



## Product Selection Manual

Focus on customer experience and help customers succeed



Wenzhou AB technology Co., Ltd

# ABOUT US

Our company adheres to the business philosophy of "People-Oriented, Shared Success," integrating responsibility with value creation. We are committed to becoming a leader in the automation industry and achieving excellence, making outstanding contributions to "intelligent manufacturing in China".



\*\*Yueqing A&B Electric Co., Ltd., Founded in 2005 with the website is: [www.abelec.com](http://www.abelec.com), specializes in electrical products, with a core focus on export, distributing globally. In the company strategically expanded into industrial automation by establishing its subsidiary: \*\*Wenzhou A&B Technologies Co., Ltd. The website is: [abtechup.com](http://abtechup.com).

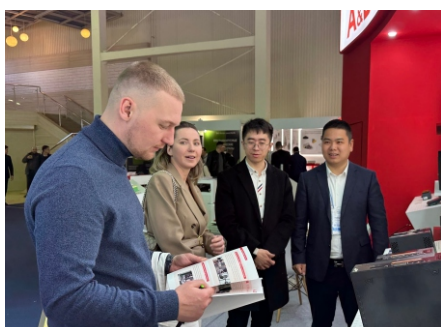
\*\*A&B Technologies\*\* concentrates on the R&D and manufacturing of core industrial control components like \*\*PLC controllers\*\* and \*\*servo drives\*\*. \*\*Leveraging switches, relays, and power supplies produced by our parent company, alongside the advantages of Yueqing's electrical industry cluster, we integrate local supply chain resources to establish an integrated industrial control ecosystem. Through rigorous OEM partnerships, we maintain stringent quality control while building our \*\*proprietary brand "A&B".

We provide global clients with:

- \* High-performance industrial control components
- \* Customized automation solutions
- \* Electrical control integration systems

Backed by a 50-member R&D team, 200+ production personnel, and an overseas service network, we guarantee technological leadership, lean manufacturing, and responsive global support.

Guided by our philosophy of "\*\*\*Innovation-driven, Quality-focused, Customer-centric\*\*\*", A&B is committed to becoming a trusted global provider of solutions and core components in industrial automation, driving the advancement of smart manufacturing.



Provide services and solutions for automation

# PROVIDE SERVICES AND SOLUTIONS FOR AUTOMATION

Servo/ PLC/HMI



## Technical Strength&Application

With core expertise in motion control, industrial inspection, and fault diagnosis, we hold 100+ intellectual property rights. Our key products include:

- AC/DC Servo Drives
- Servo Motors
- PLC and HMI
- Industrial automation control products

All products are CE-certified and widely applied in

- Robotics/Manipulators
- Construction Machinery
- Printing & Packaging
- 3C Automation

## R&D Team

Our multidisciplinary team collaborates with top universities (Hunan University, Central South University, Zhejiang University, etc.) to bridge industry-academia innovation. Expertise covers

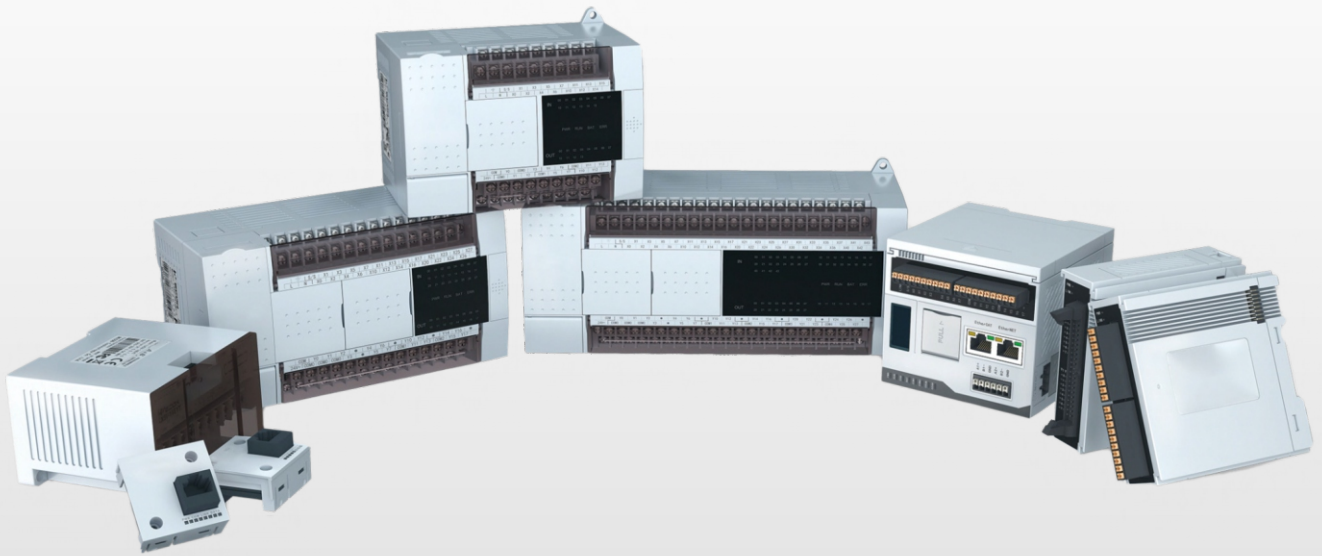
- Smart Control
- Mechanical Engineering
- Computer Science
- Communication Engineering

Our multi disciplinary team collaborates with top universities (Hunan University, Central South University, Zhejiang University, etc.) to bridge industry-academia innovation. Expertise covers.



# DIRECTORY





## Overview

Alcotrech PLC has the characteristics of high precision, fast speed, and strong stability. In addition to its various peripheral interfaces, it can also expand various types of expansion modules and BD boards to meet the application needs of various industries. It is widely used in packaging, food, textile, medical, pharmaceutical, environmental protection and other fields.

Alcotrech PLC currently has Platform type PLC: L500 series, L6 series; Medium sized PLC: M60 series; Small PLC: S5 series, S3 series, S1 series, etc.



Compatible



Easy To Use



Stability

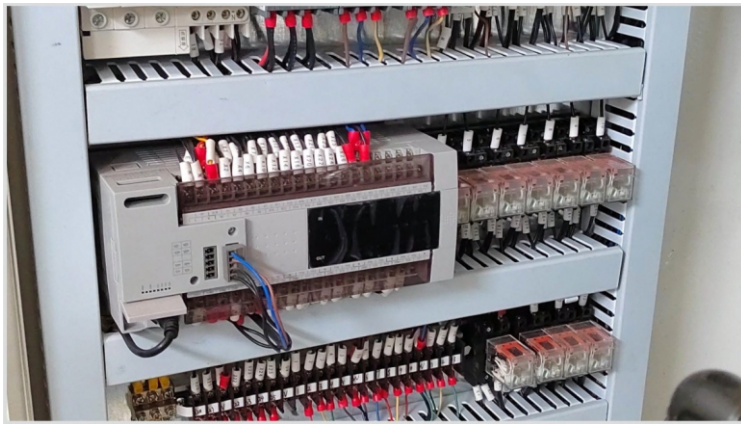


General



Precise

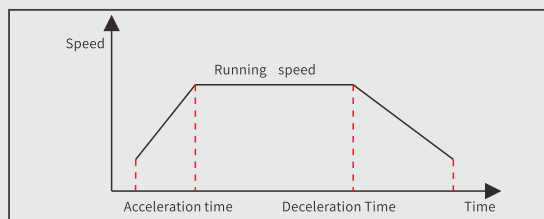
## Multi series high-speed scanning, efficient output, superior performance



Program scanning speed: 0.2ms

The processing line is 1.8 meters to 2 meters long, with 1250 pieces per hour;  
Processing line length of 1.3 meters, 1300 pieces/hour

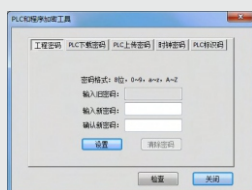
- Support pulse+directional input
- Support high-speed pulse signal output with addition and subtraction
- Acceleration and deceleration times can be configured separately



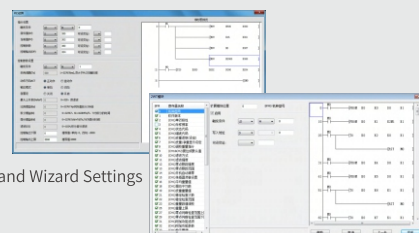
- RSLIST+RSLIST communication table
- Protocol implementation is more convenient and efficient



- Subroutine encryption
- Ladder diagram encryption
- PLC host and program encryption



- PID Command Wizard Settings
- Module Wizard Settings for Various Functions
- Various BD board wizard settings



# New modular platform type PLC

Rich interfaces Fast communication The product has been completely refreshed

- New EtherCAT interface, superior USB TYPE-C interface.
- New 61131-3LD programming method, free label protocol, faster and more efficient communication.
- The appearance of the host and expansion module has been completely refreshed.



Can connect PC/HMI/other controller slave stations

Can be connected to a frequency converter/ smart instrument/other controller slave station

Up to 128 servo axes can be carried

ABRS485

RS485 supports custom protocols Modbus RTU Master/Slave Protocol

Can receive up to 8 pulse/interrupt signals, or up to 4 AB phase encoders

Built in RTC perpetual calendar

AB DI

Local extension module

ABLAN

ABL6V main module

High speed pulse output: 200KHz x4ch  
Can control 4 servo or stepper drivers

(Up to 64 local expansion modules can be connected) ①

DI/DO Expansion AI/AO Expansion PT/TC temperature monitoring

① Additional relay power modules are required, and power modules are not included in the total number.

# High performance medium-sized PLC

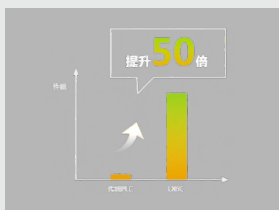
Based on Codesys programming platform, supporting PLCopen programming specification



## Based on the CODESYS programming platform

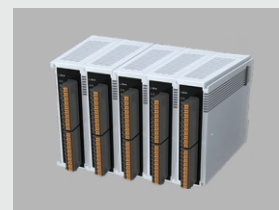
### Efficient and swift execution

- 4-core 1.8G CPU assists in improving instruction processing speed;
- The basic instruction execution speed is ns level;
- Different task execution methods, frequencies, and priorities can be set to achieve efficient utilization of system resources.



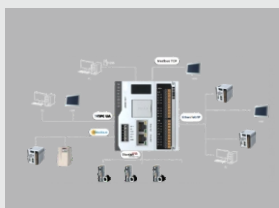
### Expand high-speed flexibility

- High speed communication, quick response;
- Free selection to meet different needs;
- Blade type structure, easy to disassemble, saves space.



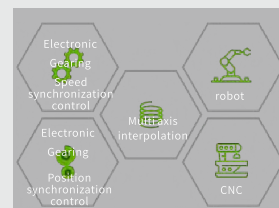
### Smooth and easy interconnection

- Ethernet interface is standard across the entire range;
- Support multi protocol interconnection function.



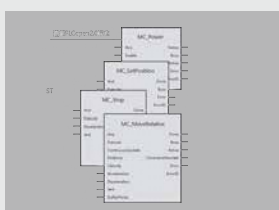
### Ultimate and calm operation control

- Support single axis operation control and multi axis operation control;
- Support functions such as rotary cutting and probes.



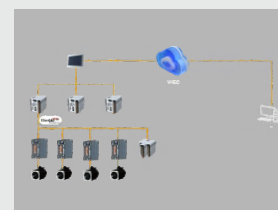
### Easy and fast development

- Following the PLCopen2.0 standard, it is easier to program;
- The program can be monitored online for easy debugging;
- Support user permission management and project password protection.



### Ecological perfection and reliability

Under the Aotong Industrial Internet of Things platform ecosystem, remote debugging and upgrading can be easily achieved.



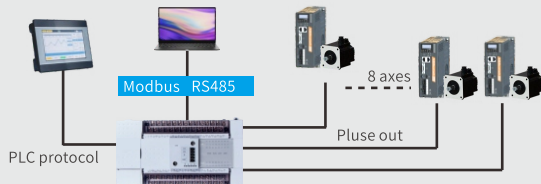
# Conventional small PLC

High frequency signal processing, fast response speed.



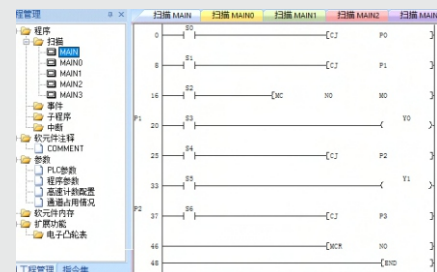
## 8-axis high-speed pulse input/output

- Standard 8-axis high-speed counter.
- 8-way high-speed pulse input, maximum counting frequency 150K Hz.
- 8-way high-speed pulse output, with a maximum output frequency of 200K Hz.
- Equipment control is high-speed and precise.



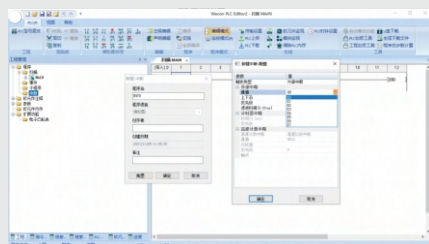
## The software is simple and easy to operate

- Simple and easy-to-use configuration tool,
- Clear classification of programs.
- Detailed and clear parameter configuration.



## Fast processing

- The basic instruction execution speed is  $0.01 \mu s \sim 0.03 \mu s$ .
- Supports 8 external X interrupts.
- Simultaneously supporting both rising and falling edges.



## Featured

- Support modifying frequency and position during pulse command operation.
- Support 921600bps high baud rate communication.
- Support  $100 \mu s$  precision high-speed timer interrupt.
- Supports up to 100 high-speed counting interrupts.
- Support electronic cam function.
- Support electronic hand cranked wheel function.
- Support efficient and stable PID and CCPID self-tuning functions.
- Compatible with 3V series BD board modules (communication BD board modules are not currently supported).
- Supports USB power supply.

## ABL500series

### Platform type PLC

High performance processor,  
ultra large capacity storage



### Performance characteristics

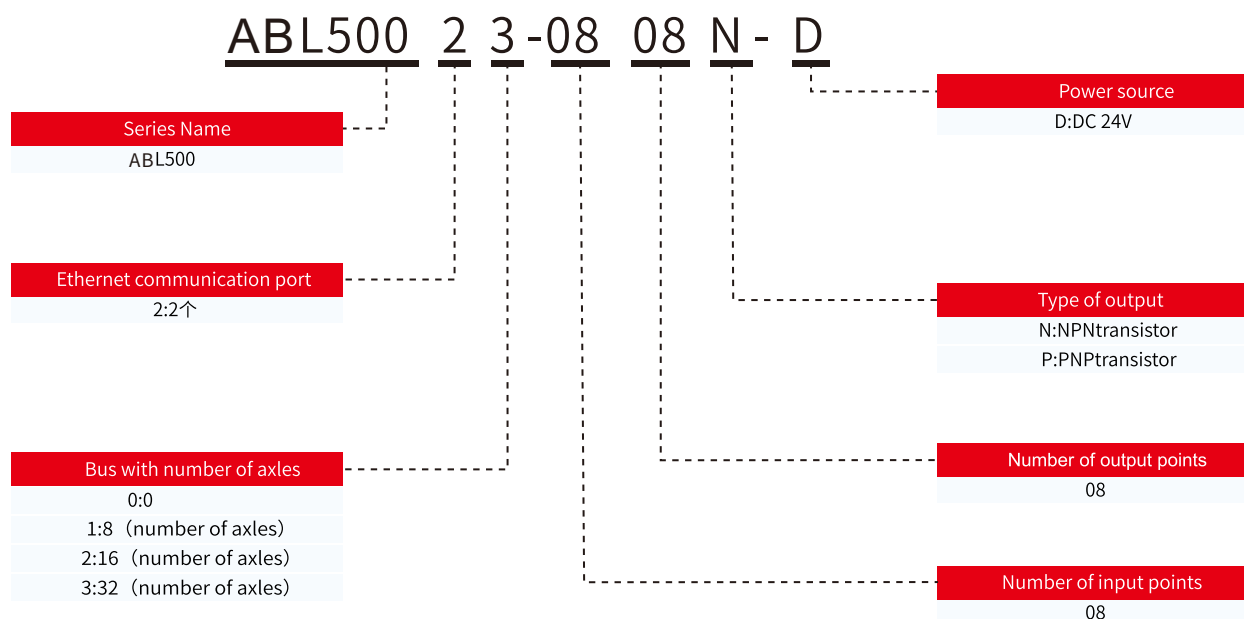
- Fully self-developed: independently controllable PLC upper and lower computer systems.
- High-performance processors: 4-core 1GHz, A35 high-performance processor.
- large capacity storage: 512MB RAM, 4G storage, expandable TF card.
- Excellent motion control performance: 6-axis local pulse, 16 axis @ 1ms processing capability, support for 32 axis servo control
- Compact and easy to install body: ultra-thin blade expansion module, screw free, detachable spring terminals
- Rich Expansion Communication/Download Methods: With two communication expansion slots, it can expand various communication, storage cards, etc., supporting 32 expansion modules

### Application scenarios

Widely used in industries such as CNC lathes, textiles, packaging, printing, robotics, and logistics equipment.



## ABL500 series model description



## ABL500 series specification parameters

PRODUCT MODEL	ABL500 series host
Execution method	Cyclic scanning / Interruption method
Programming method	LD/FBD(CFC)/SFC/ST
Instruction type	Basic instructions: 29 / Application instructions: 170
Execution time	Basic instructions 0.01-0.02μs
Program capacity	5MB
Download and Monitor	EtherNet USB TYPE-C
High speed pulse output	6-way transistor type 200K Hz
High speed counter interrupt	100 channels,
Timer interrupt	100 channels, supporting 0.1ms interrupt
External input interrupt	X0-X7 Simultaneously supporting rising edge and falling edge
High speed input single-phase	4 channels, 150K Hz
High speed input AB phase	4 channels, 150K Hz Support 2, 4 harmonics
Power down saving function	Can be adjusted through software
Storage medium	eMMC
Digital filtering	Perform digital filtering on all input terminals
Serial communication	RS485
Ambient temperature	Operation temperature: 0~55°C / Storage temperature: -20~70°C
Ambient humidity	35~85%RH (No condensation)
Impact resistance	Compliant with JIS C 0040 standards
Noise resistance	Compliant with IEC61000-4-4 , GB/T 17626.4: Noise voltage amplitude 1KVP-P、10μs Pulse width 0.3S Cycle, edge 5ns; Continuous action for 1 minute
TF card	Left Extension Support
EtherNet	100M Ethernet
EtherCAT	Up to 32 servo axes can be carried

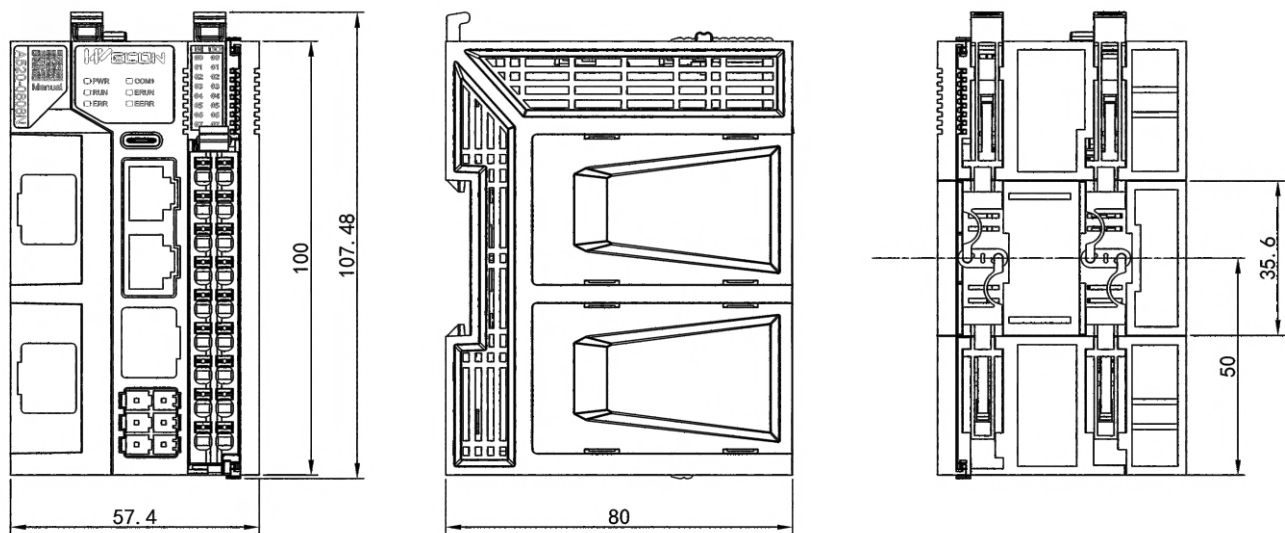
ABL500 series host

ABL500 series host	Input/output points	Type of output	Physical dimensions (mm)	High-speed counting	Electronic cam	High-Speed Output	RS485 Serial port	EtherCAT number of axes	Number of expansion modules	Power source	Ethernet
ABL520-0808N-D	08/08	Transistor	58X108X98	4	Yes	6	1	-	32	DC	Yes
ABL521-0808N-D	08/08	Transistor	58X108X98	4	Yes	6	1	8 axes	32	DC	Yes
ABL522-0808N-D	08/08	Transistor	58X108X98	4	Yes	6	1	16 axes	32	DC	Yes
ABL523-0808N-D	08/08	Transistor	58X108X98	4	Yes	6	1	32 axes	32	DC	Yes

ABL500 series communication card

Model	Function
ABAL30-RTC2RS485	Expand real-time clock and 2-channel RS485 interface
ABAL30-ETH	Expand one Ethernet interface
ABAL30-TF	Expand a TF card interface

ABL500 series dimension diagram



## ABL6 series

### Platform type PLC

Small in size and large in capacity,  
evolving towards a new platform type PLC

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### Performance characteristics

- Adopting domestically produced hardware chips with ultra large capacity storage.
- Self developed and independently controllable PLC upper and lower computer systems.
- Supports 64 expansion modules, the main body can support 2048 IO, and supports 16/128 axis servo.
- A completely redesigned overall encryption scheme and free label protocol.
- Compatible with 5V 61131-3 LD programming.
- Supports EtherCAT configuration and EtherNet configuration.

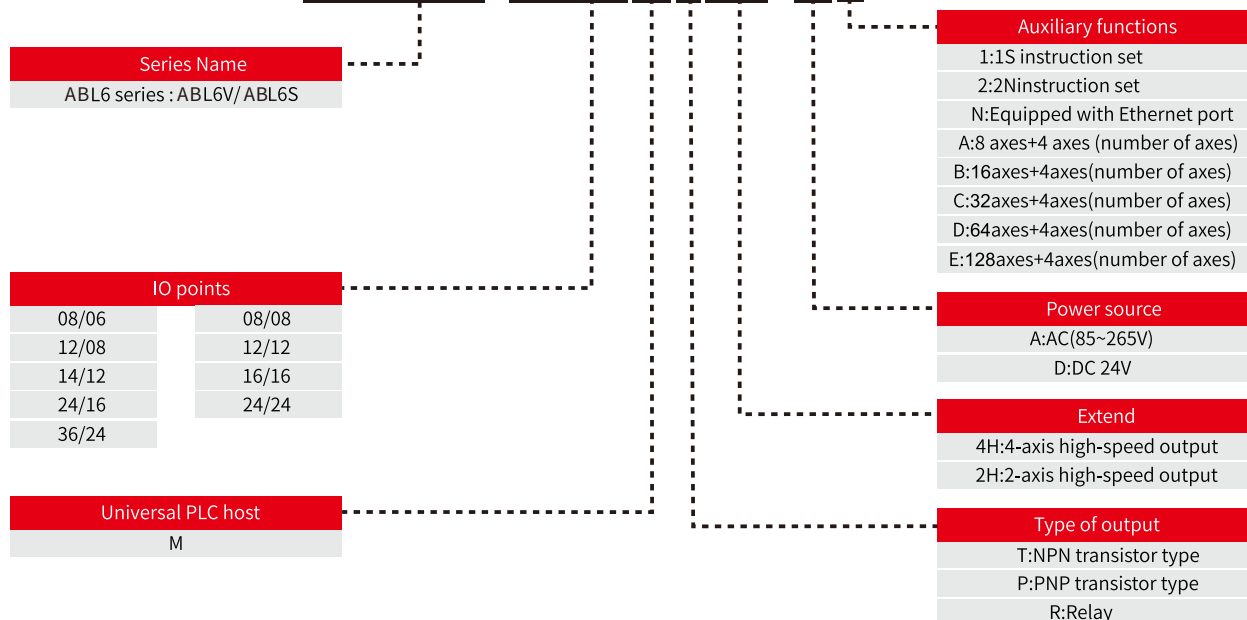
### Application scenarios

Widely used in industries such as lithium batteries, 3C, robotics, printing, photovoltaics, and medical equipment.



## ABL6 series model description

### ABL6V - 2416 MT4H- A 2



## ABL6 series specification parameters

Product model	ABL6V(ABL6S)-0808MT/1616MT
Execution method	Cyclic scanning / Interruption method
Programming method	Instruction list / ladder diagram / FB/FC/ST
Instruction type	Basic instructions: 29 / Application instructions: 170
Execution time	Basic instructions 0.01-0.02μs
Program capacity	5MB
Download and Monitor	EtherNet USB TYPE-C
High speed pulse output	4-way transistor type 200K Hz
High speed counter interrupt	100 channels,
Timer interrupt	100 channels, supporting 0.1ms interrupt
External input interrupt	X0-X7 Simultaneously supporting rising edge and falling edge
High speed input single-phase	8 channels, 150K Hz
High speed input AB phase	4 channels,150K Hz Support 2,4 harmonics
Power down saving function	Can be adjusted through software
Storage medium	Flash
Digital filtering	Perform digital filtering on all input terminals
Serial communication	RS485
Ambient temperature	Operation temperature: 0~55℃ / Storage temperature: -20~70℃
Ambient humidity	35~85%RH (No condensation)
Impact resistance	Compliant with JIS C 0040 standards
Noise resistance	Compliant with IEC61000-4-4 , GB/T 17626.4: Noise voltage amplitude 1KVP-P、10μs Pulse width 0.3S Cycle, edge 5ns; Continuous action for 1 minute
TF card	Support
EtherNet	100M Ethernet (ABL6S) / 1000M Ethernet (ABL6V)
EtherCAT	Up to 128 servo axes can be carried

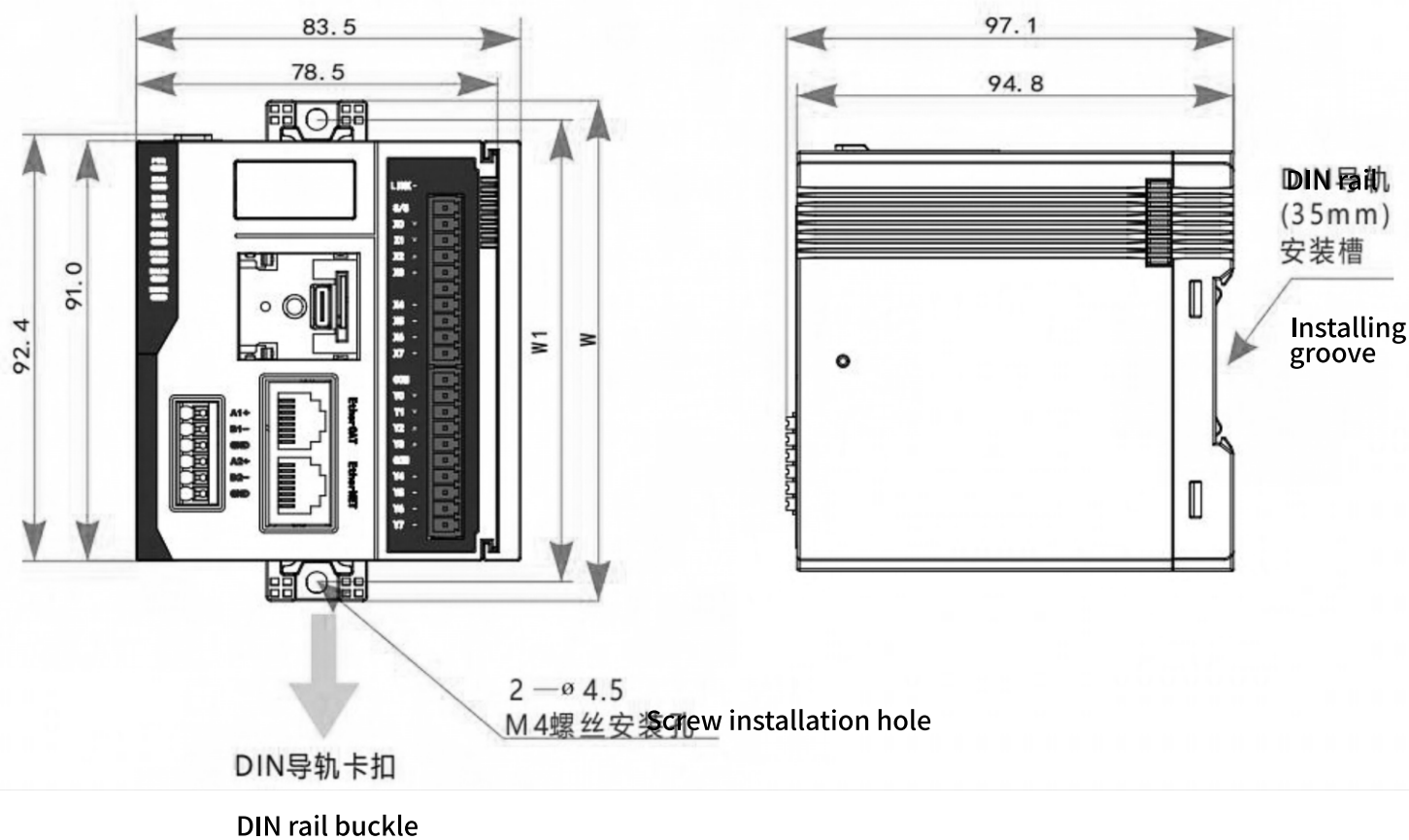
ABL6 series host

ABL6 series host	Input/output points	Type of output	Physical dimensions (mm)	high-speed counting	Electronic cam	High-Speed Output	RS485 Serial port	EtherCAT number of axes	Number of expansion modules	Power source	Ethernet
ABL6S-0808MT.D0	08/08	Transistor	85x90x110	4	Yes	4	2	-	32	DC	100Mbps
ABL6S-0808MT.DA	08/08	Transistor	85x90x110	4	Yes	4	2	8 axes	32	DC	100Mbps
ABL6S-0808MT.DB	08/08	Transistor	85x90x110	4	Yes	4	2	16 axes	32	DC	100Mbps
ABL6V-0808MT.DB	08/08	Transistor	85x90x110	4	Yes	4	2	16 axes	32	DC	1000Mbps
ABL6V-0808MT.DC	08/08	Transistor	85x90x110	4	Yes	4	2	32 axes	32	DC	1000Mbps
ABL6V-0808MT.DD	08/08	Transistor	85x90x110	4	Yes	4	2	64 axes	32	DC	1000Mbps
ABL6V-0808MT.DE	08/08	Transistor	85x90x110	4	Yes	4	2	128 axes	32	DC	1000Mbps

ABL6 series dimension diagram

DIN installation method of guide rail

Simply install it on the DIN46277 (35mm wide) rail, and when removing the host, pull out the two DIN rail buckles.



Direct mount

The programmable controller can be directly installed with M4 screws using the mounting holes. Please refer to the above figure and the table for the spacing and position of the mounting holes.

Type of machine	W(mm)	W1(mm)
ABL6V-0808MX	108.5	100.0

## ABM60 series

### Medium sized PLC

**More powerful functionality,  
stronger applicability, and larger storage space**



**Based on the CODESYS programming platform**

### Performance characteristics

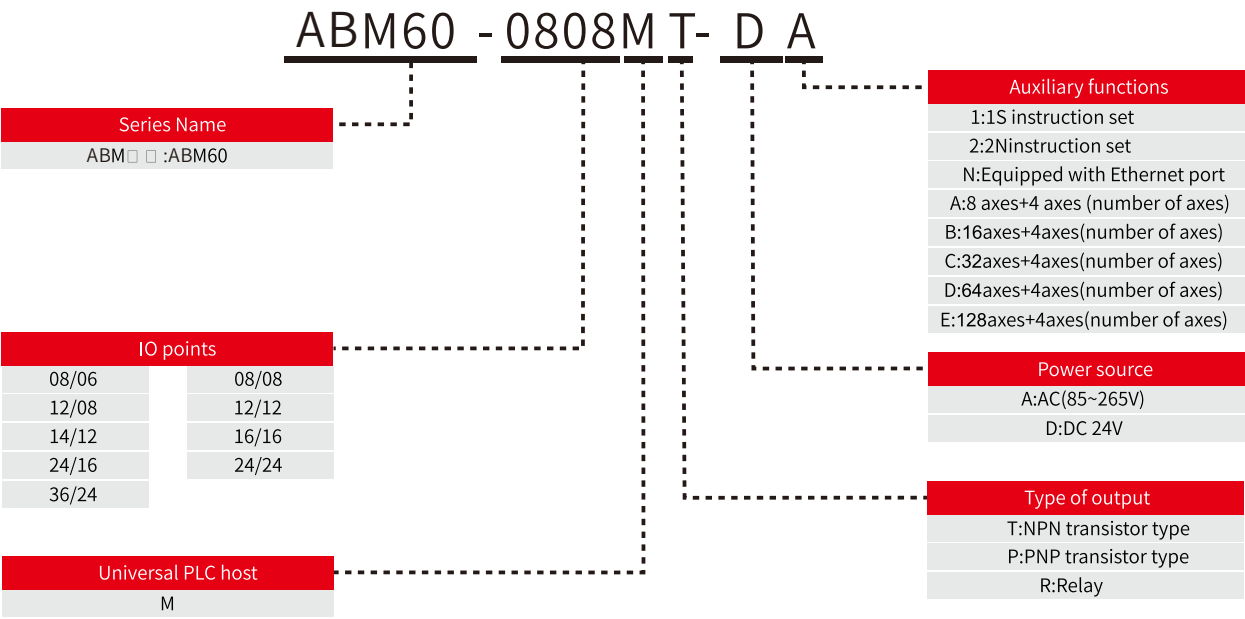
- High performance medium-sized PLC, with more powerful functions, stronger applicability, and larger storage space.
- Based on the Codesys programming platform, it fully supports the PLCopen programming specification.
- Supports protocols such as EtherCAT, modbusTCP, Ethernet/IP, OPCUA, etc.
- High speed IO, supporting 4-channel 200kHz single-phase input, 4-channel 150kHz two-phase input, 4-channel 200kHz output, etc.
- Supports 2 RS485 serial ports and 2 Ethernet ports (EtherCAT, EtherNET, etc.).
- Supports 8 inputs and 8 outputs, and can connect 32 expansion modules (up to 64 can be connected, requiring an additional power module).

### Application scenarios

Widely used in industries such as warehousing and logistics, security gates, engineering vehicles, and service robots.



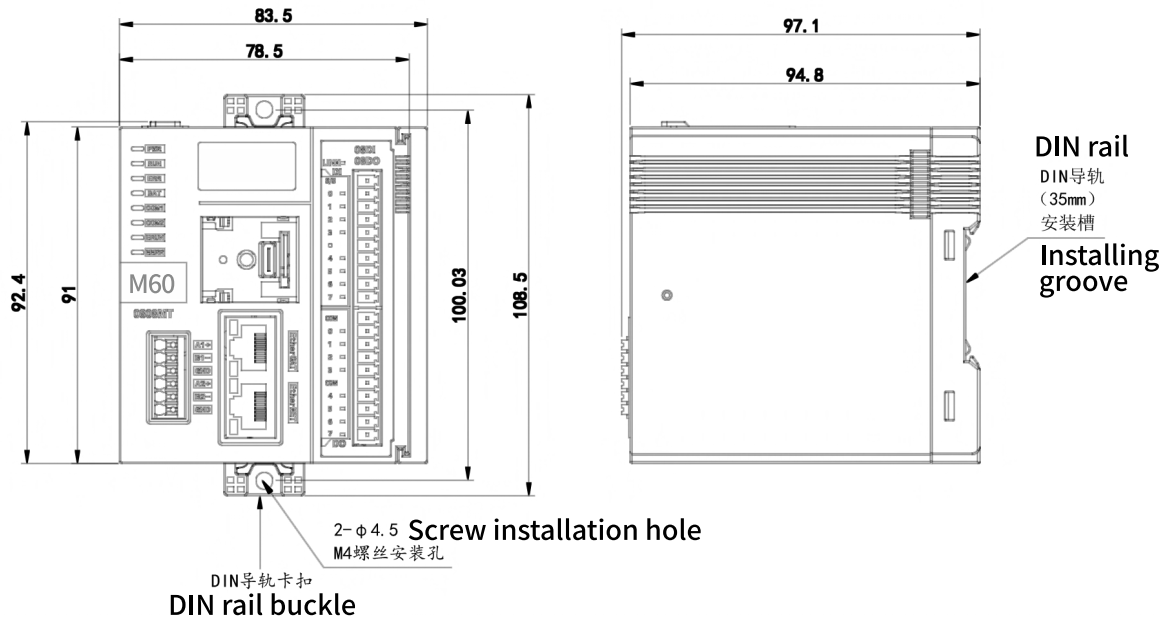
ABM60 series model description



ABM60 series dimension diagram

DIN installation method of guide rail

Simply install it on the DIN46277 (35mm wide) rail, and when removing the host, pull out the two DIN rail buckles.



Direct mount

The programmable controller can be directly installed with M4 screws using the mounting holes. Please refer to the above figure and the table for the spacing and position of the mounting holes.

Type of machine	W(mm)	W1(mm)
M60-0808MX	108.5	100.0

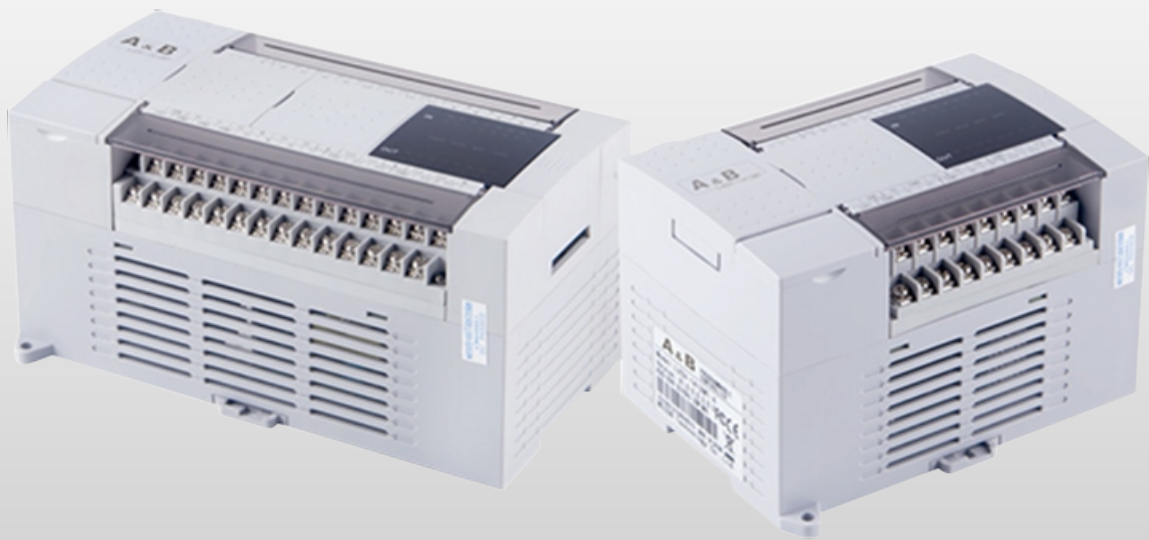
## ABM60 series specification parameters

Project		ABM60-0808MT-D0	ABM60-0808MT-DA	ABM60-0808MT-DB	ABM60-0808MT-DC	ABM60-0808MT-DD
Power supply mode		DC 24V±10%，1A，Support short circuit /reverse polarity protection				
Essence IO		8 input （source type /Leakage type） ， 8 output （Leakage type）				
Program space	Program capacity	50MB				
	Variable capacity	10MB				
	I zone (%I)	128KB				
	Q zone (%Q)	128KB				
	M zone (%M)	512KB				
	Power down storage capacity	1MB				
Programming language		LD/IL/FBD/CFC/SFC/ST				
EtherNet	Function	通信、调试、程序上传下载、更新固件等				
	Data transmission speed	1000Mbps/100Mbps/10Mbps				
	TCPTotal number of connections	Maximum of 128				
	ModbusTCP	Maximum of 128				
	Socket	Maximum of 128				
	Using cables	Standard Industrial Ethernet Communication Cable				
EtherNet/IP	The server	Maximum of 128				
	Client	Maximum of 128				
EtherCAT	Transmission speed	100Mbps(100Base-TX)				
	EtherCAT number of axles	0	8	16	32	64
	EtherCAT secondary station	—	Maximum of 256 EtherCAT secondary station			
	Typical values of communication cycle	—	1ms cycle 8-axis synchronization	1ms cycle 16-axis synchronization	1ms cycle 24-axis synchronization	
USB	Quantity	1-channel TYPE-C interface				
	Function	Support RTC calibration, IP settings, firmware updates, etc				
	Specifications	USB 2.0				
RS485	Quantity	2				
	Baud rate (bps)	1200、2400、4800、9600、19200、38400、57600、115200				
	Maximum communication distance	When the baud rate is 9600bps, the maximum communication distance is 500 meters				
	Communication mode	Half-duplex				
	Support agreement	Modbus Master/Slave(RTU/ASCII) 、Free Communication Protocol				
	Maximum number of slave stations	31				
	High speed input	Number of axles	4 axle			
Maximum input frequency		200K				
Input Mode		Single phase counting, pulse+direction, AB phase、CW/CCW				
Other functions		Dual probe, hardware reset, comparative output				
High-Speed Output	Number of axles	4 axle				
	Maximum Output Frequency	200K				
	Output mode	pulse+direction, AB phase、CW/CCW、PWM pulse width modulation				
	Other functions	Dual probe, origin regression hardware limit, emergency stop				
Local extension module		The body can be extended to a full range of L6V expansion modules, with a maximum capacity of 32				
TF card		Support				
Motion Control		Support				
OPC-UA		Not Supported	Not Supported	Not Supported	Not Supported	Support
CNC		Not Supported	Not Supported	Support	Support	Support
Robotic（轴组）		Not Supported	Not Supported	Support	Support	Support
Webvisu		Not Supported	Not Supported	Not Supported	Support	Support
Multicore 4 Cores		Not Supported	Not Supported	Not Supported	Not Supported	Support
Engineering configuration software		WECSYS（standard IEC 61131-3）				

## ABS5 series

### Small PLC

High frequency signal processing,  
fast response speed



### Performance characteristics

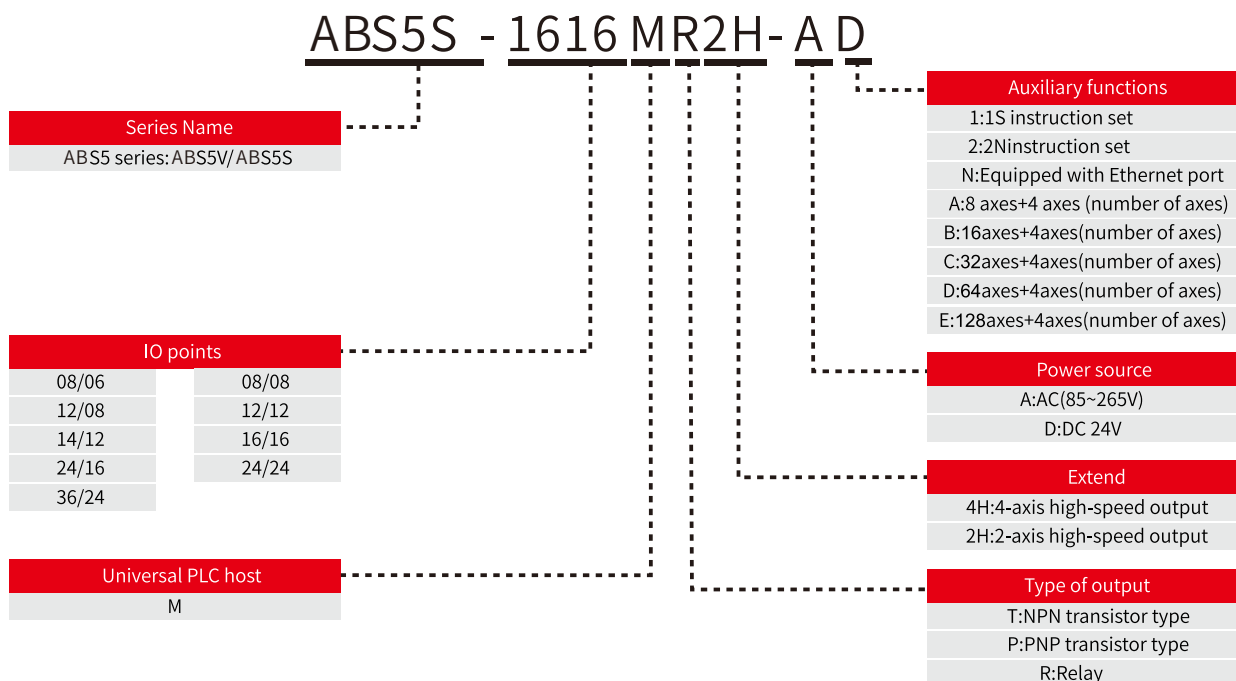
- 8-channel high-speed pulse input, maximum counting frequency 150K Hz.
- 8 high-speed pulse outputs, with a maximum output frequency of 200K Hz.
- Simple and easy-to-use configuration tools, clear program classification.
- Fast processing, with a basic instruction execution speed of  $0.01 \mu s \sim 0.03 \mu s$ .
- Support modifying frequency and position during pulse command operation.
- Support efficient and stable PID and CCPID self-tuning functions

### Application scenarios

Widely used in industries such as CNC lathes, textiles, packaging, printing, robotics, and logistics equipment.



## ABS5 series model description



## ABS5 series specification Parameters

Product model	ABS5V-1412MT/1212MT	ABS5V-2416MT/1616MT	ABS5V-3624MT/2424MT
Execution method	Cyclic scanning / Interruption method		
Programming method	Instruction list / Ladder diagram		
Instruction type	Basic instructions: 29 / Application instructions: 170		
Execution time	Basic instructions 0.01-0.03μs		
Program capacity	512KB/384KB (Ethernet type)		
Download and Monitor	Programming cable (serial port type) /Micro USB/Ethernet		
Ethernet	100M Ethernet (optional)		
High speed pulse output	Transistor type 4-channel / 200K	Transistor type 8-channel / 200K	Transistor type 8-channel / 200K
High speed counter interrupt	100 channels		
Timer interrupt	100 channels, supporting 0.1ms interrupt		
External input interrupt	X0-X7 Simultaneously supporting rising edge and falling edge		
High speed input single-phase	4 channels, 150K Hz	8 channels, 150KHz	8 channels, 150KHz
High speed input AB phase	4 channels, 100KHz Support 2,4 harmonics	8 channels, 100KHz Support 2,4 harmonics	8 channels, 100KHz Support 2,4 harmonics
Power down saving function	Can be adjusted through software		
Storage medium	Flash		
Digital filtering	Perform digital filtering on all input terminals		
Serial communication	RS422/RS485, RS485		
Ambient temperature	Operation temperature: 0~55°C / Storage temperature: -20~70°C		
Ambient humidity	35~85%RH (No condensation)		
Impact resistance	Compliant with JIS C 0040 standards		
Noise resistance	Compliant with IEC61000-4-4, GB/T 17626.4: Noise voltage amplitude 1KVP-P、10μs Pulse width 0.3S Cycle, edge 5ns; Continuous action for 1 minute		
USB power supply	Upgrade firmware, download ladder diagram	Not currently supported	Upgrade firmware, download ladder diagram

Product model	ABS5S-0806MT/MR ABS5S-1208MT/MR	ABS5S-1412MT/MR	ABS5S-1616MT/MR ABS5S-2416MT/MR	ABS5S-2424MT/MR ABS5S-3624MT/MR
Execution method	Cyclic scanning / Interruption method / Event mode			
Programming method	Instruction list / Ladder diagram			
Instruction type	Basic instructions: 29 / Application instructions: 170			
Execution time	Basic instructions 0.03-0.08μs			
Program capacity	512KB			
Download and Monitor	Programming cable (serial port type) / Micro USB	Programming cable (serial port type) /Micro USB / Ethernet		
Ethernet	Not Supported	100M Ethernet (optional)		
High speed pulse output	Transistor type: 2 channels (expansion type 2 channels)/Hybrid type: 2 channels/Relay type: none			
High speed counter interrupt	100 channels			
Timer interrupt	100 channels, supporting 0.1ms interrupt			
External input interrupt	X0-X5 Simultaneously support, rising edge, falling edge			
High speed input single-phase	2channels,150KHz 4channels,10KHz	2channels,150KHz 4channels,10KHz	6channels,150KHz	6channels,150KHz
High speed input AB phase	1 channels,100KHz Support 2,4 harmonics 2channels,10KHz Support 2,4 harmonics	1 channels,100KHz Support 2,4 harmonics 2channels,10KHz Support 2,4 harmonics	3channels,100KHz Support 2,4 harmonics	3 channels,100KHz Support 2,4 harmonics
Power down saving function	Can be adjusted through software			
Storage medium	Flash			
Digital filtering	Perform digital filtering on all input terminals			
Serial communication	RS422, RS485	RS422/RS485, RS485		
Ambient temperature	Operation temperature: 0~55℃ / Storage temperature: -20~70℃			
Ambient humidity	35~85%RH (No condensation)			
Impact resistance	Compliant with JIS C 0040 standards			
Noise resistance	Compliant with IEC61000-4-4 , GB/T 17626.4: Noise voltage amplitude 1KVP-P、10μs Pulse width 0.3S Cycle, edge 5ns; Continuous action for 1 minute			
USB power supply	Upgrade firmware, download ladder diagram			

## ABS5 series host

ABS5V series host	Input/output points	Type of output	Physical dimensions (mm)	High-speed counting	Electronic cam	High-Speed Output	RS485 Serial port	BD board	Extension module	Power source	Ethernet
ABS5V-1412MT-A(D/AN/DN)	14/12	Transistor	137x107x87	4	Yes	4	2	1	Yes	AC(DC)	Optional
ABS5V-1616MT-A(D/AN/DN)	16/16	Transistor	175x107x87	8	Yes	8	2	2	Yes	AC(DC)	Optional
ABS5V-2416MT-A(D/AN/DN)	24/16	Transistor	175x107x87	8	Yes	8	2	2	Yes	AC(DC)	Optional
ABS5V-2424MT-A(D/AN/DN)	24/24	Transistor	221x107x87	8	Yes	8	2	2	Yes	AC(DC)	Optional
ABS5V-3624MT-A(D/AN/DN)	36/24	Transistor	221x107x87	8	Yes	8	2	2	Yes	AC(DC)	Optional
ABS5S-0806MT-A(D)	08/06	Transistor	75×107×87	2	Yes	2	1	1	No	AC(DC)	No
ABS5S-0806MR-A(D)	08/06	Relay	75×107×87	2	No	0	1	1	No	AC(DC)	No
ABS5S-0806MR2H-A(D)	08/06	Mixed type	75×107×87	2	Yes	2	1	1	No	AC(DC)	No
ABS5S-1208MT-A(D)	12/08	Transistor	75×107×87	2	Yes	2	1	1	No	AC(DC)	No
ABS5S-1208MR-A(D)	12/08	Relay	75×107×87	2	No	0	1	1	No	AC(DC)	No
ABS5S-1208MR2H-A(D)	12/08	Mixed type	75×107×87	2	Yes	2	1	1	No	AC(DC)	No
ABS5S-1412MT-A(D/AN/DN)	14/12	Transistor	137×107×87	2	Yes	2	2	1	Yes	AC(DC)	Optional
ABS5S-1412MR-A(D/AN/DN)	14/12	Relay	137×107×87	2	No	0	2	1	Yes	AC(DC)	Optional
ABS5S-1412MR2H-A(D/AN/DN)	14/12	Mixed type	137×107×87	2	Yes	2	2	1	Yes	AC(DC)	Optional
ABS5S-1616MT-A(D/AN/DN)	16/16	Transistor	175×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-1616MR-A(D/AN/DN)	16/16	Relay	175×107×87	6	No	0	2	2	Yes	AC(DC)	Optional
ABS5S-1616MR2H-A(D/AN/DN)	16/16	Mixed type	175×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-1616MT4H-A(D/AN/DN)	16/16	Transistor	175×107×87	6	Yes	4	2	2	Yes	AC(DC)	Optional
ABS5S-2416MT-A(D/AN/DN)	24/16	Transistor	175×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-2416MR-A(D/AN/DN)	24/16	Relay	175×107×87	6	No	0	2	2	Yes	AC(DC)	Optional
ABS5S-2416MR2H-A(D/AN/DN)	24/16	Mixed type	175×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional

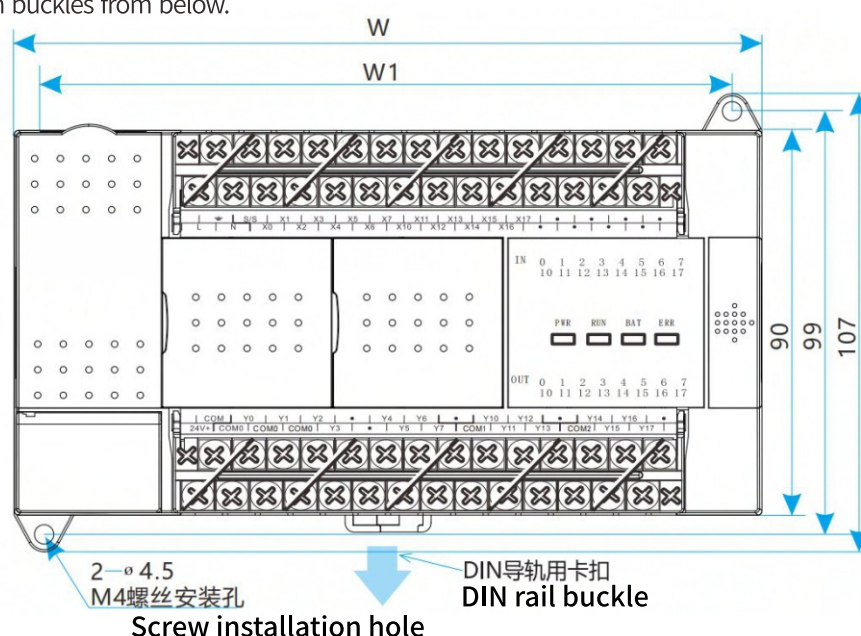
ABS5V series host	Input/output points	Type of output	Physical dimensions (mm)	high-speed counting	Electronic cam	High-Speed Output	RS485 Serial port	BD board	Extension module	Power source	Ethernet
ABS5S-2416MT4H-A(D/AN/DN)	24/16	Transistor	175×107×87	6	Yes	4	2	2	Yes	AC(DC)	Optional
ABS5S-2424MT-A (D/AN/DN)	24/24	Transistor	221×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-2424MR-A (D/AN/DN)	24/24	Relay	221×107×87	6	No	0	2	2	Yes	AC(DC)	Optional
ABS5S-2424MR2H-A(D/AN/DN)	24/24	Mixed type	221×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-2424MT4H-A(D/AN/DN)	24/24	Transistor	221×107×87	6	Yes	4	2	2	Yes	AC(DC)	Optional
ABS5S-3624MT-A (D/AN/DN)	36/24	Transistor	221×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-3624MR-A (D/AN/DN)	36/24	Relay	221×107×87	6	No	0	2	2	Yes	AC(DC)	Optional
ABS5S-3624MR2H-A(D/AN/DN)	36/24	Mixed type	221×107×87	6	Yes	2	2	2	Yes	AC(DC)	Optional
ABS5S-3624MT4H-A(D/AN/DN)	36/24	Transistor	221×107×87	6	Yes	4	2	2	Yes	AC(DC)	Optional

## ABS5 series dimension diagram

\*example S5V-2424MT

### DIN installation method of guide rail

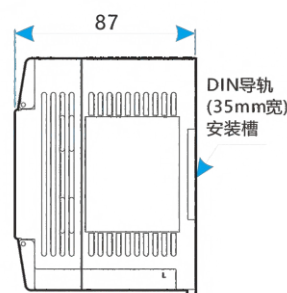
Simply install it on the DIN46277 (35mm wide) guide rail. When removing the host, gently pull out the two IN guide rail installation buckles from below.



### Direct mount

The programmable controller can be directly installed with screws using the installation holes. Please refer to the above figure and the table for the spacing and position of the installation holes.

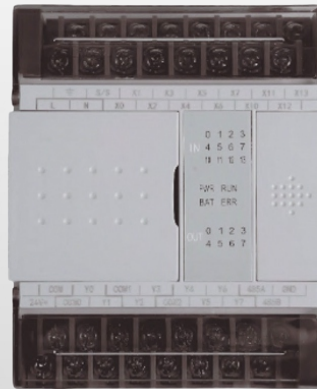
Type of machine	W(mm)	W1(mm)
ABS5S-0806MX	75	61
ABS5S-1208MX	75	61
ABS5V/S5VT/S5S-1212MX	136	123
ABS5V/S5VT/S5S-1412MX	136	123
ABS5V/S5VT/S5S-1616MX	175	161
ABS5V/S5VT/S5S-2416MX	175	161
ABS5V/S5VT-2424MX	221	207
ABS5V/S5VT-3624MX	221	207



## ABS3 series

### Small PLC

## High speed IO, rich interfaces



### Performance characteristics

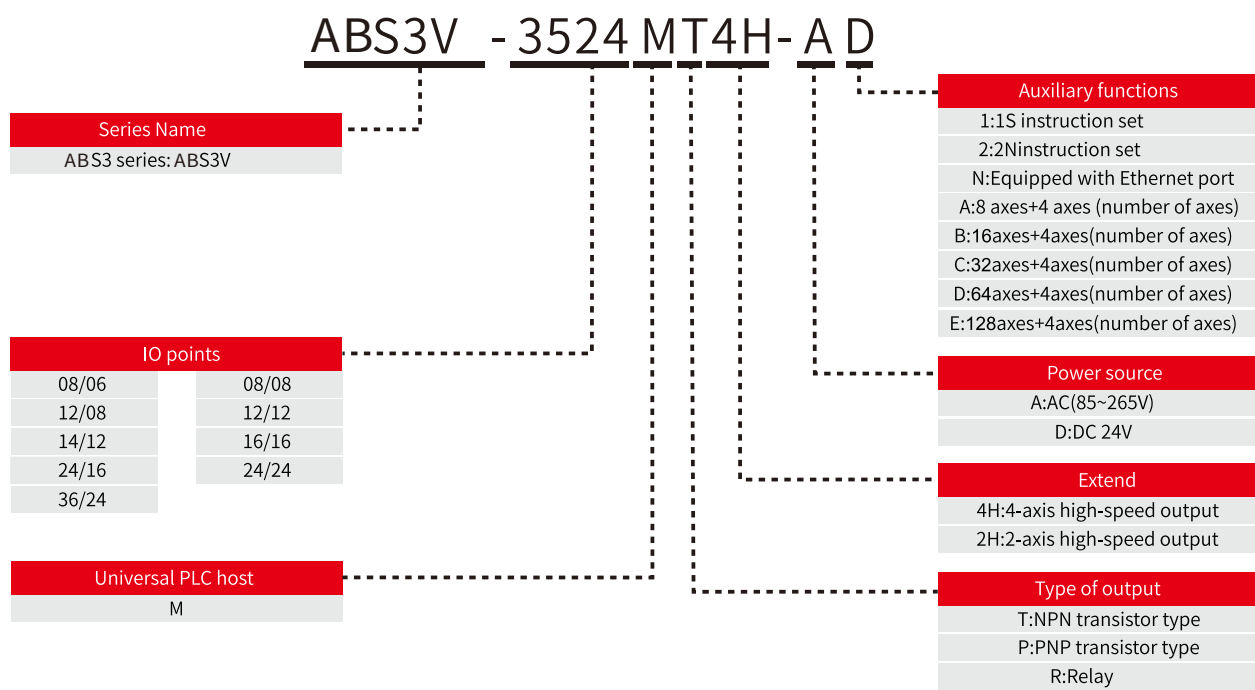
- 2-channel 200kHz single-phase input.
- 1 channel 100kHz dual phase input.
- 2-channel 100kHz output.
- 2-channel RS485 serial port.
- Support 1/2 BD board expansion.
- Support connecting extension modules.

### Application scenarios

Widely used in industries such as warehousing and logistics, security gates, engineering vehicles, and service robots.



ABS3 series model description



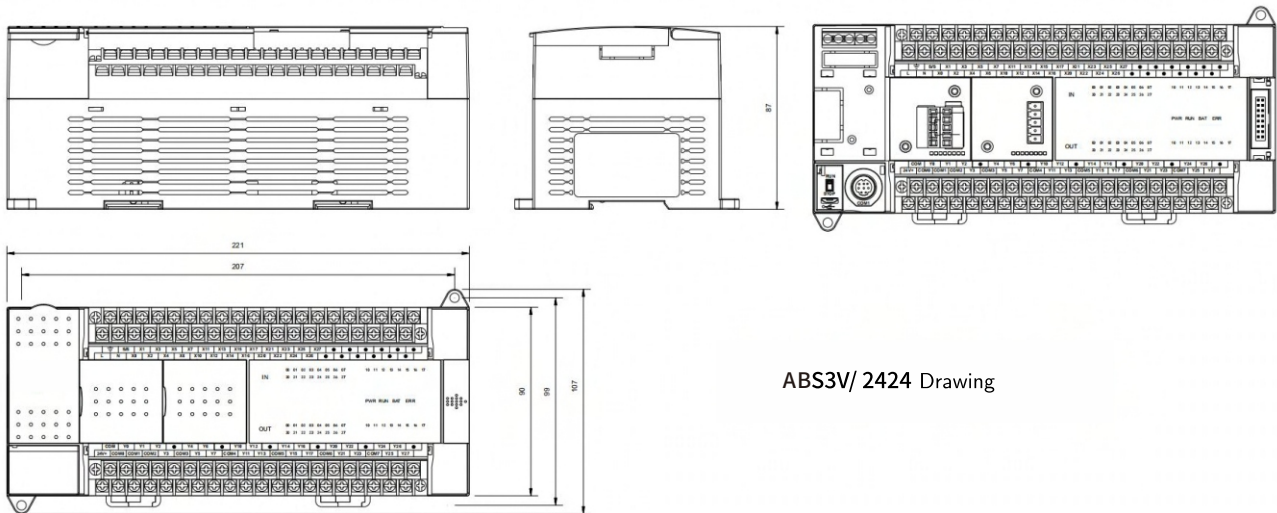
ABS3 series specification Parameters

Product model	ABS3V 系列主机	
Execution method	Cyclic scanning / Interruption method	
Programming method	Instruction list / Ladder diagram	
Instruction type	Basic instructions: 27 / Application instructions: 136+2	
Execution time	Basic instructions: 0.06μs / Application instructions: 1~10μs	
Program capacity	16K step	
Download and Monitor	Programming cable (serial type), Micro USB	
High speed pulse output	Transistor type 2-channel Expansion type 4-channel / Relay type: None (expansion type with 2 channels)	
High speed counter interrupt	6 channel	
Timer interrupt	3 channel	
High speed input single-phase	2 channels, 200KHz	4 channels, 5KHz
High speed input AB phase	1 channels, 100KHz Support 1, 2, 4 harmonics	1 channels, 5KHz Support 1, 2, 4 harmonics
Power down saving function	Can be adjusted through software	
Storage medium	Flash	
Digital filtering	Perform digital filtering on all input terminals	
Serial communication	RS422/RS485 , RS485	
Ambient temperature	Operation temperature: 0~55℃ / Storage temperature: -20~70℃	
Ambient humidity	35~85%RH (No condensation)	
Impact resistance	Compliant with JIS C 0040 standards	
Noise resistance	Compliant with IEC61000-4-4 , GB/T 17626.4: Noise voltage amplitude 1KVP-P、10μs Pulse width 0.3S Cycle, edge 5ns; Continuous action for 1 minute	

ABS3 series host

ABS3 series host	Input/output points	Type of output	Physical dimensions (mm)	high-speed counting	High-Speed Output	RS485 Serial port	BD board	Extension module	Power source
ABS3V-0806MR-A1 (D1)	08/06	Relay	75x107x87	2	0	1	1	No	AC (DC)
ABS3V-0806MT-A1 (D1)	08/06	Transistor	75x107x87	2	2	1	1	No	AC (DC)
ABS3V-0806MR-A2 (D2)	08/06	Relay	75x107x87	2	0	1	1	No	AC (DC)
ABS3V-0806MT-A2 (D2)	08/06	Transistor	75x107x87	2	2	1	1	No	AC (DC)
ABS3V-1208MR-A1 (D1)	12/08	Relay	75x107x87	2	0	1	1	No	AC (DC)
ABS3V-1208MT-A1 (D1)	12/08	Transistor	75x107x87	2	2	1	1	No	AC (DC)
ABS3V-1208MR-A2 (D2)	12/08	Relay	75x107x87	2	0	1	1	No	AC (DC)
ABS3V-1208MT-A2 (D2)	12/08	Transistor	75x107x87	2	2	1	1	No	AC (DC)
ABS3V-1208MR2H-A1 (D2)	12/08	Mixed type	75x107x87	2	2	1	1	No	AC (DC)
ABS3V-1412MR-A (D)	14/12	Relay	137x107x87	2	0	2	1	Yes	AC (DC)
ABS3V-1412MT-A (D)	14/12	Transistor	137x107x87	2	2	2	1	Yes	AC (DC)
ABS3V-1412MT4H-A (D)	14/12	Transistor	137x107x87	2	4	2	1	Yes	AC (DC)
ABS3V-1412MR2H-A (D)	14/12	Mixed type	137x107x87	2	2	2	1	Yes	AC (DC)
ABS3V-1616MR-A (D)	16/16	Relay	175x107x87	2	0	2	2	Yes	AC (DC)
ABS3V-1616MT-A (D)	16/16	Transistor	175x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-1616MT4H-A (D)	16/16	Transistor	175x107x87	2	4	2	2	Yes	AC (DC)
ABS3V-1616MR2H-A (D)	16/16	Mixed type	175x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-2416MR-A (D)	24/16	Relay	175x107x87	2	0	2	2	Yes	AC (DC)
ABS3V-2416MT-A (D)	24/16	Transistor	175x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-2416MT4H-A (D)	24/16	Transistor	175x107x87	2	4	2	2	Yes	AC (DC)
ABS3V-2416MR2H-A (D)	24/16	Mixed type	175x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-2424MR-A (D)	24/24	Relay	220x107x87	2	0	2	2	Yes	AC (DC)
ABS3V-2424MT-A (D)	24/24	Transistor	220x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-2424MT4H-A (D)	24/24	Transistor	220x107x87	2	4	2	2	Yes	AC (DC)
ABS3V-2424MR2H-A (D)	24/24	Mixed type	220x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-3624MR-A (D)	36/24	Relay	220x107x87	2	0	2	2	Yes	AC (DC)
ABS3V-3624MT-A (D)	36/24	Transistor	220x107x87	2	2	2	2	Yes	AC (DC)
ABS3V-3624MT4H-A (D)	36/24	Transistor	220x107x87	2	4	2	2	Yes	AC (DC)
ABS3V-3624MR2H-A (D)	36/24	Mixed type	220x107x87	2	2	2	2	Yes	AC (DC)

ABS3 series dimension diagram

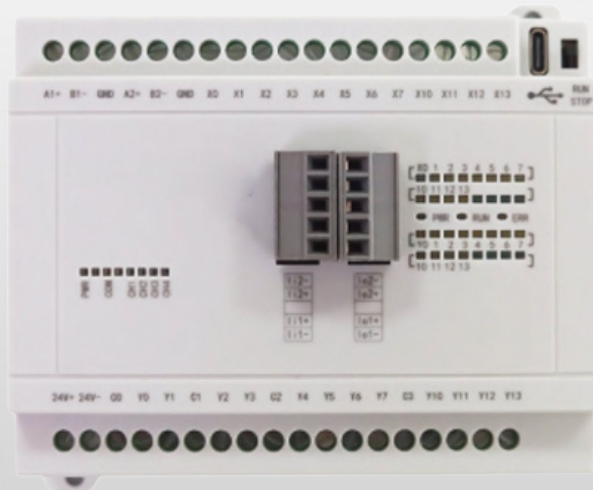


ABS3V/ 2424 Drawing

## ABS1Vseries

### Small PLC

High speed IO, meeting the requirements of conventional interfaces



### Performance characteristics

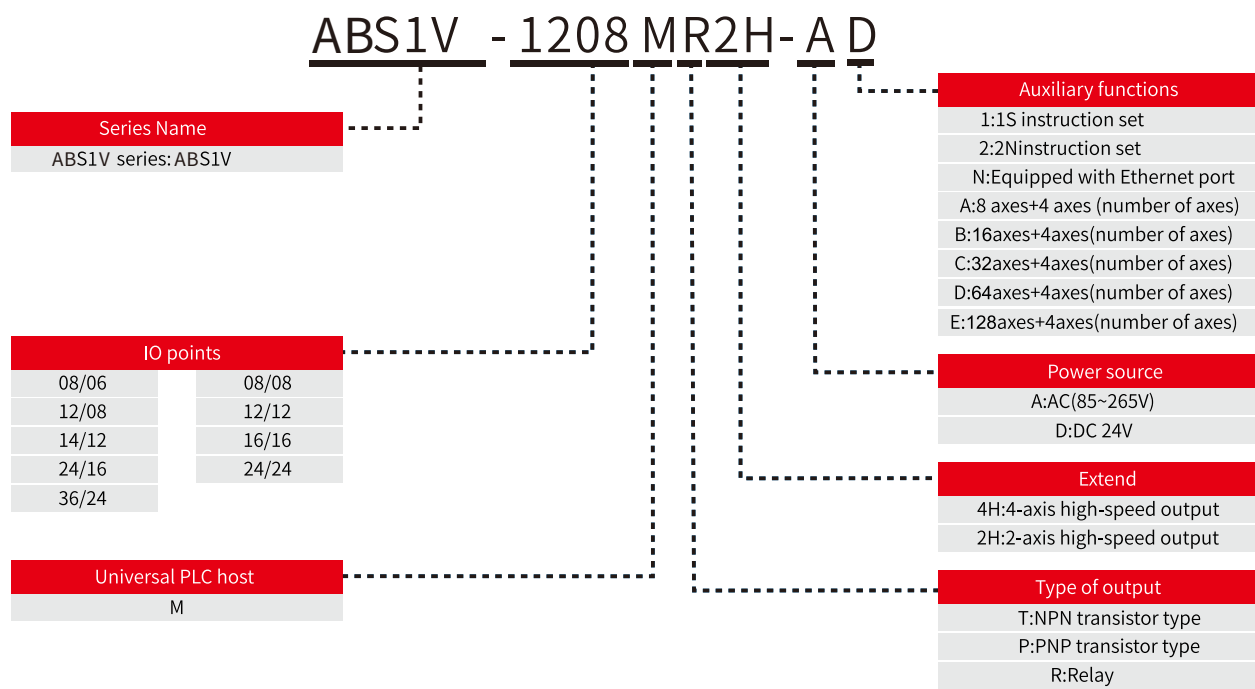
- 2-channel 200kHz single-phase input.
- 1 channel 100kHz dual phase inputOptional .
- 2-channel 200kHz output.
- 2-channel RS485 serial port.
- Customizable optional BD board.
- Does not support connecting extension modules.

### Application scenarios

Widely used in industries such as lithium batteries, 3C, robotics, printing, photovoltaics, and medical equipment.



ABS1Vseries model descriptiOn



ABS1Vseries sPecification Parameters

Product model	ABS1V 系列主机	
Execution method	Cyclic scanning / Interruption method	
Programming method	Instruction list / Ladder diagram	
Instruction type	Basic instructions: 27 / Application instructions: 136+2	
Execution time	Basic instructions: 0.06μs / Application instructions: 1~10μs	
Program capacity	16K step	
Download and Monitor	Programming cable (serial type) / Type-C USB	
High speed pulse output	Transistor type 2-channel Expansion type 4-channel / Relay type: None (expansion type with 2 channels)	
High speed counter interrupt	6 channel	
Timer interrupt	3 channel	
High speed input single-phase	2 channels, 200KHz	4 channels, 5KHz
High speed input AB phase	1 channels,100KHz Support 1, 2,4 harmonics	1 channels,5KHz Support 1, 2,4 harmonics
Power down saving function	Can be adjusted through software	
Storage medium	Flash	
Digital filtering	Perform digital filtering on all input terminals	
Serial communication	RS485	
Ambient temperature	Operation temperature: 0~55℃ / Storage temperature: -20~70℃	
Ambient humidity	35~85%RH (No condensation)	
Impact resistance	Compliant with JIS C 0040 standards	
Noise resistance	Compliant with IEC61000-4-4 , GB/T 17626.4: Noise voltage amplitude 1KVP-P、10μs Pulse width 0.3S Cycle, edge 5ns; Continuous action for 1 minute	

ABS1Vseries host

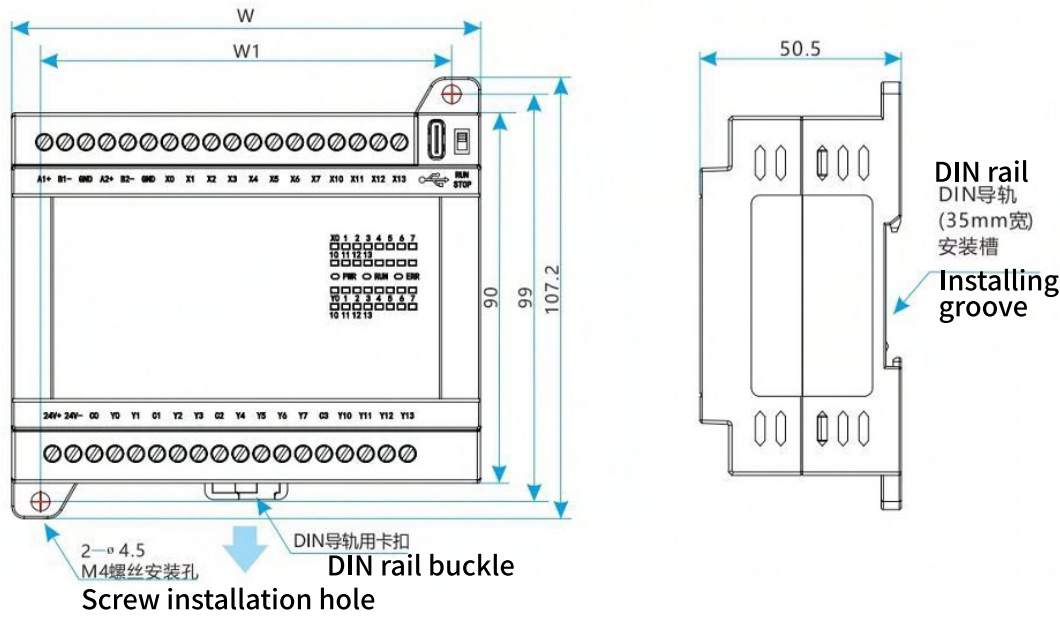
ABS1 series host	Input/output points	Type of output	Physical dimensions (mm)	high-speed counting	High-Speed Output	RS485 Serial port	BD board	Extension module	Power source
ABS1V-0806MT-D	08/06	Transistor	114x107x50	2	0	2	Customized options	No	DC
ABS1V-0806MT2H-D	08/06	Transistor	114x107x50	2	2	2	Customized options	No	DC
ABS1V-0806MR-D	08/06	Relay	114x107x50	2	0	2	Customized options	No	DC
ABS1V-0806MR2H-D	08/06	Relay	114x107x50	2	2	2	Customized options	No	DC
ABS1V-1208MT-D	12/08	Transistor	114x107x50	2	0	2	Customized options	No	DC
ABS1V-1208MT2H-D	12/08	Transistor	114x107x50	2	2	2	Customized options	No	DC
ABS1V-1208MR-D	12/08	Relay	114x107x50	2	0	2	Customized options	No	DC
ABS1V-1208MR2H-D	12/08	Relay	114x107x50	2	2	2	Customized options	No	DC
ABS1V-1212MT-D	12/12	Transistor	114x107x50	2	0	2	Customized options	No	DC
ABS1V-1212MT2H-D	12/12	Transistor	114x107x50	2	2	2	Customized options	No	DC
ABS1V-1212MR-D	12/12	Relay	114x107x50	2	0	2	Customized options	No	DC
ABS1V-1212MR2H-D	12/12	Relay	114x107x50	2	2	2	Customized options	No	DC

ABS1V series dimension diagram

\* ABS1V.0806MT example

DIN installation method of guide rail

Simply install it on the DIN46277 (35mm wide) guide rail. When removing the host, gently pull out the two IN guide rail installation buckles from below.



Direct mount

The programmable controller can be directly installed with screws using the installation holes. Please refer to the above figure and the table for the spacing and position of the installation holes.

Type of machine	W(mm)	W1(mm)
ABS1V-0806MXX-D	114	100
ABS1V-1208MXX-D	114	100
ABS1V-1212MXX-D	114	100

# Adaptation and expansion module

## PLC

### ABL500 series

ABL500 expansion module type and model		Function
Input /Output	ABAE30-1600	16 channel digital input
	ABAE30-0016N	16 NPN transistor outputs
	ABAE30-0808N	8 -channel digital input, 8NPN transistor outputs
	ABAE30-0016P	16 PNP transistor outputs
Analog quantity	ABAE30-4AD	4-channel AD input
	ABAE30-4DA	4-channel AD input
Temperature	ABAE30-4TC	4 -channel thermocouple input
	ABAE30-4PT	4 -channel PT100 platinum resistor input
Weigh	ABAE30-2WT	2 -channel weighing pressure module input

### ABL6 series

ABL6V expansion module type and model		Function	L6V expansion module type and model		Function
Input / Output	ABL6V-16EX	16 -channel input module	Analog quantity	ABL6V-4AD	4 -channel analog input module
	ABL6V-32EX	32 -channel input module		ABL6V-4DA	4 -channel analog output module
	ABL6V-16EYT	16 -channel transistor output module (NPN)	Weigh	ABL6V-1WT	1 -way weighing module
	ABL6V-32EYT	32 -channel transistor output module (NPN)		ABL6V-2WT	2 -way weighing module
	ABL6V-16EYP	16 -channel transistor output module (PNP)	Temperature	ABL6V-4TC	4-channel thermocouple temperature acquisition module
	ABL6V-32EYP	32 -channel transistor output module (PNP)		ABL6V-4PT	4-channel thermal resistance PT100 input module
	ABL6V-0808EXYT	8 -channel input 8 -channel transistor output module (NPN)	High-speed pulse	ABL6V-4PG	4-channel pulse high-speed output module
	ABL6V-0808EXYP	8 -channel input 8 -channel transistor output module (PNP)		ABL6V-1616EXYT	16-channel input 16-channel transistor output module (NPN)
	ABL6V-8HC	8 -way encoder input module	Input / Output	ABL6V-1616EXYP	16-channel input 16-channel transistor output module (PNP)

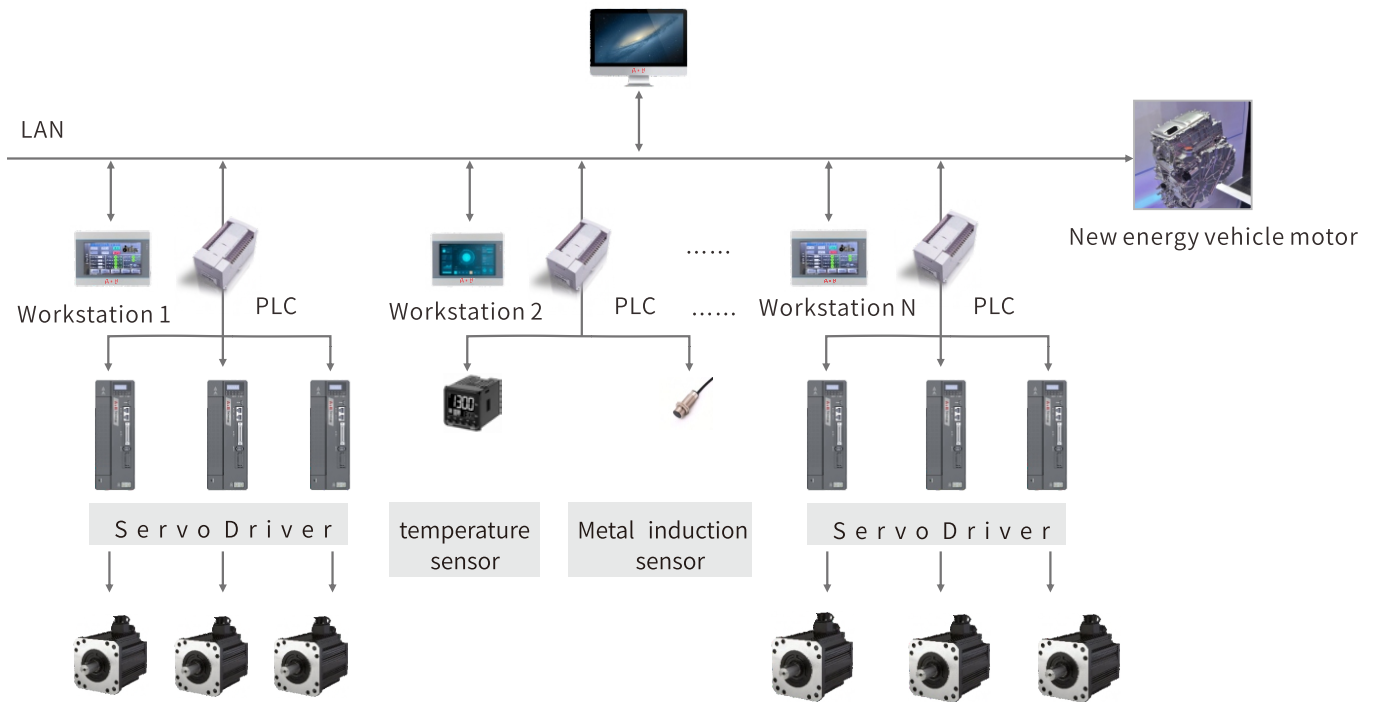
### ABS3V series

S3V expansion module type and model		Function	S3V expansion module type and model		Function
Input / Output	S3V-8EX	8-channel input module	Weigh	S3V-1WT	1-way weighing module, 24 bit resolution
	S3V-16EX	16 -channel input module		S3V-2WT	2-way weighing module, 24 bit resolution
	S3V-8EYR	8-way relay output module		S3V-1WT-L	1-way weighing module, 18 bit resolution
	S3V-16EYR	16-way relay output module		S3V-2WT-L	2-way weighing module, 18 bit resolution
	S3V-8EYT	8-channel transistor output module (NPN)	Temperature	S3V-4PT	4-channel thermal resistance Pt100 input module
	S3V-16EYT	16-channel transistor output module (NPN)		S3V-4TC	4-channel thermocouple temperature acquisition module
Analog quantity	S3V-4AD	4-channel analog input module		S3V-4LTC	4-channel thermocouple temperature acquisition module (with PID control), each isolated
	S3V-4DA	4 -channel analog output module		S3V-8iTC	8-channel thermocouple temperature acquisition module, each isolated
High speed pulse output	S3V-4PGB	4-channel pulse high-speed output module, 4-channel independent 200Khz high-speed pulse output, Support trapezoidal acceleration and deceleration. Support single speed positioning.	High speed pulse output	S3V-4PGA	4-channel pulse high-speed output module, 4-channel independent 200Khz high-speed pulse output, Support trapezoidal acceleration and deceleration, S-shaped acceleration and deceleration, Support dual speed positioning and interrupt single speed positioning, Supports variable speed operation and single speed positioning.

# Typical Application - Automotive Motor Production Line

## ABScheme Introduction

As one of the main components of new energy vehicles, the motor plays a crucial role. To improve the production efficiency of the new generation of motors, Aotong provides professional Alcornetech human-machine solutions for modern car companies.



## Scheme structure

This plan adopts the Alcornetech 10 inch HMI model, which communicates efficiently with PLC and other equipment to ensure the stability and efficiency of production.

## Scheme effect

This solution is implemented on a production line, equipped with hundreds of Aotong HMIs. HMI interfaces with automated production equipment at all workstations to achieve fully automated production and efficient human-machine interaction on a production line. Alcornetech HMI continuously monitors the processing and measurement data of each process from the feeding stage to the completion of the finished product, and monitors the status information of thousands of devices in real time to ensure that staff can grasp the real-time status of the production line, adjust production parameters in a timely manner, and respond to abnormal situations.

### Rich functionality

Integrating data monitoring, alarm monitoring, chart display, multi machine interconnection, tag protocol, multi-layer screen, reset countdown, permission management, and recipe functions to meet diverse needs.

### Efficient alarm monitoring

Monitor up to 5000 alarm messages, with fast response capability to ensure the stable operation of the production line.

### High flexibility

Provide powerful script functionality, integrate diverse functional modules, and make calling convenient. And it supports self packaging process processing modules to achieve high reuse of functional modules.

### Easy to use configuration

The clear and reasonable layout design of the configuration software is easy to learn and use, significantly improving work efficiency. Rich library resources help create more attractive HMI interfaces.

## Advantages of the plan

### Support tag protocol

Supports most PLCs on the market that use label protocols, and supports label import and usage.

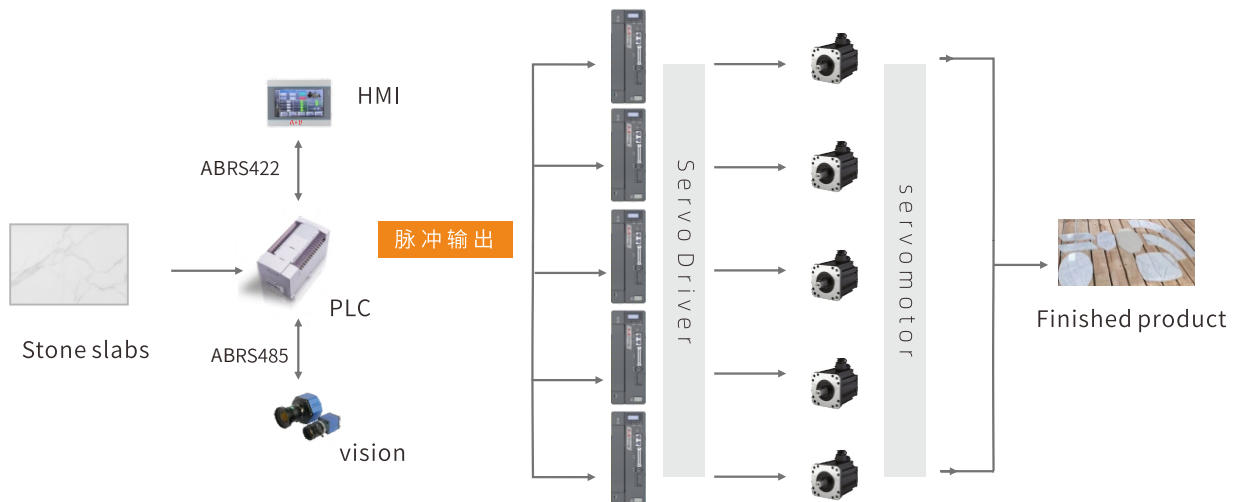
### LAN monitoring

PC tools can be used to simultaneously monitor all HMIs within the local area network, and management personnel can grasp the real-time status of the entire production line on one PC.

# Application Case - Stone Integrated Machine

## ABScheme Introduction

The stone multi axis integrated machine solution is a fully automated stone cutting solution developed by Alcornetech based on the pain points of low manual cutting efficiency and high labor costs for small and medium-sized manufacturers in the stone cutting industry.



## Scheme structure

This plan is a 5-axis system solution consisting of four major products, including the Alcornetech IG IoT HMI, S5V series PLC, ATS servo drive system, and visual control system. The X-axis, Y-axis, Z-axis, C-axis, and A-axis are driven by a servo system with built-in high-speed positioning and interpolation algorithms.

## Scheme effect

This solution is compatible with traditional infrared specification board cutting, supports irregular cutting such as circular, regular polygon, and horse belly edge, and supports chamfering, imitation and other processing methods. The cutting accuracy of the specification plate is controlled within 0.2mm, and the cutting accuracy of the irregular shape is controlled within 0.3mm.

### Easy to operate

The operator is quick to get started, only needs to set key dimensional parameters on the touch screen to process, and supports CAD mapping.

### High flexibility

Adopting S5V PLC pulse commands, supporting real-time speed regulation, and adapting to various material cutting schemes.

### featured

S5V PLC combined with 8-axis ATS multi turn absolute servo, easily achieving multi axis linkage. Support multiple processing modes such as specification board slicing, irregular cutting, chamfering, and imitation. One machine is versatile and has more functions.

### strong stability

Adopting the Alcornetech S5V PLC, with rich registers, fast speed, large storage space, and stable pulse control, it achieves exquisite and subtle equipment control.

## Advantages of the plan

### Remote Internet of Things

Using remote IoT HMI facilitates after-sales maintenance and eliminates spatial barriers between device manufacturers and end users.

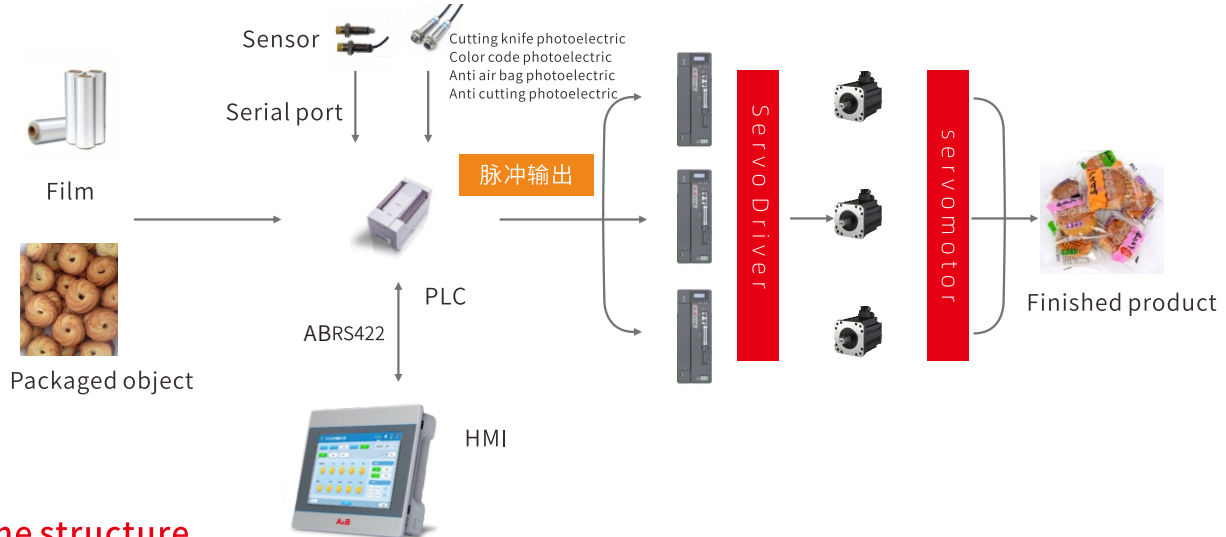
### Visual layout

Reduce the requirements for operators, get started quickly, and have low learning costs. Scientific algorithms, saving board materials and increasing material utilization.

# Application Case - Three servo pillow packaging machine

## Scheme Introduction

Pillow packaging machines, as automatic continuous packaging equipment, are widely used in automated production lines in industries such as food, medicine, and daily necessities. In order to meet the increasingly refined production capacity requirements of the market for pillow packaging machines, Alcornetech has specially launched a three servo pillow packaging machine solution.



## Scheme structure

The solution is equipped with three major products: Alcornetech PLC, Alcornetech servo system, and Alcornetech HMI. The system is stable and ensures the accuracy of marking and bag length.

## Scheme effect

Taking food packaging machines as an example:

Single blade: 200 packs/min Double blade: 400 packs/min.

Three knives: 600 packs/sub packaging accuracy:  $\pm 0.5\text{mm}$ .

Taking the belt packaging machine as an example: it can reach a maximum of 150 packages per minute.

Ps: The packaging speed mentioned above is related to the machinery and bag length.

### One machine for multiple purposes

Can switch between belt type and chain pusher type; The belt can be switched between fixed length and non fixed length modes.

### Air defense bag

For chain models, if there is an empty material situation in the conveying part, the die-cutting knife will automatically stop to prevent empty product packaging.

### Anti cutting material

Implement anti cutting based on photoelectric sensor signals; The equipment can perform cutting and reversing actions.

### Anti scald film

For belt conveyor models, if no material enters during the production process, the cutting blade will automatically stop at the open position to prevent scalding of the packaging film.

## Advantages of the plan

### Supports multiple languages

Supports Chinese, English, Spanish, and RussianEnglish, Italian, Korean, TurkishJapanese, Arabic, French and other languages.

### USB download function

By using Alcornetech PLC and HMI, programs can be downloaded and systems can be updated using a USB flash drive, making it convenient for customers to improve their processes.

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everyone's responsibility



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