|                    | CAN               | 1                                   |                                     |                                |                       |                          |
|                    | HDMI              | 1                                   |                                     |                                |                       |                          |

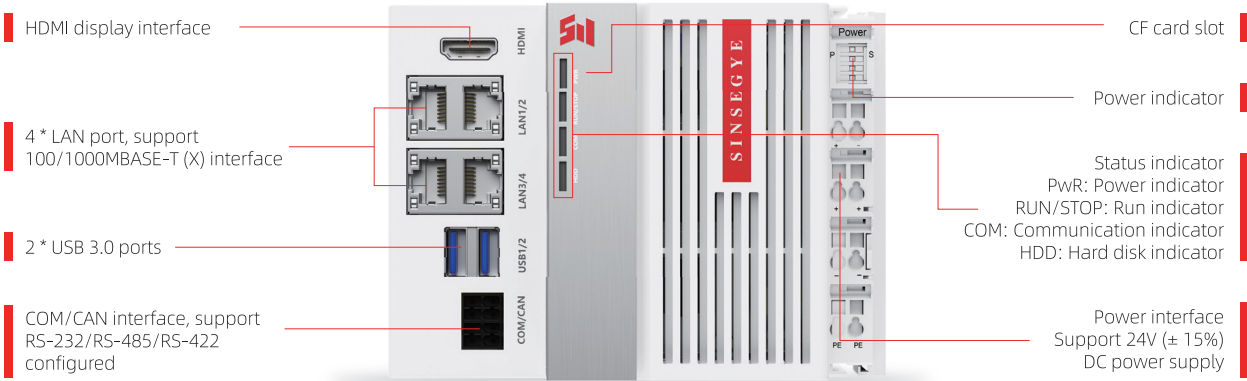
Product parameters:

|                                  |                                     | SX20 series   | SX21 series                          | SX5 series                           | SX5H series                          | SX58 series                          |
|----------------------------------|-------------------------------------|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Software interface               | Programming language                | Support IEC61131-3 (LD/ST/CFC/SFC/LBD)  |                                      |                                      |                                      |                                      |
|                                  | Program download                    | Support binary object code download, support user engineering (active and passive) download   |                                      |                                      |                                      |                                      |
|                                  | Program upload                      | ✓   | ✓                                    | ✓                                    | ✓                                    | ✓                                    |
|                                  | Program encryption                  | Support user engineering and POU encryption, support target file encryption   |                                      |                                      |                                      |                                      |
|                                  | Controller encryption               | Support controller locking/unlocking  |                                      |                                      |                                      |                                      |
|                                  | Power outage maintenance            | ✓   | ✓                                    | ✓                                    | ✓                                    | ✓                                    |
|                                  | Automatic library addition function | ✓   | ✓                                    | ✓                                    | ✓                                    | ✓                                    |
| Online system upgrade            |                                     | ✓   | ✓                                    | ✓                                    | ✓                                    | ✓                                    |
| Desktop operating system         |                                     | Ubuntu  | Ubuntu/Win10                         | Ubuntu                               | Ubuntu                               | Ubuntu                               |
| Real time clock (length of time) |                                     | Yes (15 days), supports week/year/month/day/hour/minute/second time format, with an accuracy of ± 60 seconds/month  |                                      |                                      |                                      |                                      |
| Module power supply              | Working voltage                     | 20.4VDC ~ 28.8VDC(24.0VDC -15%~+20%)  | 20.4VDC ~ 28.8VDC(24.0VDC -15%~+20%) | 20.4VDC ~ 28.8VDC(24.0VDC -15%~+20%) | 20.4VDC ~ 28.8VDC(24.0VDC -15%~+20%) | 20.4VDC ~ 28.8VDC(24.0VDC -15%~+20%) |
|                                  | Rated voltage                       | 24.0VDC   | 24.0VDC                              | 24.0VDC                              | 24.0VDC                              | 24.0VDC                              |
|                                  | Withstand voltage                   | 19.2 VDC ~ 30 VDC   | 19.2 VDC ~ 30 VDC                    | 19.2 VDC ~ 30 VDC                    | 19.2 VDC ~ 30 VDC                    | 19.2 VDC ~ 30 VDC                    |
|                                  | Power consumption                   | Average 60W for host  | Average 80W for host                 | < 45W                                | < 45W                                | < 45W                                |
|                                  | Reverse wire protection             | Not supported   |                                      |                                      |                                      |                                      |
| Environment                      | Working temperature                 | -40 ~ 60°C ( host)  |                                      |                                      |                                      | -10 ~ 60°C (host)                    |
|                                  | Storage temperature                 | -40 ~ 80°C  |                                      |                                      |                                      |                                      |
|                                  | Humidity                            | 5-95% without condensation  |                                      |                                      |                                      |                                      |
| Reliability                      |                                     | IEC 61000-4-2 (ESD)、Air: ±8KV;Contact: ±6kVIEC 61000-4-4 (EFT)、DC Power Port:±2kV、Signal Port:±2kV IEC 61000-4-5 (Surge)、Power Port:±1kV/DM、±2kV/CM, Signal Port:±1kV ( line to line ) 、Signal Port:±2kV ( line to earth) |                                      |                                      |                                      |                                      |

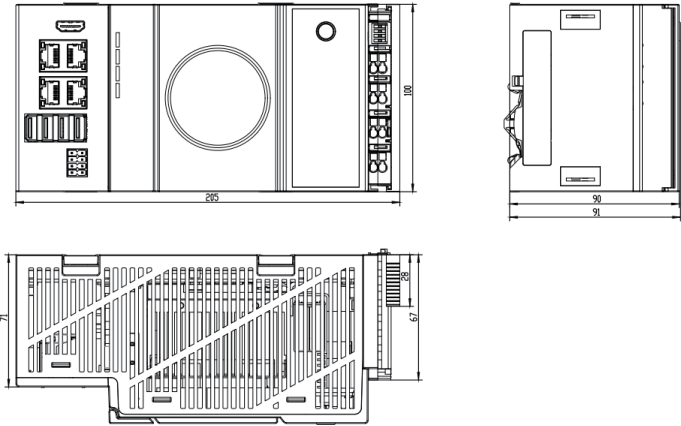
SX20/SX21 Standard Industrial Intelligent Computer Product Details:



SX50/SX51 Compact Industrial Computer Product Details:

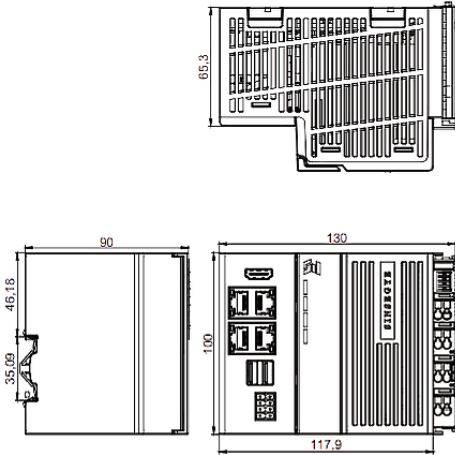


Dimensional drawing of SX20/SX21 standard industrial intelligent computer



Unit: mm

Dimensional drawing of SX50/SX51 compact industrial intelligent computer



Unit: mm





## Industrial Intelligent Computer

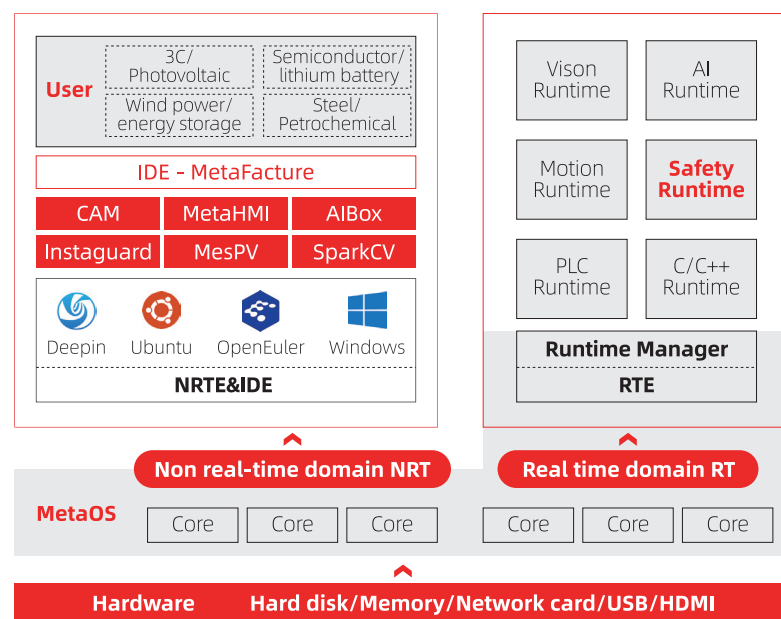
### SP series IPC controller

#### 1. Computing + control:

A set of controller integrates the functions of motion control, logic control, machine vision, configuration display and edge computing. A set of software is compatible with the development of motion control, logic control, machine vision, and configuration display. A set of programs simultaneously solves the applications of motion control, logic control, machine vision, and configuration display.

**Build in dual domain operating system with integrated computing and control:**

To ensure the openness and real-time control of Windows, Meta dual cores (non real-time core + real-time core) are run on the same CPU hardware platform. Real time and non real-time domains can flexibly allocate hardware resources according to on-site usage scenarios, ensuring the real-time performance of the system. Compared with traditional PLC+industrial control computers and other forms of products, dual domain communication can achieve high-speed information exchange through shared memory/MODBUS/tag communication and other information exchange methods, and data is what you see is what you get. Even in case the CPU, memory, disk, network, USB, and IO usage reaches 100% in non real-time domains, the real-time side will not be affected. In case desktop system crashes, real-time core will not be affected.



**a. Software convergence, high programming efficiency**  
Support IEC 61131-3 PLC programming language and high-level language. It can achieve motion control, machine vision, logic control, configuration software programming in one programming platform. Besides, it can achieve information-based database and cloud platform interaction and integrate third-party software, making it easier for equipment manufacturers to achieve the application of motion control and machine vision, IT and OT.

**b. Rich algorithms and simpler control**  
Integrate PLCopen (part1, part2, part4) standardized functional blocks and Basic (CAM)/CNC/Robotics. Build in visual basic algorithms such as image preprocessing, image calibration, visual measurement, defect recognition and localization, OCR and QR code.

**c. High real-time, strong computing, high speed and accuracy**  
Equipped with an Intel high computing power CPU that supports 64 bit floating-point computing, it can provide up to 1000Mbps communication links to connect IO modules and third-party devices, greatly improving the real-time and accuracy of SP series products in transmitting and processing big data.

**d. More interfaces - strong interconnectivity**  
Support PCIE extension, making it convenient to expand network ports, serial ports, USB ports, and graphics cards, suitable for various application scenarios.

#### 2. Different form factors to meet different application scenarios:

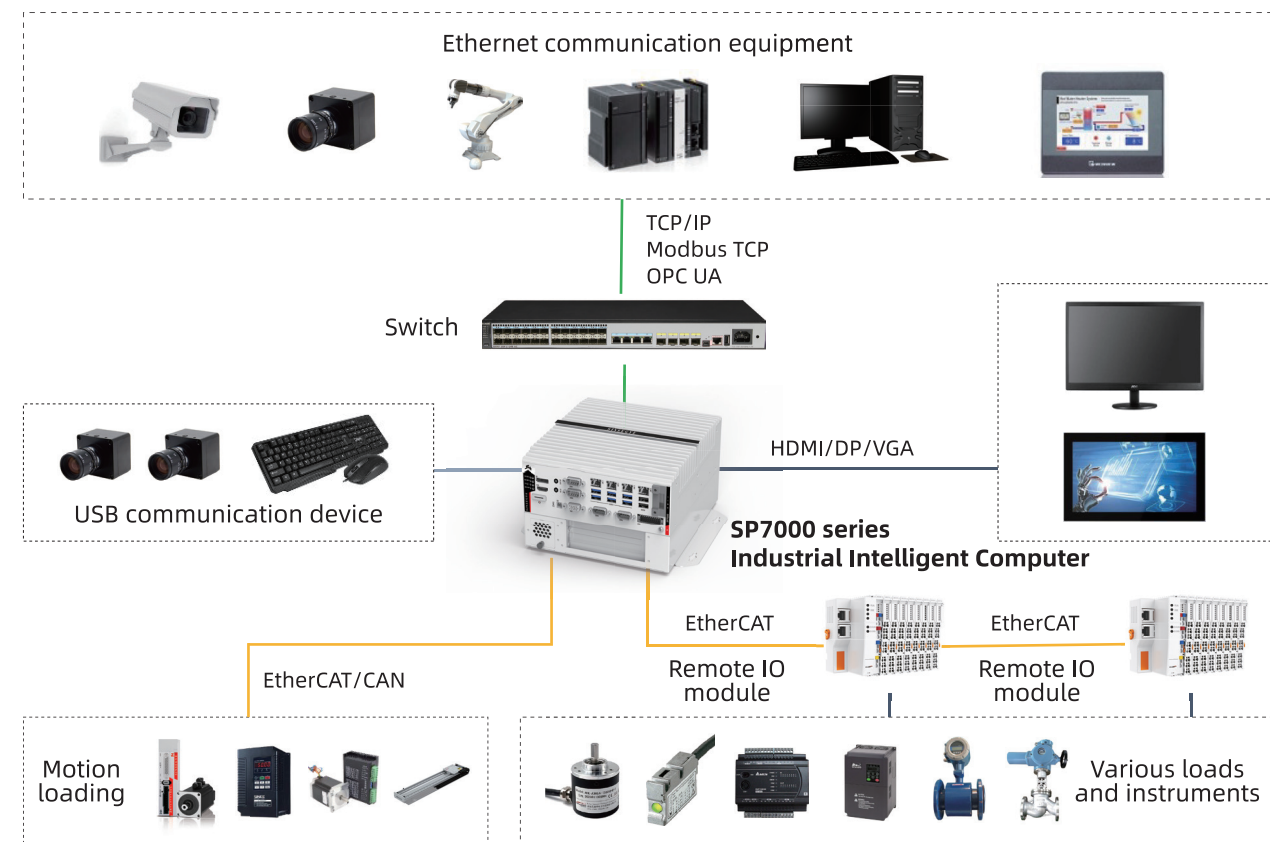
- Book type, fanless type, 1U and 4U frame type, can meet various control needs.
- Some products support local I/O, and all products support remote I/O modules, providing users with diverse I/O and process modules for data collection, control, and transmission.

#### 3. Safe and reliable:

- Multiple network ports design, balancing high response axis control while easily achieving EtherCAT ring networking. The network interface has an independent IP, which can complete control layer networking, information layer networking, visual networking, IP separation, and security isolation.
- Craftsmanship design meets the requirements of strict industrial application scenarios.

#### System architecture:

An industrial intelligent computer can simultaneously meet different control needs in complex industrial environments, promoting the development of industrial manufacturing towards intelligence and efficiency.



Highly real-time capability :

- Single axis minimum control cycle: 125us;
- 128 axis minimum control cycle: 0.8ms;
- The efficiency of instruction execution can reach ns level;

Diversified programming methods:

- Real-time side: IEC61131-3 standard programming methods (ladder diagram (LD)/structured text (ST)/sequential function chart(SFC)/functional block dimension(FBD)/continuous function chart (CFC)), support C and C++interface;
- Non real-time side: high-level languages such as C, C++, Java, C # and Go Lang.

Various connection and networking methods:

- Multiple Gigabit Ethernet interfaces, multiple USB 3.0, multiple 485/232/422 communication and video output interfaces such as HDMI and DP;
- Support OPC/UA data services, Modbus, EtherCAT, Profinet, CANopen and Ethernet/IP;
- Directly connect mainstream industrial cameras that support up to 10 Gige/USB 3.0;
- Support up to 4 EtherCAT communication channels, support star, bus, tree, and ring networking.
- Support up to 128 axis connections.

Rich algorithm modules:

- With PLCopen certified POU library, achieve single axis and multi axis lateral collaborative motion;
- CNC control (graphical DIN 66025 editor (support G code)/online CAM editor and CNC editor/3D CNC application tutorial example/comprehensive interpolation function from linear to spline interpolation/CNC tool radius compensation, etc.);
- Robotics (developing multi axis robot controllers/exchange libraries (for backup and data exchange) through PLCopen Motion Part 4 and axis group editor to support the development of industrial robots with different kinematics/integrating multiple standard robot models (various gantry robots (2/3/5 axes), tripod robots, and SCARA robots)/comprehensive path planning with robot coordinate values in different coordinate systems);
- ST Vision library (basic visual algorithms such as image pre-processing, image calibration, visual measurement, defect recognition and localization, OCR and QR code).

Build in NC core (soft board card, replacing traditional hard operation control card):

Software defined NC core control, perfectly replacing traditional motion control cards.

- **Programming:** API function interface, compatible with software engineers to maintain usage habits;
- **Customer confidentiality:** based on standard interfaces, customers can develop underlying operational control or process algorithms;
- **Operation and control function:** 128 axis<1ms, high-speed, forward-looking, 32 + robot attitude solution algorithm;
- **Special functions:** high-speed position comparison (PSO), high-speed position latch, and space vector comparison;
- **High real-time performance:** instructions based on memory interaction, with instruction cycles of us level.

Rich applications:

- Support data collection, data storage, and other data applications;
- Pre-install four industry apps, including Instaguard for intelligent monitoring and diagnosis, MesApps for production decision support system, visual care tracking system SparkCV, and the robotic arm module sensing system Octo;
- Compatible with third-party applications based on Linux/Windows ecosystem;
- Supports edge Qclouds.

SP7000 series Industrial Intelligent Computer:



Product features:

Computing + control + display, with high computing power

High-performance hardware carrier that perfectly integrates computing, control, and display, with a Windows open ecosystem and powerful PLC control capabilities.

Rich interfaces and flexible expansion

CAN card, Ethernet card, serial card, graphics card, etc.

Easily switch OS

Default Windows

Win11(64)/Win10(64)/Ubuntu22.0(64)/Red hat (64)/Win7(64)/Win7(32)/WinXP(32)/other systems (64/32)

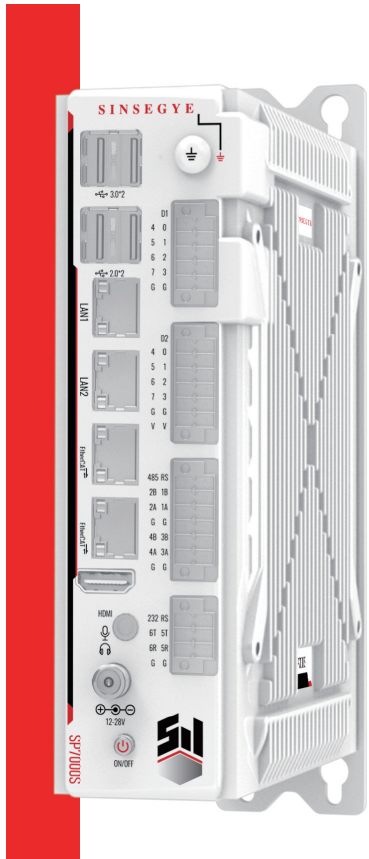
Product parameters:

| SP7000 SP7020 SP7040 |                               |                                       |                         |                                    |
|----------------------|-------------------------------|---------------------------------------|-------------------------|------------------------------------|
| Hardware interface   | CPU                           | Intel i7-8700                         |                         |                                    |
|                      | Memory                        | 16G                                   |                         |                                    |
|                      | Solid state drive 1           | 256G                                  |                         |                                    |
|                      | Solid state drive 2           | 512G                                  |                         |                                    |
|                      | PCIe expand                   | 0                                     | PCIe 4 *1<br>PCIe 16 *1 | PCIe 4 *1<br>PCIe 16 *1<br>PCI * 2 |
|                      | Graphics card                 | ✓                                     |                         |                                    |
|                      | Basic USB quantity            | USB3.0*6;<br>USB2.0*2 (expandable)    |                         |                                    |
|                      | Basic number of serial ports  | 6 (expandable)                        |                         |                                    |
|                      | Number of basic network ports | Gigabit Ethernet port *4 (expandable) |                         |                                    |
|                      | Basic IO quantity             | GPIO*16                               |                         |                                    |
| Power supply         | Working voltage               | 19~24v                                |                         |                                    |
|                      | Rated voltage                 | 24VDC                                 |                         |                                    |
|                      | Withstand voltage             | 19~24V                                |                         |                                    |

| SP7000 SP7020 SP7040     |                                     |   |
|--------------------------|-------------------------------------|---|
| Software interface       | Programming language                | Support IEC61131-3 (LD/ST/CEC/SFC/LBD)  |
|                          | Program download                    | Support binary object code download<br>Support user engineering (active and passive) download |
|                          | Program upload                      | ✓   |
|                          | Program encryption                  | Support user engineering and POU, support target file encryption                              |
|                          | Controller encryption               | Support controller locking/unlocking  |
|                          | Power lost maintenance              | ✓   |
|                          | Automatic library addition function | ✓   |
|                          | NC CORE                             | ✓   |
| Desktop operating system | Online system upgrade               | ✓   |
|                          | Working temperature                 | Win10/Ubuntu  |
|                          | Storage temperature                 | 0°C~40°C  |
| Environment              | Storage humidity                    | -40°C~+60°C   |
|                          | Storage humidity                    | 10%~95% non-condensing  |
| Reliability              | Random vibration                    | 5~500Hz, 2Grms (SSD) operation<br>5~500Hz, 1Grms (HDD) operation                              |
|                          | Sine vibration                      | 5~500Hz, 2G Non- operation  |
|                          | Mechanical shock                    | Operation: 10G@11;<br>Non-operation: 20G@11ms   |
|                          | EMC                                 | EN61131-2 Zone B/EN61000-6-2/<br>EN61000-6-4  |
| 3C certification         |                                     | ✓   |



SP7000S series Industrial Intelligent Computer:



Product features:

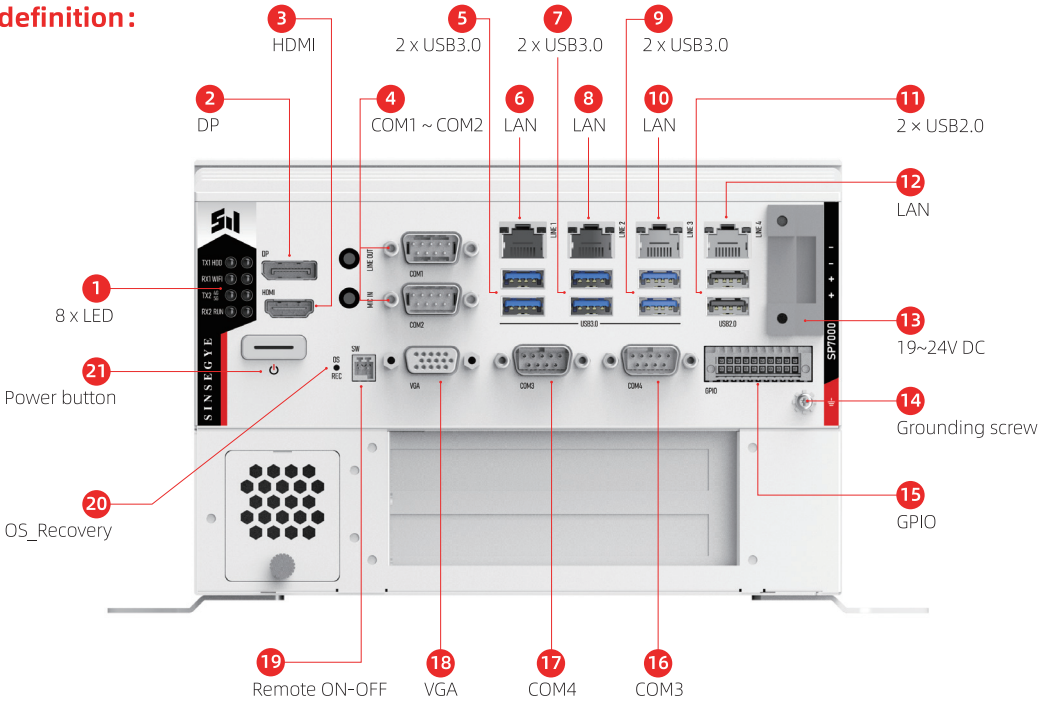
- Small volume, great wisdom**  
Palm-sized, save installation space, use advanced CPUs with superior performance and rich hardware interfaces.
- Strong compatibility**  
The default Windows desktop system has a Windows open ecosystem and also has PLC control function, perfectly adapting to various industry applications.

Application industry:

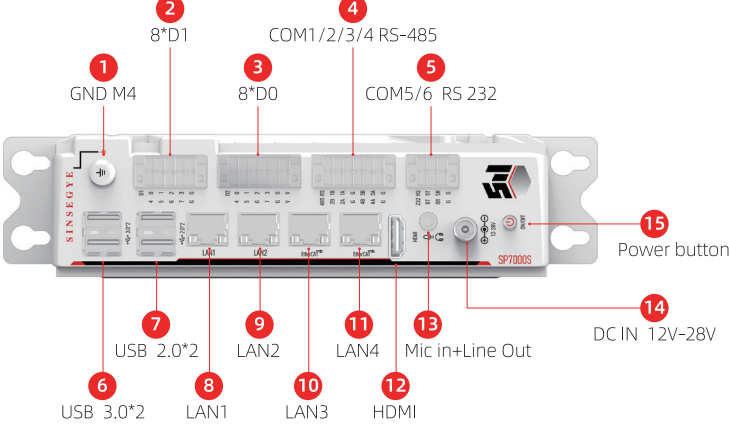
Industrial Intelligent Computers are widely used in industries such as 3C electronics, semiconductors, lasers, CNC, printing and packaging, photovoltaic, wind power, petrochemicals, and steel.

| SP7000S               |                                     |   |
|-----------------------|-------------------------------------|---|
| Hardware interface    | CPU                                 | Intel® Celeron® Processor J6412   |
|                       | Memory                              | 16G   |
|                       | SSD 1                               | 128G  |
|                       | SSD 2                               | 128G  |
|                       | Basic USB quantity                  | USB 3.0*4 (expandable)  |
|                       | Basic number of serial ports        | RS485*4; RS232*2  |
|                       | Number of basic network ports       | Gigabit Ethernet port *4  |
| Software interface    | Basic IO quantity                   | DI*8; DO*8  |
|                       | Programming language                | Support IEC61131-3 (LD/ST/CEC/SFC/LBD)  |
|                       | Program download                    | Support binary object code download<br>Support user engineering (active and passive) download |
|                       | Program upload                      | ✓   |
|                       | Program encryption                  | Support user engineering and POU, support target file encryption                              |
|                       | Controller encryption               | Support controller locking/unlocking  |
|                       | Power lost maintenance              | ✓   |
| Power supply          | Automatic library addition function | ✓   |
|                       | NC CORE                             | ✓   |
|                       | Online system upgrade               | ✓   |
| Desk operating system | Working voltage                     | Win10/Ubuntu  |
|                       | Rated voltage                       | DC 12V-28V  |
|                       | Withstand voltage                   | 24VDC   |
| Environment           | Working temperature                 | DC 12V-28V  |
|                       | Storage temperature                 | -10~50°C  |
|                       | Storage humidity                    | -40°C~+60°C   |
| Reliability           | Random vibration                    | 10%~95% non-condensing  |
|                       | Sine vibration                      | 5~500Hz, 2Grms (SSD) operation<br>5~500Hz, 1Grms (HDD) operation                              |
|                       | Mechanical shock                    | 5~500Hz, 2G Non- operation  |
|                       | EMC                                 | Operation: 10G@11 ;<br>Non-operation: 20G@11ms  |
|                       | 3C certification                    | EN61131-2 Zone B/EN61000-6-2/<br>EN61000-6-4  |

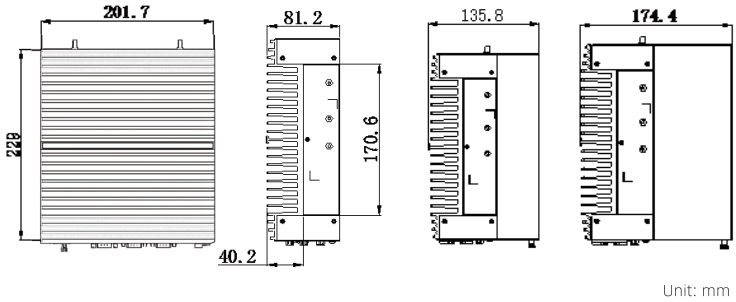
Interface definition:



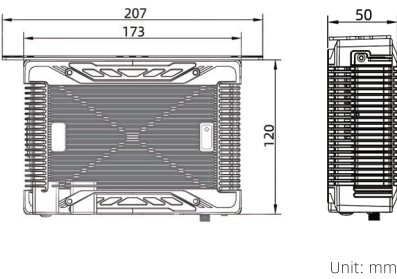
Interface definition:



Dimension diagram of SP7000 series






Dimension diagram of SP7000S series



SP5000/6000 series IPC industrial intelligent computer:

Product parameters:

|                  |                     | SP5000 series IPC industrial intelligent computer                                 |  | SP6000 series IPC industrial intelligent computer                                   |
|------------------|---------------------|---|--|---|
|                  |                     | 4U  | 1U   | Thin  |
| Product form     |                     |  |  |  |
| Basic parameters | CPU                 | Intel Core i3~i7, G6~13generation   | Intel Core i3~i7, G6~13generation  | Intel Atom 4cores   |
|                  | Main board          | Support ATX and MicroATX industrial main board                                    | Support ATX and MicroATX industrial main board                                     | /   |
|                  | Memory              | 8G/16G/32G (expandable, Max. 128G)  | 8G/16G/32G (expandable, Max. 128G)   | 4G/8G   |
|                  | Hard drive 1        | 256G/512G (SSD)   | 256G/512G (SSD)  | 128G/256G   |
|                  | Hard Disk 2         | Support M.2 and SATA expandable   | Support M.2 and SATA expandable  | /   |
|                  | PCIe                | Support 7 expansion slots   | Support 7 expansion slots  | /   |
|                  | Graphics card       | Support various standard graphics cards and GPU cards                             | Support various standard graphics cards and GPU cards                              | /   |
|                  | USB                 | 4xUSB3.0; 7xUSB2.0 (expandable)   | 4xUSB3.0; 7xUSB2.0 (expandable)  | 1xUSB3.0; 1xUSB2.0  |
|                  | Com port            | 4*com(expandable)   | 4*com(expandable)  | /   |
|                  | Ethernet port       | Dual Gigabit Ethernet ports   | Dual Gigabit Ethernet ports  | 3xDual Gigabit Ethernet ports   |
| Operating system |                     | Win10/Ubuntu  | Win10/Ubuntu   | Win10/Ubuntu  |
| Power supply     | Working voltage     | 220V AC   | /  | 24V DC  |
|                  | Rated voltage       | 220V AC ±5%   | /  | 24V DC±15%  |
| Environment      | Working temperature | 0°C~40°C  | 0°C~40°C   | 0°C~40°C  |
|                  | Storage temperature | -40°C~+60°C   | -40°C~+60°C  | -40°C~+60°C   |
|                  | Storage humidity    | 10%~95% non-condensing  | 10%~95%non-condensing  | 10%~95%non-condensing   |
| Construction     | Dimension           | 428x177x480mm (W*H*D)   | 482x44.5x400mm (W*H*D)   | 40x88x85mm (W*H*D)  |
|                  | Material            | Heavy steel   | High-grade flawless galvanized shell   | Customized galvanized shell   |
|                  | Color               | Black   | Black  | Black + golden  |

Product features and application scenarios



SP5040 series 4U Rack Mount Industrial Intelligent Computer



SP5010 series 1U Rack Mount Industrial Intelligent Computer



SP6000 series Industrial Intelligent Computer

Product feature

- Effective air intake area increased by 106% compared to competitors
- Customized speed-adjustable fan, MTBF 50000 hours for ultimate protection
- Support high-power GPU cards for AI computing

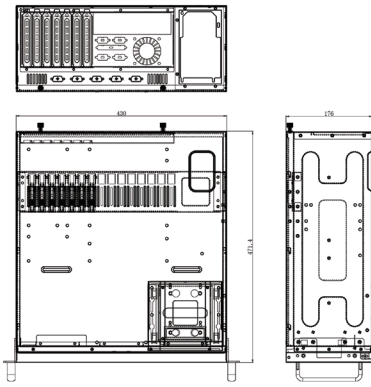
Application scenarios

- Industrial host and upper computer
- Motion control, equipment matching computing power equipment
- Machine vision and defect detection
- DCS/MES, HMI, and central control management

- Compact design, small form factor for limited installation space
- Rich interfaces, including 3 Ethernet ports, 2 USB ports, and 1 HDMI, meet various connection needs
- Cost effective, stable performance, wide range of applications, supports main OS and various application control software

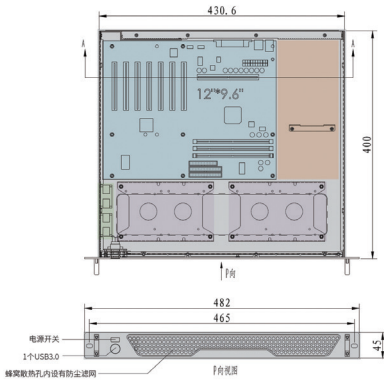
- 3C electronics, semiconductors and other discrete manufacturing industries: suitable for control systems and application software
- New energy industries such as photovoltaics and wind power: suitable for centralized cabinet support and miniaturized control systems
- Industrial site comprehensive control equipment and information publishing machine

Dimension drawing of SP5040 4U Product



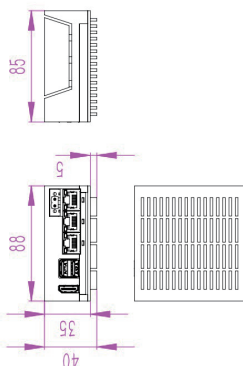
Unit: mm

Dimension drawing of SP5010 1U Product



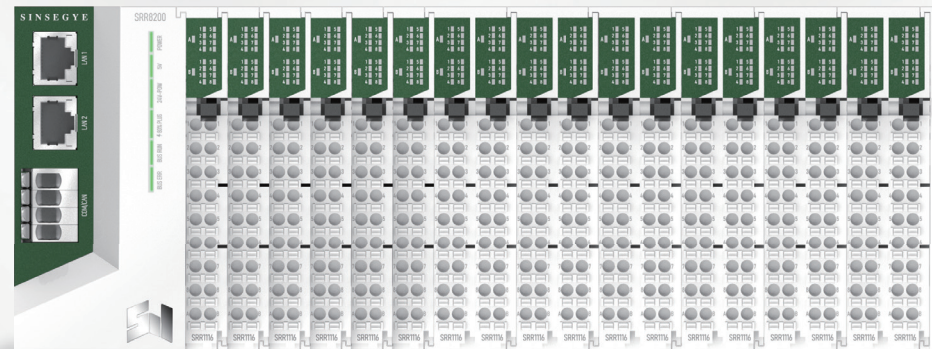
Unit: mm

Dimension drawing of SP6000 Thin Product



Unit: mm





# New generation plug-in IO

## SRE series plug-in IO products

SRE series modules are suitable for high-speed and high-precision real-time bus control scenarios; SRR series and SRE series are two types of plug-in I/O products with different backplane buses. Both types of coupler modules can be connected to SRR I/O module and SRE IO module respectively.

- 01

Strong carrying capacity

A single coupler can support up to 64 expansion modules.
- 02

Compact

12mm thickness, compact design, substantially reduce the installation space of electrical cabinets.
- 03

Quick installation

Detachable terminals, high maintenance efficiency, and wiring without tools.
- 04

Easy to diagnose

With built-in diagnostic information, the status can be easily detected and maintained.
- 05

Rich in types

Digital module, analog module, temperature module, encoder module, protocol conversion module, to meet various scene requirements.
- 06

Stable and reliable

More rigorous EMC and other reliability tests, more reliable than industry standards.
- 07

High real-time and fast response

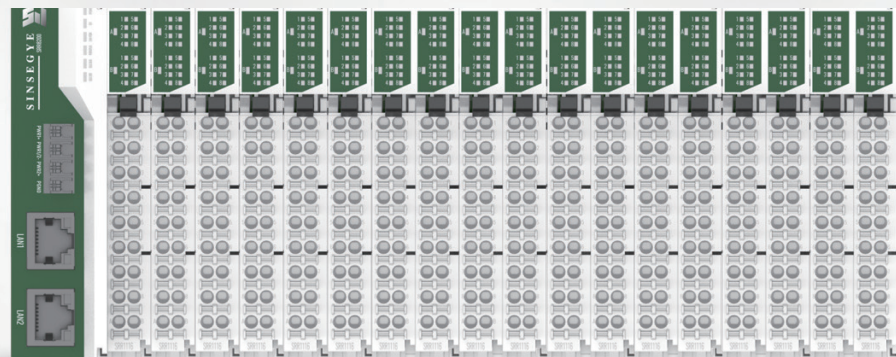
SRE series IO modules support 100M high-speed backplane bus, achieving microsecond level IO response.
- 08

Easy to plug and unplug

Easily replace or add/remove modules to adapt to system changes without affecting system operation.

### Product parameters:

| SRE series IO |  |   |
|---------------|--|---|
| Model         | Description  | Specifications  |
| SRE8200       | EtherCAT bus coupler module                                  | EtherCAT bus, 2 RJ45 port high-performance backplane buses, can expand up to 64 modules.  |
| SRE1216       | 16 channel digital input module                              | 16 channel digital input, support PNP input, 24VDC.   |
| SRE1232       | 32 channel digital input module                              | 32 channel digital input, support PNP input, 24VDC.   |
| SRE1116       | 16 channel digital input module                              | 16 channel digital input, support NPN input and 24VDC.  |
| SRE1132       | 32 channel digital input module                              | 32 channel digital input, support NPN input and 24VDC.  |
| SRE2216       | 16 channel digital output module                             | 16 channel digital output, transistor PNP, rated at 24VDC/0.5A.   |
| SRE2232       | 32 channel digital output module                             | 32 channel digital output, transistor PNP, rated at 24VDC/0.5A.   |
| SRE2116       | 16 channel digital output module                             | 16 channel digital output, transistor NPN, rated OVDC (± 3V)/0.5A.  |
| SRE2132       | 32 channel digital output module                             | 32 channel digital output, transistor NPN, rated OVDC (± 3V)/0.5A.  |
| SRE1432       | 16 channel digital input<br>16 channel digital output module | 16 channel PNP input, 16 channel transistor PNP output.   |
| SRE1332       | 16 channel digital input<br>16 channel digital output module | 16 channel NPN input, 16 channel transistor NPN output.   |
| SRE3204       | 4 point analog input module                                  | 16 bit accuracy, 4 channel voltage/current input.   |
| SRE3208       | 8 point analog input module                                  | 16 bit accuracy, 8 channel voltage/current input.   |
| SRE4204       | 4 point analog output module                                 | 4 channel voltage or current, ± 10V or 0-20mA, 16 bit accuracy.   |
| SRE4208       | 8 point analog output module                                 | 8 channel voltage or current, ± 10V or 0-20mA, 16 bit accuracy.   |
| SRE6002       | 2 channel serial communication module                        | 2 RS422/RS232/RS485 interfaces, support Modbus RTU and free port protocols, with a baud rate of up to 115.2Kbps. Serial port parameters are configured through XML files, and the main station does not require programming, making it easy to use. |
| SRE6004       | 4 channel serial communication module                        | 4 RS422/RS232/RS485 interfaces, support Modbus RTU and free port protocols, with a baud rate of up to 115.2Kbps. Serial port parameters are configured through XML files, and the main station does not require programming, making it easy to use. |
| SRE5012       | 4 channel high-speed counting module                         | 2 sets of A, B, and C counting inputs, single ended (rated 24V maximum 200KHZ, support PNP/NPN input) or differential (5V maximum 4MHz), support normal counting function, and relevant parameters can be configured through XML files.             |
| SRE5034       | 4 channel high-speed counting module                         | 4 sets of A, B, and C counting inputs, differential (5V maximum 4MHz), support normal counting function, and relevant parameters can be configured through XML files.   |
| SRE5234       | 4 channel pulse output module                                | 4 axis PTO output, NPN output with a maximum of 400KHZ (at 5V), and differential output with a maximum of 1MHz. Relevant parameters can be configured through XML files.  |
| SRE5202       | Digital fast output module                                   | Equipped with DC distributed clock and oversampling function, maximum output frequency of 1MHz, 2 outputs, transistor PNP, rated at 24VDC/0.5A, with module diagnostic function.  |
| SRE5204       | Digital fast output module                                   | Equipped with DC distributed clock and oversampling function, maximum output frequency of 1MHz, 4 outputs, transistor PNP, rated at 24VDC/0.5A, with module diagnostic function.  |
| SRE1632       | 32 channel digital input (PNP<br>16 channel housing)         | 32 channel digital input (connected to horn terminal), support PNP input and 24VDC.   |
| SRE1532       | 32 channel digital input (NPN<br>16 channel housing)         | 32 channel digital input (connected to horn terminal), support NPN input and 24VDC.   |
| SRE2632       | 32 channel digital output (PNP<br>16 channel housing)        | 32 channel digital output (connected to horn terminals), transistor PNP, rated at 24VDC/0.5A, with a total of no more than 10A per module, with module diagnostic function.   |
| SRE2532       | 32 channel digital output (NPN<br>16 channel housing)        | 32 channel digital output (connected to horn terminals), transistor NPN, rated OVDC (± 3V)/0.5A, with a total of no more than 10A per module, with module diagnostic function.  |
| SRE6081       | 1 channel DeviceNet communi-<br>cation module                | 1 DeviceNet interface, supports DeviceNet, supports baud rate of 125250500, and can configure 32 slave stations.  |
| SRE6042       | 2 channel modbus TCP commu-<br>nication module               | 2 Ethernet interfaces, supports Modbus TCP, can configure 32 commands.  |
| SRE6051       | 1 Channel CAN communication<br>module                        | 1 CAN interface, support CANopen and CAN2.0B.   |
| SRE6072       | 2 channel EIP communication<br>module                        | 2 Ethernet interfaces, support EtherNet/IP, and can be configured with 4 adapters.  |



# New generation plug-in IO

## SRR series plug-in IO products

SRR series modules are SC-Bus modules, suitable for general industrial real-time control scenarios. SRR series and SRE series are two types of plug-in I/O products with different backplane buses. Both types of coupler modules can be connected to SRR I/O module and SRE IO module respectively.

- 01

Less nodes

A node consists of a bus coupler, 1~32 I/O modules, and an end cap.
- 02

Flexible configuration

Multiple types of plug-in I/O modules can be combined freely.
- 03

Small volume

Compact structure with small space.
- 04

Fast speed

The backplane adopts SC bus bus: the maximum scanning cycle is 1ms.
- 05

Easy to install

DIN 35 mm standard rail installation. Use spring wiring terminals, convenient and fast wiring.
- 06

Easy to diagnose

Complete indicators, well-defined module status, and convenient detection and maintenance.
- 07

Strong compatibility

Coupler communication interface complies with communication standards and supports mainstream PROFINET and EtherCAT master stations.
- 08

Diversified functional extensions

Support flexible expansion, with a complete range of I/O types; Can integrate multiple digital modules, analog modules, and temperature modules, suitable for different application requirements.

### Product parameters:

| SRR series IO |  |  |
|---------------|--|--|
| Model         | Description  | Specifications   |
| SRR8200       | EtherCAT bus coupler module                                  | EtherCAT bus, 2 RJ45 ports, expand up to 32 modules, 24VDC.  |
| SRR8300       | PROFINET bus coupler module                                  | PROFINET bus, 2 RJ45 ports, can expand up to 32 modules, 24VDC.  |
| SRR9001       | Power module   | /  |
| SRR1032       | 32 channel digital input                                     | 32 channel digital input module, compatible with NPN/PNP input, 24VDC, default input filtering of 3ms.   |
| SRR2132       | 32 channel digital output, NPN                               | 32 channel digital output, transistor NPN, single channel rated current maximum: 200mA, output channel protection: short circuit protection (automatic recovery mechanism), module protection: reverse connection protection (automatic recovery mechanism), on-site surge protection.   |
| SRR2232       | 32 channel digital output, PNP                               | 32 channel digital output, transistor PNP, single channel rated current maximum: 200mA, output channel protection: short circuit protection (automatic recovery mechanism), module protection: reverse connection protection (automatic recovery mechanism), on-site surge protection.   |
| SRR1332       | 16 channel digital input<br>16 channel digital output module | 16 channel NPN input, 16 channel transistor NPN output.  |
| SRR1432       | 16 channel digital input<br>16 channel digital output module | 16 channel PNP input, 16 channel transistor PNP output, with module diagnostic function.   |
| SRR3238       | Analog 8 channel current input                               | 16 bit accuracy, 8 channel current input (Disabled, 4mA~20mA, 0mA~20mA (adjustable range, default to Disabled)).   |
| SRR4038       | Analog 8 channel current output                              | 16 bit accuracy, 8 channel current output (4mA~20mA, 0mA~20mA (adjustable range)).   |
| SRR3218       | Analog 8 channel voltage input                               | 16 bit accuracy, 8 channel current input (Disabled, -10V~+10V, 0V~10V, 0V~+5V, 1V~5V, -5V~+5V (adjustable range, default to Disabled)).  |
| SRR4018       | Analog quantity 8 channel voltage output                     | 16 bit accuracy, 8 channel voltage output (-10V~+10V, 0V~10V, -5V~+5V, 0V~5V, 1V~5V (adjustable range)).   |
| SRR3294       | 4 channel thermal resistance thermocouple resistance         | 16 bit accuracy, 4 channel temperature measurement module (thermocouple (2-wire, B: 50~1800°C, E 200~1000°C, J: -200~1200 °C, K: -200~1370°C, S: -50~1690°C), thermal resistance (2-wire, 3-wire Pt100: -200~850°C, Pt200: -200~850°C, Pt500: -200~850°C, Pt1000: -200~850°C, Ni100: -100~260°C, Ni1000: -100~260°C), resistance (2-wire, 3-wire 15Q~3kQ). |
| SRC6001       | 1 channel serial communication module                        | 1 RS422/RS232/RS485 interface, supporting six modes that can be set: MRM/MRS/MAM/MAS/FP/PT. Supports three interfaces: RS485/RS422/RS232. Supports Modbus RTU/ASCII.   |
| SRR5001       | 1 channel high-speed counting module                         | Supports AB orthogonality (ABZ), directional pulse (Pul+Dir), and dual pulse (CW/CCW). Support Z-phase zeroing function. Support comparison output. Supports probe locking.  |
| SRR5031       | 1 channel high-speed counting module                         | Supports AB orthogonality (ABZ), directional pulse (Pul+Dir), and dual pulse (CW/CCW). Support Z-phase zeroing function. Support comparison output. Supports probe locking.  |
| SRR5041       | 1 channel high-speed counting module                         | Support SSI encoder input. Supports frame length, LSB, and MSB settings. Supports Gray code and binary code. Supports bidirectional counting. Support pulse capture function.  |
| SRR3601       | Electric energy detection module                             | /  |



# New generation compact IO

## SC series ultra compact IO products

The SC series ultra compact IO products are suitable for high-speed, high-precision real-time buses and control scenarios with high volume requirements. They are characterized by rich types, plug and play, high real-time fast response, convenient installation, and can effectively reduce usage costs.

- 01

More types

Digital module, analog module, temperature module, encoder module, protocol conversion module, modular combination can adapt to the demand for I/O signals from various devices.
- 02

Plug and use

By distributing signals and power to I/O modules and dedicated connectors, I/O system assembly can be quickly completed, greatly simplifying I/O system wiring.
- 03

High real-time and fast response

100M high-speed backplane bus, microsecond level IO response.
- 04

Ultra compact design

Dimension 12mm x 62mm x 55mm.
- 05

Easy installation

Mechanical coding, prefabricated wiring harnesses, and connector foolproof and other measures are taken to reduce production costs and faults.

### Product parameters:

#### SC series IO

| Model  | Description   | Specifications   |
|--------|---|--|
| SC1116 | 16 channel digital input module, NPN, 24VDC, filtering 3ms                          | 16 channel digital input, support NPN input, 24VDC, with module diagnostic function.   |
| SC1216 | 16 channel digital input, support PNP input, 24VDC, with module diagnostic function | 16 channel digital input, support PNP input, 24VDC, with module diagnostic function.   |
| SC2116 | 16 channel digital output module, NPN, 24VDC, 0.5A                                  | 16 channel digital output, transistor NPN, rated at 24VDC/0.5A (short circuit protection).   |
| SC2216 | 16 channel digital output module, PNP, 24VDC, 0.5A                                  | 16 channel digital output, transistor PNP, rated at 24VDC/0.5A (short circuit protection).   |
| SC3228 | 8 channel analog voltage input module,Single input, ±10V, 16 bit                    | Signal voltage -10V- +10V, 16 bit resolution, input filtering cutoff frequency of 10KHz, support synchronous switching between SM and DC.  |
| SC3234 | 4 channel analog current input module 0mA-20mA, 16 bit                              | Signal power supply 0mA-20mA, 16 bit resolution, input filtering cutoff frequency 10KHz, support synchronous switching between SM and DC.  |
| SC3238 | 8 channel analog current input module 0mA-20mA, 16 bit                              | Signal power supply 0mA-20mA, 16 bit resolution, input filtering cutoff frequency 10KHz, support synchronous switching between SM and DC.  |
| SC3244 | 4 channel analog current input module 4mA- 20mA, 16 bit                             | Signal power supply 4mA-20mA, 16 bit resolution, input filtering cutoff frequency 10KHz, support synchronous switching between SM and DC.  |
| SC3248 | 8 channel analog current input module 4mA- 20mA, 16 bit                             | Signal power supply 4mA-20mA, 16 bit resolution, input filtering cutoff frequency 10KHz, support synchronous switching between SM and DC.  |
| SC3258 | 8 channel analog voltage input module, Differential input, 0-10V, 16                | Signal voltage 0--+10V, 16 bit resolution, input filtering cutoff frequency 10KHz, support synchronous switching between SM and DC.  |
| SC4244 | 4 channel analog current output module 4mA- 20mA, 16 bit                            | 4 channel 4-20mA analog current output module with 16 bit resolution, all output channels have a common ground potential, 24V for output stage.  |
| SC4224 | 4 channel analog voltage output module -10V --+10V, 16 bit                          | 4 channel ±10V analog voltage output module, 16 bit resolution, all output channels have a common ground potential, and the output stage is powered by a 24V power supply.   |
| SC4234 | 4 channel analog current output module 0mA-20mA, 16 bit                             | 4 channel 0.20mA analog current output module with 16 bit resolution, all output channels have a common ground potential, 24V for output stage.  |
| SC3274 | 4 channel thermistor input module, 16 bit   | 4 input interfaces and 16 bit resolution, it is used for thermal resistance temperature acquisition. It can simultaneously connect 4 3-wire sensors and supports three types of sensors: PT100, PT1000, and NI100. |
| SC3284 | 4 channel thermocouple input module, 16 bit   | Equipped with 4 input interfaces and 16 bit resolution, used for thermocouple temperature acquisition.   |
| SC9001 | Power module  | Input voltage 24VDC (-15%/+20%), short-circuit protection function, rated output current 3A, short-circuit protection current 4A.  |
| SC9100 | Occupying module  | /  |
| SC3208 | 4 channel analog voltage input module, 4 channel current input module               | /  |
| SC5032 | 2 channel 5V differential input counting module                                     | 2 5V differential encoder signal input interfaces, 2 encoder latch interfaces, 2 encoder signal access ports, pulse input indicators, and latch signal indicators.   |
| SC6011 | 1 channel RS485 communication module  | 1 RS485 interface, support Modbus RTU, with baud rate up to 115.2Kbps.   |
| SC6021 | 1 channel RS232 communication module  | 1 RS232 interface, support Modbus RTU, with baud rate up to 115.2Kbps.   |
| SC6031 | 1 channel RS422 communication module  | 1 RS4222 interface support Modbus RTU, with baud rate up to 115.2Kbps.   |
| SC6042 | 2 channel modbus TCP communication module   | 2 Ethernet interfaces, support Modbus TCP, can be configured with 32 commands.   |
| SC6072 | 2 channel EIP communication module  | 2 Ethernet interfaces, support EtherNet/IP, and can be configured with 4 adapters.   |
| SC6081 | 1 channel DeviceNet communication module  | 1 DeviceNet interface, support DeviceNet, supports baud rate of 125,250 and 500, and can configure 32 slave stations.  |





# Motion control

## SV series rotary servo driver and motor

- 1

Maximum power 7.5Kw
- 2

High precision
- 3

High synchronization
- 4

Enhanced vibration suppression
- 5

Support for gantry function
- 6

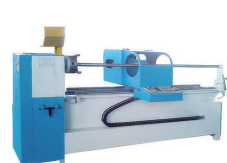
Supports EtherCAT, Profinet, CANopen

**Product advantage:** Cost effective and high performance

### Applicable industries and equipment:

1. Customers requiring for high cost performance.      2. Woodworking, packaging, textile, and robotic industries.

#### Applicable equipment



Cutting machine



Carving machine

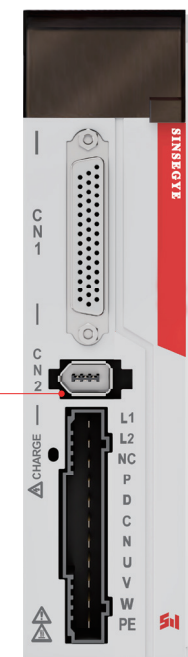


Mechanical arm



Material packaging line

### Servo SV2 model definition - Driver:



|   |        |    |    |      |  |                                     |
|---|--------|----|----|------|--|-------------------------------------|
| Digital input signal common terminal            | COM    | 16 | A1 |      |  | Metal casing grounding              |
| Digital input 8                                 | DI8    | 1  | 31 | DO1+ |  | Digital input 1                     |
| Digital input 7                                 | DI7    | 17 | 32 | DO1- |  |                                     |
| Digital input 6                                 | DI6    | 2  | 33 | DO2+ |  | Digital input 2                     |
| Digital input 5                                 | DI5    | 18 | 34 | DO2- |  |                                     |
| Digital input 4                                 | DI4    | 3  | 35 | DO3+ |  | Digital input 3                     |
| Digital input 3                                 | DI3    | 19 | 36 | DO3- |  |                                     |
| Digital input 2                                 | DI2    | 4  | 37 | DO4+ |  | Digital input 4                     |
| Digital input 1                                 | DI1    | 20 | 38 | DO4- |  |                                     |
|   |        |    | 39 | DO5+ |  | Digital input 5                     |
|   |        |    | 40 | DO5- |  |                                     |
| RS485 communication negative terminal           | RSB    | 10 | 41 | DO6+ |  | Digital input 6                     |
| RS485 communication positive end                | RSA    | 26 | 42 | DO6- |  |                                     |
| Internal digital model ground                   | GND    | 11 | 43 | E0V  |  |                                     |
| Z-phase collector electrode open circuit output | CZ-OUT | 27 | 44 | E24V |  | Internal isolation 24V power output |
| Internal digital model ground                   | GND    | 12 |    |      |  |                                     |
| A-phase signal output                           | OA+    | 28 |    |      |  |                                     |
|   | OA-    | 13 |    |      |  |                                     |
| B-phase signal output                           | OB+    | 29 |    |      |  |                                     |
|   | OB-    | 14 |    |      |  |                                     |
| Z-phase signal output                           | OZ+    | 30 |    |      |  |                                     |
|   | OZ-    | 15 | A2 |      |  | Metal casing grounding              |

| CN2                              | Pin No. | Signal name |
|----------------------------------|---------|-------------|
| Motor encoder Connector 1394-10P | 1       | SD+         |
|                                  | 2       | SD-         |
|                                  | 3       | -           |
|                                  | 4       | -           |
|                                  | 5       | VCC         |
|                                  | 6       | GND         |

| SV2 model | Power supply voltage | Max. current/A | Rated power supply/A |
|-----------|----------------------|----------------|----------------------|
| SV2-ES2R8 | AC220                | 9              | 2.8                  |
| SV2-ES3R5 | AC220                | 12             | 3.5                  |
| SV2-ES7R6 | AC220                | 18             | 7.6                  |
| SV2-ET014 | AC380                | 32             | 14                   |
| SV2-ET018 | AC380                | 42             | 18.5                 |

### Naming rules for selection:



SV 2-E S 3R5 -XX

- ⑤ Customized function: D: Dual ECT chip
- ④ Rated current: 2R8:2.8A, 3R5: 3.5A, 7R6:7.6A, 9R6:9.6A, 012:12A, etc
- ③ Voltage level: S: single-phase 220V T three-phase 380V
- ② Communication method: E:EtherCAT
- ① Series: SV2 Series

Servo model SM2 definition - Motor:



Naming rules for selection:

SM2 - DB 80 - 024 30 - A7 - A B

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

| ①   | With driver series |
|-----|--------------------|
| SM2 | With SV2 motor     |

| ④   | Rated torque (* 0.1N. m) |
|-----|--------------------------|
| 024 | Rated torque2.4N.m       |

| ⑤  | Rated speed RPM |
|----|-----------------|
| 30 | 3000            |
| 20 | 2000            |
| 10 | 1000            |

| ⑧     | Type of band brake |
|-------|--------------------|
| B     | With band brake    |
| Blank | Without band brake |

| ②   | Motor type                                |
|-----|---|
| DN  | DN series 220VAC motor (4 pairs of poles) |
| DB  | DB series 220VAC motor (5 pairs of poles) |
| DHN | DN series 380VAC motor (4 pairs of poles) |
| DHB | DB series 380VAC motor (5 pairs of poles) |

| ⑥  | Encoder resolution                        |
|----|---|
| I2 | 2500 line incremental encoder             |
| A1 | Multi turn absolute value 17 bit encoder  |
| A7 | Single turn absolute value 21 bit encoder |
| B4 | Multi turn absolute value 23 bit encoder  |

| ③   | Flange |
|-----|--------|
| 40  | 40mm   |
| 60  | 60mm   |
| 80  | 80mm   |
| 110 | 110mm  |
| 130 | 130mm  |
| 150 | 150mm  |
| 180 | 180mm  |

| ⑦  | Type of plug              |
|----|---------------------------|
| A  | Amp plug                  |
| H  | Aviation plug             |
| HZ | Aviation direct insertion |

Servo SV3 model definition - Cost effective driver:

EtherCAT

Pulse

SV3S - E S 3R5

① ② ③ ④

① Series

SV3 series standard model

② Communication method

E:EtherCAT

P:Pulse

③ Voltage level

S:Single-phase 220V

T:Three-phase 380V

U:Three-phase 220V

④ Rated current

1R6 1.6A

2R8 2.8A

5R5 5.5A

7R6 7.6A

012 012A

014 14A

Rated power

200w

400w

750w

1kw

1.5kw

2kw

Note: Model 012 and 014 support single-phase/three-phase 220V and will be launched soon.

Servo SV3 model definition - High performance driver:

EtherCAT

Modbus

PROFINET

Pulse

CANopen

SV3H - E S 3R5 - S C

① ② ③ ④ ⑤ ⑥

① Product series No.

SV3H:  
SV3 series high-performance servo

③ Drive motor type

S: Single-phase/  
Three-phase 220V

U: Three-phase 220V

T: Three-phase 380V

⑤ Safety functions

Empty: Standard machine

S: Safety function (STO)\*  
\*CANopen, RS485 models do not support optional STO

② Instruction type

P: Pulse instruction

E: EtherCAT

R: RS485

C: CANopen

F: PROFINET

⑥ Optional funtions

Empty: Standard machine

C: Full close-loop

G: Qantry machine

A: Analog quantity interface \*

\*Options for CANopen and RS485 models

④ Rated output

Single-phase/-  
three-phase 220V models

1R6 2R8 5R5 7R6 012 014\*

Rated current 1.6A 2.8A 5.5A 7.6A 11.6A 14.0A

Rated power 200W 400W 750W 1kW 1.5kW 2kW

Three-phase 220V model 018\* 022\* 027\*

Rated current 18.0A 22.0A 27.0A

Rated power 4kW 4.5kW 5.5kW

380V model 3R5 5R4 8R4 012 017 021 026

Rated current 3.5A 5.4A 8.4A 11.9A 16.5A 20.8A 26.0A

Rated power 1kW 1.5kW 2kW 3kW 5kW 6kW 7.5kW

Note: Models 5014, U018, U022, and U027 are to be launched soon.

SM3-M2 model definition - Motor:

SM 3-M2 H 080 - S 75B 30C - M C 1 N 1

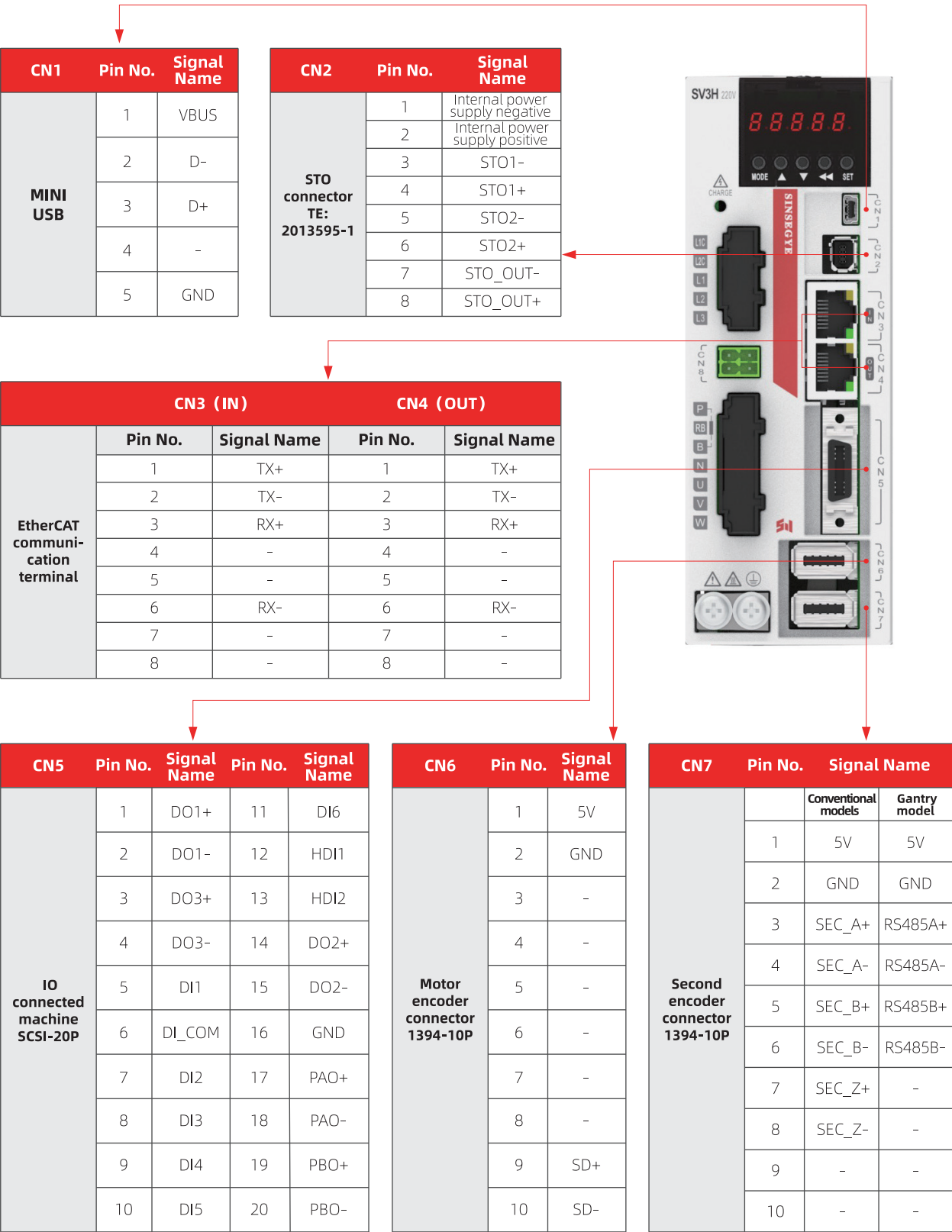
| ① Product series                        | ② Inertia capacity                   | ③ Motor flange           |                          | ④ Rated voltage |            |
|---|--------------------------------------|--------------------------|--------------------------|-----------------|------------|
| SM3-M2:<br>SM3-M2 series<br>Servo motor | A: Low inertia                       | 040: 40 Flange           | 060: 60 Flange           | S: AC 220V      |            |
|   | M: Medium inertia                    | 080: 80 Flange           | 130: 130 Flange          | T: AC 380V      |            |
|   | H: High inertia                      | 180: 180 Flange          |                          |                 |            |
| ⑤ Rated power                           |                                      |                          |                          | ⑥ Rated speed   |            |
| 10B: 100W                               | 75B: 750W                            | 10C: 1.0kW               | 15C: 1.5kW               | 22C: 2.2kW      | 44C: 4.4kW |
| 20B: 200W                               | 80B: 800W                            | 12C: 1.2kW               | 18C: 1.8kW               | 29C: 2.9kW      | 55C: 5.5kW |
| 40B: 400W                               | 85B: 850W                            | 13C: 1.3kW               | 20C: 2.0kW               | 30C: 3.0kW      | 75C: 7.5kW |
| ⑦ Encoder type                          |                                      | ⑧ Interface type         | ⑨ Axis connection method | ⑩ Brakes        | ⑪ Oil seal |
| M: 17bit single ring absolute value     | N: 17bit multi rings absolute value  | C: Wire type             | 0: Optical axis          | N: NA           | 0: NA      |
| O: 23 bit single ring absolute value    | P: 23 bit multi rings absolute value | H: Aerial insertion type | 1: With keys             | B: Yes          | 1: Yes     |

SM3-M3 model definition - motor:

SM 3-M3 H 080 - S 75B 30C - M T 1 N 1

| ① Product series                        | ② Inertia capacity                      | ③ Drive motor type                   | ④ Rated voltage          | ⑤ Rated power |            | ⑥ RPM        |
|---|---|--------------------------------------|--------------------------|---------------|------------|--------------|
| SM3-M3:<br>SM3-M3 series<br>Servo Motor | A: Low inertia                          | S: Single-phase/<br>Three-phase 220V | S: AC 220V               | 10B: 100W     | 20B: 200W  | 30C: 3000RPM |
|   | M: Medium inertia                       | U: Three-phase 220V                  |                          | 40B: 400W     | 75B: 750W  |              |
|   | H: High inertia                         | T: Three-phase 380V                  |                          | 10C: 1000W    |            |              |
|   |   |                                      |                          |               |            |              |
| ⑦ Encoder type                          |   | ⑧ Interface type                     | ⑨ Axis connection method | ⑩ Brake       | ⑪ Oil seal |              |
| M: 17bit single ring<br>absolute value  | N: 17bit multi rings<br>absolute value  | T: Terminal type                     | 0: Optical axis          | N: NA         | 0: NA      |              |
| O: 23 bit single ring<br>absolute value | P: 23 bit multi rings<br>absolute value |                                      | 1: With keys             | B: Yes        | 1: Yes     |              |

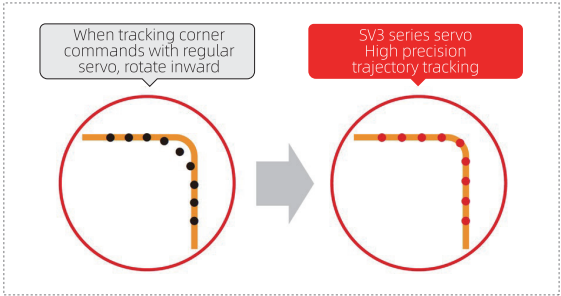
Servo SV3 pin definition - Driver:





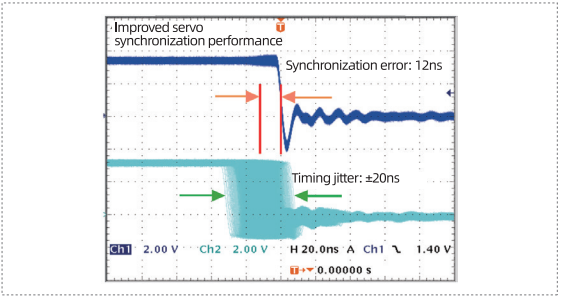
Product advantages: 1.High precision

Build in high-precision trajectory tracking algorithm with high dynamic response, greatly improving trajectory tracking performance; Support a 17bit-23bit single/multi turn absolute encoder, significantly improving device positioning accuracy.



Product advantages: 2.High synchronization

High synchronization characteristics, have a distributed clock module, timing jitter at sub-microsecond, jitter error within 1μs, and meets the needs of multiple on-site multi axis synchronous control.



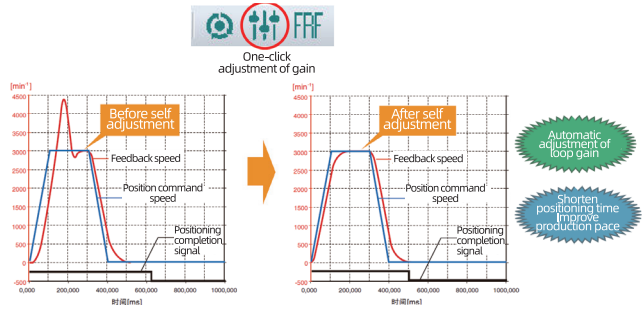
Product advantages: 3.Refresh performance

Adopt new ARM+FPGA architecture, lower control delay, the current loop response bandwidth is as high as 3kHz, the instruction follows faster, and the position setting time is effectively shortened. High speed, high precision, and high efficiency, maximizing the performance of mechanical equipment.

| Specifications          | Refresh frequency |
|-------------------------|-------------------|
| Carrier frequency       | 8kHz              |
| Current loop frequency  | 16kHz             |
| Speed loop frequency    | 16kHz             |
| Position loop frequency | 4kHz              |

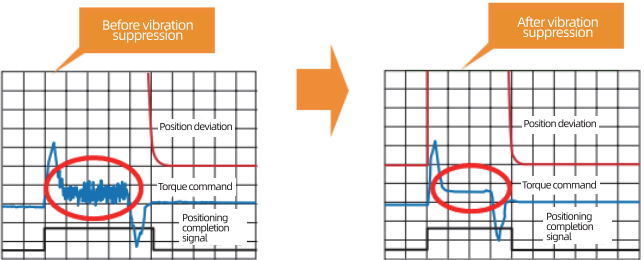
Product advantages: 4.Gain self-adjustment

Equipped with two automatic tuning loop parameter functions of "single parameter" and "self adjustment", it greatly shortens the servo debugging time and significantly improves usability.



Product advantages: 5.Enhanced vibration suppression


Have enhanced vibration suppression function, equipped with four resonance suppression filters, second-order torque low-pass filters, input shaping filters, and position notch filters, solving vibration problems in various frequency bands of low frequency, medium frequency, and high frequency.




Applicable industries and equipments:

It has two major characteristics of universality and platformization, support communication such as RS485, CANopen, EtherCAT and PROFINET, with a power range ranging from 0.1 to 7.5kw. Suitable for industries such as lithium batteries, semiconductors, packaging, printing, steel, textiles, and filling.


Applicable equipment




Tower sorting machine



Coating machine


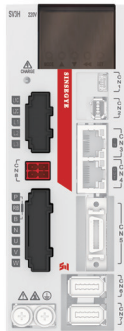


Printing machine



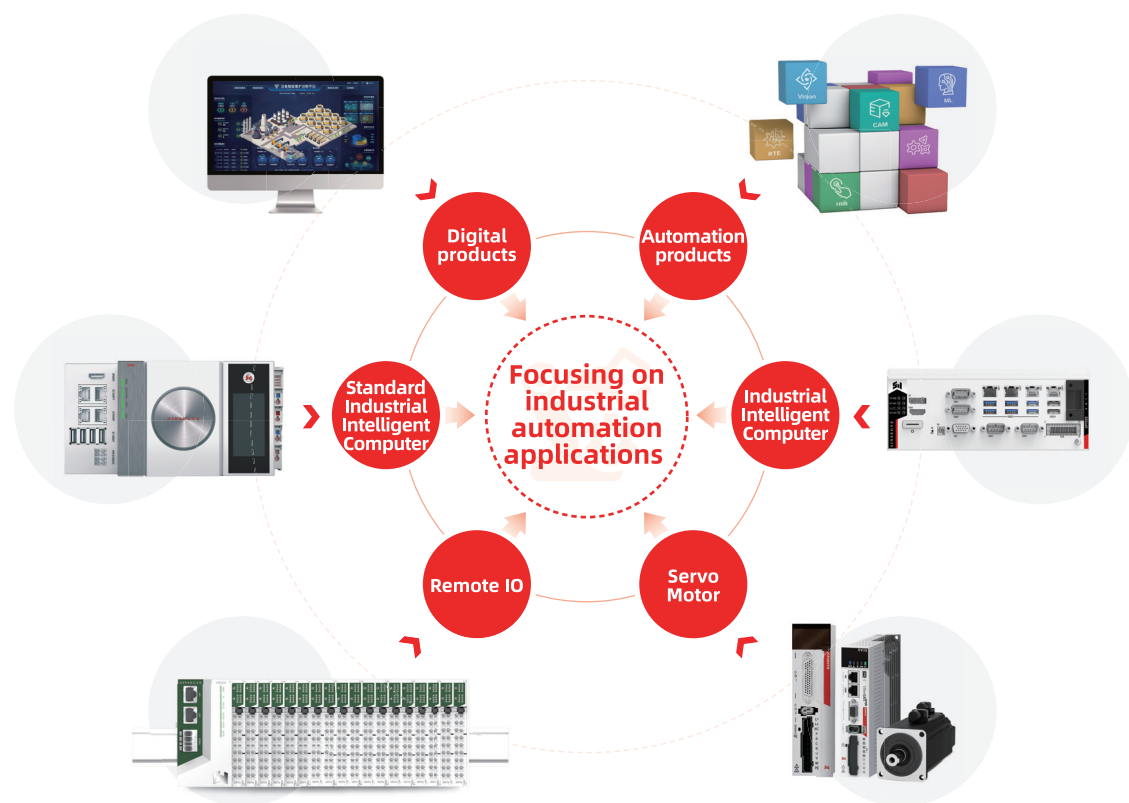
Horizontal packaging machine

Comparison of servo SV:

| Sinsegve Servo   | Basic parameters   | Communication protocol   | Basic functions  | Application functions  | Software function  | Features  |
|--|--|--|--|--|--|---|
| <br>SV2  | Encoder accuracy 23bit<br>Basic power 100w-7.5kw                     | EtherCAT   | <ul style="list-style-type: none"><li>✗ Dynamic braking</li><li>✗ Weak magnetic function</li><li>✗ Feedforward gain adjustment</li><li>✗ Notch filter</li><li>✗ Inertia recognition</li><li>✗ Automatic gain adjustment</li><li>✓ Position filtering</li><li>✗ Second encoder</li></ul>        | <ul style="list-style-type: none"><li>✓ Dual probes</li><li>✗ Safe STO</li><li>✗ Second encoder</li><li>✓ Analog encoder output</li></ul>  | To be released   | <b>Affordable</b>   |
| <br>SV3 | Encoder accuracy 23bit<br>SV3S power 50w-2kw<br>SV3H model 50w-7.5kw | Pulse Input<br>EtherCAT<br>CANopen (SV3H optional)<br>Modbus (SV3H optional)<br>PROFINET (SV3H optional) | <ul style="list-style-type: none"><li>✓ Dynamic braking</li><li>✓ Weak magnetic function</li><li>✓ Feedforward gain adjustment</li><li>✓ Notch filter</li><li>✓ Inertia recognition</li><li>✓ Automatic gain adjustment</li><li>✓ Position filtering</li><li>✓ <b>Second encoder</b></li></ul> | <ul style="list-style-type: none"><li>✓ Dual probes</li><li>✓ Safety STO (Optional for high end product)</li><li>✓ <b>Second encoder (Optional for high end product)</b></li><li>✓ Analog encoder output</li></ul> | Driver parameter management (Backup)<br>Parameter monitoring and collection<br>One click self-tuning<br>Bode plot collection | Rich communication protocols, wide industry use, convenient servo debugging |

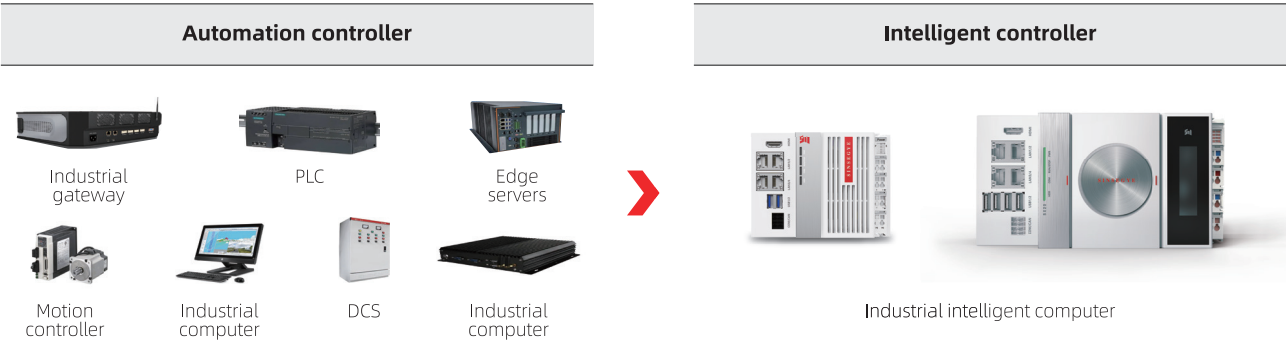
# Automation

MetaOS MetaFacture



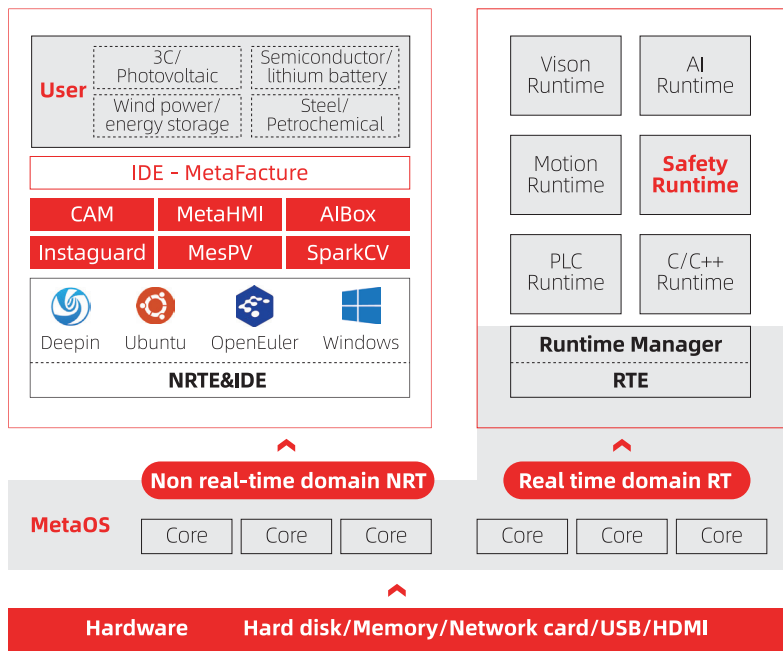
## Technical concept: Based on PC and software definition

- **Based on PC and software definition - Industrial Automation**  
Enable traditional automation control equipment (PLC) computable and intelligent, make traditional automated production equipment intellectualized.
- **Industrial intelligent computer**  
It will replace the traditional PLC, industrial computer, controller, industrial gateway, edge computing server and other control equipment to become the core controller of future industrial automation integrated with computing and control.



## Automation product series:

- **SOxxxx**  
Operating system, real-time core, virtualization, task scheduling, priority
- **SFxxxx**  
Various extension function plugins: Backup communication functions, data-base interfaces, and motion control
- **SExxxx**  
Development environment, programming environment, debugging environment, diagnostic tools  
Configuration mode/PLC expert mode/SDK expert mode
- **STxxxx**  
Engineering templates and software frameworks  
Laser industry, plastic machine industry, energy industry
- **SDxxxx**  
DCS systems in the process industry and steel industry

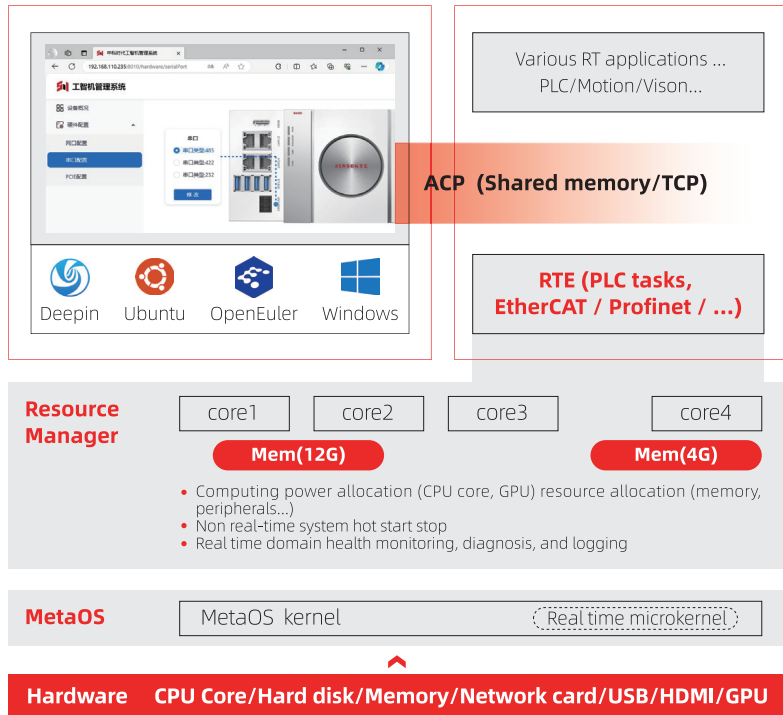


## Automation product series - SOxxxx MetaOS

- **SOxxxx**
  - SO1xxx MetaOS
  - SO2xxx MetaOS + RTE + Windows
  - SO3xxx MetaOS + RTE + OpenEuler
  - SO4xxx MetaOS + RTE + Deepin

## Advantages:

- High computing power, hard real-time, multitasking, low jitter
- Hybrid kernel dual domain isolation, non interference between NRT and RT
- Support multiple desktop ecosystems
- Flexible allocation of real-time and non-real time domain resources





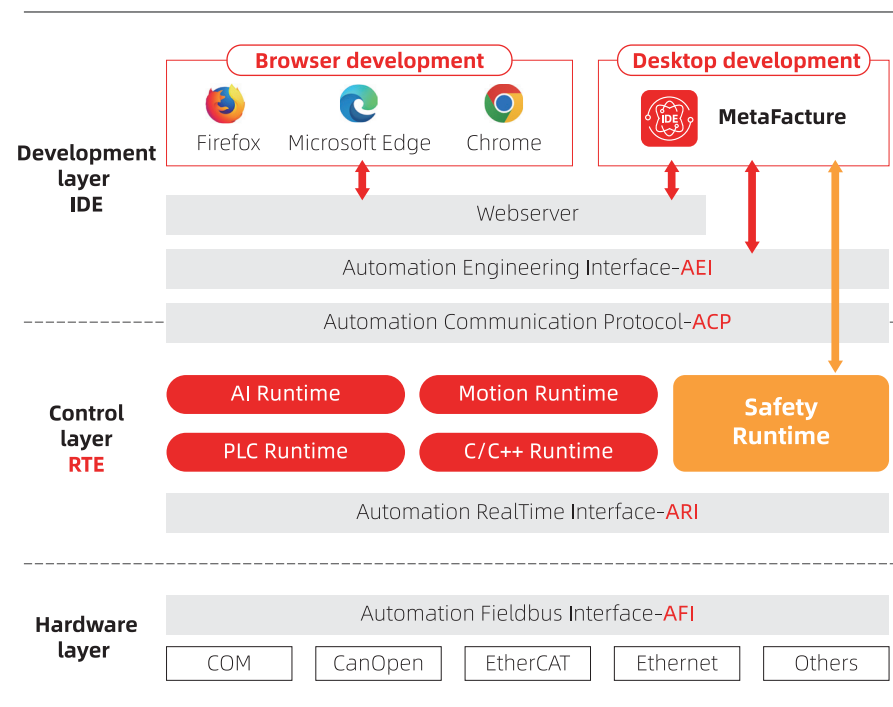
## Automation Product Series - SFxxxx

### SFxxxx

- SF1xxx basic functions
- SF2xxx vision, machine learning
- SF3xxx HMI human-machine interaction
- SF4xxx extended function products
- SF50/51xx Motion control
- SF6xxx SIL3 Safety

### Advantages:

- Open and unified interface
- Modular design concept
- Cross platform applications
- IT technology integration



## Automation Product Series - STxxxx

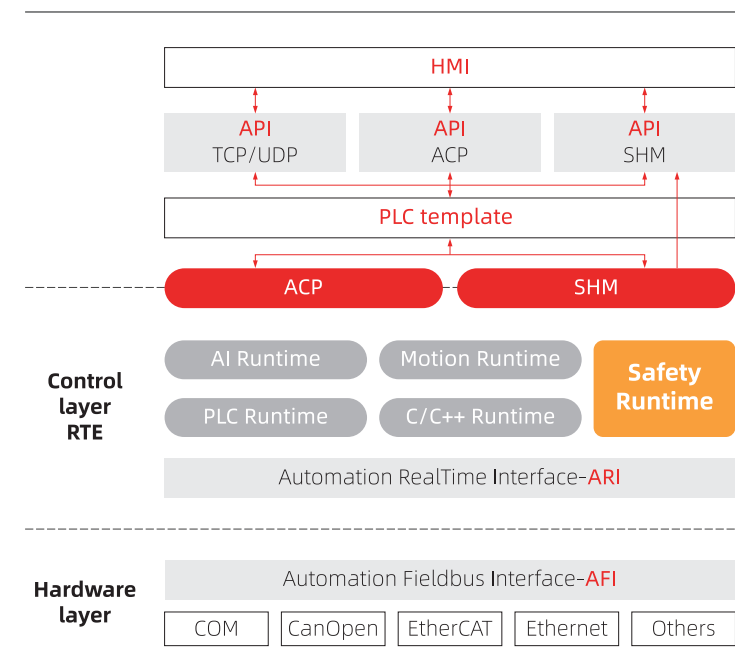
### STxxxx

#### STxxxx engineering template

- ST1xxx basic engineering template
- ST2xxx soft board card (3C, Photovoltaic, Semiconductor)
- ST3xxx laser (cutting, marking, welding)
- ST4xxx energy (wind power, energy storage, wind farm)
- ST5xxx packaging (lithium battery, food and beverage, production line)
- ST6xxx tertiary industry (stage, entertainment)

### Advantages:

- Standards for key industries and key equipment control applications programming framework
- Default integration of basic function plugins such as PLC, Motion, HMI, and communication
- Default integrated key functions such as fault alarm, log, data presentation, and report forms
- Using this framework can reduce the R&D time cycle for both old and new models of customers



## Digital series products - SDxxxx

## Automation Product Series - SExxxx

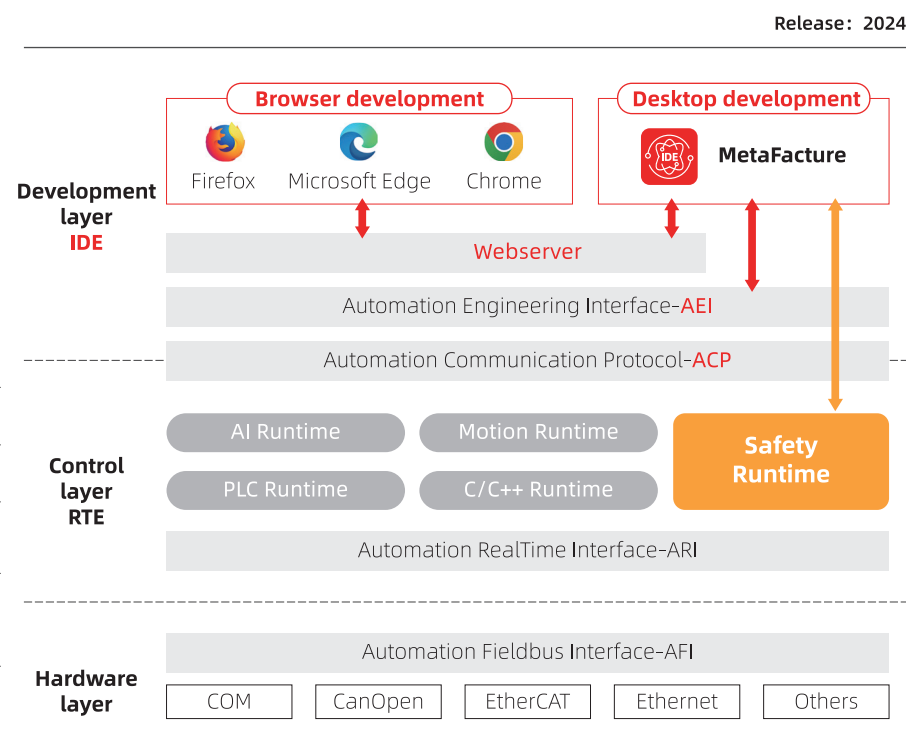
### SExxxx

#### SExxxx development environment

- SE1xxx basic development toolkit
- SE2xxx AI development toolkit
- SE4xxx plugin development toolkit
- SE5xxx Motion development toolkit
- SE6xxx Safety development toolkit
- SE8xxx Device Manager toolkit

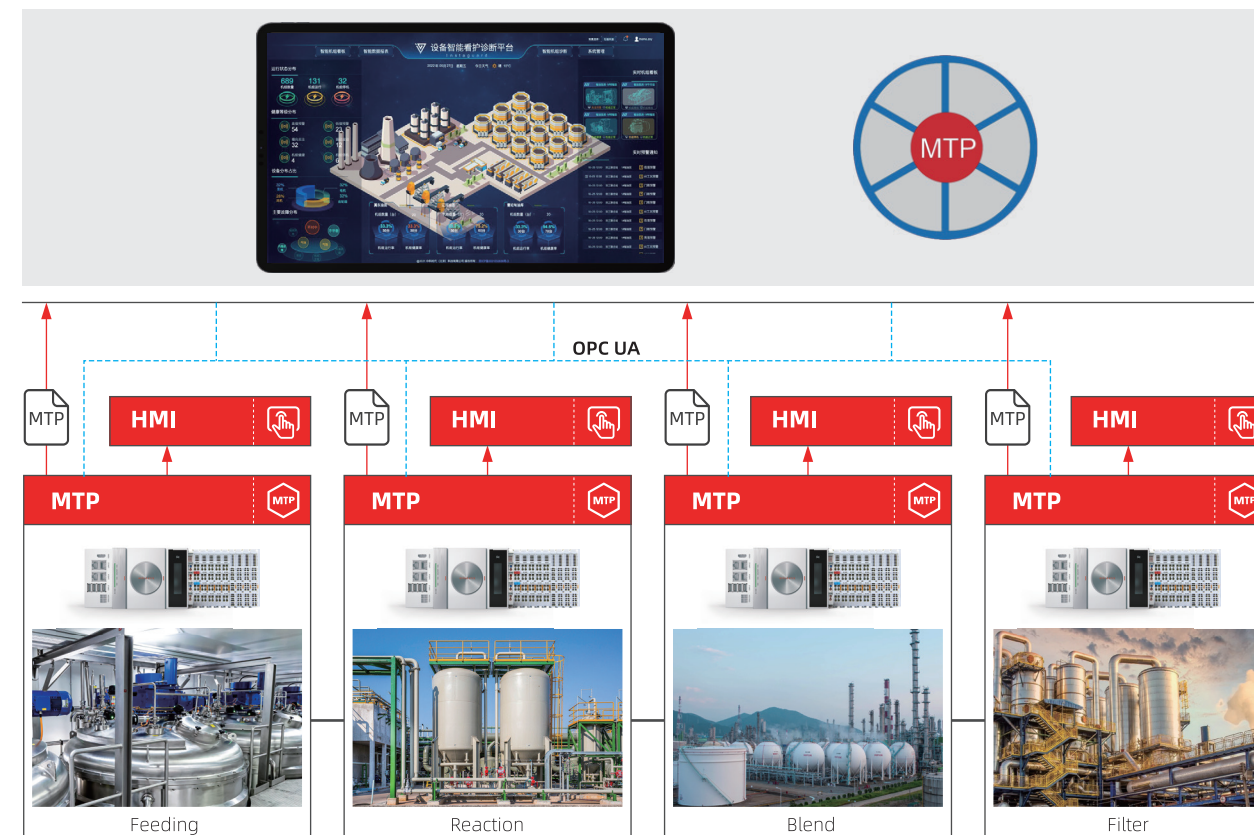
### Advantages:

- Unified, unique, and complete project development toolkit
- Integrate and complete PLC programming and debugging functions
- Integrate complete C/C++ programming and debugging functions
- Integrate Motion function to meet the development needs of various motion control projects
- Integrate AI function to meet customer needs for artificial intelligence and industrial machine learning project development
- Integrate low code and automatic code generation functions to reduce development workload and improve development efficiency



Release: 2024

### Distributed Control System Visualization

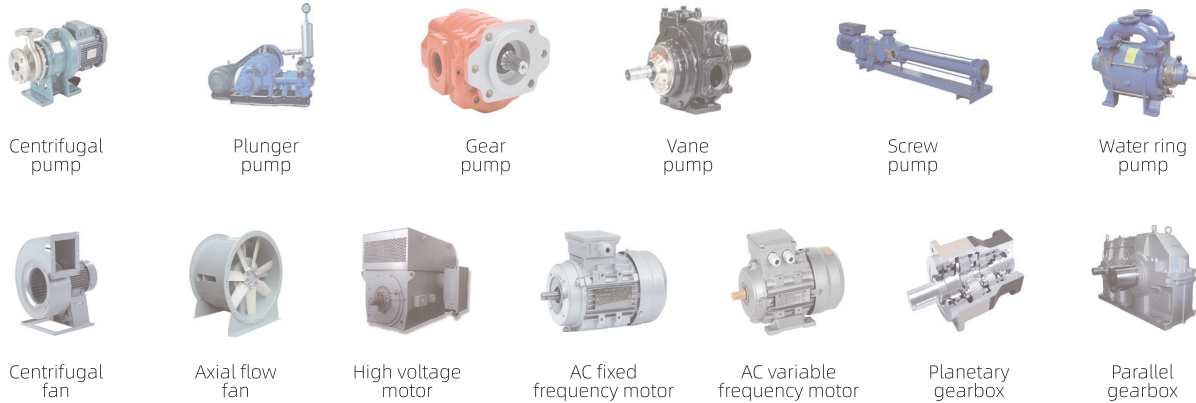


## Instaguard

Equipment intelligent care diagnosis system



Application devices



Perception

Determine

Decision-making

Implement

### Application area



Diversified control modules

Real time judgment of working conditions

Real time monitoring and analysis

Dynamic adjustment of strategies



Automation control  
Real time monitoring



Safety production  
Quality and quantity guaranteed



Energy saving and consumption reduction  
Cost reduction



Cost reduction



Improve efficiency



Improve quality

## MesPV

Process optimization system for polycrystalline silicon reduction furnace



1

### Monitoring configuration

Algorithm management  
Camera management  
Monitoring settings  
Control tasks  
Personnel management

2

### Real time monitoring

Real time monitoring  
Control task  
Event statistics  
Video switching

3

### Event alarm

Alarm log  
Event recognition  
Result Review  
Label settings

4

### Statistical large screen

Camera  
Platform algorithm  
Usage  
Recent events  
Real-time video

## SparkCV

Visual intelligent care system



SX series

SP series

SRE series

SRR series

SC series

SV series

Automation

Automation product line:

| Product Description |                             |  |
|---------------------|-----------------------------|--|
| SO series           | SO1xxx MetaOS Basic         | MetaOS (Linux kernel without desktop)<br>MetaOS+RTE (Linux kernel without desktop)<br>MetaOS+Deepin desktop system<br>MetaOS+Ubutun desktop system   |
|                     | SO2xxx MetaOS + Windows     | MetaOS+Windows desktop system Win7_x86 embedded version<br>MetaOS+Windows desktop system Win7_x86 professional version<br>MetaOS+Windows desktop system Win7_x86 flagship version<br>MetaOS+Windows desktop system Win7_x64 embedded version<br>MetaOS+Windows desktop system Win7_x64 professional version<br>MetaOS+Windows desktop system Win7_x64 flagship version<br>MetaOS+Windows desktop system Win10_x86 embedded version<br>MetaOS+Windows desktop system Win10_x86 professional version<br>MetaOS+Windows desktop system Win10_x86 flagship version<br>MetaOS+Windows desktop system Win10_x86 Server version<br>MetaOS+Windows desktop system Win10_x64 embedded version<br>MetaOS+Windows desktop system Win10_x64 professional version<br>MetaOS+Windows desktop system Win10_x64 flagship version<br>MetaOS+Windows desktop system Win10_x64 Server version<br>MetaOS+Windows desktop system Win11_x64 IOT version<br>MetaOS+Windows desktop system Win11_x64 professional version<br>MetaOS+Windows desktop system Win11_x64 enterprise version<br>MetaOS+Windows desktop system Win11_x64 Workstation version |
|                     | SO3xx MetaOS + OpenEuler    | MetaOS (New System Extension)  |
|                     | SO8xxx MetaOS + Dual system | MetaOS (Ubutun desktop system+Windows desktop system+RTE)<br>MetaOS (OpenEulor desktop system+Windows desktop system+RTE)<br>MetaOS (Ubutun desktop system+Windows desktop system+RTE)<br>MetaOS (Ubutun desktop system+Windows desktop system+RTE)  |
|                     | Product Description         |  |
| SF series (RTE)     | SF1xxx Base Runtime         | When the IO module is running, CAN and Devicenet<br>PLC runtime<br>C/C++at the time of operating<br>Module generated by MATLAB*/Simulink®<br>PLC runtime, C/C++runtime<br>C/C++at the time of operating, module generated by MATLAB*/Simulink®<br>Redundancy of therCAT cables generated by PLC runtime, C/C++runtime, MATLAB*/Simulink® modules<br>Air brake redundancy<br>Scope data oscilloscope local data storage<br>Scope data oscilloscope TCP communication remote storage<br>Scope data oscilloscope IOT remote storage   |
|                     | SF2xxx AI Runtime           | Time series operators (time domain, frequency domain)<br>Vision Visual Signal Processing USB, TCP Hardware Driver Layer<br>Vision Visual Signal Processing GigE Hardware Driver Layer<br>Vision Basic Operators<br>Machine learning real-time inference engine - discrete process data<br>Machine Learning Real time Inference Engine - Time Series Process Data<br>Machine Learning Real time Reasoning Engine - Image Data<br>Machine learning non real-time inference - discrete process data<br>Machine Learning Non Real Time Inference - Time Series Process Data<br>Machine Learning Non Real Time Inference - Image Data<br>Text to speech function plugin   |
|                     | SF3xxx HMI Runtime          | HMI Basic Product C/S Rack Core<br>HMI Basic Product B/S Architecture<br>HMI plugin products OPC UA communication plugin<br>HMI plugin products IOT MQTT communication plugin<br>HMI plugin product user management<br>HMI plugin product formula<br>HMI plugin product alarm<br>Touch screen hardware device via HDMI and USB interface   |

| SF series (RTE)     | SF4xxx Functions Runtime | ACP communication protocol plugin TCP mode<br>ACP communication protocol plugin UDP mode, Pub/Sub<br>Modbus communication plugin Modbus RTU, COM, ASCII<br>Modbus communication plugin Modbus TCP<br>Ethernet communication plugin TCP/IP/UDP<br>Ethernet communication plugin FTP protocol (Client/Server)<br>Ethernet communication plugin IOT MQTT protocol<br>Ethernet communication plugin HTTP/Rest protocol<br>OPCUA communication plugin OPC UA (TCP) (Client/Server)<br>OPCUA communication plugin OPC UA (UDP) Pub/Sub<br>Database communication plugin XML Database Serve<br>Database communication plugin OLE Database Server<br>IEC61850 Power Communication Protocol<br>Json processing |
|---------------------|--------------------------|---|
|                     | SF50xx SoftMotion        | Basic motion control SM3_Basic<br>CNC function SM3_CNC<br>Axis group functionality SM3_Robotics   |
|                     | SF51xx NcCore            | NC PTP, support up to 10 axes<br>NC PTP, support up to 25 axes<br>NC PTP, support up to 255 axes<br>NC Camming, electronic cam<br>Flying Saw<br>NC Axes Coupling, FIFO position following<br>Surface compensation motion NCI<br>Kinematic transformation, model level 1<br>Kinematic transformation, model level 2<br>Kinematic transformation, model level 3<br>Kinematic transformation, model level 4<br>Robot<br>CNC<br>Hydraulic control<br>PID and signal processing<br>Packaging Industry Specification PackML Library   |
|                     | SF6xxx Safety            | Safety function block   |
|                     | SF80xx Device Manager    | Industrial and intelligent equipment management tools   |
| Product Description |                          |   |
| SE series (IDE)     | SE1xxx Base Engineering  | The development environment supports PLC programming and debugging, and supports C/C++high-level language programming<br>Environmental redundancy and hot standby redundancy development toolkit<br>Development toolkit for data recording and waveform display<br>Matlab algorithm integration Matlab Simulink Interface (ACP)<br>Matlab algorithm integration Simulink runtime<br>Matlab algorithm integration Matlab S-Function<br>Matlab algorithm integration FMI<br>EPLAN and other electrical drawing software related development toolkits<br>Mechanical Integration Solidworks Interface<br>Mechanical Integration Inventor Interface<br>Mechanical integration NX-MCD interface             |
|                     | SE2xxx AI                | Machine vision development toolkit<br>Machine learning development toolkit, including real-time and non real-time inference, etc  |
|                     | SE3xxx HMI               | HMI development tool, supporting B/S, C/S architecture, and template based engineering creation   |
|                     | SE4xxx Functions         | ACP protocol packet capture and analysis tool<br>Modbus RTU/TCP communication configuration tool<br>TCP/IP TCP/UDP and other communication configuration tools<br>OPC UA Communication Protocol Configuration Tool<br>Database Access Configuration Tool  |
|                     | SE50xx SoftMotion        | Development tools for motion control (positioning, cam, interpolation, etc.)  |
|                     | SE51xx NcCore            | NC core (soft motion control board) development tool  |

SX series

SP series

SRE series

SRR series

SC series

SV series

Automation

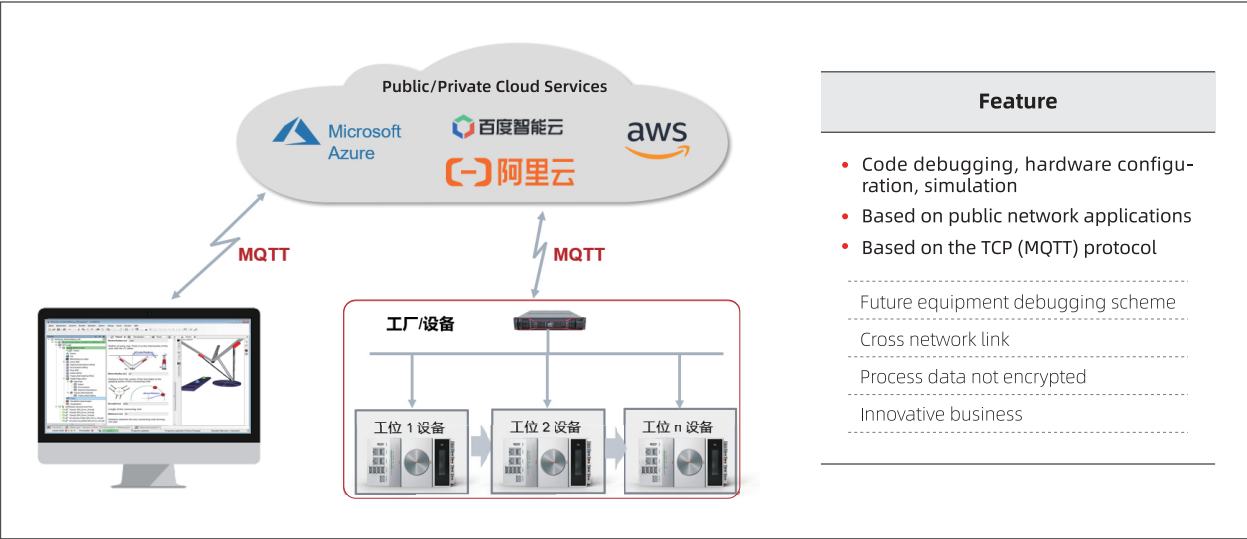


Automation product line:

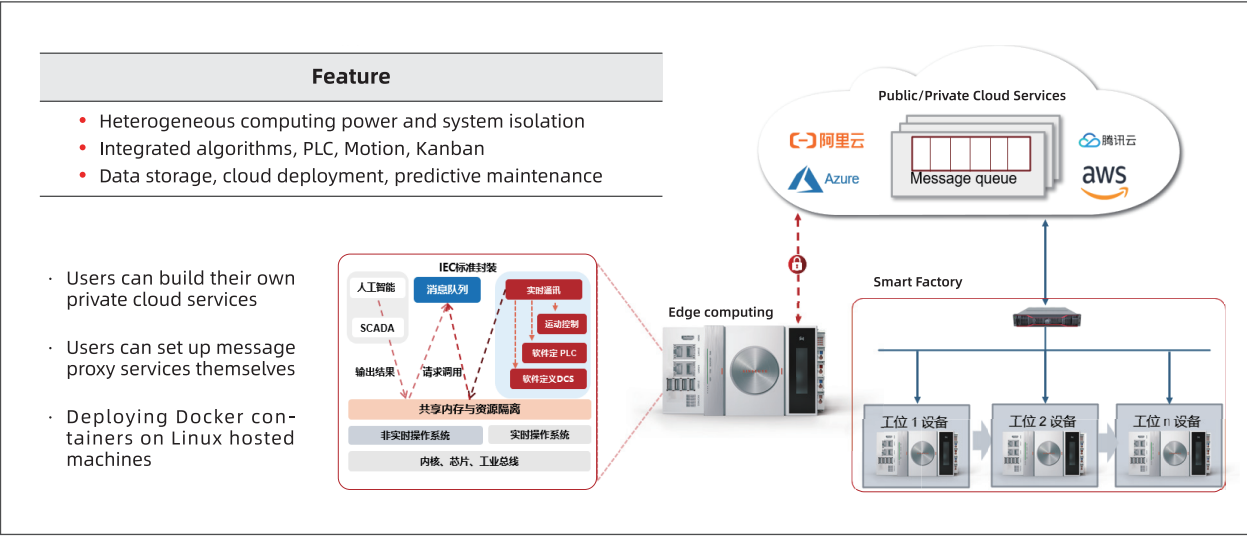
|                               |                             |  |
|-------------------------------|-----------------------------|--|
| SE series<br>(IDE)            | SE6xxx Safety               | Security feature development tools   |
|                               | SE8xxx Target Manager       | Auxiliary Service Tool Collection Package  |
| Product Description           |                             |  |
| ST series<br>(Template)       | ST10xx Basic Skill Template | IO module management template<br>Log management engineering template<br>Formula management engineering template<br>Alarm engineering template<br>High speed IO management engineering template<br>Linear tension control library template<br>Winder control winding control library template<br>Traversing control cable control library template<br>Rotate knife circular knife control library template<br>Flying saw flying shear control library template<br>Printing axis printing axis control library template<br>Register control color adjustment library template<br>CamTool Cam application library template<br>Handwheel control management engineering template<br>2D CAM<br>3D CAM<br>Soft board UDP communication method (SoftMotion)<br>Soft board PLCHandler communication method (SoftMotion)<br>Soft board ACP communication method (SoftMotion)<br>Soft Motion, a shared memory communication method for soft board cards<br>Soft board PLCHandler communication method (NcCore)<br>Soft board ACP communication method (NcCore)<br>Soft board OPC UA communication method (NcCore)<br>Soft ware board shared memory communication method (NcCore) |
|                               | ST20xx 3C                   | Standard templates for robot communication, visual upper computer communication, and RFID communication<br>Template for device state machine and OEE data statistics function<br>HMI device template<br>Device handshake signal and product information transmission final shift<br>Template for device state machine and OEE data statistics function<br>HMI line template<br>2D camera flying shooting function module<br>Device state machine and signal triggering logic   |
|                               | ST30xx Laser                | Laser marking, QR code marking, mes communication<br>Infinite dimensions, mirror control with XY axis control<br>Special marking requirements such as laser cleaning<br>Flat laser welding system<br>3D laser welding system<br>Robot laser welding system<br>XY platform laser cutting<br>Double drive gantry laser cutting damage<br>Multi axis and multi laser head cutting<br>Robot laser cutting system<br>Automation+Laser   |
|                               | ST40xx wind from            | PLC engineering template<br>HMI engineering template<br>Operations and maintenance tools   |
|                               | ST50xx precision machining  | PLC engineering template (gantry control)<br>HMI engineering template  |
| Product Description           |                             |  |
| Digitization<br>SD Series+DCS | SD1xxx DCS Runtime          | -  |
|                               | SD2xxx DCS IDE              | -  |
|                               | Instaguard                  | <ul style="list-style-type: none"><li>Predictive maintenance of equipment<br/>Keeping pace with well-known enterprises such as Bohua, Y-Link and Ronds, we aim to create intelligent diagnostic products for pure AI devices without human intervention</li><li>Discrete Industry Equipment Management<br/>A small and precise equipment management and fault diagnosis platform for discrete equipment management in different industries and scenarios</li></ul>   |

|                                    |         |   |
|------------------------------------|---------|---|
| SD series<br>Digitization +<br>DCS | MesPV   | Optimization system for polycrystalline silicon reduction furnace, integrating vision, optimizing polycrystalline silicon production process, benchmarking Xinjing and DCS systems, fully demonstrating the advantages of integrated computing and control products   |
|                                    | SparkCV | Visual intelligent recognition system (Sino foreign logistics), an intelligent recognition system for the transportation of factory goods, mainly competing with e-commerce intelligent warehousing platform based visual intelligent recognition systems (security), aimed at viewing people and objects, achieving visual intelligent recognition. There are many competitors |

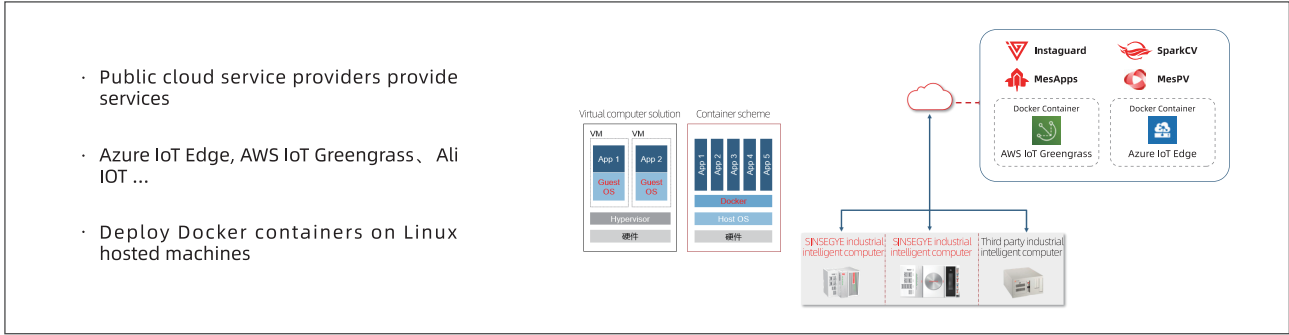
Scenarios: 1.Equipment development and debugging - integrating IOT debugging technology



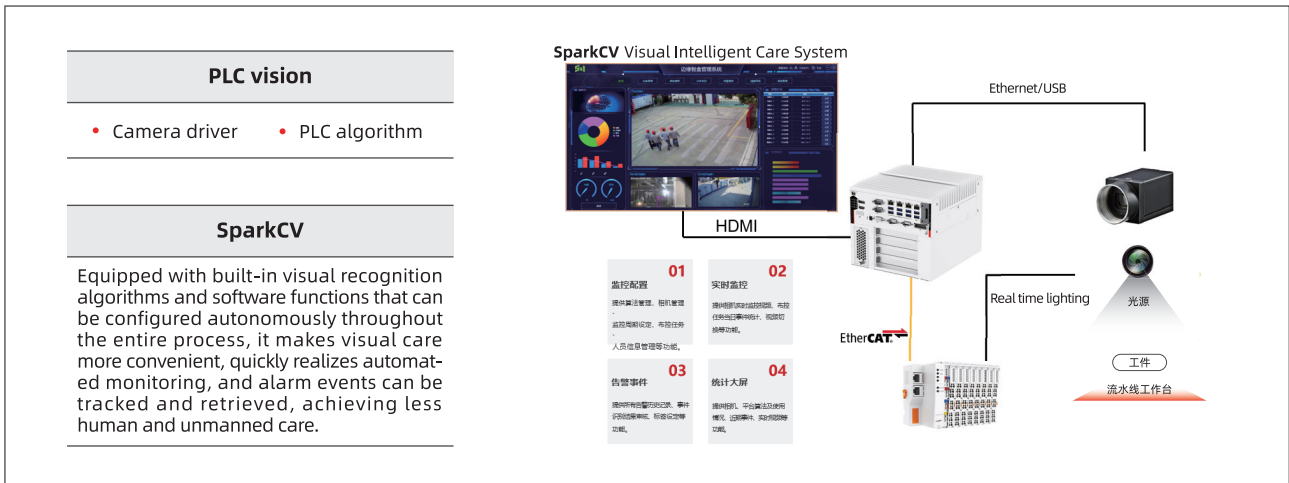
Scenarios: 2.Edge computing



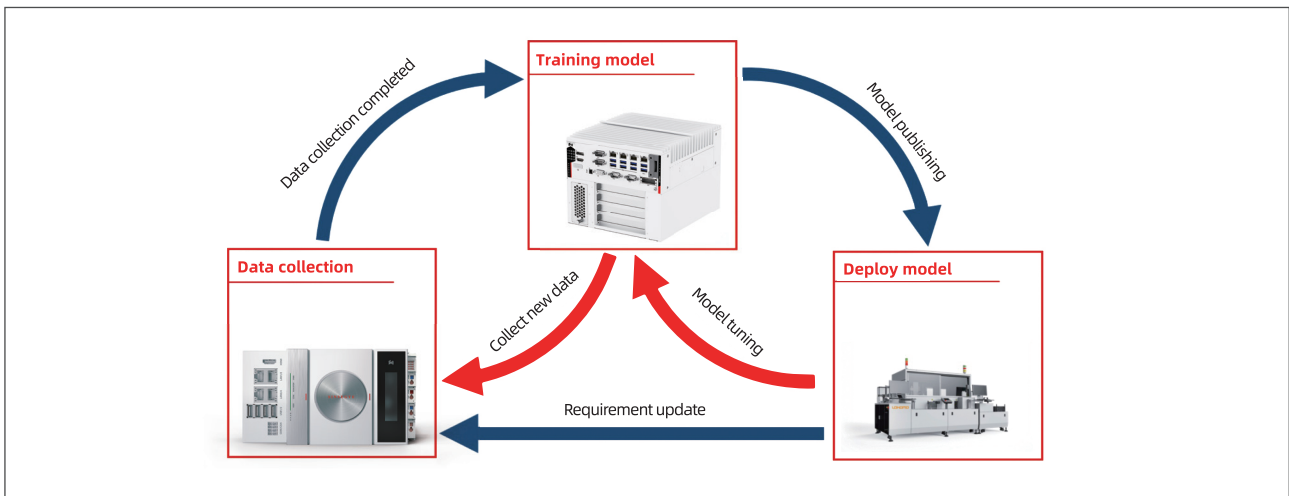
Scenarios: 3.Cloud computing



Scenarios: 4.Machine vision

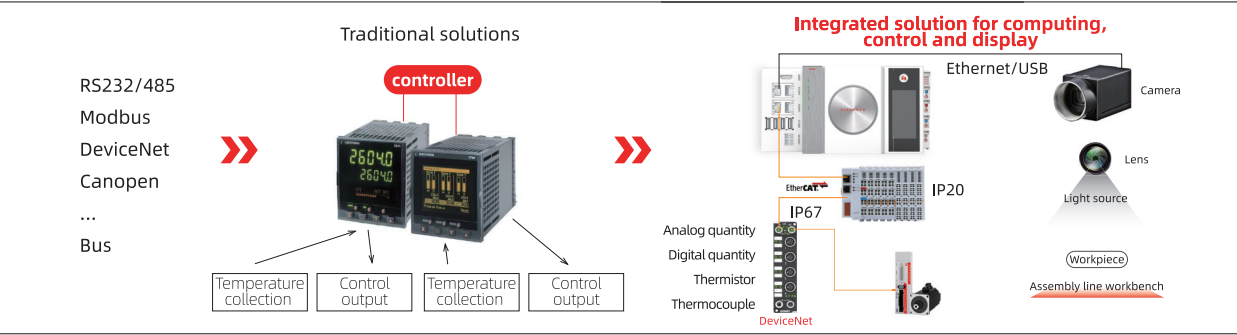


Scenarios: 5.Machine learning

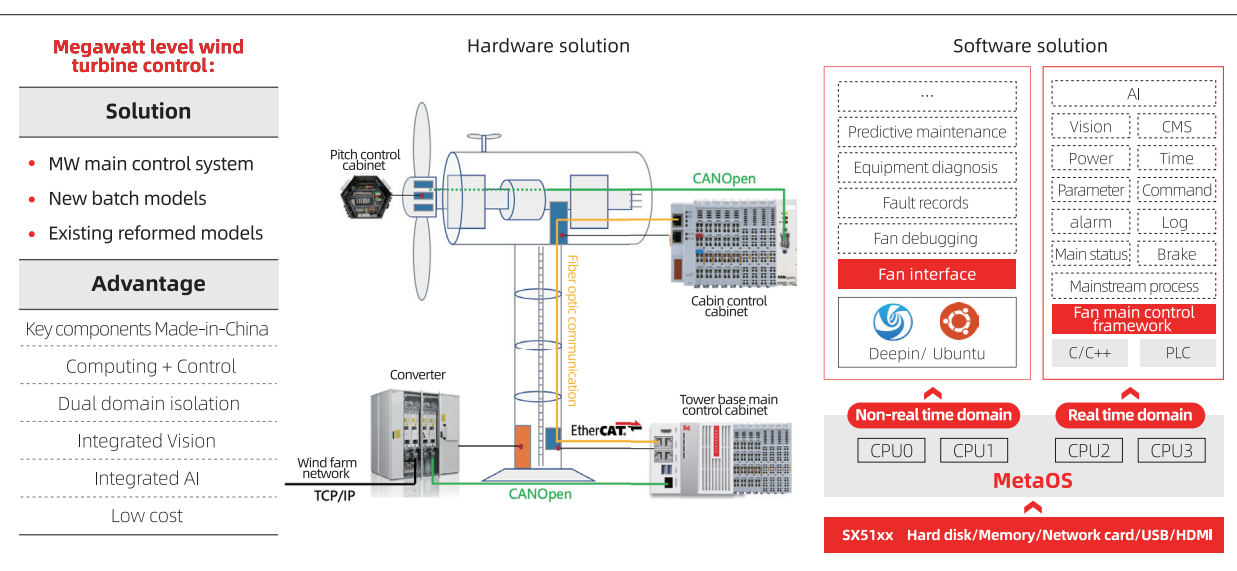


MetaFactory can convert any PC based system into a real-time control system with multiple PLC, NC, CNC, and robot real-time operating systems. Modular and expandable hardware and software components make it easy to modify and add functions at any time. Besides, the openness of the system not only allows for the integration of third-party components, but also allows for customized retrofitting solutions for existing equipment and systems, ensuring both flexibility and investment security for customers.

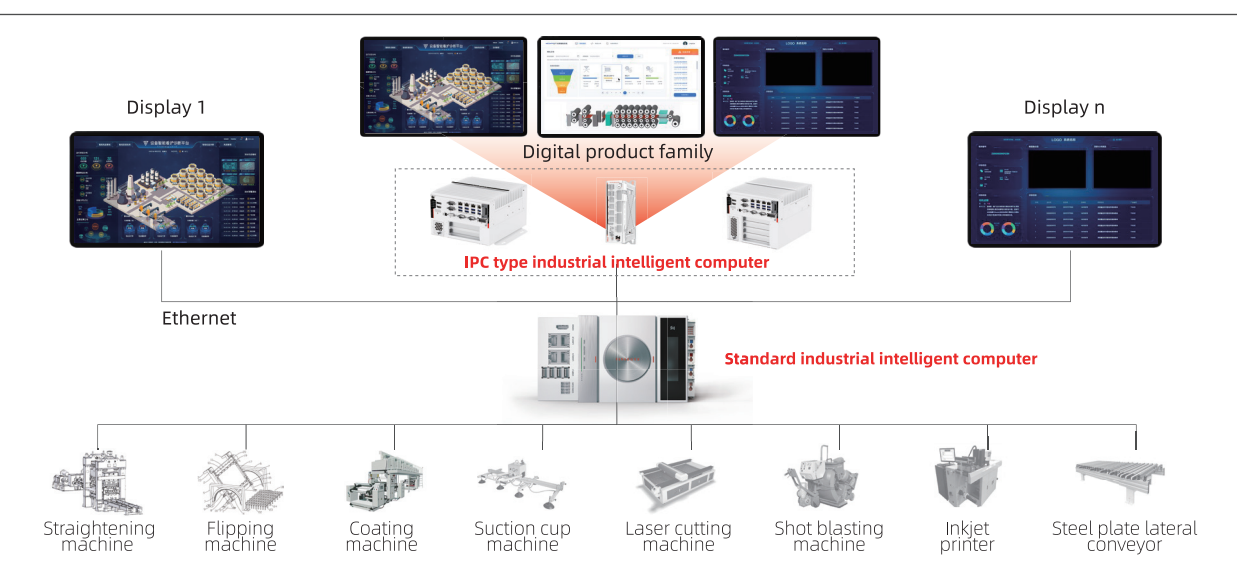
Scenarios: 6.EtherCAT+dual domain semiconductor real-time control



Scenarios: 7.Application scenarios of wind power generation



Scenarios: 8.Steel application scenarios








Made-in-China Industrial  
Intelligent Computer

SX2 Extended Function Module



| Graphics card expansion module  | Technical model          | SX2-E GPU1                     | SX2-E GPU0                     |
|---|--------------------------|--------------------------------|--------------------------------|
|  | Mechanical dimensions    | 117*100*70mm                   | 117*100*70mm                   |
|   | Module weight            | 500g                           | 500g                           |
|   | Environmental adaptation | 0°C ~ 60°C (operation/storage) | 0°C ~ 60°C (operation/storage) |
|   | Protection level         | IP20                           | IP20                           |
|   | Panel interface          | Display HDMI                   | NA                             |
|   | Module power supply      | Bus powered                    | Bus powered                    |
|   | Module performance       | NVIDIA P1000                   | 4 * MUL220                     |
|   | Adapted model            | SX2 series                     | SX2 series                     |

| Serial port expansion module  | Technical model          | SX2-E SER0                       |
|---|--------------------------|----------------------------------|
|  | Mechanical dimensions    | 40*100*70mm                      |
|   | Module weight            | 200g                             |
|   | Environmental adaptation | -40 °C~60 °C (operation/storage) |
|   | Protection level         | IP20                             |
|   | Connection interface     | 2X DB9 (9-pin)                   |
|   | Panel interface          | RS232/RS485/RS422/CAN            |
|   | Module power supply      | Bus powered                      |
|   | Adapted model            | SX2 series                       |

| Network port expansion module   | Technical model          | SX2-E EN04                     | SX2-E EN02                     |
|---|--------------------------|--------------------------------|--------------------------------|
|  | Mechanical dimensions    | 40*100*70mm                    | 40*100*70mm                    |
|   | Module weight            | 200g                           | 200g                           |
|   | Environmental adaptation | -40°C~60°C (operation/storage) | -40°C~60°C (operation/storage) |
|   | Protection level         | IP20                           | IP20                           |
|   | Panel interface          | 4 x Gigabit Ethernet           | 2 x Gigabit Ethernet           |
|   | Module power supply      | Bus powered                    | Bus powered                    |
|   | Adapted model            | SX2 series                     | SX2 series                     |

Industrial vision camera:

|  |  |  |
|--|--|--|
|   |   |  |
|  <b>Comprehensive functionality</b>   |  <b>Easy to deploy</b>  |  <b>Application industry</b>    |
| <ul style="list-style-type: none"><li>• Support hard trigger, soft trigger, and free running modes</li><li>• Compact structure, suitable for installation in small spaces</li><li>• Compatible with GenICam standards and seamlessly connected to third-party software platforms</li></ul> | <ul style="list-style-type: none"><li>• Provide 1 Gbps bandwidth, with a maximum transmission distance of up to 100m</li><li>• Support POE power supply, DC9-24V wide voltage power supply</li><li>• Universal C/CS interface, easy to match with related visual devices</li></ul> | <ul style="list-style-type: none"><li>• Logistics, electronic semiconductors, visual automation, food, etc</li></ul> |

# Open shelf touch display

SINSEGYR



Touch technology

Projective capacitor, surface acoustic wave, Five wire resistor



Display screen

High sealing performance,Front surface IP54 dustproof and waterproof



Support Touch through

Can penetrate up to 6mm thick glass, achieve touch control, and support glove wearing operation



Durable and sturdy

The front surface has passed UL ball drop test and has an IK-07 impact resistance rating



Industrial level

Suitable for 24/7 complex environments all day long



Video interface

Cover mainstream industrial video interfaces VGA, HDMI, DP



Mean time between failures

Strict factory aging test  
Real machine verification takes 50000 hours



Three year warranty

Multiple extended warranty options available



Product parameters:

|                    | 15 inches            |           | 22 inches |           |
|--------------------|----------------------|-----------|-----------|-----------|
| Screen size        | 15" ,4:3             | 15" ,16:9 | 22" ,16:9 | 22" ,16:9 |
| Best resolution    | 1024x768             | 1366x768  | 1920x1080 | 1920x1080 |
| Brightness (panel) | 250 nits             | 300 nits  | 250 nits  | 400 nits  |
| Visual angle       | 160°/150°            | 160°/160° | 178°/178° | 178°/178° |
| Touch technology   | Projection capacitor |           |           |           |
| Video interface    | VGA, HDMI, DP        |           |           |           |