

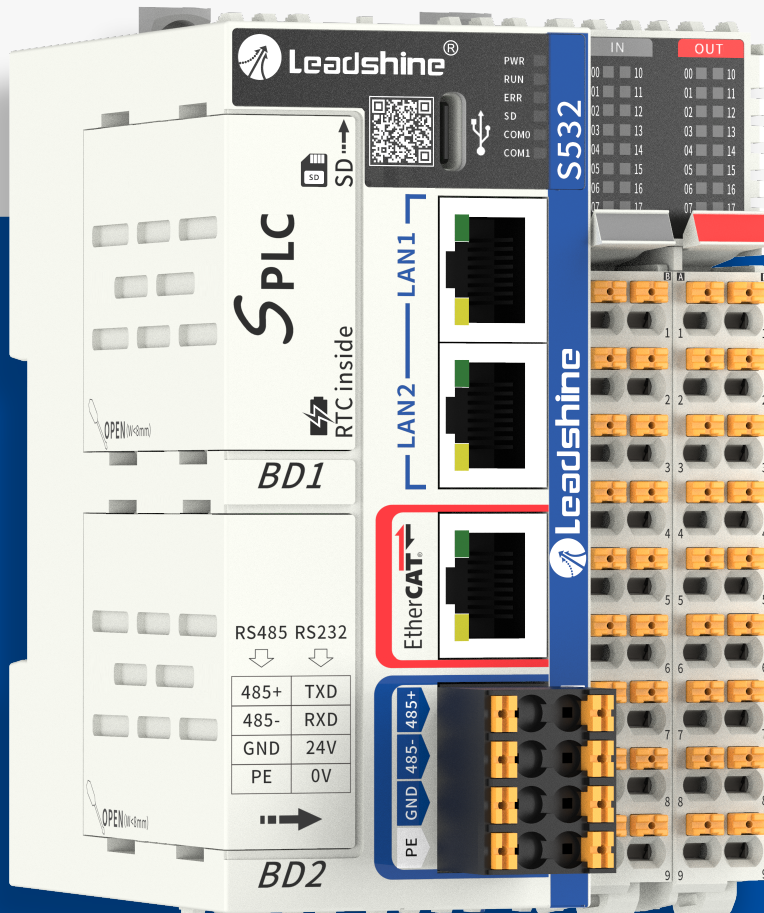


Leadshine

Stock Code: 002979

S-Series

“Superb Motion Control” Compact PLC



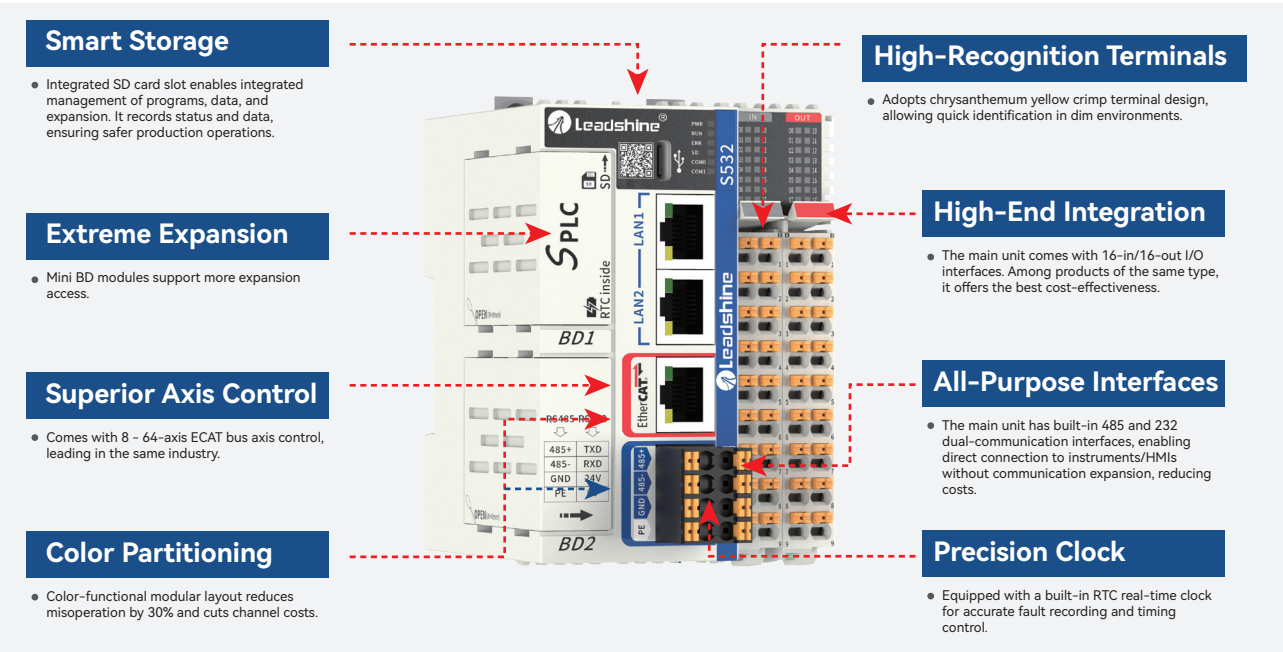
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Main products of S series



Reliable Motion Control Partner

Unique advantages of S-series PLC



High Performance

- Quad-core processor
- ns-level instruction speed
- 32-axis 1ms bus cycle

Multi-function

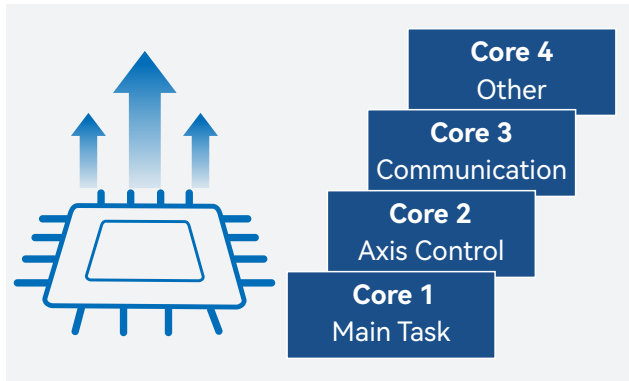
- Point position/insertion/synchronization/online variable speed
- Position change/Look-ahead
- Probe/fly-cut/external interrupt/PWM
- Dual IP/built-in switch/web visualization

High Integration

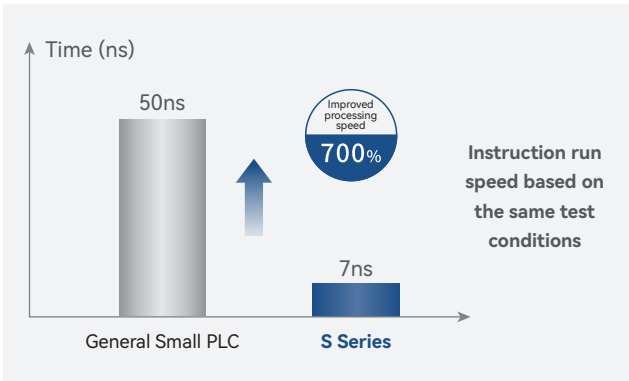
- Up to 64-axis ECAT bus/8-axis high-speed pulse axis
- Dual BD blocks (expandable to 32 modules)
- Triple network ports/RS485/RS232/Type-C/SD card

Quad-core processor

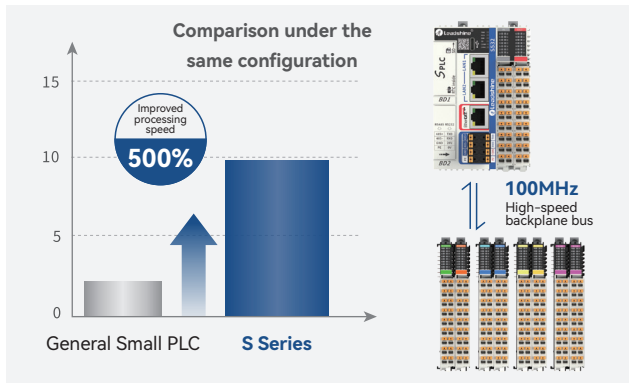
Command operation as fast as 7ns, 100 MB high-speed bus, to ensure high-speed synchronization of the module and host data, up to 64 axes bus +127 distributed slaves, suitable for high-precision, high-speed complex automation control application scenarios.



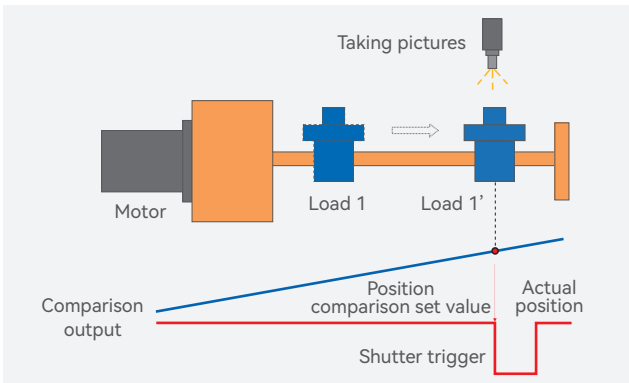
Supports Multitasking Features for Improved Performance



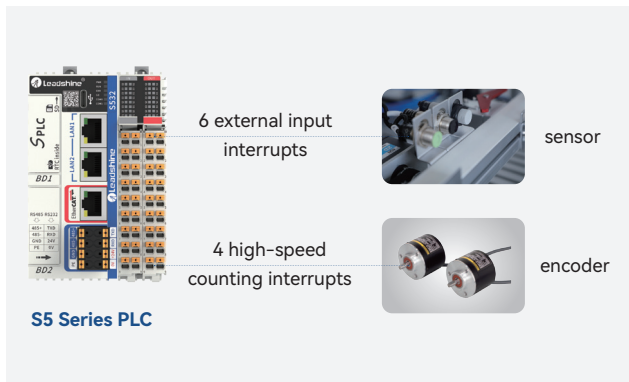
Nanosecond Command Operations



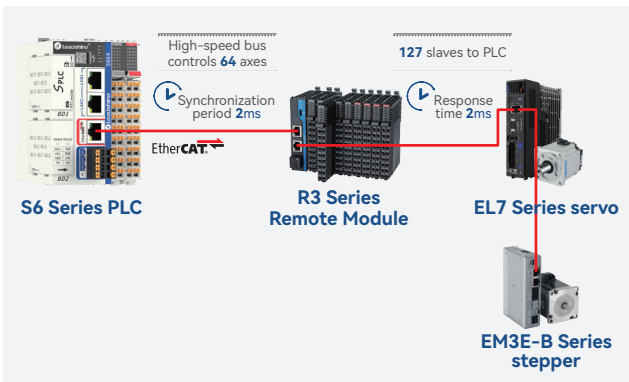
IO Module Bus Refreshes as Fast as 125us



8-channel High-speed Position Comparison Output



Interrupts: 6 Channels External Input, 4 Channels Encoder



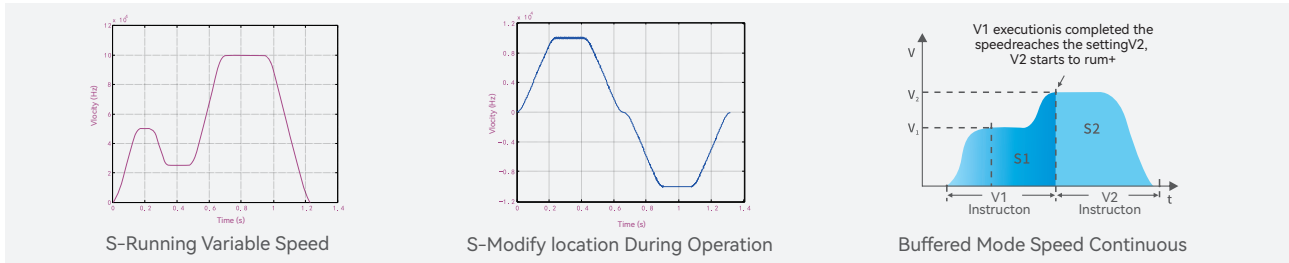
64 Axes Ethercat Bus Or 127 Slaves Minimum Synchronization Period 2ms

Motion control

Support point-to-point, interpolation, synchronous control, online variable speed shift and other functions, also supports the probe, external interrupt, PWM, look-ahead and other functions, to realize the complex process, to make the process more efficient.

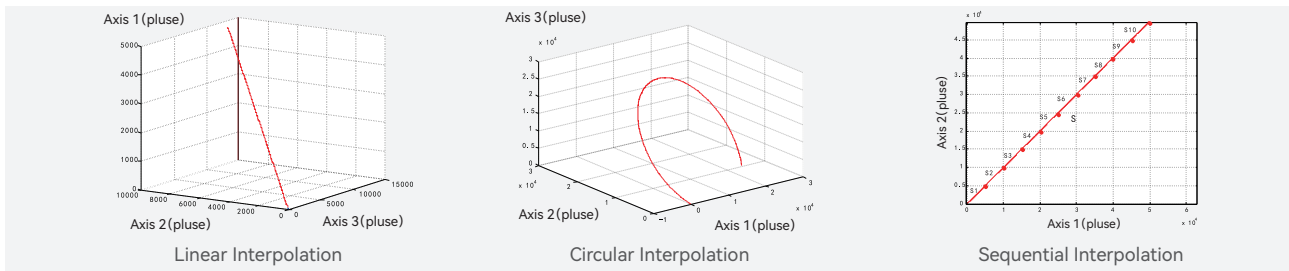
Adjusting speed or position during operation

Suitable for application scenarios of continuous trajectory control, supporting the function of continuous transition of speed.



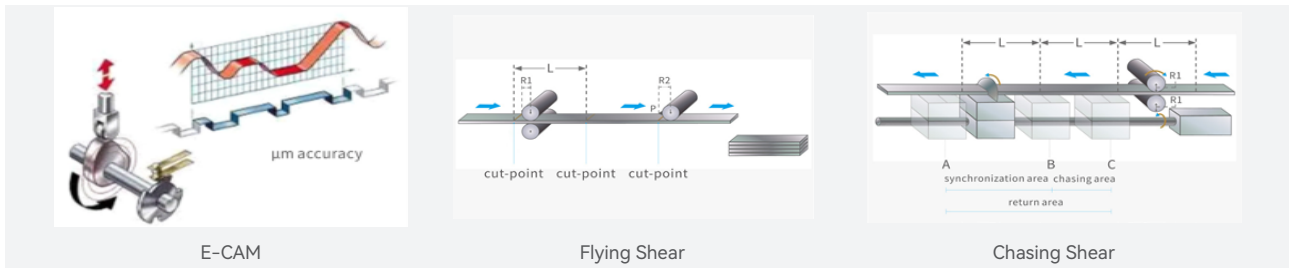
6-axis linear /3-axis circular/6-axis continuous interpolation

Planar and spatial multi-dimensional linear interpolation, circular interpolation and continuous interpolation functions, suitable for high-precision, high-speed positioning, multi-axis trajectory linkage application scenarios.



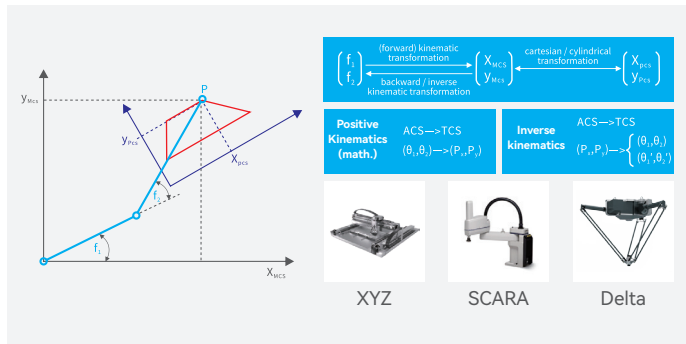
E-CAM

Electronic cam function, widely used in filling, capping, die-cutting, pillow packaging, cutting and other industries.



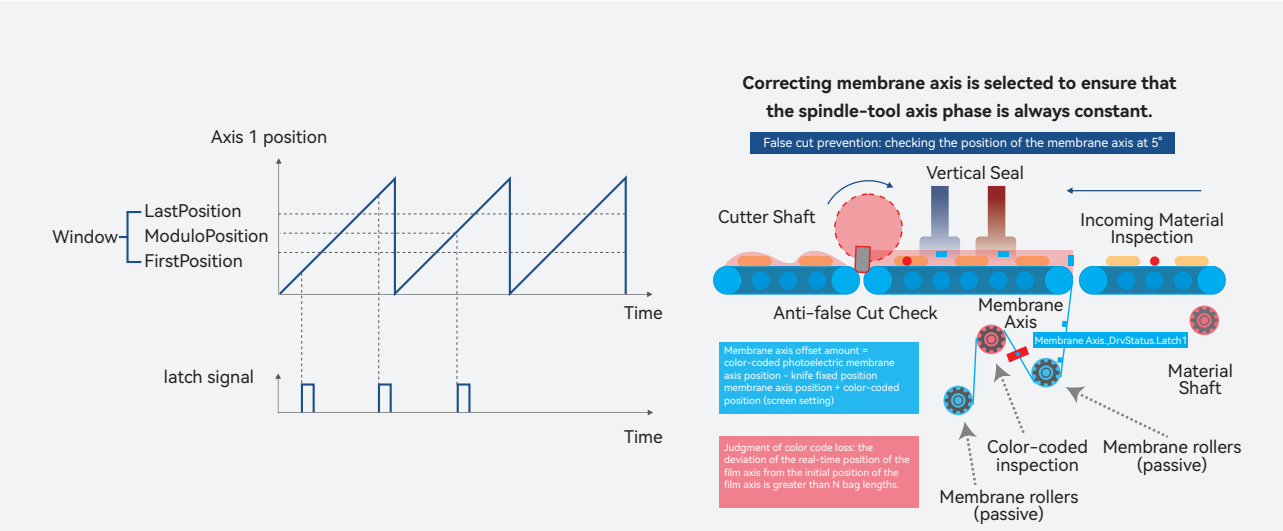
Robot modeling algorithms

Supports PCLopen Part4 standard function blocks and integrates a variety of standard robot models, such as gantry robots (2/3/5-axis), three-legged robots and SCARA robots.



Probe function

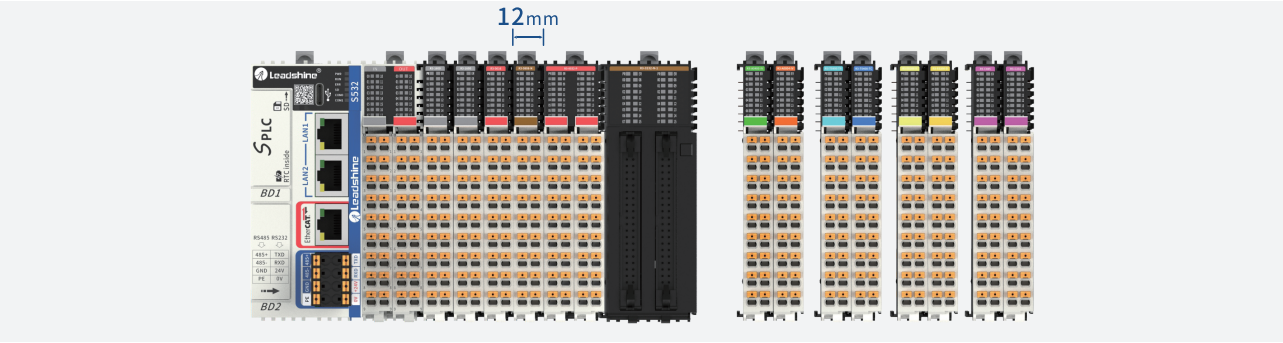
The S series PLC supports probe latching functionality, which can latch the position value of the servo axis or PLC in real time through changes in external input signals, enabling color mark tracking, correction, and anti-miscut technology to meet the complex synchronous control requirements of industries such as 3C, lithium batteries, printing and packaging, and special machine tools.



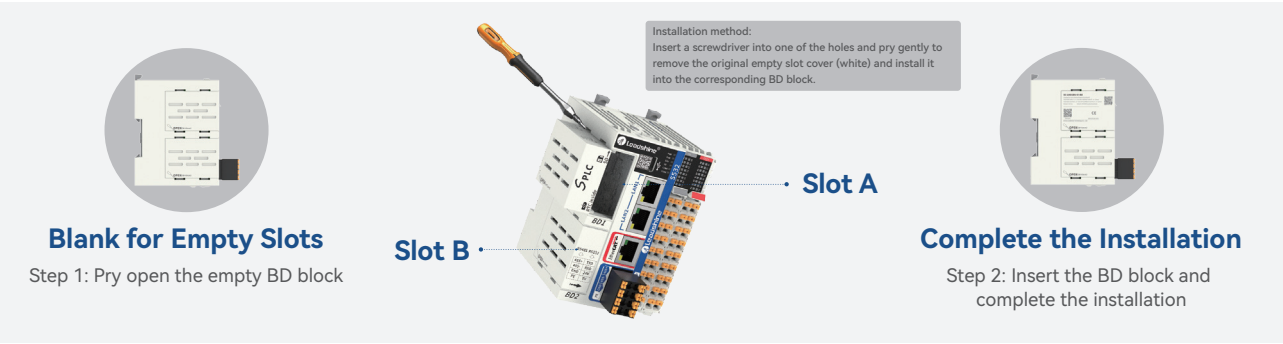
Ultra-slim and compact

High-end appearance, rich features, standard with RJ45, RS485/RS232 serial port, Type-C, SD card slot, etc., support up to 2 BD block expansion, can be right to expand 32 modules.

Ultra-thin design



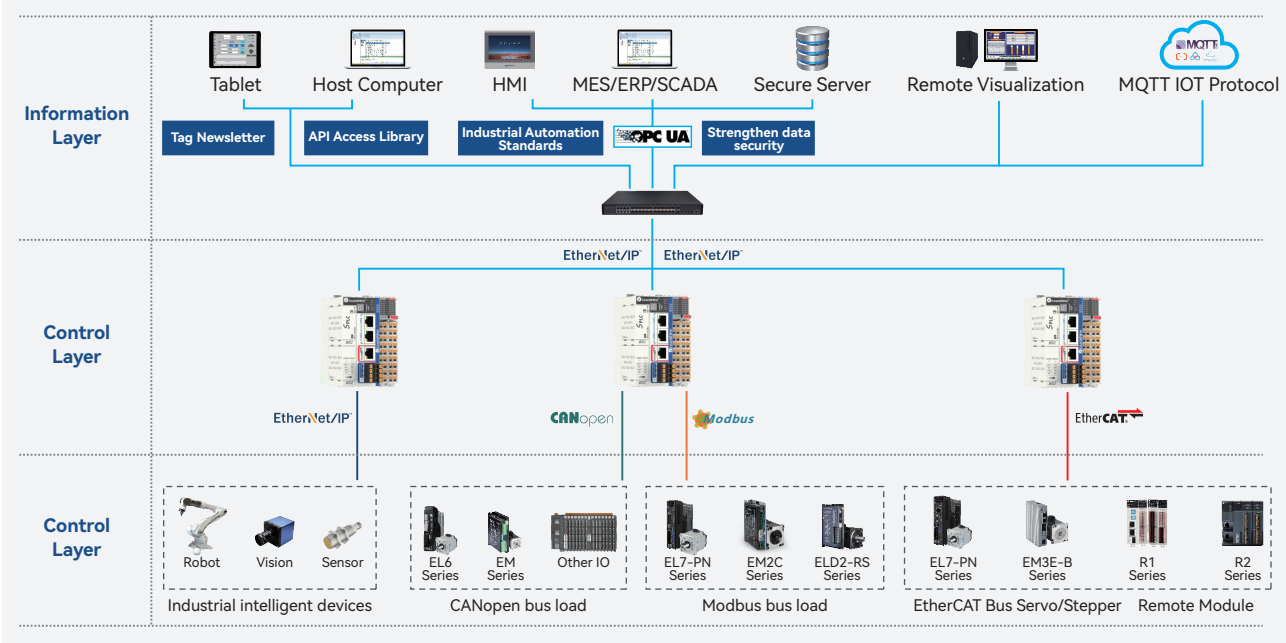
2 BD Board modules



Flexible architecture supporting different communicate protocols

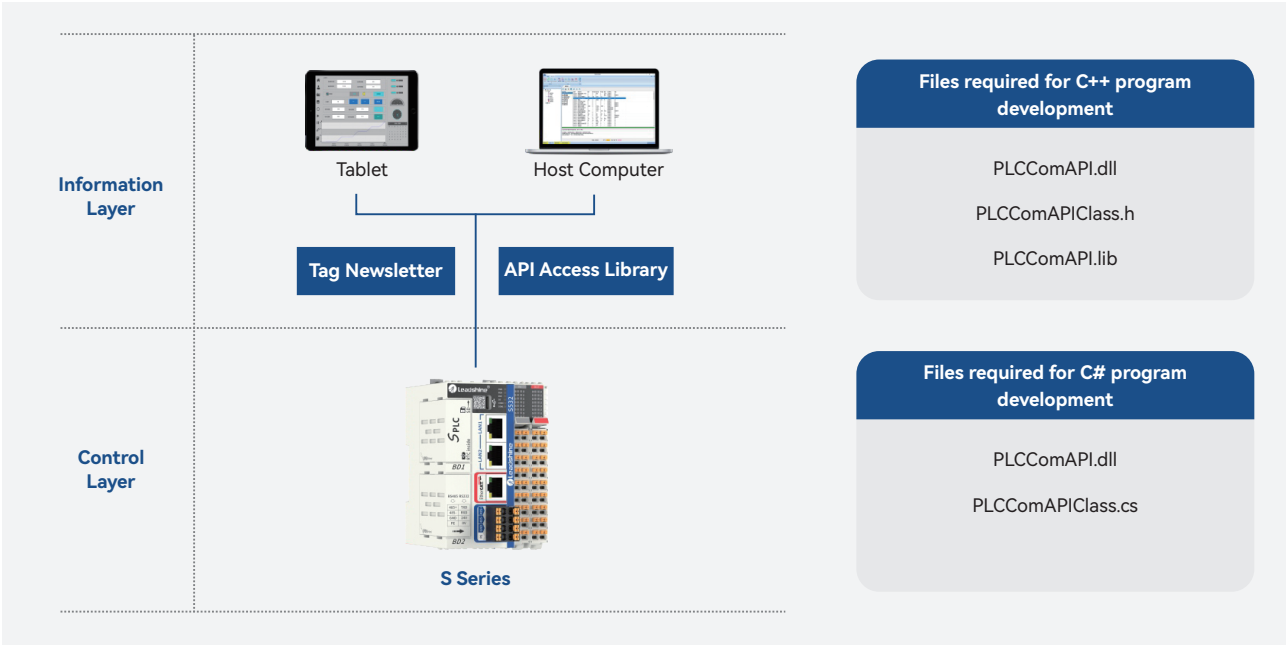
Connection to MES systems

Support EtherNet/IP, OPC UA, EtherCAT, Modbus TCP/RTU and other main industrial communication protocols, can be quickly accessed to the MES / ERP system, to achieve the depth of the integration of IT and OT, to help the production site information management.



API Tag communication

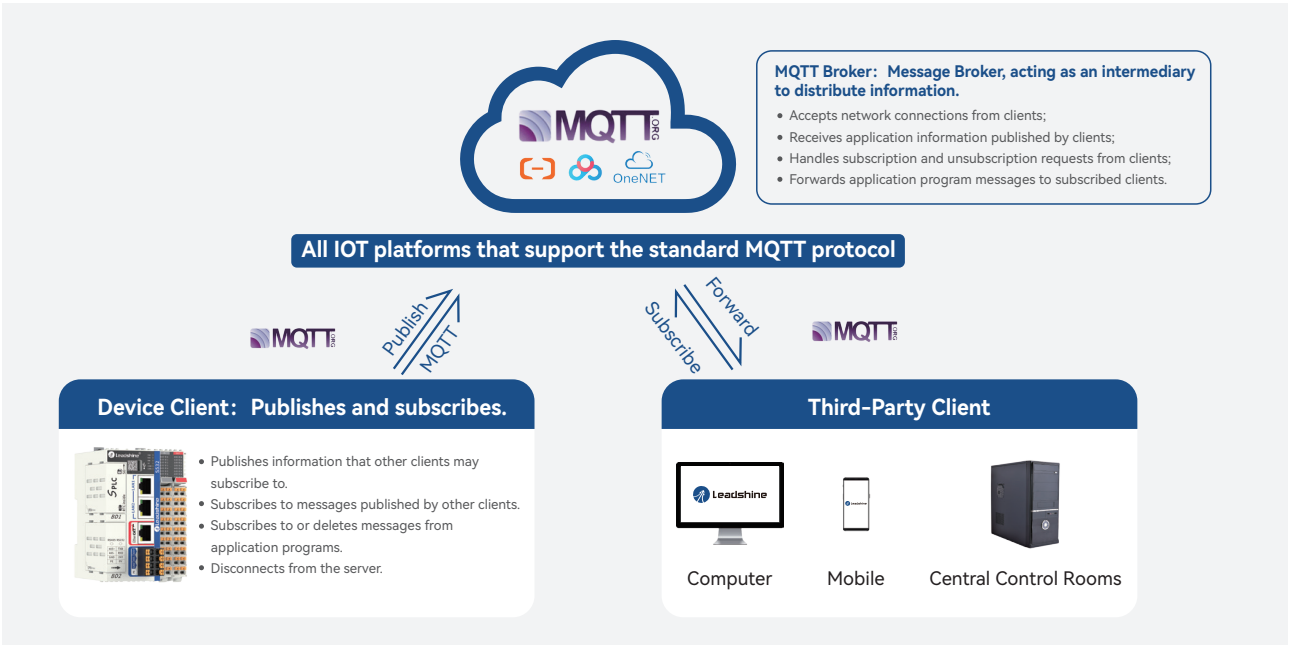
Support tag communication API access library, directly read and write variables in PLC, no need to analyze the underlying communication protocols, to achieve PLC and third-party host computer (terminal APP, etc.) communication.



Digital information management (DIM)

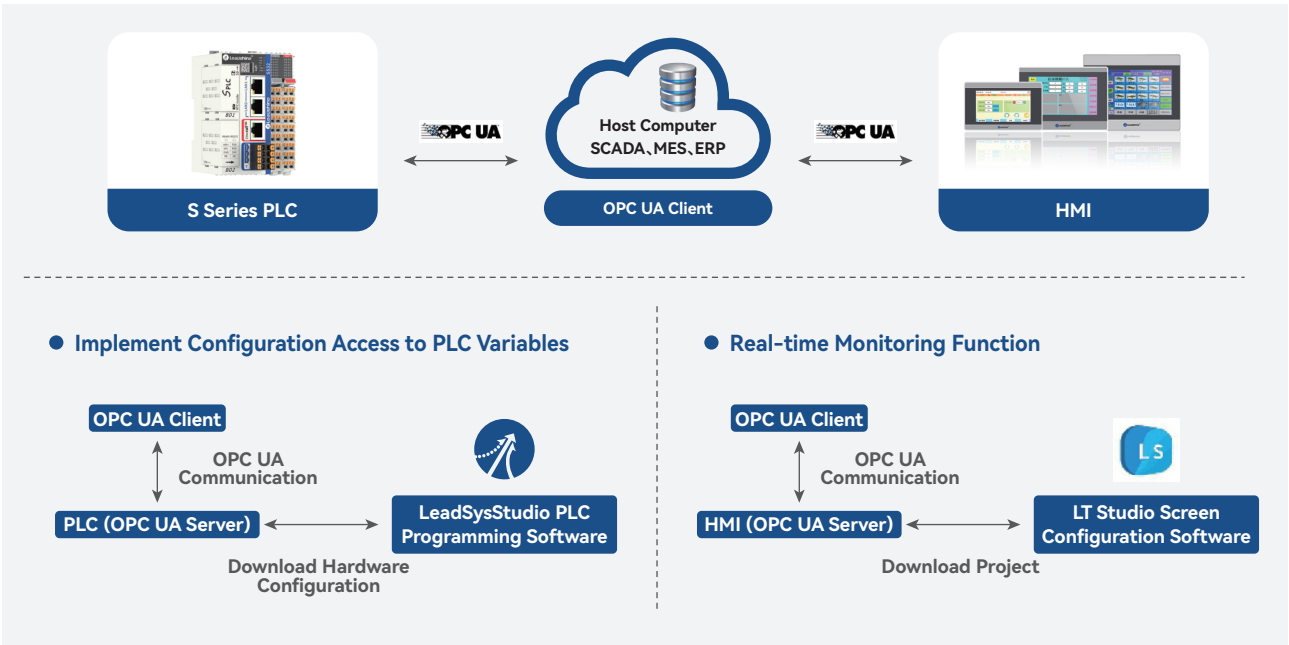
IOT MQTT protocol

The S-series PLC supports the MQTT protocol, ensuring secure and stable data exchange between devices. Meanwhile, it can package the IoT models of devices as a whole and synchronize them to the information cloud system in a secure and stable manner, enabling digital management and maintenance.



OPC UA Realizes production line informatization

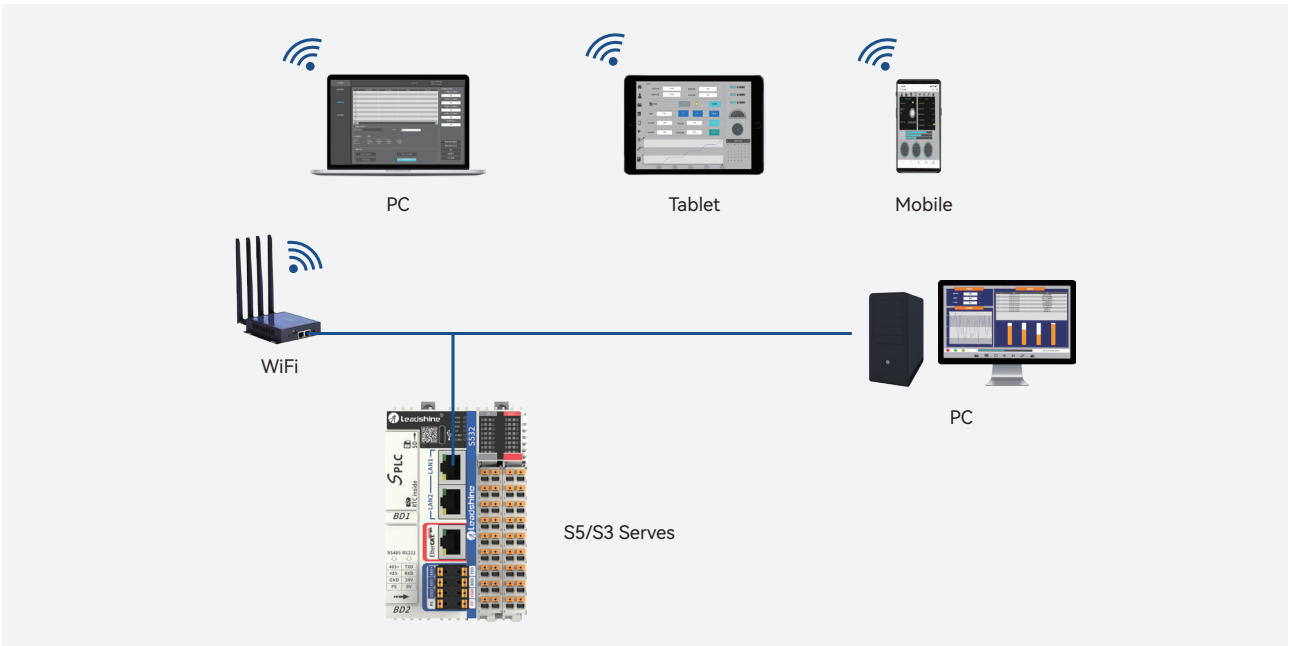
The OPC UA protocol specifies a specific operating system, supporting Windows, Linux, real-time operating systems or mobile operating systems (Android or ios), etc. It is suitable for cross-layer data exchange, using a simple client/server mechanism for communication.



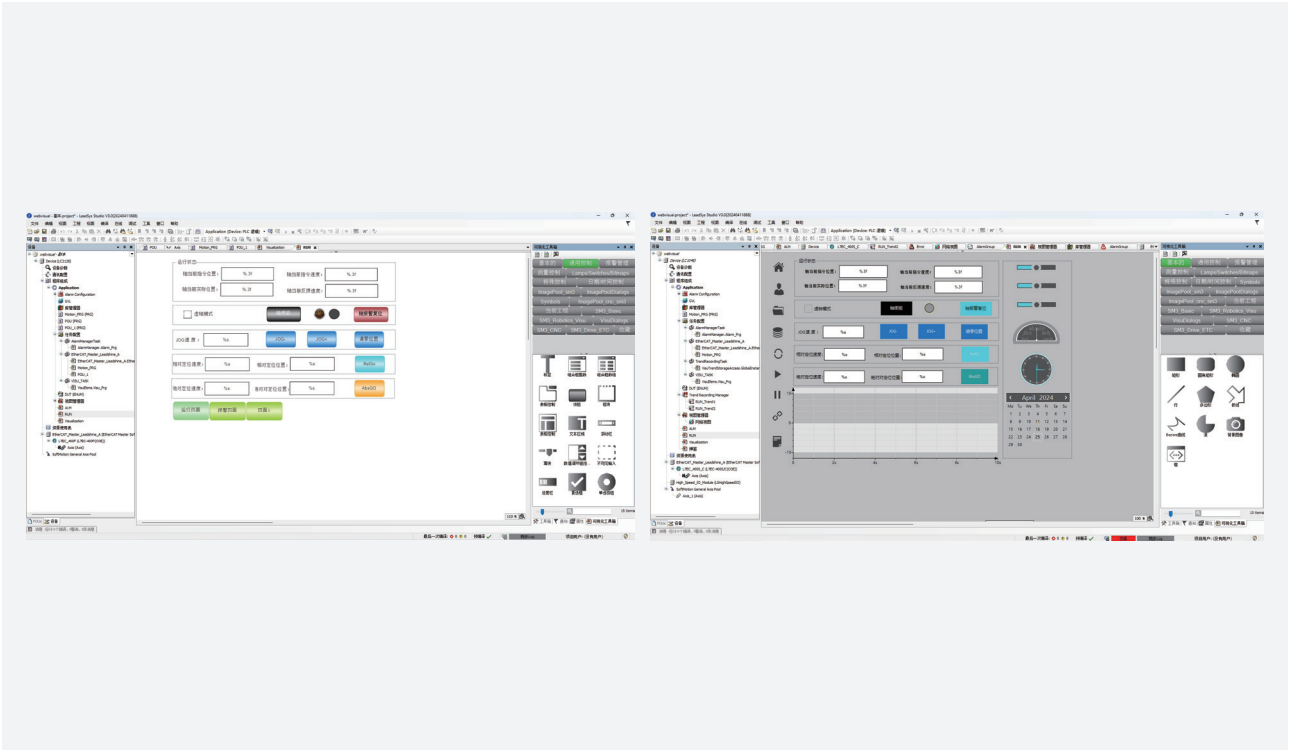
Remote monitoring of field device information

Support PC, smart phone, pad and other terminals to access the configuration page. web visualization function is compatible with Microsoft Edge, Google Chrome, AppleSafari and other browsers, support multi-browser connection at the same time.

Web visualization



Configuration HMI



4

Smart Storage

- 32 EtherCAT axis
- 127 Bus Slaves

Servo

Stepper

IO

5

Motion Controls

- **E-Gear,E-CAM,G-Code, Interpol-a-tion/Flying Capture External Interrupt/ Web Visualization**
- Touch Probe

6

Dual EtherNET

- Support EIP protocol
- Modbus protocol

7

BD Expansion

- 2 BD expansion ports
- Support CAN bus module
- RS485\RS232\Digital\Analog

8

Type-C Ports

- Support USB flash drive, Program debugging

9

Small Space

- CPU 68mm
- IO Module 12mm

3

Security

- Programmable ID authentication
- Users access rights configuration

2

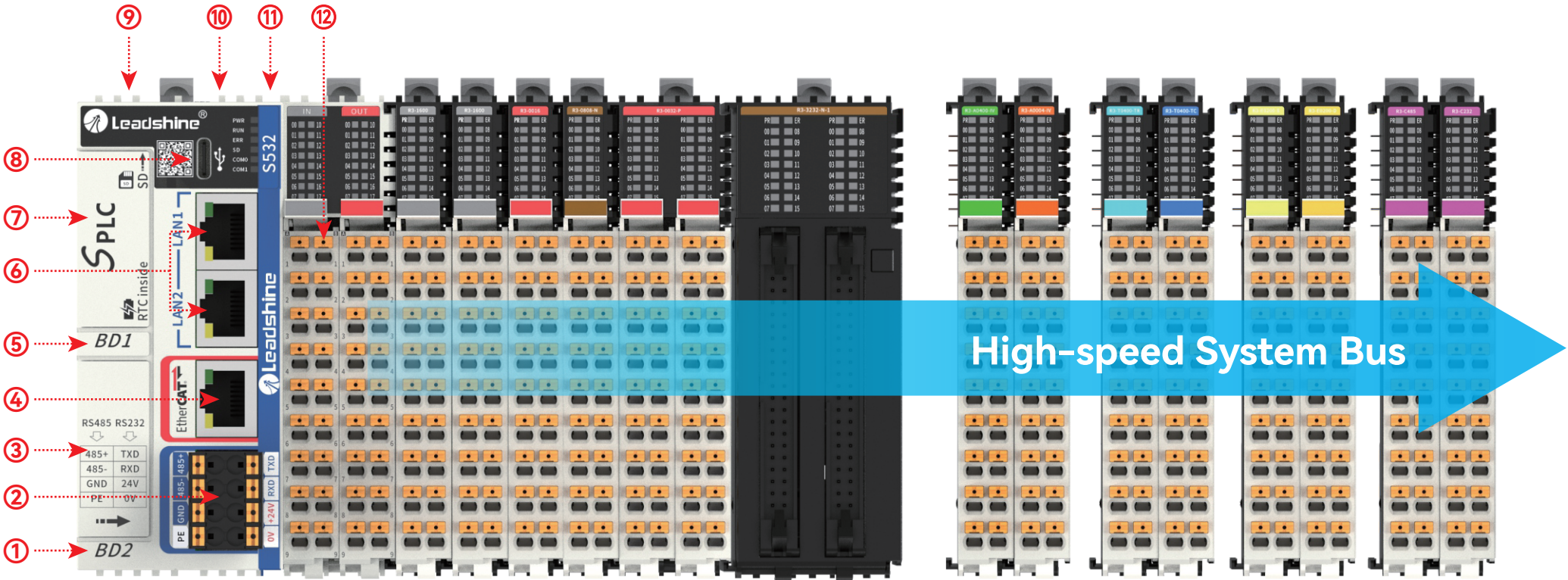
RS232/RS485

- Modbus-RTU
- Free Protocol

1

Data Storing

- No batteries required, permanent data retention



10

SD card

- Support 32G
- File read/write, backup/ firmware upgrade

Bus

- 100M data exchange
- Supports 32 R3 module expansion

11

RUN/STOP/RESET

- RUN/STOP switch with built-in reset function
- 5-toggle IP restoration

12

Pulse/Encoder

- 6 pulses
- 6 encoders

Servo

Stepper

CPU

- **Quad-core processor**
- **Basic instruction 7ns**
- Procedure 16M
- Data 32M
- Keep 512K

Digital Modules

- 16/32 IO
- NPN or PNP Output
- ON/OFF time: 20us/50us
- Relay: 8 channels
- supports up to 2048 I/O

Analogue Modules

- 4 channels I/O
- Voltage and Current
- 1ms/4 channels
- 16-bit resolution

Temperature Modules

- 4 channels input
- Thermocouple/RTD;
- PID support;
- 24-bit resolution;

Encoders

- 2 channels input
- Supports 24V ABZ and 5V differential signals; 1/2/4x AB/CW/CCW

Com port

- RS485/RS232;
- Modbus RTU/RS Up to 31 slaves

100M R-Link BUS communication protocol

A single coupler can carry up to 32 modules

EtherCAT / EtherNet/IP

Product naming rules

S Series PLC naming rules

S 5 32 - 1616 - N - □□□

① ② ③ ④ ⑤ ⑥

①	S	Super Series Programmable Logic Controller		
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③	Blank	Non-axial output	2	2 Axis
	4	4 Axis	6	6 Axis
	8	8 Axis	10	10Axis
	12	12 Axis	16	16 Axis
	32	Axis	64	64 Axis

⑤	N	NPN	P	PNP
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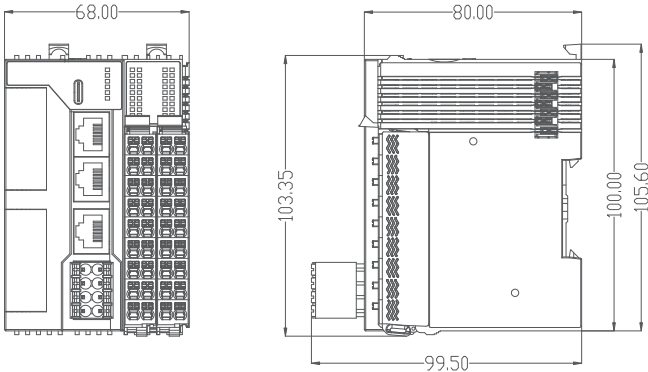
②	1	Economy
	2	Basic
	3	Track
	5	Bus
	6	Flagship

④	0808	8DI/8DO
	1616	16DI/16DO

⑥	Customized Models for Special Applications		
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S Series PLC Host Installation Dimensions

- S632-1616-N*/S664-1616-N*/S508-1616-N/ S516-1616-N/S532-1616-N/S304-1616-N/ S306-1616-N/S308-1616-N/S202-1616-N*/ S204-1616-N*/S206-1616-N*



S-Series expansion BD board naming rules

S 0204 - V - BD - XXX

① ② ③ ④ ⑤

①	S	Super Series Programmable Logic Controller		
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②	Blank	Non-analog Type	
	V	Voltage Type	
	I	Current Type	
	VI	Voltage/Current Type	

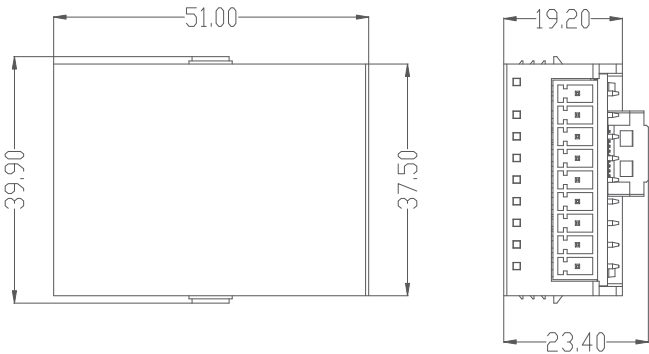
④	BD	PLC Body Expansion Board		
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②	0204	2DI/4DO
	0400	4DI
	0004	4DO
	2ADIDA	2AI/1AO
	232	RS232 Serial Port
	485	RS485 Serial Port
	CAN	CANopen

⑤	Customized Models for Special Applications		
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Right Extension Module Installation Dimensions

- S-2AD1DA-VI-BD / S-0400-BD / S-0004-N-BD / S-CAN-485-BD / S-232-485-BD



S5 Series PLC mainframe technical specifications

Model	Specification	S508-1616-N	S516-1616-N	S532-1616-N
Input power supply		DC24V, support short circuit/reverse connection protection		
IO Quantity		16 inputs (NPN/PNP), 16 outputs (NPN)		
Storage Capacity		Program 16Mbyte, data 32Mbyte (of which 512kbyte support power-down hold)		
Number of EtherCAT axes		8 axes (EtherCAT only)	16 axes (EtherCAT only)	32 axes (EtherCAT only)
EtherCAT slaves		Up to 127 EtherCAT slaves		
Typical values for communication cycles		1ms cycle 16-axis synchronization		
EtherNet		2-channel, default switch function, software can be set to an independent IP address; Supports Modbus-TCP master/slave stations, EtherNet/P scanners and adapters, OPC UA servers, and socket communication.		
RS232		Built-in 1 channel, BD block can be expanded to 2 channels; Supports Modbus-RTU master-slave station and free communication protocol.		
RS485				
High-speed inputs		12-channel 200 kHz (6-axis encoder count) single-ended signal input; Supports AB phase, pulse + direction, CW/CCW, single-phase counting mode.		
High-speed outputs		12-channel 200 kHz (6-axis pulse output) single-ended signal output; Supports AB phase, pulse + direction, CW/CCW mode, and PWM function.		
Expansion modules		Right expansion of 32 modules; Includes: digital, analog, temperature, encoder, and serial modules.		
Expansion BD		2-channel expansion; Supports analog, digital, CAN, RS232, and RS485		
Other interfaces		Type-C interface (supports non-powered program debugging), RUN/STOP, SD card		
Programming software		Codesys or Leadsys		

S3 Series PLC mainframe technical specifications

Model	Specification	S304-1616-N	S306-1616-N	S308-1616-N
Input power supply		DC24V, support short circuit/reverse connection protection		
IO Quantity		16 inputs (PNP/ NPN), 16 outputs (NPN)		
Storage capacity		Capacity 10Mbyte, Capacity 20Mbyte (of which 256Kbyte support power-down hold)		
EtherNet		2-channel, default switch function, software can be set to an independent IP address; Supports Modbus-TCP master/slave stations, EtherNet/P scanners and adapters, OPC UA servers, and socket communication.		
RS232		Built-in 1 channel, BD block can be expanded to 2 channels; Supports Modbus-RTU master-slave station and free communication protocol.		
RS485				
High-speed input		8-channel 200 kHz (4-axis encoder count) single-ended signal input; Supports AB phase, pulse + direction, CW/CCW, single-phase counting mode.		
High-speed output		8-channel 200kHz (4-axis pulse output)	12-channel 200kHz (6-axis pulse output)	16-channel 200kHz (8-axis pulse output)
		Single-ended signal output, support AB phase, pulse+direction, CW/CCW mode and PWM function.		
Expansion modules		Right expansion of 32 modules; Includes: digital, analog, temperature, encoder, and serial modules.		
Expansion BD		2-channel expansion; Supports analog, digital, CAN, RS232, and RS485.		
Other interfaces		Type-C interface (supports non-powered program debugging), RUN/STOP, SD card.		
Programming software		Codesys or Leadsys		

Soft draw tissue packaging machine

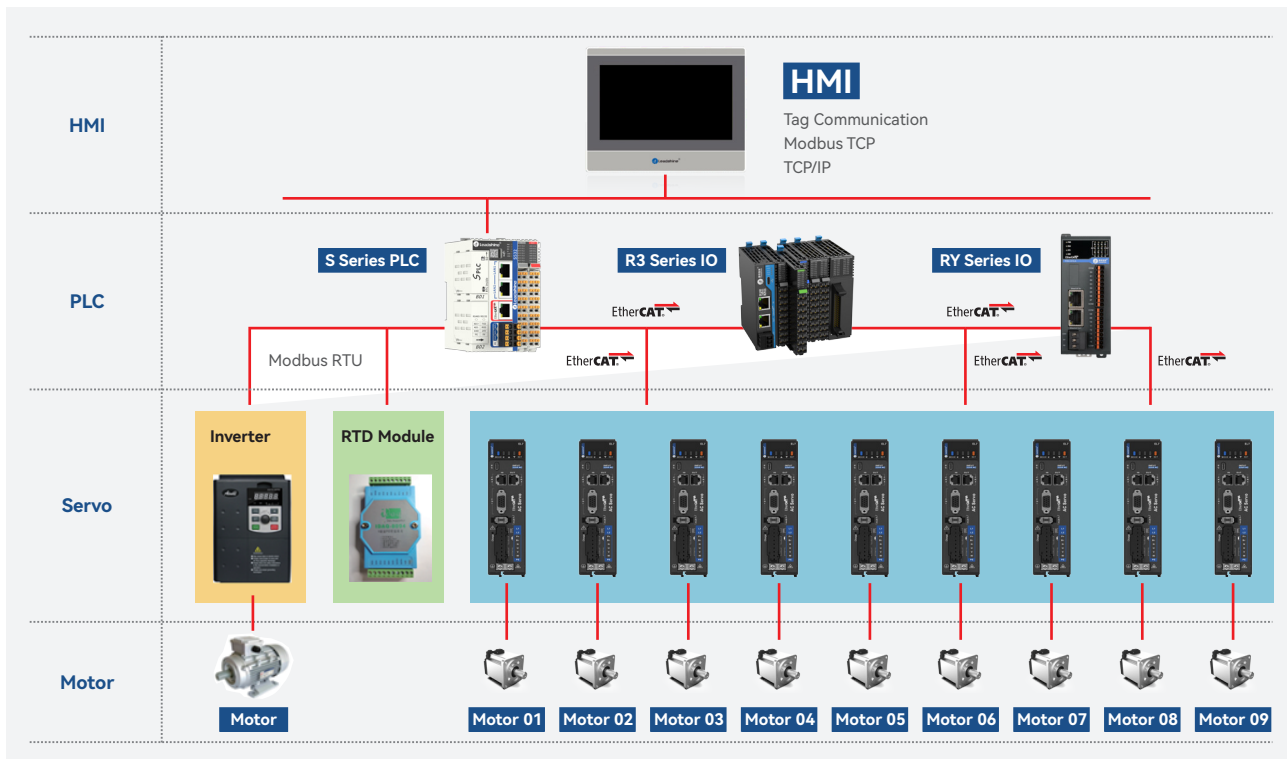


Introduction

- Tappet Algorithm: Adopts **the virtual tappet function** of the spindle to print out dates, bar codes, dotted lines, etc. more accurately.
- Color code interrupt: **The servo's probe function interrupts** and locates the position of the color code point at high speed.

Advantage

- **E-cam algorithm**, push package **160 packages/min.**
- **E-cam point position**, packaging specifications HMI can be set, curve automatic optimization, **easy to operate.**
- Up to **6000rpm servo** performance is stable and reliable, **PLC support OPC, provide MES interface, etc.**



Magnetic ring winding machine



Introduction

- With the development of automation technology, the magnetic ring winding machine is gradually upgraded from manual/semi-automatic to fully automatic magnetic ring winding machine.
- It can improve the efficiency and reduce the cost, the magnetic ring inductor is widely used in power supply, communication, automobile, industrial control, medical, consumer electronics and other fields.

Advantage

Enhanced Anti - Interference Capability

- The adoption of the EtherCAT bus solution significantly improves the anti - interference ability of customer equipment, solving the motor problems caused by insufficient anti - interference of the original pulse solution.

Substantial Increase in Winding Efficiency

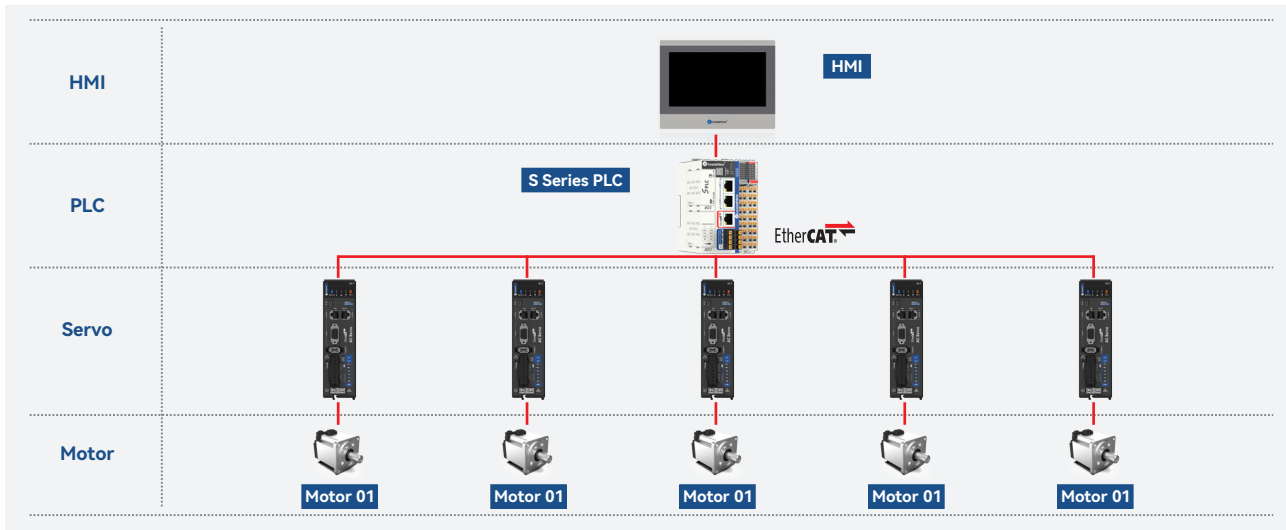
- By using advanced electronic winding algorithms, the production efficiency of the take - up operation is increased by more than 20% compared to the traditional manual production method of customers.

Precise Positioning and Uniform Wire Arrangement

- The solution comprehensively addresses the issue of inaccurate positioning of the winding machine and uneven wire arrangement, eliminating the phenomenon of uneven wire arrangement.

Stable Operation and Neat Winding

- With the customized electronic cam curve for winding and the acceleration and deceleration curve, the winding operation is stabilized, and equipment vibration is suppressed.





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