

XINJE

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Super product lineup • Provide all-round control solutions

PLC Overview

XG series Medium-sized PLC



XG series medium-sized PLC has a brand-new appearance design, compact structure, lightweight and intuitive, with the advantages of fast speed, larger capacity and significantly enhanced functions, so as to provide customers with more perfect solutions and create higher quality.

XD series Small-sized PLC



XD series small-sized PLC has the characteristics of fast speed, stable performance, complete functions and wide application fields, which can meet the diversified needs of users.

XL series Slim type PLC



XL series slim type PLC card design, ultra-thin appearance, compact and practical, outstanding cost performance, can meet most of the functional requirements in a smaller space.

New products

XDH / XLH | Upgraded EtherCAT motion control PLC

2 ~ 4MB super large program capacity

Dual network ports, supporting Ethernet and EtherCAT communication

Support 3-axis linear / arc / spiral interpolation, electronic CAM

4-channel high-speed counting input and 4-channel high-speed pulse output



XS3/XSDH/XSLH PLC based on CODESYS

FEC based on CODESTS

Fully support PLCopen programming specification

Many standard function libraries can be referenced

Develop proprietary function blocks and instruction libraries

EtherCAT motion control

EtherCAT remote IO

32 channels synchronous electronic CAM

Ethernet communication

Online download



XL5N The first built-in CANbus PLC

Built in two channels independent CAN communication

Support free format communication of CANopen and CAN

The communication speed can up to 1Mbps

Simple wiring and linear topology



CODESYS controller

CANbus communication —

XS Series CODESYS Controller

Developed based on CODESYS platform, covering medium-sized, small and slim product lines





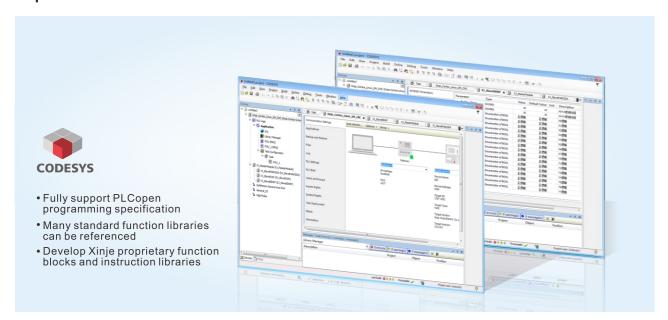


- 1 Network Control
- With its own Ethernet communication port, it is easy to build an intelligent network system
- 3 High Speed Operation
- Cortex-A8 processor and 1GHz main frequency are selected to quickly realize data processing
- 5 High Speed Signal Acquisition
- Standard 4-channel 200kHz high-speed counter
- High speed control is realized through a simple high-speed counting instruction function block

2 Multiple Communication Ports

- RS232, RS485, RJ45, realize rich communication functions, and can connect external equipment such as frequency converter and instrument
- 4 High Speed Positioning
- It is equipped with 4-axis positioning control function as standard, and the speed can reach 100kHz
- 6 Strong Scalability
- It can be equipped with rich I/O expansion modules, analog input and output modules and temperature control modules to easily realize analog control for various purposes, with a maximum of 16 expansion modules

Based on CODESYS platform, the programming efficiency is significantly improved



CANbus Communication

Fast networking, simple wiring and strong anti-interference

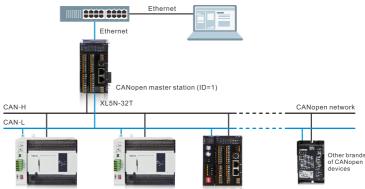
CANbus is a fieldbus commonly used in industrial control. At present, it has established standards in a wide range of industrial communication, such as mechanical engineering, drive systems and components, medical equipment, building automation, transportation, etc.





Network topology

When XD/XL series PLC is connected to CANopen network, it needs to cooperate with CANopen communication modules XD-COBOX-ED and XL-COBOX-ED. This module can be used as master station or slave station of CANopen network.



CANopen slave station (ID=2) CANopen slave station (ID=3) CANopen slave station (ID=4) CANopen slave station (ID=4)

Communication specification

Item	Specification	
Transmission mode	CAN	
Electrical isolation	500VDC	
Transmission cable	Two communication cables, one shielded wire and one grounding wire	
Information type	PDO / SDO / SYNC / Emergency / NMT	
Serial transmission speed	10 kbps~1 Mbps	
Communication distance	25m~5000m The higher the communication rate, the shorter the distance	

Highlight advantages

High communication rate

Up to 1Mbps.

System reliability

XD-COBOX-ED/XL-COBOX-ED/XL5N-32T are equipped with 120Ω terminal resistance dial switch to enhance the reliability of CAN communication and eliminate the reflection interference of CANbus terminal.

Communication node

Up to 64 nodes.

When 1M communication rate is adopted, the maximum distance between nodes is 25m.

Easier wiring

When accessing the CANbus network, the linear topology is adopted. Only connect the terminal CAN_H to CAN_H and the CAN_L to CAN_L to establish

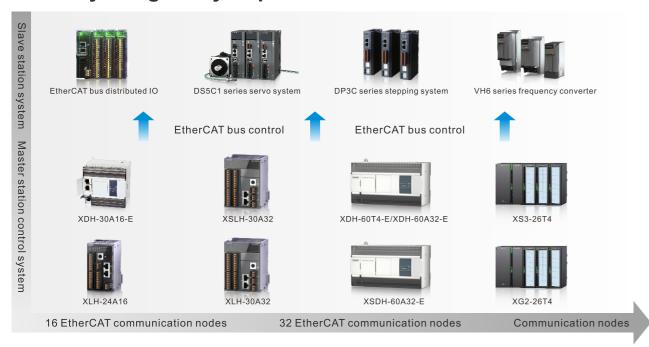
Heartbeat protection

The powered on slave station periodically sends a message called heartbeat, so that the master station can confirm whether the slave station fails and whether it is separated from the network. When the master station does not receive the heartbeat message sent by a slave station within the heartbeat consumption time, it will be considered that the slave station is disconnected and trigger the double flashing of the error indicator.

EtherCAT bus control

EtherCAT Bus Control

More communication nodes, real-time performance and stability are greatly improved



Highlight advantages

Communication rate and distance

Xinje special network cable can be used, and the maximum length between communication nodes is 100m. The fastest synchronization cycle is 500µs below 16 axes and 1ms below 32 axes.

Accuracy and reliability

EtherCAT system adopts distributed clock. Through the calibration mechanism of master clock and slave clock in the system, the clock jitter is far less than 1µs. Because the synchronization is realized by hardware, the reliability of EtherCAT is guaranteed.

Communication nodes

Up to 32 nodes communication is supported in an EtherCAT bus control system.

Openness

EtherCAT is an open real-time Ethernet communication protocol. Any slave equipment supporting standard EtherCAT communication protocol can communicate with XDH, XLH, XG2, XS3. It supports 2-channel touch probe function, position, speed, torque and other control modes, and is widely applicable to various industry applications.

System scalability

One click scanning identifies the number of slave devices, and the node address is automatically set. The device only needs to rescan after changing the node to adjust the node position, which has simple structure and flexible application.

The wiring is simple and low installation cost

Thanks to the simple linear structure of EtherCAT, EtherCAT control system does not need hub and switch, the wiring is very simple, the installation cost is low, the number of engineering design and drawings, the engineering time for laying cables and hardware management documents are reduced.

Communication specification

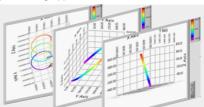
Item	Specification			
Physical Layer	100BASE-TX(IEEE802.3)			
Baud rate	100[Mbps] (full duplex)			
Topology	Line			
Connection cables	JC-CA twisted pair			
Cable length	Max 100m between the nodes			
Communication port	RJ45			
Cyclic time (DC communication cycle)	500,1000,2000,4000[μs]			
Communication object	SDO [service data object], PDO [process data object]			
Maximum number of PDO allocated in a single station	TxPDO: 4 RxPDO: 4			
Maximum bytes of single station PDO	TxPDO: 32[byte] RxPDO: 32[byte]			

Up to 32 axes synchronous motion is supported. Compared with the traditional bus control, EtherCAT has shorter control cycle, higher bandwidth utilization and more flexible system structure, which can meet the control needs of most customers.



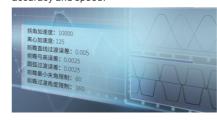
3 axes straight line, circular arc, spiral interpolation

It can realize 3-axis linear interpolation, arc interpolation and spiral interpolation, which is suitable for high-precision and high-speed positioning applications.



Forward-looking thinking and scientifically control the motion quality

In view of the possibility of time lag of some parts in the system, the forward-looking setting can effectively ensure the machining accuracy and speed.



EtherCAT motion control command can realize local pulse output

In order to unify the application habit of motion control command, H motion control command can be used to realize the axis motion control of EtherCAT bus, and this command can also be used to realize the output of local pulse.

ber of axes show	n 2 🗘 Read + Writ	e • System Sett	ings		
	Basic configuration	Probe configuration	Limit the configuration	Performance confi	guration D
	Parameter names	address SFD8000	Offline values Real axis	Online value Real axis	type
	Command char				
	From the stand	no. SFD8002	0	0	INT16U
	- unt	SFD8003	pulse	pulse	ENUM
	Number of puls	e SFD8004	131072	131072	NT32U
	Encoder input;	port SFD8006	0	0	NT16U
	Gantry mode	SFD8007	is not enabled	is not enabled	FNUM

The simple pulse command can realize the movement of EtherCAT communication axis

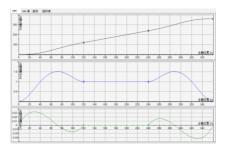
A PLSF, A-DRVI, A DRVA, A PLSR, A-FOLLOW, A ZRN are added to the single axis motion control command, which perfectly inherits the writing habit of the PLC pulse axis motion control command, which is convenient for users to quickly understand the application.

target location:	D0	speed:	D4	Acceleration and dec	releration time: D8
Status parameter:	MD	Effective axis num:	D12		
Name	Addr	Online value	Offline value	Data type	statement
target location					
Pos	D0	0	0	FP64	target location
speed					
-Vel	D4	0	0	FP64	Speed, command unit / S
- Acceleration and	1 d				
LT	D8	0	0	FP64	Acceleration and decelerat
- Status paramete	r				
- Done	MO	False		BIT	Completion status
- Br	M1	False		BIT	Error status

Electronic CAM

The electronic CAM function is favored by users because its trajectory is easy to change and flexible. It can easily change the machining trajectory according to the demand without cumbersome changes to the mechanical CAM.

The system using electronic CAM has higher machining accuracy and flexibility, and can effectively improve production efficiency. At present, it has been widely used in capping machine, pillow packaging machine, bottle blowing machine and other industries.

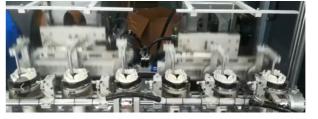


Typical application scheme based on EtherCAT bus

With the improvement of automation level and manufacturers' pursuit of more efficient production process, EtherCAT bus technology has obtained a wider application space, such as electronics, packaging, chemical industry, photovoltaic and other industries.

1 Stator Inner Winding Machine

The equipment adopts XDH series PLC to complete the control of 6 stations and 10 DSSC series servo EtherCAT motion bus. The scheme has high winding speed, which can be increased according to the wire diameter, and the maximum speed can reach 1100rpm. At the same time, the arrangement of wires is neat and beautiful without crossing. When winding, the electronic CAM function is used to realize multi-axis cylinder linkage motion, which greatly improves the efficiency.



2 Photovoltaic Module Automatic Production Line

XDH series motion control PLC and DS5C/DS5C1 servo system are used in the automatic production line of solar photovoltaic modules, glass loading machine, typesetting machine, glass lamination, glass repair, edge cutting machine and blanking equipment on the curing line. Controlled by EtherCAT bus, the servo has higher motion accuracy, faster response speed, simple wiring and convenient maintenance.



Bus distributed IO

EtherCAT Bus Distributed IO

High real-time performance, compact structure and diversified combination



Xinje EtherCAT bus distributed IO is small in shape and adopts plug-in structure, which is composed of LC3-AP adapter and XL series modules. Bus networking can be carried out for multiple modules to flexibly expand IO points and analog quantity. Through strict electromagnetic compatibility test, it is safe and reliable.



*Note: Follow the principle of bottom in and top out when connecting.

LC3-AP adapter

LC3-AP adapter supports EtherCAT bus communication protocol and can realize seamless connection with most EtherCAT master stations such as TwinCAT and Codesys.

- A single adapter module can hook up to 16 XL series modules and support up to 512 signal points.
- A variety of status diagnosis functions and status indicator lights are designed.
- Screw free terminal is adopted, which is convenient and reliable.
- The 45 degree inclined Ethernet port design reduces the stress on the Ethernet port and increases the reliability of the product.



Technical specifications

1 General specifications

Item	Specification
Using environment	No corrosive gas
Rated voltage	DC24V
Allowable voltage range	DC21.6V~26.4V
Input current	120mA DC24V
Allowable instantaneous power off time	10ms DC24V
Impact current	10A DC26.4V
Working temperature	0°C~55°C
Ambient humidity	5~95%RH
Installation	It is directly installed on the guide rail of DIN46277 (width 35mm)

Item	Specification	
Ground	The third kind of grounding (not common grounding with strong current system)	

② Communication parameters

Item	Specification	
Bus protocol	EtherCAT	
Interface type	Industry Ethernet	
Connection mode	2*RJ45	
Communication rate	100Mb/s	

Selection guide

1 L series adapter

Model	Description	
LC3-AP	EtherCAT communication adapter	

2 Accessory

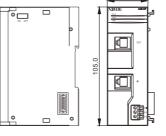
Model	Description
XL-ETR	Terminal resistance. When the external expansion modules is greater than or equal to 5, the terminal resistance module must be used together.
XL-P50-E	Power module. Independent power supply ensures the normal operation of the module under a good and reliable power supply system. This module is optional.

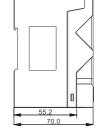
③ XL series module

Item	Description
XL-E8X8YR	8 channels digital input (NPN), 8 channels relay output
XL-E8X8YT	8 channels digital input (NPN), 8 channels transistor output
XL-E16X	16 channels digital input (NPN)
XL-E16YR	16 channels relay output
XL-E16YT	16 channels transistor output
XL-E16X16YT	16 channels digital input (NPN), 16 channels transistor output
XL-E32X	32 channels digital input (NPN)
XL-E32YT	32 channels transistor output
XL-E4AD2DA	4 channels analog input (14-bit), 2 channels analog output (12-bit), I/O is voltage current optional
XL-E8AD-A	8 channels analog input (14-bit), current bipolar input
XL-E8AD-V	8 channels analog input (14-bit), voltage bipolar input
XL-E4DA	4 channels analog output (12-bit), current voltage is optional
XL-E4PT3-P	4 channels PT100 temperature measurement, with PID function (developing)
XL-E4TC-P	4 channels thermocouple temperature measurement, with PID function (developing)

Dimension (unit: mm)

LC3-AP





Ethernet Communication

Easily build industrial intelligent network

As the core control component of Ethernet system, Xinje provides models with different structures, supports a variety of controls, can be flexibly selected, and is applied to multi-axis positioning or motion control equipment. It can also be directly connected to the industrial network to reduce the system construction cost.





Slim type PLC XL5E Series XLME Series XLH Series XSLH Series





1 Support Access to Multiple Protocol Devices

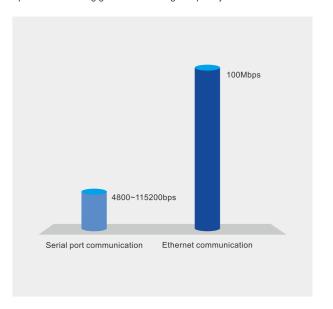
MODBUS-TCP, TCP/IP, UDP protocol

- When PLC is the master station, it can establish communication with 32 Modbus-TCP or TCP/IP slave stations and 32 UDP slave stations at the same time for data interaction.
- As a slave station, it can be accessed by four master stations for data interaction.



2 Faster and More Efficient Communication

• In XD/XG/XL series PLC software, PLC data can be monitored. Through Ethernet communication, better real-time data can be obtained and program uploading downloading is faster. At the same time, high-speed and stable Ethernet networking also provides a strong guarantee for high-capacity data interaction.



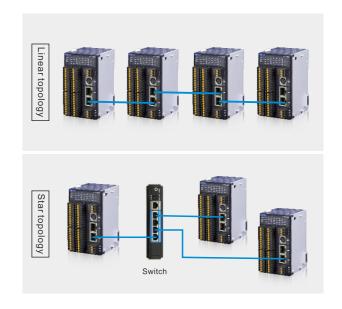
3 Support Access to Xinje Cloud

 After the remote communication function of Ethernet PLC is enabled, the device can be added in Xinje Cloud to realize the functions of remote data monitoring, data storage, data analysis and so on.



4 Flexible Network Topology

• Support linear and star wiring, with high wiring freedom



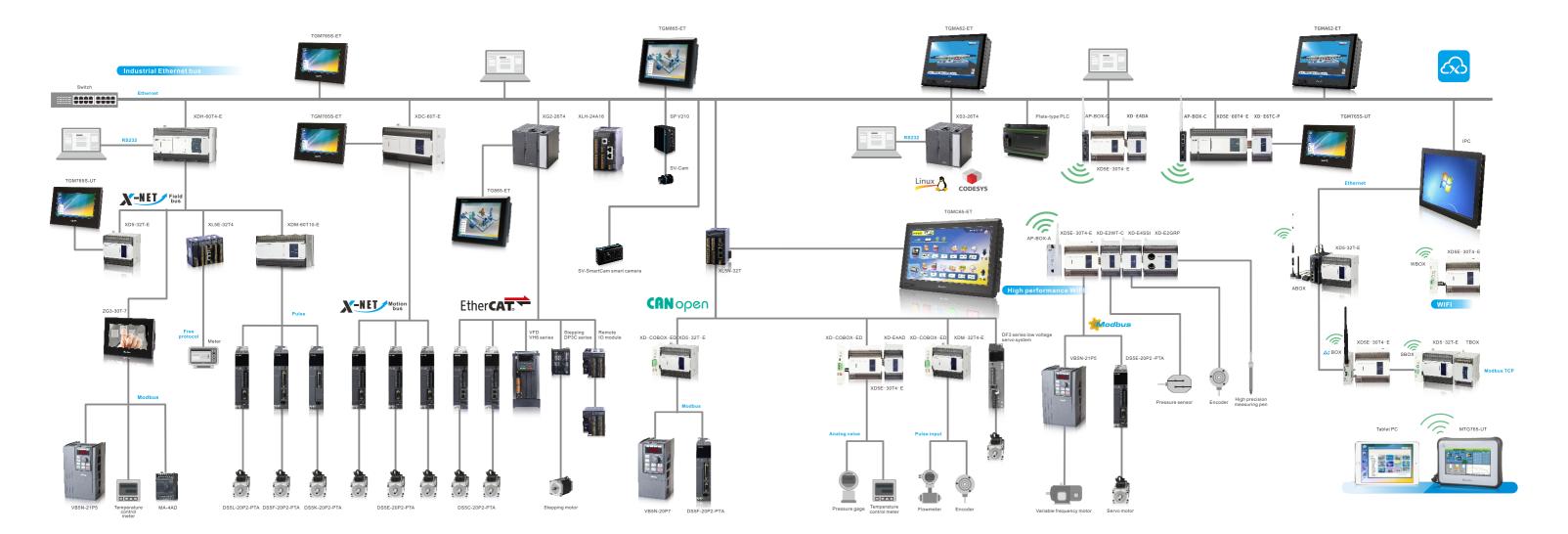
Integrated Network Structure Diagram

convenient wiring and easy reconstruction.

the same time, and the maximum speed

can reach 3Mbps.

situation on site.





high bandwidth utilization and more flexible

industries.

system structure. EtherCAT communication is

currently mainly used in XG2, XDH, XLH, XS series PLC and can be widely used in various transportation, etc.

communications, such as mechanical

medical equipment, building automation,

engineering, drive systems and components, realize a wide open network.

higher communication performance and

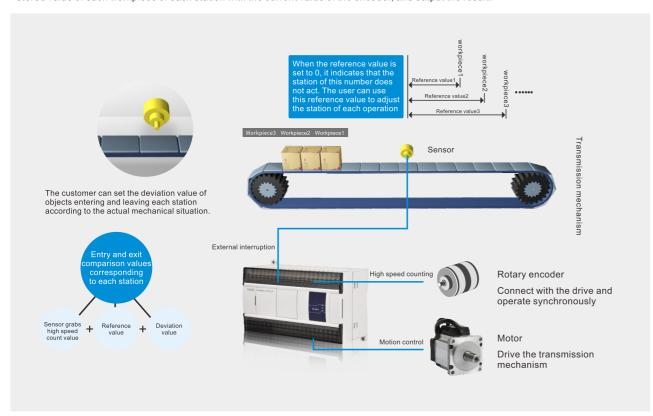
12

Rich Special Functions

1 MSC Multistation Control

Suitable model Punching equipment / labeling machine

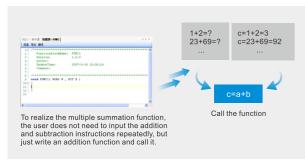
• Get the encoder value according to the trigger input, calculate and save the entry value and departure value of each station, compare the stored value of each workpiece of each station with the current value of the encoder, and output the result.



*Note: Some models do not support this function. Refer to the performance specifications for details.

2 C Language Function Block First in the industry

- The confidentiality of the program is better. When the user compiles the function module, he can call the module directly where needed, and the internal program encryption is not visible.
- It saves internal space, reduces workload and has high programming efficiency.
- Richer operation functions, including some functions supported by C language.
- Support local and global variables.



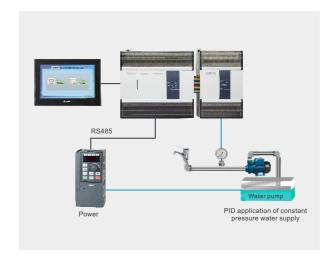
3 PWM Pulse Width Modulation

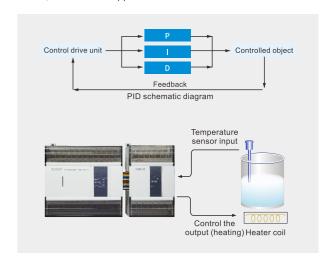
- Pulse width modulation can be realized by PWM command.
- The precision of pulse width subdivision can reach 1/65535
- With this function, the frequency converter and DC motor can be controlled.



4 Noumenon PID Control

- PLC body supports PID control instructions and provides self-tuning function, which is more flexible to use.
- Users can get the best sampling time and PID parameter value through self-tuning, so as to improve the control accuracy.
- It has two control methods: step response method and critical oscillation method, which can be applied to more occasions.





5 Precise Timing

- STR instruction can realize accurate timing in 1ms, and the timing range is 1~2³².
- When the precise timer reaches the timing value, a corresponding interrupt mark will be generated, and the interrupt subroutine can be executed. Each precise timer has a corresponding interrupt mark.



6 SD Card Storage

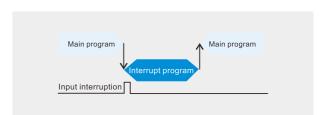
Suitable model

- XD5 (except 16 points), XDM series PLC can expand a SD card for data storage and backup. The SD card slot is located on the CPU board of PLC. When using, open the BD cover plate and insert the SD card into the card slot.
- The SD card is not installed when the PLC leaves the factory. The user needs to bring his own MicroSD (TF Card), and the card



Interruption Function

- XD series PLC has interrupt function. Some special operations can be realized by calling interrupt, which is not affected by PLC scanning cycle.
- The interrupt includes 100 segments of high-speed counting interrupt, 100 segments of pulse interrupt and timing interrupt.



High speed pulse output

Programming software —

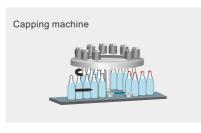
High Speed Pulse Output

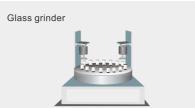
Positioning control

Transistor output PLC generally has $2 \sim 10$ axis high-speed pulse output function, and the frequency can reach 100 kHz.



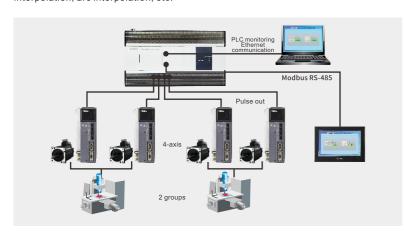
Application





Motion control

XDM, XDME, XLME, XDH, XG series PLC have motion control function, support linear interpolation, arc interpolation, etc.



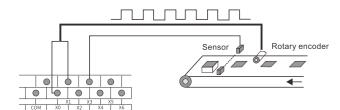
Application



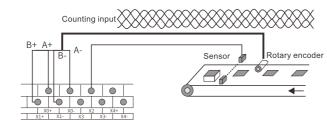


High speed counting input

PLC generally has $2 \sim 10$ channels of high-speed counting functions, with single-phase up to 80kHz and AB phase up to 50KHz. It can be directly connected with rotary encoder to count the input of encoder.



XDH, XLH, XG2, XS3 series PLC single-phase/AB phase can up to 200KHz. XG2, XS3 support differential input mode.



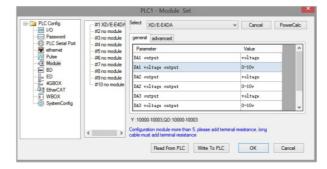
XDPPro

Support XD/XL/XG series

Easy to use configuration function

1 Module Configuration

 The connected network module, expansion module, expansion BD board and left expansion ED module can be configured directly.



3 Flexible Pulse Function Configuration

- PLSR instruction integrates multiple pulse output modes, with more powerful functions and richer parameters
- 5 sets of different parameters can be configured to make programming more convenient



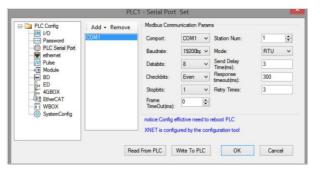
5 Strong Language Editing Ability

- Support ladder chart and command, the two can be switched at any time according to the user's programming habits.
- Built-in C language function block, which can be imported and exported freely.
- C language function block can be written directly in XDPPro software without switching to C language programming software.



2 Serial Port Configuration

- PLC serial port COM1~COM5 can be configured.
- Modbus-RTU, Modbus-ASCII, free format communication can be configured.



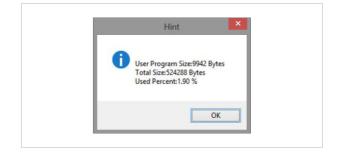
4 Complex Command Panel Configuration to Improve Programming Efficiency

 For instructions with many and complex parameters, such as PID, sequential function block, high-speed counting interrupt, a simple and easy instruction editing panel is provided. After setting the corresponding parameters, the instructions can be directly generated.



6 Calculation of Program Occupied Space

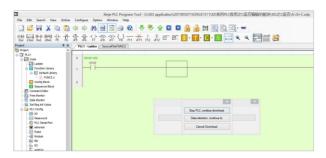
 Programmers can accurately grasp the utilization of program capacity in PLC.



XDPPro

7 Online Download

- Customers can update the program at any time, and the program operation will not be affected during the download process.
- When PLC is running, the control operation of the system will be affected immediately after the new program is downloaded online.
- Applicable model: XD5E-60T4, XD5E-60T10, XDME-60T4, XDME-60T10, XDH series, XLH series, XL5E-16T, XG2 series.



8 IP Adaptive Function

• XDPPro initiates the scanning request, [scan IP] with one click, modifies the corresponding IP address through the scanned IP, and completes the communication with Ethernet type PLC.



the confidentiality of the pro

using the advanced saving function can make the C function block written by the customer unable to upload, so as to enhance the confidentiality of the program.

Advanced save

Cancel

remove comment

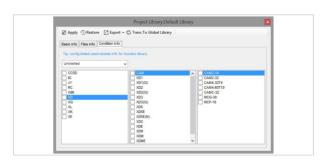
Ok

• The advanced saving function is added. You can choose whether

to keep the program comments confidential. At the same time,

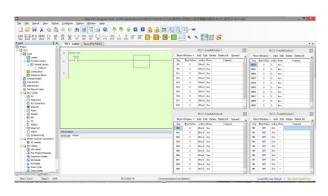
12 Multiple Security Functions

 When exporting the C function block, the user can freely choose the list of prohibited or allowed models.



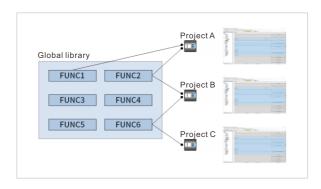
9 Multi-page Free Monitoring Function

• Users can freely monitor multiple data windows according to their classification habits.

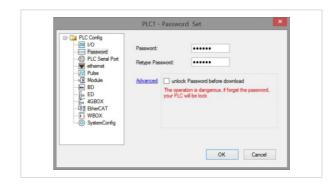


10 Function Library

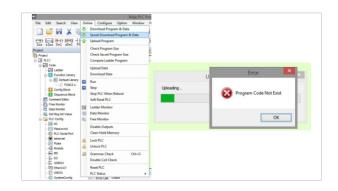
 Summarize the common function components in multiple projects into one file for reference. The components of the library can be obtained for use in various projects.



 The optimized password function can not only limit the upload of PLC and protect the legitimate intellectual property rights of users, but also add password protection to the download of programs to effectively prevent the programs in PLC from being damaged.

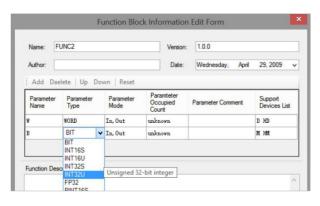


• In secret download mode, the PLC program will not be uploaded to protect the user's intellectual property rights.



11 Customized Function Formal Parameter Function

• The parameter types are rich and diverse, and the data processing is more convenient.

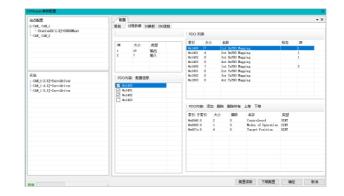


• The input-output interface of the function is added to further optimize the function structure.



13 CANopen System Configuration Interface

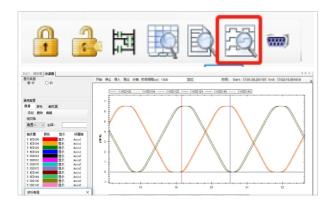
 Provide users with CANopen configuration information window, which makes programming more convenient and fast.



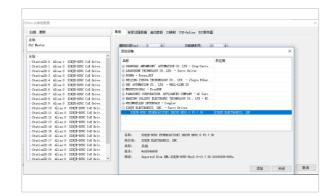
XDPPro

14 EtherCAT System Configuration and Programming Interface

More intuitive monitoring system, supporting oscilloscope function

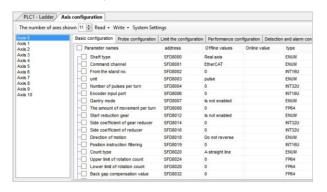


EtherCAT configuration information window is provided to simplify programming



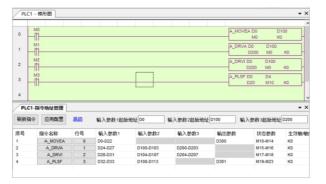
Axis complete configuration and monitoring function

 Provide customers with a complete information interface that can monitor the current motion of the axis, such as speed, various status hits, etc.



H instruction address management function

 For the complex H motion control command project, it can easily realize the systematic management of command address and optimize user programming.



Medium PLC

Overall improvement of speed, capacity and function

XG, XS series medium-sized PLC, with faster processing speed, stronger motion control function, higher reliability and more compact structure, provides users with more perfect solutions and creates higher value.



Function features



CPU processing speed increased significantly

Higher reliability

Greater storage capacity











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System composition



Medium PLC

Medium PLC ————

EtherCAT Motion Control Type

XG2 Series

The motion control type of medium-sized PLC provides customers with an ideal solution in bus motion control.

- ① 16MB program capacity
- ② 4 channels 100KHz pulse output
- 3 Max IO 1050 points
- 4 Basic instruction 0.005~0.01us
- ⑤ RS232&RS485 port
- 6 Linear/arc interpolation
- ② Ethernet communication
- ® EtherCAT communication
- ® Support differential input
- ① 3 axes linear, arc interpolation
- 12 16 channels electronic CAM



Performance parameter

Product series XG2-		26T4		
	Total points	26		
Main body I/O	Input points	18		
	Output points	8		
Max I/O points		1050		
High speed	Normal pulse output	4 axes		
positioning	Differential pulse output	-		
High speed	Single/AB phase mode	4 channels, max 200KHz		
input	Input mode	Differential input		
	Right expansion module	16		
Expansion capability	Left expansion module	-		
Саравінту	BD Board	-		
	External interrupt	12		
Interruption	Timing interrupt	20		
	Other interrupts	High speed counting interrupt, pulse interrupt		
	Communication port	1 RS232 port, 2 RS485 ports, 2 RJ45 ports		
Communication function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication		
Bus function		EtherCAT bus control		
PWM pulse w	ridth modulation			
Frequency m	easurement			
Precise timin	g	-		
Multi-station	control	Support		
Program exe	cution mode	Cyclic scanning mode		
Programming mode		Command, ladder chart, C language		
Power failure holding		Use FlashROM		
Basic instruction processing speed		0.005~0.01us		
User program capacity (secret download mode)		16MB		
Security fund	tion	6-bit ASCII password, secret downloading		

XG2 series model list

	Model						
AC power supply			DC Power supply				
Relay output			Relay output	Transistor output	Transistor&relay mixed output		
NPN type	=	=	-	-	XG2-26T4	-	

	Product series XG2-		26T4
	Self diagnosis function		Power on self-test, monitoring timer, syntax check
	Real-time clock		Built-in clock, lithium battery power supply, power down memory
	Input relay (X)		1280 points: X0~X77 / X10000~X11777 / X20000~X20177 / X30000~X30077
	Output relay (Y)		1280 points: Y0~Y77 / Y10000~Y11777 / Y20000~Y20177 / Y30000~Y30077
		General M	700000 points M0~M699999
	Auxiliary relay	Power-off retentive HM	48000 points HM0~HM47999
		Special SM	50000 points SM0~SM49999
_	Floring	General S	80000 points S0~S79999
₩ ₩	Flow	Power-off retentive HS	4000 points HS0~HS3999
Bit soft component	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s
ğ		General T	50000 points T0~T49999
or		Power-off retentive HT	8000 points HT0~HT7999
ıen		Precise timing	26 points ET0~ET25 (not supported right now)
-	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647
		General C	50000 points C0~C49999
		Power-off retentive HC	8000 points HC0~HC7999
		High speed counter	40 points HSC0~HSC39
	Special coil for WAIT instruction		32 points SEM0~SEM31
		General D	700000 points D0~D699999
C <	Data register	Power-off retentive HD	100000 points HD0~SD99999
o Mo No		Special SD	10000 points SD0~SD9999
oor s b.		Power-off retentive FD	65536 points FD0~FD65535
Word soft component	FlashROM register	Special SFD	10000 points SFD0~SFD9999
7		Security register FS	48 points FS0~FS47

*Note: ① Only the PLC with transistor output has high speed positioning function. ② The '-' in the table indicates that this function is not available.
③ Special use refers to being occupied by the system and cannot be used for other purposes.

New High Performance Model

XS3 Series

Based on Codesys programming platform, the programming efficiency is significantly improved.

XS3 series new medium-sized PLC supports PLCopen programming specification, and can reference many standard function libraries to develop proprietary function blocks and instruction libraries.

- ① EtherCAT motion control
- ② Support EtherCAT remote IO
- 3 32 channels electronic CAM
- 4 Ethernet communication
- ⑤ Online downloading



Performance specification

Product mode	I XS3-	26T4	
	Total points	26	
Main body I/O	Input points	18	
-	Output points	8	
Max I/O points	3	1050	
High speed	Normal pulse output	4 axes, max 100KHz	
positioning	Differential pulse output	-	
High speed	Single/AB phase mode	4 channels, max 200Khz	
input	Input mode	Differential input	
	Right expansion module	16	
Expansion capability	Left expansion module	-	
Capability	BD Board	-	
Interruption	External interrupt	10	
	RS232	1 port, can connect IP modification tool or communicate with other devices	
Communication	RS485	2 ports, Modbus, connect HMI and other communication devices	
function	RJ45 Port1	LAN1: Ethernet communication, support program downloading and monitoring	
	RJ45 Port2	LAN2: EtherCAT real-time bus master station	
Bus motion control		EtherCAT bus mode, 32 axes	
CAM control		EtherCAT bus mode, 32 axes	
PWM pulse wi	dth modulation	-	
Frequency me	asurement	-	
Precise timing		-	
Multi-station control		-	
Programming mode		ST, SFC, FBD, CFC, LD and IL	
Main processor		Dominant frequency 800MHz	
User program capacity		32MB	
Data capacity	General	30MB	
Бата сараспу	Power failure holding	2MB	

^{*}Note: The '-' in the table indicates this model doesn't support this function

XS3 Series model list

Model						
AC power supply			DC Power supply			
	Relay output	Transistor output	Transistor&relay mixed output	Relay output	Transistor output	Transistor&relay mixed output
NPN type	-	-	-	-	XS3-26T4	-

Basic Unit General Specification

General specification

Item	Specification
Insulation voltage	Above DC500V 2MΩ
Anti-noise	Noise voltage 1000Vp-p 1us pulse 1 minute
Air	No corrosive and combustible gases
Ambient temperature	0°C~60°C
Ambient humidity	5%~95% (no condensation)
Installation	It can be fixed with M3 screws or directly installed on the rail
Ground (FG)	The third kind of grounding (not common grounding with strong current system)

Power supply specification

Item	Specification
Rated voltage	DC24V
Voltage allowable range	DC21.6V~26.4V
Input current (only for basic unit)	120mA DC24V
Allowable instantaneous power off time	10ms DC24V
Impact current	10A DC26.4V
Maximum power consumption	12W
Power supply for sensor	24VDC±10%

Input specification

XG2/XS3 series PLC input specification

XG2/XS3 series PLC supports NPN and differential signal input mode.

NPN mode specification

Item	Specification
Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input reponse time	About 10ms
Input signal form	Contact input NPN open collector transistor (X2, X5, X10, X13, X14, X15, X16, X17, X20, X21)
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when input is ON

Differential signal mode specification

Item	Specification
Input signal voltage	DC5V±10%
Input signal current	12mA/DC5V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input response feature	Max 200KHz
Input signal form	Differential input (X0, X1, X3, X4, X6, X7, X11, X12)
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when input is ON

*Note: X0+, X0-, X1+, X1-; X3+, X3-, X4+, X4-; X6+, X6-, X7+, X7-; X11+, X11-, X12+, X12- are four groups of differential signal, which can be high speed counting terminals. To receive the collector signal, first convert the differential signal into collector signal through differential to collector board (DIFF-OC).

Output specification

General transistor output

External po	ower supply	Below DC5~30V		
Circuit insulation		Optocoupler insulation		
Action indicator		LED indicator		
Resistive load		0.3A		
Max load	Inductive load	7.2W/DC24V		
	Light load	1.5W/DC24V		
Min load		DC5V 2mA		
Open circuit leakage current		Below .01mA		
Response	OFF→ON	Below 0.2ms		
time	ON→OFF	Below 0.2ms		

High speed pulse output

Model	T4 type
High speed pulse output	Y0~Y3
External power supply	Below DC5~30V
Action indicator	LED indicator
Max current	50mA
Pulse max output frequency	100KHz

*Note: ① When using the high-speed pulse output function, the PLC can output pulses up to 200kHz, but it can not ensure the normal operation of all servos. Please connect a resistance of about 500Ω between the output end and 24V power supply.

② PLC is generally equipped with plug-in spring connector when leaving the factory, which is convenient for wiring. The length of wire peeling off is required to be at least 1.5cm. When wiring, press the yellow spring switch with a small screwdriver, insert the wire into the corresponding socket, and release the spring switch.

Expansion Unit

XG, XS3 series medium-sized PLC can connect 1~16 different type and model of expansion modules.

General specification

Item	Specification
Using environment	No corrosive gas
Ambient temperature	0°C ~ 60°C
Storage temperature	-20 ~ 70℃
Ambient humidity	5 ~ 95%RH
Storage humidity	5 ~ 95%RH
Installation	Directly installed on the guide rail of model XG-EB-Length (mm)
Dimension	130.0mm×40.0mm×133.4m



XG series I/O expansion module

When the number of main body I/O points cannot meet the use requirements, the I/O expansion module can be used.

Digital input module



Model	Function	Specification
XG-E16X	16 channels digital input	Compatible with NPN&PNP input The module does not need external power supply
XG-E32X	32 channels digital input	Input filtering time 1 ~ 50ms optional External wiring mode: 16X, 32X body include terminal strip
XG-E64X	64 channels digital input	64X requires external terminal block Terminal wiring mode: the same to PLC body

Digital output module



Model	Function	Specification
XG-E16YR	16 channels relay outpu	The module does not need external power supply R: output relay
XG-E16YT	16 channels transistor output	T: output transistor R response time: below 10ms T response time: below 0.2ms
XG-E32YT	32 channels transistor output	R max load: resistive 3A inductive 80VA T max output current: each point 0.3A External wiring mode: 16YR, 16YT, 32YT body
XG-E64YT	64 channels transistor output	include terminal strip 64YT requires external terminal block Terminal wiring mode: the same to PLC body

Digital input output mixed module



Model	Function	Specification
XG-E8X8YR	8 channels digital input, 8 channels relay output	Compatible with NPN&PNP input The module does not need external power supply R: output relay
XG-E8X8YT	8 channels digital input, 8 channels transistor output	T: output transistor R response time: below 10ms T response time: below 0.2ms R max load: resistive 3A inductive 80VA
XG-E16X16YT	16 channels digital input, 16 channels transistor output	T max output current: each point 0.3A External wiring mode: the body include terminal strip Terminal wiring mode: the same to PLC body

XG series analog expansion module

- By expanding analog input/output module and temperature control module, XG series PLC can be applied to process control systems such as temperature, flow, liquid level and pressure.
- ② With the addition of PID regulation function, it has wider application, more flexible use and higher control accuracy.
- ③ XG-E8TC-P, XG-E8PT3-P module each channel can do independently PID controlling and self-tuning, and exchange information with the main body through FROM and TO instructions.

Analog input module (AD type)



Model	Input channel	Input signal	Specification
XG-E8AD-A-S	8	Current input: 0~20mA/4~20mA/-20~20mA	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Resolution 1/65535 (16-bit) Comprehensive accuracy ±1%
XG-E8AD-V-S	8	Voltage input: 0~5V/0~10V/-5~5V/-10~10V	AD filter coefficient 0~254 AD channel has the functions of short circuit, open circuit and over range detection Channel enable bit is added

Analog I/O mixed module (nADmDA type)



Model	Cha	nnel	Input/output signal	Charification	
Model	Input	Output		Specification	
XG-E4AD2DA	4	2	Voltage input: $0\sim5V/0\sim10V/-5\sim5V/-10\sim10V$ Current input: $0\sim20mA/4\sim20mA/-20\sim20mA$ Voltage output: $0\sim5V/0\sim10V/-5\sim5V/-10\sim10V$ (external load resistor $2K\Omega\sim1M\Omega$) Current output: $0\sim20mA/4\sim20mA$ (external load resistor less than 500Ω)	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Input resolution 1/16383 (14-bit) Output resolution 1/4095 (12-bit) AD filter coefficient 0~254 AD channel has the functions of short circuit, open circuit and over range detection Comprehensive accuracy ±1% Channel enable bit is added	

Analog output module (DA type)



Model	Output channel	Output signal	Specification
XG-E4DA-S	4	Voltage output: $0\sim5V/0\sim10V/-5\sim5V/-10\sim10V$ (external load resistor $2K\Omega\sim1M\Omega$) Current output: $0\sim20mA/4\sim20mA$ (external load resistor less than 500Ω)	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Resolution 1/65535 (16-bit) Comprehensive accuracy ±1% Channel enable bit is added

Temperature control expansion module



Model	Channel	Input signal	Specification	
XG-E8PT3-P	8	Pt100 platinum thermistor (three wire system with compensation) Measuring temperature range -100°C~500°C(digital output range -1000~5000, signed 16-bit, binary)	Power supply for analog DC24V±10%, 50mA Control precision ±0.5% Resolution 0.1°C Comprehensive accuracy ±1% (relative max value)	
XG- E8TC-P	8	K, S, E, N, B, T, J and R type thermocouple Measuring temperature range 0°C~1300°C(digital output range 0~13000, signed 16-bit, binary)	PT conversion speed 650ms/ channels TC conversion speed 450ms/ channels PT filter coefficient 0~254 8 groups of independent PID parameters, support self-tuni function	

Accessory

Special power supply module XG-P75-E

XG independent power supply ensures the operation of PLC in a good and reliable power supply system, which can prolong the service life of PLC.

Item	Content		
Rated voltage	AC100V~240V		
Allowable voltage	AC90V~265V		
Rated frequency	50Hz~60Hz		
Allowable instantaneous power off time	Interruption time≤0.5 AC cycle, interval≥1s		
Impact current	Max 40A below 5ms/AC100V		
Impact current	Max 60A below 5ms/AC200V		
Max consumption power	75W		



External terminal block

XG2-26T4, XS3-26T4, XG-E64X, XG-E64YT module need external terminal block, the following is suitable terminal and wiring cable for the module.

Product model	Terminal block model	Wiring cable model		
XG2-26T4	JT-G26	JC-TG26-NN05 (0.5m) JC-TG26-NN10 (1.0m)		
XS3-26T4	31-920	JC-TG26-NN15 (1.5m)		
XG-E64X	JT-E32X	JC-TE32-NN05 (0.5m) JC-TE32-NN10 (1.0m)		
XG-E64YT	JT-E32YT	JC-TE32-NN15 (1.5m)		



U-shaped connector XG-EUC-1/XG-EUCT-1

The U-shaped connector is used to connect the medium-sized PLC with the expansion module, or the connection between expansion modules.

Based on the XG-EUC-1, the built-in terminal resistance is inserted into the expansion port of the last expansion module to improve the signal quality.

- *Note: ① When more than 10 expansion modules are connected, XG-EUCT-1 is required. It is also recommended for occasions with strong electromagnetic interference.
 - ② When connecting multiple expansion modules, XG-EUCT-1 can only be used in the last expansion location, and XG-EUC-1 can still be used in other locations.



Basic unit communication port accessories

Name	Model	Description	Product drawing
Communication/ programming cable	JC-EL-Length	Elbow XVP cable is only applicable to XG2, XS3 series PLC. Three specifications are available: JC-EL-25 (2.5m), JC-EL-50 (5m), JC-EL-100 (10m)	
USB convertor	USB-COM	For the interface conversion of DB9 female port and USB port	E STATE OF THE STA
USB printer cable	JC-UA-15	Special USB cable for Xinje products, black with double magnetic rings to improve anti-interference ability	19
EtherCAT communication cable	JC-CB-Length	EtherCAT bus cable, for the second Ethernet port of XG2, XS3, XDH, XLH series PLC. Nine specifications are available: JC-CB-OP1 (0.1m), JC-CB-OP2 (0.2m), JC-CB-OP3 (0.3m), JC-CB-OP5 (0.5m), JC-CB-1 (1m), JC-CB-3 (3m), JC-CB-5 (5m), JC-CB-10 (10m), JC-CB-20 (20m)	

Mounting plate XG-EB Series

XG-EB series guide rail is selected for the installation of basic unit, expansion module and power module.

The following six specifications are available:

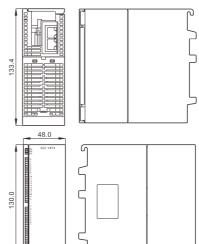
XG-EB-170 (170mm), XG-EB-260 (260mm), XG-EB-385 (385mm), XG-EB-590 (590mm),

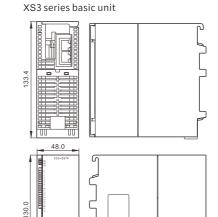
XG-EB-880 (880mm), XG-EB-1500 (1500mm)

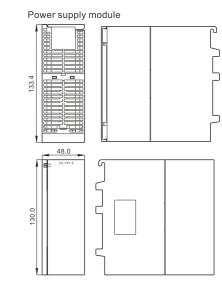


Dimension (unit: mm)

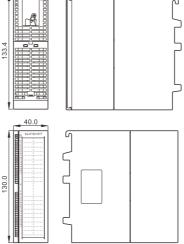
XG2 series basic unit

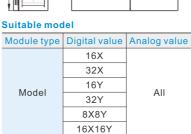




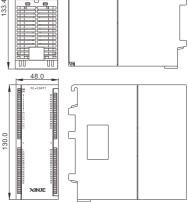


Expansion module





Suitable model



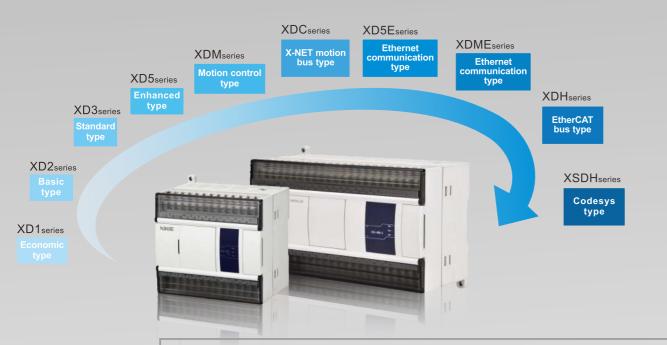
Suitable model

Module type	Digital value
Model	64X
Model	64Y

Small-sized PLC Small-sized PLC

Small-sized PLC XD series small-sized PLC Fast speed, stable performance and powerful function

10 Sub-series to Meet Various Needs



High speed operation Fast data processing

Non-Ethernet type PLC

The basic instruction processing speed 0.02~0.05us, scanning time 10000 steps 0.5ms, program capacity 256kB~512kB, and processing speed are about 12-15 times that of XC series.

Ethernet type PLC

The basic instruction processing speed 0.01~0.03us, scanning time 10000 steps 0.2ms, program capacity 1MB~4MB, and processing speed are about 2-3 times that of XDM series.

Bus control High speed communication, cost saving

The bus network can be easily constructed through standard EtherCAT bus and CAN bus, and multi-device control can be realized with minimal wiring

 $\ensuremath{\mathsf{XDH}}$ series PLC has EtherCAT motion control master station function.

XL5N series PLC has CAN bus communication function.

Wide Range of Applications and Can Meet the Diversified Needs of Users

Network control

Ethernet series PLC is equipped with 2 Ethernet communication ports as standard to easily build an intelligent network system.

High speed pulse output

With 2~10 axes positioning control function

Up to 100KHz pulse output.

Pulse instruction is simple and powerful.

Multiple communication ports

Can realize rich communication functions

XD series PLC has 5 communication ports at most. Support RS232, RS485, bus communication (Ethercat&CAN), Ethernet (only for Ethernet type PLC), can connect VFD, meter and other peripheral devices, communication network can be set up freely.



High speed signal acquisition

With 3~10 channels high speed counter

By selecting different counters, it can count in singlephase incremental mode (the max frequency can reach 80kHz), AB phase mode (double frequency and quadruple frequency are optional, and the max frequency can reach 50KHz) and differential mode (the max frequency can reach 200kHz).

High speed control is realized by simple high-speed counting instruction.

Strong expansion capability

XD series PLC basic units can be equipped with rich I/O expansion module, analog input and output module, temperature control module, BD board and left expansion module, which can easily realize analog control for various purposes.

The data exchange between the expansion module and the ontology has changed from the original parallel port communication mode of XC series to the SPI serial port communication mode of XD series, so the data exchange speed is faster than that of the original XC series (2ms/AD).

Small-sized PLC Small-sized PLC -

Economic Type

XD1 Series

The function is relatively simple. It can carry out logic control, data operation and other general functions. It does not support right expansion module, left expansion ED module and expansion BD board.

- ① Program capacity 256KB
- ② I/O sequential control
- 3 Max I/O 32 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus



Performance specification

Product series XI	D1-	10R/T	16R/T	24R/T	32R/T	
	Total points	10	16	24	32	
Main body I/O	Input points	5	8	12	16	
	Output points	5	8	12	16	
Max I/O points		10	16	24	32	
High speed	General pulse output	-	-	-	-	
positioning	Differential pulse output	-	-	-	-	
High speed	Single/AB phase mode	-	-	-	-	
input	Input mode	-	-	-	-	
Expansion ability	Right expansion module	-	-	-	-	
	Left expansion module	-	-	-	-	
	BD board	-	-	-	-	
	External interrupt	3	6	10	10	
Interruption	Timing interrupt	20	20	20	20	
	Other interrupts	-	-	-	-	
Communication function	Communication port	2 RS232 ports	2 RS232 ports	2 RS232 ports, 1 RS485 port	2 RS232 ports, 1 RS485 port	
Turiction	Communication protocol	Standard Modbus A	ASCII/RTU communicati	ion, free format communi	cation	
Bus function		X-NET fieldbus				
PWM pulse width	modulation	-				
Frequency meas	urement	-				
Precise timing		26 points ET0~ET26 (Only even numbers can be used)				
Multi-station control		-				
Program execution	on mode	Cyclic scanning mode				
Programming me	thod	Instruction, ladder diagram, C language				
Power off holding		Use FlashROM and lithium battery (3V button battery)				
Basic instruction	processing speed	0.02~0.05us				
User program capa	acity (secret download mode)	256KB				

XD1 series model list

	Model							
		AC power	rsupply	DC power supply				
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output		
	XD1-10R-E	XD1-10T-E	-	XD1-10R-C	XD1-10T-C	-		
NDN 6	XD1-16R-E	XD1-16T-E	-	XD1-16R-C	-	-		
NPN type	XD1-24R-E	XD1-24T-E	-	XD1-24R-C	-	-		
	XD1-32R-E	XD1-32T-E	-	XD1-32R-C	XD1-32T-C	-		
PNP type	XD1-16PR-E	-	-	-	-	-		

ıct series XD1-		10R/T	16R/T	24R/T	32R/T		
rity function		6-bit ASCII password encryption, secret downloading					
liagnosis functio	n	Power on self-test, r	monitoring timer, synta	ıx check			
Real-time clock Built-in clock, Lithium battery power supply, with power down memory							
SD expansion card -							
Input relay (X)		896 points: X0~X77	, X10000~X11177, X20	0000~X20177, X30000	~X30077		
Output relay (Y)	896 points: Y0~Y77	, Y10000~Y11177, Y20	0000~Y20177, Y30000	~Y30077		
	General M	8000 points M0~M7	999				
Auxiliary relay	Power off holding HM	960 points HM0~HM	1959				
	Special SM	2048 points SM0~SM2047					
	General S	1024 points S0~S1023					
FIOW	Power off holding HS	128 points HS0~HS127					
Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s					
	General T	576 points T0~T575					
	Power off holding HT	96 points HT0~HT95					
Occupation	Specification			47			
Counter	General C	576 points C0~C57	5				
	Power off holding HC	96 points HC0~HC95					
Special coil for	WAIT instruction	32 points SEM0~SEM31					
	General D	8000 points D0~D79	999				
Data register	Power off holding HD	1000 points HD0~HD999					
	Special SD	2048 points SD0~SD2047					
	Power off holding FD	5120 points FD0~FD	D5119				
	Special SFD	2000 points SFD0~S	SFD1999				
10910101	Security register FS	48 points FS0~FS47	7				
	rity function diagnosis function diagnosis function time clock epansion card Input relay (X) Output relay (Y Auxiliary relay Flow Timer Counter	Special Counter Special SD	Counter Coun	Counter Coun	Specification Specificatio		

*Note: ① Only the PLC with transistor output has high speed positioning function.
② The '-' in the table indicates that this model doesn't have this function.
③ Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC
Small-sized PLC

Basic Type

XD2 Series

The functions are complete. In addition to the basic data processing function, it also has special functions such as pulse output, high-speed counting, pulse width modulation, frequency measurement and so on. It supports left expansion ED and BD (16 points are not supported), and does not support right expansion module, which can meet the basic use needs of users.

- ① Program capacity 256KB
- ② I/O sequential control
- 3 Max I/O 60 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- $\ensuremath{\mathfrak{T}}$ 2 channels 100KHz pulse output
- \circledR 3 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)



Performance specification

Product series X	D2-	16R/T	24R/T/RT	32R/T/RT	42R/T	48R/T/RT	60R/T/RT				
	Total points	16	24	32	42	48	60				
Main body I/O	Input points	8	14	18	24	28	36				
	Output points	8	10	14	18	20	24				
Max I/O points		16	24 32		42	48	60				
High speed	General pulse output	2 axes	2 axes	axes 2 axes 2 a		2 axes	2 axes				
positioning	Differential pulse output			-	-	-	-				
High speed	Single/AB phase mode	3 channels	3 channels	3 channels	3 channels	3 channels	3 channels				
input	Input mode	ОС	ОС	ОС	ОС	ОС	ОС				
	Right expansion module	-	-	-	-	-	-				
Expansion ability	Left expansion module	1	1	1	1	1	1				
	BD board	-	1	1	1	2	2				
	External interrupt	6	10	10	10	10	10				
Interruption	Timing interrupt	20									
	Other interrupts	High speed counting interrupt, pulse interrupt									
Communication	Communication port	2 RS232 ports, 1 RS485 port									
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication									
Bus function		X-NET fieldbus									
PWM pulse width	n modulation	Support									
Frequency meas	urement	Support									
Precise timing		26 points ET0~ET25 (only even numbers can be used)									
Multi-station con	trol	-									
Program execution	on mode	Cyclic sca	nning mode								
Programming me	ethod	Instruction, ladder diagram, C language									
Power off holding)	Use FlashROM and lithium battery (3V button battery)									
Basic instruction	processing speed	0.02~0.05us									
User program capa	acity (secret download mode)	256KB		e) 256KB							

XD2 series model list

	Model									
		AC power	supply		DC power	supply				
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output				
	XD2-16R-E	XD2-16T-E	-	XD2-16R-C	XD2-16T-C	-				
NIDNI 4	XD2-24R-E	XD2-24T-E	XD2-24RT-E	XD2-24R-C	XD2-24T-C	XD2-24RT-C				
NPN type	XD2-32R-E	XD2-32T-E	XD2-32RT-E	XD2-32R-C	XD2-32T-C	XD2-32RT-C				
	XD2-42R-E	XD2-42T-E	-	-	-	-				
	XD2-48R-E	XD2-48T-E	XD2-48RT-E	XD2-48R-C	XD2-48T-C	XD2-48RT-C				
	XD2-60R-E XD2-60T-E XD2-60RT-E		XD2-60R-C	XD2-60T-C	XD2-60RT-C					
PNP type	-	-	-	XD2-32PR-C	-	-				

Product series XD2- 16R/T 24R/T/RT 32R/T/RT 42R/T 48R/T/RT 60R/T/RT											
	rity function			password encry			101017111	301017101			
	diagnosis functio	ın		elf-test, monitor							
	time clock	11		ck, Lithium batte			own momory				
	xpansion card		Built-III Cloc	JK, LIIIIIIIIII Datte	ery power suppr	y, with power a	Own memory				
3D 6	<u>'</u>		-	V0 V77 V400	NO V44477 VOC	1000 V00477	V00000 V0007				
	Input relay (X)	`		*	*		X30000~X3007				
	Output relay (Y	,			00~Y11177, Y20	1000~Y20177,	Y30000~Y3007	/			
		General M		s M0~M7999							
Auxiliary relay Power off holding HM 960 points HM0~HM959											
₩.		Special SM	<u>'</u>	s SM0~SM2047							
ts	Flow	General S	1024 points	S0~S1023							
Ď.	I low	Power off holding HS	128 points l	HS0~HS127							
Bit soft component	Specification			100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s							
one	Timer	General T	576 points	T0~T575							
ň		Power off holding HT	96 points HT0~HT95								
	0	Specification		ter: 0~32767 ter: -214748364	18~+214748364	.7					
	Counter	General C	576 points	C0~C575							
		Power off holding HC	96 points H	C0~HC95							
	Special coil for	WAIT instruction	32 points S	EM0~SEM31							
		General D									
c _	Data register	Power off holding HD	1000 points HD0~HD999								
m o		Special SD	2048 points SD0~SD2047								
or S.p.		Power off holding FD	5120 points FD0~FD5119								
Word soft component	FlashROM register	Special SFD	2000 points	s SFD0~SFD199	99						
~	register	Security register FS	48 points FS0~FS47								

*Note: ① Only the PLC with transistor output has high speed positioning function.

② The '-' in the table indicates that this model doesn't have this function.

③ Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC
Small-sized PLC

Standard Type

XD3 Series

The functions are complete. In addition to the basic data processing function, it also has special functions such as pulse output, high-speed counting, pulse width modulation, frequency measurement and so on. It supports left expansion ED, expansion BD (16 points are not supported) and right expansion module, which can meet the basic use needs of users.

- ① Program capacity 256KB
- ② I/O sequential control
- 3 Max I/O 380 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- $@ \ 3 \ channels \ high \ speed \ counting \ (single \ phase \ max \ 80 KHz, AB \ phase \ max \ 50 KHz)$
- 9 USB port high speed download (max 12Mbps)



Performance specification

Product sories XD3-											
Product series X	D3-	16R/T/RT	24R/T/RT	24T4	32R/T/RT	32T4	48R/T/RT	60R/T/RT			
	Total points	16	24	24	32	32	48	60			
Main body I/O	Input points	8	14	14	18	18	28	36			
Max I/O points High speed positioning High speed input Expansion ability Interruption	Output points	8	10	10	14	14	20	24			
Max I/O points		336	334	344	352	352	368	380			
High speed	General pulse output	2 axes	2 axes	4 axes	2 axes	4 axes	2 axes	2 axes			
positioning	Differential pulse output	-	-	-	-	-	-	-			
High speed	Single/AB phase mode	3 channels	3 channels	3 channels	3 channels	3 channels	3 channels	3 channels			
input	Input mode	ОС	ОС	ОС	ОС	ОС	ОС	ОС			
	Right expansion module	10	10	10	10	10	10	10			
	Left expansion module	1	1	1	1	1	1	1			
	BD board	-	1	1	1	1	2	2			
	External interrupt	6	10	10	10	10	10	10			
Interruption	Timing interrupt	20									
	Other interrupts	High spe	eed counting i	nterrupt, pulse	interrupt						
Communication	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port									
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication									
Bus function		X-NET fieldbus									
PWM pulse width	h modulation	Support									
Frequency meas	surement	Support									
Precise timing		26 point	s ET0~ET25 (only even num	bers can be u	sed)					
Multi-station con	ntrol	-									
Program executi	ion mode	Cyclic so	canning mode								
Programming me	ethod	Instructi	on, ladder dia	gram, C langu	age						
Power off holding	g	Use FlashROM and lithium battery (3V button battery)									
Basic instruction	n processing speed	0.02~0.05us									
Dasic Ilistruction		e) 256KB									

XD3 series model list

	Model									
		AC power	supply		DC power supply					
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output				
	XD3-16R-E	XD3-16T-E	XD3-16RT-E	XD3-16R-C	XD3-16T-C	XD3-16RT-C				
	XD3-24R-E	XD3-24T-E	XD3-24RT-E	XD3-24R-C	XD3-24T-C	XD3-24RT-C				
	-	XD3-24T4-E	-	-	XD3-24T4-C	-				
NPN type	XD3-32R-E	XD3-32T-E	XD3-32RT-E	XD3-32R-C	XD3-32T-C	XD3-32RT-C				
	-	XD3-32T4-E	-	-	-	-				
	XD3-48R-E	XD3-48T-E	XD3-48RT-E	XD3-48R-C	XD3-48T-C	XD3-48RT-C				
	XD3-60R-E	XD3-60T-E	XD3-60RT-E	XD3-60R-C	XD3-60T-C	XD3-60RT-C				
	XD3-16PR-E	XD3-16PT-E	-	XD3-16PR-C	XD3-16PT-C	XD3-16PRT-C				
	XD3-24PR-E	XD3-24PT-E	XD3-24PRT-E	XD3-24PR-C	XD3-24PT-C	XD3-24PRT-C				
PNP type	XD3-32PR-E	XD3-32PT-E	XD3-32PRT-E	XD3-32PR-C	XD3-32PT-C	XD3-32PRT-C				
	XD3-48PR-E	XD3-48PT-E	XD3-48PRT-E	XD3-48PR-C	XD3-48PT-C	XD3-48PRT-C				
	XD3-60PR-E	XD3-60PT-E	XD3-60PRT-E	XD3-60PR-C	XD3-60PT-C	XD3-60PRT-C				

Dand	uct series XD3-		16R/T/RT	24R/T/RT	24T4	32R/T/RT	32T4	48R/T/RT	60R/T/RT			
								48K/1/K1	60R/1/R1			
	rity function					ecret downloa						
	diagnosis functio	n				r, syntax checl						
	-time clock		Built-in c	Built-in clock, Lithium battery power supply, with power down memory								
SD e	xpansion card		-									
	Input relay (X)		896 point	ts: X0~X77, X	(10000~X111	77, X20000~X	20177, X30	000~X30077				
	Output relay (Y)	896 point	ts: Y0~Y77, Y	′10000~Y111	77, Y20000~Y	20177, Y300	000~Y30077				
		General M	8000 poi	nts M0~M799	9							
	Auxiliary relay	Power off holding HM	960 point	ts HM0~HM9	59							
Special SM 2048 points SM0~SM2047												
it s	Florin	General S	1024 poir	nts S0~S1023								
o f t	Flow	Power off holding HS	128 points HS0~HS127									
soft component	Specification		100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s									
one	Timer	General T	576 point	ts T0~T575								
ň		Power off holding HT	96 points HT0~HT95									
	Counter	Specification		unter: 0~3276 unter: -21474		7483647						
	Counter	General C	576 point	ts C0~C575								
		Power off holding HC	96 points	HC0~HC95								
	Special coil for	WAIT instruction	32 points	SEM0~SEM	31							
		General D	8000 poi	nts D0~D799	9							
° <	Data register	Power off holding HD	1000 points HD0~HD999									
ĕor		Special SD	2048 points SD0~SD2047									
Word soft		Power off holding FD	5120 points FD0~FD5119									
Word soft component	FlashROM register	Special SFD	2000 points SFD0~SFD1999									
~	register	Security register FS	48 points	FS0~FS47								

*Note: ① Only the PLC with transistor output has high speed positioning function.

The '-' in the table indicates that this model doesn't have this function.
 Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC Small-sized PLC -

Enhanced Type

XD5 Series

In addition to all the functions of standard PLC, it has faster processing speed (about 15 times that of XC series), larger internal resource space and 2 ~ 10 channels of high-speed pulse output. It supports the connection of right expansion module, expansion BD board (not supported by 16 points) and left expansion ED module, and supports SD card expansion (except 16 points), which can meet various requirements.

- ① Program capacity 512KB
- ② I/O sequential control
- 3 Max I/O 592 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- 7 2~10 axes 100KHz pulse output
- ® 3~10 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)
- 9 USB port high speed download (max 12Mbps)



Performance specification

Product series XI	D5-	16	24	24T4	32	32T4	42	48	48T4	48T6	60	60T4	60T6	60T10	80
	Total points	16	24	24	32	32	42	48	48	48	60	60	60	60	80
Main body I/O	Input points	8	14	14	18	18	24	28	28	28	36	36	36	36	40
	Output points	8	10	10	14	14	18	20	20	20	24	24	24	24	40
Max I/O points		528	536	536	544	544	554	560	560	560	572	572	572	572	592
High speed	General pulse output	2 axes	2 axes	4 axes	2 axes	4 axes	2 axes	2 axes	4 axes	6 axes	2 axes	4 axes	6 axes	10 axes	2 axes
positioning	Differential pulse output	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High speed input	Single/AB phase mode	3 channels	3 channels	4 channels	3 channels	4 channels	3 channels	3 channels	4 channels	6 channels	3 channels	4 channels	6 channels	10 channels	3 channels
IIIput	Input mode	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС	ОС
	Right expansion module	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Expansion ability	Left expansion module	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	BD board	-	1	1	1	1	1	2	2	2	2	2	2	2	2
	External interrupt	6	10	10	10	10	10	10	10	10	10	10	10	10	10
Interruption	Timing interrupt	20													
	Other interrupts	High speed counting interrupt, pulse interrupt													
Communication	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port													
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication													
Bus function		X-NET fieldbus													
PWM pulse width	modulation	Sup	port												
Frequency measu	urement	Sup	port												
Precise timing		26 p	oints E	T0~ET	25 (on	ly even	numbe	rs can	be use	d)					
Multi-station conf	trol	Sup	port												
Program execution	Program execution mode			nning m	ode										
Programming me	Programming method				r diagra	am, C la	anguag	е							
Power off holding	Power off holding				Use FlashROM and lithium battery (3V button battery)										
Basic instruction	Basic instruction processing speed				0.02~0.05us										
User program capa	acity (secret download mode)	512	KB												

XD5 series model list

			Model			
		AC power	supply		DC power	supply
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
	XD5-16R-E	XD5-16T-E	XD5-16RT-E	XD5-16R-C	XD5-16T-C	XD5-16RT-C
	XD5-24R-E	XD5-24T-E	XD5-24RT-E	XD5-24R-C	XD5-24T-C	XD5-24RT-C
	-	XD5-24T4-E	-	-	XD5-24T4-C	-
	XD5-32R-E	XD5-32T-E	XD5-32RT-E	XD5-32R-C	XD5-32T-C	XD5-32RT-C
	-	XD5-32T4-E	-	-	XD5-32T4-C	-
	XD5-42R-E	XD5-42T-E	-	-	-	-
NPN type	XD5-48R-E	XD5-48T-E	XD5-48RT-E	XD5-48R-C	XD5-48T-C	XD5-48RT-C
	-	XD5-48T4-E	-	-	XD5-48T4-C	-
	-	XD5-48T6-E	-	-	XD5-48T6-C	-
	XD5-60R-E	XD5-60T-E	XD5-60RT-E	XD5-60R-C	XD5-60T-C	XD5-60RT-C
	-	XD5-60T4-E	-	-	XD5-60T4-C	-
	-	XD5-60T6-E	-	-	XD5-60T6-C	-
	-	XD5-60T10-E	-	-	XD5-60T10-C	-
	-	XD5-80T-E	-	-	XD5-80T-C	-
	XD5-24PR-E	XD5-24PT-E	XD5-24PRT-E	XD5-24PR-C	XD5-24PT-C	XD5-24PRT-C
	-	XD5-24PT4-E	-	-	-	-
	XD5-32PR-E	XD5-32PT-E	XD5-32PRT-E	-	XD5-32PT-C	XD5-32PRT-C
PNP type	-	-	-	-	XD5-32PT4-C	-
rivir type	-	-	XD5-48PRT-E	-	-	-
	-	XD5-48PT6-E	-	-	XD5-48PT6-C	-
	XD5-60PR-E	-	-	-	XD5-60PT-C	-
	-	-	-	-	XD5-60PT6-C	-

									_	_		_				
Prod	duct series XD5-		16	24	24T4	32	32T4	42	48	48T	4 48T6	60	60T4	60T6	60T10	80
Sec	urity function		6-bi	t ASCI	l passw	ord er	ncryptic	n, sec	cret do	wnloa	ding					
Self	-diagnosis functio	n	Pov	er on s	self-tes	t, mon	itoring	timer,	synta	x chec	k					
Rea	l-time clock		Buil	t-in clo	ck, Lith	nium b	attery p	ower	supply	, with	powerd	lown m	emory			
SD 6	expansion card		Sup	port (1	် points	not su	pported	1)								
	Input relay (X)		128	0 point	s: X0~	X77, X	10000-	-X117	77, X2	0000	-X2017	7, X300	000~X3	0077		
	Output relay (Y)	128	0 point	s:Y0~Y	777, Y	10000~	Y1177	7, Y2	0000~	Y20177	, Y300	00~Y3	0077		
		General M	700	00 poii	nts: M0	~M699	999									
	Auxiliary relay	Power off holding HM	120	00 poir	nts: HM	0~HM	11999									
σ		Special SM	500	0 point	s: SM0	~SM4	999									
its	F1	General S	800	0 point	s S0~S	7999										
oft	Flow	Power off holding HS	100	0 point	sHS0~	HS999)									
Bit soft component	Time		100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s													
one	Timer	General T	500	0 point	ts T0~T	4999										
'n		Power off holding HT	200	0 point	s HT0~	HT199	9									
	Counter	Specification			nter: 0~ nter: -2		7 3648~-	+2147	48364	.7						
	Counter	General C	500	0 point	s C0~0	4999										
		Power off holding HC	200	0 point	s HC0	-HC19	99									
	Special coil for	WAIT instruction	32 p	oints S	SEM0~	SEM3	1									
		General D	70000 points D0~D69999													
° <	Data register	Power off holding HD	ng HD 25000 points HD0~HD24999													
y or		Special SD	500	0 point	s SD0~	SD49	99									
d s	EL 1.00M	Power off holding FD	819	2 point	s FD0~	FD81	91									
Word soft component	FlashROM register	Special SFD	600	0 point	s SFD0	~SFD	5999									
-	. 59,5151	Security register FS	48 p	oints F	S0~FS	647										

*Note: ① Only the PLC with transistor output has high speed positioning function.
② The '-' in the table indicates that this model doesn't have this function.
③ Special refers to system occupancy, cannot be used for other purposes.
④ The D register range of XD5 firmware v3.4.5 and below is D0~D59999.

Small-sized PLC
Small-sized PLC

Differential Type

XD5-xDnTm Series

XD5 series high-speed differential PLC is designed according to the fast response demand of servo motor. It does not need conversion circuit, wiring is convenient and standard equipped with all functions of enhanced PLC.

- ① Program capacity 512KB
- ② I/O sequential control
- 3 Max I/O 560 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- ① 4 axes 920KHz differential pulse output
- 8 4 channels 1MHz differential high speed counter
- 9 USB port high speed download (max 12Mbps)



Performance specification

Product series X	D5-	24D2T2	48D4T4					
	Total points	24	48					
Main body I/O	Input points	14	28					
	Output points	10	20					
Max I/O points		536 560						
High speed	General pulse output	2 axes	4 axes					
positioning	Differential pulse output	2 axes	4 axes					
High speed	Single/AB phase mode	2 channels	4 channels					
input	Differential high speed input	2 channels	4 channels					
	Right expansion module	16	16					
Expansion ability	Left expansion module	1	1					
ay	BD board	1	2					
	External interrupt	10						
Interruption	Timing interrupt	20						
	Other interrupts	High speed counting interrupt, pulse interrupt						
Communication	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port						
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication						
Bus function		X-NET fieldbus						
PWM pulse width	modulation	Support						
Frequency meas	urement	Support						
Precise timing		26 points ET0~ET25 (only even numbers	can be used)					
Multi-station con	trol	Support						
Program execution	on mode	Cyclic scanning mode						
Programming me	ethod	Instruction, ladder diagram, C language						
Power off holding		Use FlashROM and lithium battery (3V button battery)						
Basic instruction	processing speed	0.02~0.05us						
User program capa	acity (secret download mode)) 512KB						

XD5 differential series model list

	Model								
		AC power	supply	DC power supply					
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output			
NPN type	-	XD5-24D2T2-E	-	-	-	-			
ivi iv type	-	XD5-48D4T4-E	-	-	-	-			

	uct series XD5-		24D2T2	48D4T4						
	rity function		6-bit ASCII password encryption, secret dov	5						
Self-	diagnosis functio	n	Power on self-test, monitoring timer, syntax	check						
Real-	time clock		Built-in clock, Lithium battery power supply, with power down memory							
SD e	xpansion card		Support							
	Input relay (X)		1280 points: X0~X77, X10000~X11777, X20	0000~X20177, X30000~X30077						
	Output relay (Y)	1280 points:Y0~Y77, Y10000~Y11777, Y20	000~Y20177, Y30000~Y30077						
		General M	70000 points: M0~M69999							
	Auxiliary relay	Power off holding HM	12000 points: HM0~HM11999							
σ		Special SM	5000 points: SM0~SM4999							
s ts	Flow	General S	8000 points S0~S7999							
oft.	FIOW	Power off holding HS	1000 pointsHS0~HS999							
Bit soft component		Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s							
one	Timer	General T	5000 points T0~T4999							
ň		Power off holding HT	2000 points HT0~HT1999							
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647							
	Counter	General C	5000 points C0~C4999							
		Power off holding HC	2000 points HC0~HC1999							
	Special coil for	WAIT instruction	32 points SEM0~SEM31							
		General D	70000 points D0~D69999							
° <	Data register	Power off holding HD	25000 points HD0~HD24999							
m or		Special SD	5000 points SD0~SD4999							
d s		Power off holding FD	8192 points FD0~FD8191							
Word soft component	FlashROM register	Special SFD	6000 points SFD0~SFD5999							
	logiotoi	Security register FS	48 points FS0~FS47							

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC
Small-sized PLC

Motion Control Type

XDM Series

In addition to all functions of standard PLC, it has faster processing speed (about 15 times that of XC Series), larger internal resource space, two-axis linkage, interpolation and follow-up functions, and supports external SD card for data storage. Support the connection of right expansion module, expansion BD board and left expansion module.

- ① Program capacity 512KB~1.5MB
- ② I/O sequential control
- 3 Max I/O 572 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ${rac{1}{2}}\,4$ ~ 10 axes 100KHz pulse output
- ® 4~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- Follow-up function

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- 10 USB port high speed download (max 12Mbps)
- 11 Linear/arc interpolation



Performance specification

Product series X	DM-	24T4	32T4	60T4	60T4L	60T10			
	Total points	24	32	60	60	60			
Main body I/O	Input points	14	18	36	36	36			
	Output points	10	14	24	24	24			
Max I/O points		536	544	572	572	572			
High speed	General pulse output	4 axes	4 axes	4 axes	4 axes	10 axes			
positioning	Differential pulse output	-	-	-	-	-			
High speed	Single/AB phase mode	4 channels	4 channels	4 channels	4 channels	10 channels			
input	Input mode	ОС	ОС	ОС	OC	OC			
Expansion ability	Right expansion module	16	16	16	16	16			
	Left expansion module	1	1	1	1	1			
azy	BD board	1	1	2	2	2			
	External interrupt	10							
Interruption	Timing interrupt	20							
	Other interrupts	High speed counting interrupt, pulse interrupt							
Communication	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port							
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication							
Bus function		X-NET fieldbus							
PWM pulse width	modulation	Support							
Frequency meas	urement	Support							
Precise timing		26 points ET0~ET25 (only even numbers can be used)							
Multi-station con	trol	Support							
Program execution	on mode	Cyclic scanning mode							
Programming me	ethod	Instruction, ladder diagram, C language							
Power off holding)	Use FlashROM and lithium battery (3V button battery)							
Basic instruction	processing speed	0.02~0.05us							
User program capa	acity (secret download mode)	512KB (XDM-60T4L: 1.5MB)							

XDM series model list

			Model			
	AC power supply				DC power	supply
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
	-	XDM-24T4-E	-	-	XDM-24T4-C	-
	-	XDM-32T4-E	-	-	XDM-32T4-C	-
NPN type	-	XDM-60T4-E	-	-	XDM-60T4-C	=
	-	XDM-60T10-E	-	-	XDM-60T10-C	=
	-	XDM-60T4L-E	-	-	-	=
	-	XDM-24PT4-E	-	-	XDM-24PT4-C	-
PNP type	-	XDM-32PT4-E	=	-	XDM-32PT4-C	-
	-	XDM-60PT10-E	-	-	XDM-60PT10-C	-

Prod	uct series XDM-		24T4	24T4 32T4 60T4 60T4L 60T10					
	rity function				secret downloading	00142	00110		
	diagnosis functio	ın		est, monitoring time					
	time clock			·	er supply, with power	or down momory			
	xpansion card		Support	illulli battery powe	er suppry, with powe	er down memory			
30 6	·			V77 V10000 V1	1777, X20000~X20	177 V20000 V20	077		
	Input relay (X) Output relay (Y	\		<u> </u>	777, Y20000~X20				
	Output relay (1	General M			111, 120000~120	177, 130000~1300)		
	Auvilianunalau	00.110.111	70000 points: M						
	Auxiliary relay	Power off holding HM	12000 points: H						
먪		Special SM	5000 points: SM						
so	Flow	General S	8000 points S0~						
Ť		Power off holding HS	1000 pointsHS0	~HS999					
Bit soft component	Times	Specification	100ms timer: 0.1 1ms timer: 0.001	~3276.7s, 10ms tin ~32.767s	ner: 0.01~327.67s,				
one	Timer	General T	5000 points T0~T4999						
nt		Power off holding HT	2000 points HT0	~HT1999					
	Counter	Specification	16-bit counter: (32-bit counter: -)~32767 2147483648~+21	47483647				
	Counter	General C	5000 points C0~	·C4999					
		Power off holding HC	2000 points HC)~HC1999					
	Special coil for	WAIT instruction	32 points SEM0	~SEM31					
		General D	70000 points D0	~D69999					
° <	Data register	Power off holding HD	25000 points HD	00~HD24999					
Word soft		Special SD	5000 points SD0~SD4999						
d s		Power off holding FD	8192 points FD0	~FD8191					
Word soft component	FlashROM register	Special SFD	6000 points SFE	00~SFD5999					
_	10910101	Security register FS	48 points FS0~FS47						

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*Note: ① Only the PLC with transistor output has high speed positioning function.

② The '-' in the table indicates that this model doesn't have this function.
 ③ Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC

X-NET Motion Bus Type

XDC Series

In addition to all functions of standard PLC, it has faster processing speed (about 15 times that of XC Series) and supports X-NET motion bus control (1 \sim 20 axes). Support the connection of right expansion module, BD board and left expansion module.

- ① Program capacity 384KB
- ② I/O sequential control
- 3 Max I/O 572 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- 7 X-NET motion bus
- $\ensuremath{\$}$ 4 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- 9 2 axes 100KHz pulse output



Performance specification

Product series X	DC-	24T	32T	48T	60T			
	Total points	24	32	48	60			
Main body I/O	Input points	14	18	28	36			
	Output points	10	14	20	24			
Max I/O points		536	544	560	572			
High speed	General pulse output	2 axes	2 axes	2 axes	2 axes			
positioning	Differential pulse output	-	-	-	-			
High speed	Single/AB phase mode	4 channels	4 channels	4 channels	4 channels			
input	Input mode	OC	OC	OC	ОС			
F	Right expansion module	16	16	16	16			
Expansion ability	Left expansion module	1	1	1	1			
,	BD board	1	1	2	2			
	External interrupt	10						
Interruption	Timing interrupt	20						
	Other interrupts	High speed counting interrupt, pulse interrupt						
Communication	Communication port	2 RS232 ports (COM1 is X-NET communicationby default), 1 RS485 port						
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication						
Bus function		X-NET fieldbus, X-NE	T motion bus					
PWM pulse width	modulation	Support						
Frequency meas	urement	Support						
Precise timing		26 points ET0~ET25 (only even numbers can be used)						
Multi-station con	trol	-						
Program executi	on mode	Cyclic scanning mode)					
Programming me	ethod	Instruction, ladder diagram, C language						
Power off holding		Use FlashROM and lithium battery (3V button battery)						
Basic instruction	processing speed	0.02~0.05us						
User program cap	acity (secret download mode)	384KB						

XDC series model list

	Model									
		AC power	rsupply	DC power supply						
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output				
	-	XDC-24T-E	-	-	XDC-24T-C	-				
NPN type	-	XDC-32T-E	-	-	XDC-32T-C	-				
иги туре	-	XDC-48T-E	-	-	XDC-48T-C	-				
	-	XDC-60T-E	-	-	XDC-60T-C	-				
PNP type	-	-	-	-	XDC-60PT-C	-				

Prod	uct series XDC-		24T	32T	48T	60T			
Secu	rity function		6-bit ASCII password	d encryption, secret dov	/nloading				
Self-	diagnosis functio	n	<u> </u>	nonitoring timer, syntax					
Real-	time clock		· · · · · · · · · · · · · · · · · · ·	n battery power supply,		orv			
SD e	xpansion card			31 1137					
	Input relay (X)		1280 points: X0~X77	7, X10000~X11777, X20	000~X20177, X30000	~X30077			
	Output relay (Y)	1280 points:Y0~Y77	, Y10000~Y11777, Y20	000~Y20177, Y30000~	Y30077			
		General M	70000 points: M0~M	70000 points: M0~M69999					
	Auxiliary relay	Power off holding HM	12000 points: HM0~l	HM11999					
œ		Special SM	5000 points: SM0~S	M4999					
it s	Пош	General S	8000 points S0~S7999						
oft.	Flow	Power off holding HS	1000 pointsHS0~HS999						
Bit soft component	T	Specification		100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s					
one	Timer	General T	5000 points T0~T499	99					
'n		Power off holding HT	2000 points HT0~HT1	1999					
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647						
	Counter	General C	5000 points C0~C49	99					
		Power off holding HC	2000 points HC0~HC	1999					
	Special coil for	WAIT instruction	32 points SEM0~SEM	M31					
		General D	70000 points D0~D6	9999					
° ≤	Data register	Power off holding HD	25000 points HD0~H	ID24999					
m or	Special SD		5000 points SD0~SD4999						
Word soft component	FlashROM	Power off holding FD	8192 points FD0~FD	8191					
oft	register	Special SFD	6000 points SFD0~S	FD5999					
		Security register FS	48 points FS0~FS47						

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Ethernet Communication Type

XD5E Series

In addition to all functions of XD5 series (except SD card function), it has faster processing speed (about 2 ~ 3 times that of XDM series), larger internal resource space, supports RS232, RS485 serial port communication and Ethernet communication, and supports the connection of right expansion module, BD board and left expansion ED module.

- ① Program capacity 1MB
- ② I/O sequential control
- 3 Max I/O 572 points
- ④ Basic instruction 0.01~0.03us
- ⑤ RRS232, RS485, RJ45
- ⑥ X-NET fieldbus
- $\ensuremath{ rac{7}{3}}$ 2~10 axes 100KHz pulse output
- ® 3~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)



Performance specification

Product series XI	D5E-	24R/T	30R/T	30T4	48R/T	60R/T	60T4	60T6	60T10		
	Total points	24	30	30	48	60	60	60	60		
Main body I/O	Input points	14	16	16	28	36	36	36	36		
	Output points	10	14	14	20	24	24	24	24		
Max I/O points		536	542	542	560	572	572	572	572		
High speed	General pulse output	2 axes	2 axes	4 axes	2 axes	2 axes	4 axes	6 axes	10 axes		
positioning	Differential pulse output	-	-	-	-	-	-	-	-		
High speed	Single/AB phase mode	3 channels	3 channels	4 channels	3 channels	3 channels	4 channels	6 channels	10 channels		
input	Input mode	ОС	ОС	ОС	ОС	OC	OC	OC	ОС		
	Right expansion module	16	16	16	16	16	16	16	16		
Expansion ability	Left expansion module	1	1	1	1	1	1	1	1		
	BD board	1	1	1	2	2	2	2	2		
	External interrupt	10									
nterruption	Timing interrupt	20									
	Other interrupts	High speed counting interrupt, pulse interrupt									
Communication	Communication port	1 RS232 p	orts, 1 RS48	35 port, 2 RJ	45 ports						
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication									
Bus function		X-NET fie	eldbus								
PWM pulse width	modulation	Support									
Frequency measu	urement	Support									
Precise timing		26 points ET0~ET25 (only even numbers can be used)									
Multi-station cont	rol	Support									
Program execution	on mode	Cyclic sc	anning mode	9							
Programming me	Programming method			Instruction, ladder diagram, C language							
Power off holding	Use FlashROM and lithium battery (3V button battery)										
Basic instruction	0.01~0.03us										
User program capa	acity (secret download mode)	1MB									

XD5E series model list

			Model					
		AC power	supply	DC power supply				
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output		
	XD5E-24R-E	XD5E-24T-E	-	XD5E-24R-C	-	-		
NPN type	XD5E-30R-E	XD5E-30T-E	-	-	-	-		
	-	XD5E-30T4-E	-	-	XD5E-30T4-C	-		
	XD5E-48R-E	XD5E-48T-E	-	-	-	-		
иги туре	XD5E-60R-E	XD5E-60T-E	-	-	-	-		
	-	XD5E-60T4-E	-	-	XD5E-60T4-C	-		
	-	XD5E-60T6-E	-	-	XD5E-60T6-C	-		
	-	XD5E-60T10-E	-	-	XD5E-60T10-C	-		
	-	XD5E-30PT4-E	-	-	-	-		
PNP type	-	XD5E-60PT6-E	-	-	-	-		
	-	-	-	-	XD5E-60PT10-C	-		

							T		T	
	uct series XD5E-		24R/T	30R/T	30T4	48R/T	60R/T	60T4	60T6	60T10
	rity function			CII password						
Self-	diagnosis functio	n		n self-test, m						
Real	-time clock		Built-in c	lock, Lithiun	n battery po	wer supply,	with power	down memo	ory	
SD e	xpansion card		-							
	Input relay (X)			nts: X0~X77	′, X10000~)	K11777, X20	0000~X2017	77, X30000-	~X30077	
	Output relay (Y)	1280 poi	nts:Y0~Y77	, Y10000~Y	′11777, Y20	000~Y2017	7, Y30000~	Y30077	
		General M	70000 pc	ints: M0~M	69999					
	Auxiliary relay	Power off holding HM	12000 po	ints: HM0~l	HM11999					
Special SM 5000 points: SM0~SM4999										
it s	Flow	General S	8000 poir	nts S0~S799	9					
oft	FIOW	Power off holding HS	1000 pointsHS0~HS999							
Bit soft component	T	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s							
one	Timer	General T	5000 points T0~T4999							
'n		Power off holding HT	2000 poir	nts HT0~HT1	1999					
	Counter	Specification		unter: 0~32 unter: -2147		2147483647	,			
	Counter	General C	5000 poi	nts C0~C49	99					
		Power off holding HC	2000 poi	nts HC0~HC	1999					
	Special coil for	WAIT instruction	32 points	SEM0~SE	M31					
		General D	70000 pc	ints D0~D6	9999					
° <	Data register	Power off holding HD	25000 pc	ints HD0~H	D24999					
y vor		Special SD	5000 poi	nts SD0~SD	4999					
Word soft component		Power off holding FD	8192 poi	nts FD0~FD	8191					
oft	FlashROM register	Special SFD	6000 poi	nts SFD0~S	FD5999					
~	register	Security register FS	48 points FS0~FS47							

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC

Ethernet Communication Type

XDME Series

In addition to all the functions of XDM series, it has faster processing speed (about 2 \sim 3 times that of XDM Series), larger internal resource space, and supports the connection of right expansion module, BD board and left expansion ED module.

- ① Program capacity 1MB
- ② I/O sequential control
- 3 Max I/O 572 points
- 4 Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- 6 X-NET fieldbus
- 7 4~10 axes 100KHz pulse output
- $\ \, \mbox{ } \mbox$
- 9 Linear/arc interpolation
- 10 Follow-up function



Performance specification

Product series X	DME-	30T4	60T4	60T10				
	Total points	30	60	60				
Main body I/O	Input points	16	36	36				
	Output points	14	24	24				
Max I/O points		542	572	572				
High speed	General pulse output	4 axes	4 axes	10 axes				
positioning	Differential pulse output	-	-	-				
High speed	Single/AB phase mode	4 channels	4 channels	10 channels				
input	Input mode	ОС	ОС	ОС				
	Right expansion module	16	16	16				
Expansion ability	Left expansion module	1	1	1				
a.cty	BD board	1	2	2				
	External interrupt	10						
Interruption	Timing interrupt	20						
	Other interrupts	High speed counting interrupt, pulse interrupt						
Communication	Communication port	1 RS232 ports, 1 RS485 port, 2 RJ45 ports						
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication						
Bus function		X-NET fieldbus						
PWM pulse width	modulation	Support						
Frequency meas	urement	Support						
Precise timing		26 points ET0~ET25 (only even numbers can be used)						
Multi-station con	trol	Support						
Program executi	on mode	Cyclic scanning mode						
Programming me	ethod	Instruction, ladder diagram, C language						
Power off holding		Use FlashROM and lithium battery (3V button battery)						
Basic instruction	processing speed	0.01~0.03us						
User program cap	acity (secret download mode)	1MB						

XDME series model list

	Model									
		AC power	supply	DC power supply						
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output				
	-	XDME-30T4-E	-	-	XDME-30T4-C	-				
NPN type	-	XDME-60T4-E	-	-	-	-				
	-	XDME-60T10-E	-	-	-	-				

	uct series XDME	-	30T4	60T4	60T10				
	rity function		6-bit ASCII password encryption	, ,					
Self-	diagnosis functio	n	Power on self-test, monitoring	timer, syntax check					
Real-	time clock		Built-in clock, Lithium battery բ	power supply, with power dowr	memory				
SD e	xpansion card		-						
	Input relay (X)		1280 points: X0~X77, X10000	~X11777, X20000~X20177, X	30000~X30077				
	Output relay (Y)		1280 points:Y0~Y77, Y10000~	-Y11777, Y20000~Y20177, Y3	0000~Y30077				
		General M	70000 points: M0~M69999						
	Auxiliary relay Power off holding HN		12000 points: HM0~HM11999						
Œ		Special SM	5000 points: SM0~SM4999						
its	Flow	General S	8000 points S0~S7999						
oft	# 10W	Power off holding HS	1000 pointsHS0~HS999	1000 pointsHS0~HS999					
Bit soft component	Time	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s						
one	Timer	General T	5000 points T0~T4999						
nt		Power off holding HT	2000 points HT0~HT1999						
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~	+2147483647					
	Counter	General C	5000 points C0~C4999						
		Power off holding HC	2000 points HC0~HC1999		·				
	Special coil for	WAIT instruction	32 points SEM0~SEM31						
		General D	70000 points D0~D69999						
° ≤	Data register	Power off holding HD	25000 points HD0~HD24999						
Word soft		Special SD	5000 points SD0~SD4999						
d s	EL LEON	Power off holding FD	8192 points FD0~FD8191						
Word soft component	FlashROM register	Special SFD	6000 points SFD0~SFD5999						
	J. 2.2.	Security register FS	48 points FS0~FS47						

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC

EtherCAT Bus Type

XDH Series

Compatible with most functions of XDM, it has larger program capacity and faster processing speed, supports Ethernet communication, EtherCAT bus, motion control commands such as interpolation and follow-up, expansion module and left expansion ED module.

- ① Program capacity 2~4MB
- 2 Ethernet communication
- 3 Max I/O 572 points
- 4 Basic instruction 0.01~0.05us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- 7 4 axes 100KHz pulse output
- ® 4 channels high speed counter (up to 200KHz)
- 9 3-axis linear/arc interpolation
- 10 Follow-up function
- 11) EtherCAT communication
- 12 16 channels electronic CAM (XDH-30A16L cannot support)



Performance specification

Main body I/O Input points 30 30 60 60 60 60 Input points 16 16 36 36 36 36 36 36	Product series X	Product series XDH-		30A16L	60T4	60A32		
Output points		Total points	30	30	60	60		
Max I/O points	Main body I/O	Input points	16	16	36	36		
High speed positioning Differential pulse output		Output points	14	14	24	24		
Differential pulse output	Max I/O points		542	542	572	572		
High speed input Input mode OC	High speed	General pulse output	4 axes	4 axes	4 axes	4 axes		
Input mode OC OC OC OC OC	positioning	Differential pulse output	-	-	-	-		
Right expansion module 16 16 16 16 16 16 16 1	High speed	Single/AB phase mode	4 channels	4 channels	4 channels	4 channels		
Left expansion module 1	input	Input mode	OC	OC	OC	OC		
ability Left expansion module 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	E	Right expansion module	16	16	16	16		
BD board 0 0 1 1 1		Left expansion module	1	1	1	1		
Interruption Timing interrupts Other interrupts High speed counting interrupt, pulse interrupt Communication port I RS232 ports, 1 RS485 port, 2 RJ45 ports Communication protocol Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication EtherCAT bus control XDH-30A16, XDH-60A32, XDH-60T4: support single axis, axis group motion and electronic CAM function. XDH-30A16L: support single axis, axis group motion (Note: cannot support electronic CAM) PWM pulse width modulation Frequency measurement - Precise timing 26 points ET0~ET25 (cannot support this function) Multi-station control Program execution mode Cyclic scanning mode Programming method Instruction, ladder diagram, C language Power off holding Use FlashROM and lithium battery (3V button battery) Basic instruction processing speed 0.02~0.05us 0.01~0.03us 0.01~0.03us		BD board	0	0	1	1		
Other interrupts		External interrupt	10					
Communication function Communication port 1 RS232 ports, 1 RS485 port, 2 RJ45 ports	Interruption	Timing interrupt	20					
Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication Bus function		Other interrupts	High speed counting interrupt, pulse interrupt					
Bus function EtherCAT bus control XDH-30A16, XDH-60A32, XDH-60T4: support single axis, axis group motion and electronic CAM function. XDH-30A16L: support single axis, axis group motion (Note: cannot support electronic CAM) PWM pulse width modulation Frequency measurement Precise timing 26 points ET0~ET25 (cannot support this function) Multi-station control Support Program execution mode Programming method Instruction, ladder diagram, C language Power off holding Use FlashROM and lithium battery (3V button battery) Basic instruction processing speed 0.02~0.05us 0.01~0.03us 0.01~0.03us	Communication	Communication port	1 RS232 ports, 1 RS485 port, 2 RJ45 ports					
Bus function XDH-30A16, XDH-60A32, XDH-60T4: support single axis, axis group motion and electronic CAM function. XDH-30A16L: support single axis, axis group motion (Note: cannot support electronic CAM) PWM pulse width modulation - Frequency measurement - Precise timing 26 points ET0~ET25 (cannot support this function) Multi-station control Support Program execution mode Programming method Instruction, ladder diagram, C language Power off holding Use FlashROM and lithium battery (3V button battery) Basic instruction processing speed 0.02~0.05us 0.01~0.03us 0.01~0.03us	function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication					
Frequency measurement Precise timing 26 points ET0~ET25 (cannot support this function) Multi-station control Program execution mode Programming method Programming method Power off holding Basic instruction processing speed	Bus function		XDH-30A16, XDH-60A32, XDH-60T4: support single axis, axis group motion and electronic CAM function.					
Precise timing 26 points ET0~ET25 (cannot support this function) Multi-station control Support Program execution mode Cyclic scanning mode Programming method Instruction, ladder diagram, C language Power off holding Use FlashROM and lithium battery (3V button battery) Basic instruction processing speed 0.02~0.05us 0.02~0.05us 0.01~0.03us	PWM pulse width	n modulation	=					
Multi-station control Program execution mode Programming method Prower off holding Dasic instruction processing speed O.02~0.05us Cyclic scanning mode Cyclic scanning mode Linstruction, ladder diagram, C language Use FlashROM and lithium battery (3V button battery) Double of the control of the c	Frequency meas	urement	-					
Program execution mode Programming method Prower off holding Dasic instruction processing speed Cyclic scanning mode Cyclic scanning mode Instruction, ladder diagram, C language Use FlashROM and lithium battery (3V button battery) 0.02~0.05us 0.01~0.03us 0.01~0.03us	Precise timing		26 points ET0~ET25 (cannot support this function)					
Programming method Instruction, ladder diagram, C language Power off holding Use FlashROM and lithium battery (3V button battery) Basic instruction processing speed 0.02~0.05us 0.02~0.05us 0.01~0.03us 0.01~0.03us	Multi-station con	Multi-station control		Support				
Power off holding Use FlashROM and lithium battery (3V button battery) Basic instruction processing speed 0.02~0.05us 0.02~0.05us 0.01~0.03us 0.01~0.03us	Program execution mode		Cyclic scanning mode					
Basic instruction processing speed 0.02~0.05us 0.02~0.05us 0.01~0.03us	Programming me	Programming method		Instruction, ladder diagram, C language				
	Power off holding		Use FlashROM and lithium battery (3V button battery)					
User program capacity (secret download mode) 2MB 2MB 4MB 4MB	Basic instruction	processing speed	0.02~0.05us	0.02~0.05us	0.01~0.03us	0.01~0.03us		
	User program capa	acity (secret download mode)	2MB	2MB	4MB	4MB		

XDH series model list

	Model					
AC power supply				DC power	rsupply	
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
	-	XDH-30A16-E	-	-	-	-
NPN type	-	XDH-30A16L-E	-	-	XDH-30A16L-C	-
	-	XDH-60T4-E	-	-	XDH-60T4-C	-
PNP type	-	XDH-30PA16L-E	-	-	-	-

Prod	uct series XDH-		30A16	30A16L	60T4	60A32
	rity function		6-bit ASCII password encryption, secret downloading			
	diagnosis functio	n	Power on self-test, monitoring timer, syntax check			
	-time clock	··	·	n battery power supply,		nrv
	xpansion card		_	in battery power suppry,	with power down meme	,, , ,
000	Input relay (X)		1280 points: X0~X77	7, X10000~X11777, X20		X30077
	Output relay (Y	١		, Y10000~Y11777, Y20	· · · · · · · · · · · · · · · · · · ·	
	Output relay (1	General M	200000 points M0~N		000 120177, 100000	130011
	Auxiliary relay	Power off holding HM	200000 points HM0~l			
_	/ dxillary rolay	Special SM	50000 points SM0~S			
B∺		General S	20000 points SW 2			
sof	Flow	Power off holding HS	2000 points HS0~HS			
Bit soft component		Specification	· '	76.7s, 10ms timer: 0.01	~327.67s,	
on	Timer	General T	20000 pointsT0~T19999			
ň		Power off holding HT	2000 points HT0~HT	1999		
		Specification	16-bit counter: 0~32 32-bit counter: -2147	767 7483648~+2147483647		
	Counter	General C	20000 points C0~C19999			
		Power off holding HC	2000 points HC0~HC1999			
		High speed counter	40 points HSC0~HS	C39		
	Special coil for	WAIT instruction	32 points SEM0~SE	M31		
		General D	500000 points D0~D499999	500000 points D0~D499999	500000 points D0~D499999	1000000 points D0~D999999
c _	Data register	Power off holding HD	50000 points HD0~HD49999	50000 points HD0~HD49999	50000 points HD0~HD49999	100000 points HD0~HD99999
om]		Special SD	65488 points SFD0~	SFD65487		
Word soft componen		Power off holding FD	65536 points FD0~F	D65535		
Word soft component	FlashROM register	Special SFD	50000 points SFD0~	SFD49999		
~	register	Security register FS	48 points FS0~FS47			

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Small-sized PLC —

CODESYS High Performance Type

XSDH Series

The small-sized PLC developed based on Codesys platform can significantly improve the programming efficiency and support the PLCopen programming specification. Many standard function libraries can be referenced to develop proprietary function blocks and instruction libraries.

- ① EtherCAT motion control
- ② Support EtherCAT remote IO
- 3 32 channels electronic CAM
- 4 Ethernet communication
- ⑤ Online downloading



Performance specification

Product series X	SDH-	60A32
	Total points	60
Main body I/O	Input points	36
	Output points	24
Max I/O points		572
High speed	General pulse output	4 axes
positioning	Differential pulse output	-
High speed	Single/AB phase mode	4 channels
input	Input mode	OC
	Right expansion module	16
Expansion ability	Left expansion module	1
	BD board	1
External interrup	t	10
Communication	Communication port	1 RS232 ports, 1 RS485 port, 2 RJ45 ports
function	Communication protocol	Standard Modbus ASCII/RTU communication, Ethernet communication
Bus function		EtherCAT bus control (up to 32 nodes)
Programming method		ST, SFC, FBD, CFC, LD and IL
Main processor		Cortex-A8, main frequency 1GHz
User program ca	pacity	32MB
Data canacity	General	30MB
Data capacity	Power off holding	2MB

XSDH series model list

	Model					
	AC power supply				DC power	supply
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN typ	е -	XSDH-60A32-E	-	-	-	-

Special for Ship Navigation

CCSD Series

It has passed the certification of China Classification Society and is applicable to ships and offshore facilities. It has passed relevant EMC tests to ensure the stable and reliable operation of the system.

- ① Program capacity 384KB
- ② I/O sequential control
- 3 Max I/O 572 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- 7 X-NET motion bus
- ® 4 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- 9 2 axes 100KHz pulse output



Performance specification

Product series C	CSD-	C32T	C60T		
	Total points	32	60		
Main body I/O	Input points	18	36		
	Output points	14	24		
Max I/O points		544	572		
High speed	General pulse output	2 axes	2 axes		
positioning	Differential pulse output	-	-		
High speed	Single/AB phase mode	4 channels	4 channels		
input	Input mode	OC	OC		
	Right expansion module	16	16		
Expansion ability	Left expansion module	1	1		
	BD board	1	2		
	External interrupt	10			
Interruption	Timing interrupt	20			
	Other interrupts	High speed counting interrupt, pulse interrupt			
Communication	Communication port	2 RS232 ports (COM1 is X-NET communicationby default), 1 RS485 port			
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication			
Bus function		X-NET fieldbus, X-NET motion bus			
PWM pulse width	modulation	Support			
Frequency meas	urement	Support			
Precise timing		26 points ET0~ET25 (only even numbers can be used)			
Multi-station con	trol	-			
Program execution mode		Cyclic scanning mode			
Programming me	thod	Instruction, ladder diagram, C language			
Power off holding]	Use FlashROM and lithium battery (3V butto	on battery)		
Basic instruction processing speed		0.02~0.05us			
User program capa	acity (secret download mode)	384KB			

Special for Ship Navigation

CCSD series model list

	Model					
AC power supply				DC power	supply	
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN type	-	CCSD-C32T-E	-	-	CCSD-C32T-C	-
ини турен	-	CCSD-C60T-E	-	-	CCSD-C60T-C	-

(Table before continuation)

lable bei	fore continuation)				
Prod	Product series CCSD-		C32T	C60T	
Secu	urity function		6-bit ASCII password encryption, secret downloading		
Self-	-diagnosis functio	n	Power on self-test, monitoring timer, syntax	c check	
Real	-time clock		Built-in clock, Lithium battery power supply	, with power down memory	
SD e	expansion card		-		
	Input relay (X)		1280 points: X0~X77, X10000~X11777, X2	0000~X20177, X30000~X30077	
	Output relay (Y)	1280 points:Y0~Y77, Y10000~Y11777, Y20	0000~Y20177, Y30000~Y30077	
		General M	70000 points: M0~M69999		
	Auxiliary relay	Power off holding HM	12000 points: HM0~HM11999		
B		Special SM	5000 points: SM0~SM4999		
t so	Flow	General S	8000 points S0~S7999		
of t	1100	Power off holding HS	1000 pointsHS0~HS999		
soft component	Time on	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01-1ms timer: 0.001~32.767s	~327.67s,	
one	Timer	General T	5000 points T0~T4999		
ñ		Power off holding HT	2000 points HT0~HT1999		
	0	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+214748364	7	
	Counter	General C	5000 points C0~C4999		
		Power off holding HC	2000 points HC0~HC1999		
	Special coil for WAIT instruction		32 points SEM0~SEM31		
		General D	70000 points D0~D69999		
° ≤	Data register	Power off holding HD	25000 points HD0~HD24999		
Word soft componen		Special SD	5000 points SD0~SD4999		
d so	FleebDOM	Power off holding FD	8192 points FD0~FD8191		
Word soft component	FlashROM register	Special SFD	6000 points SFD0~SFD5999		
	5	Security register FS	48 points FS0~FS47		

*Note: $\ensuremath{\ensuremath{\mathfrak{I}}}$ The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Basic Unit General Specification

General specification

Item	Specification	
Insulation voltage	DC500V above $2M\Omega$	
Anti noise	Noise voltage 1000Vp-p 1us pulse 1 minute	
Air	No corrosive and combustible gas	
Ambient temperature	0°C~60°C	
Ambient humidity	5%~95% (no condensation)	
Installation	It can be fixed with M3 screws or directly installed on the guide rail	
Grounding (FG)	The third grounding (It shall not be grounded in common with strong current system)	

*Note: XDH series ambient temperature is 0°C~50°C.

Power supply specification

AC power supply

Item	Specification
Rated voltage	AC100V~240V
Allowable voltage range	AC90V~265V
Rated frequency	50/60Hz
Allowable instantaneous power off time	Interruption time ≤0.5 AC cycle, interval ≥1s
Impulse current	Max 40A below 5ms/AC100V Max 60A below 5ms/AC200V
Maximum power consumption	15W (16 points)/ 30W (24 points and up)
Power supply for sensor	24VDC±10% 16 points max 200mA 32 points max 400mA

*Note: ① Please use more than 2mm2 wires for the power cable to prevent voltage drop.
② Even in case of power failure within 10ms, the PLC can continue to work.
When the power is cut off for a long time or the abnormal voltage drops,
the PLC will stop working and the output is also in off state.
When the power supply is restored, the PLC will automatically start running.
③ The grounding terminals of basic unit and expansion module are recommended
to be connected with each other and grounded reliably.

DC power supply

Item	Specification
Rated voltage	DC24V
Allowable voltage range	DC21.6V~26.4V
Rated frequency	120mA DC24V
Allowable instantaneous power off time	10ms DC24V
Impulse current	10A DC26.4V
Maximum power consumption	15W (16 points)/ 30W (24 points and up)
Power supply for sensor	24VDC±10% 16 points max 200mA 32 points max 400mA

Input specification

NPN type

, p.o	
Item	Specification
Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input response time	About 10ms
Input signal format	Contactor input or NPN open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when the input is ON

Differential type

Item	Contents	
Input signal	5V differential signal	
Input max frequency	1MHz	
Circuit insulation	Photoelectric coupling insulation	
Input action display	LED lights when the input is ON	

Item	Specification	
Input signal voltage	DC24V±10%	
Input signal current	7mA/DC24V	
Input ON current	Above 4.5mA	
Input OFF current	Below 1.5mA	
Input response time	About 10ms	
Input signal format	Contactor input or PNP open collector transistor	
Circuit insulation	Photoelectric coupling insulation	
Input action display	LED lights when the input is ON	

Basic Unit General Specification

Output specification

Relay output

External power supply		Below AC250V, DC30V
Circuit insulatio	n	Mechanical insulation
Action indicator		LED indicator
	Resistive load	3A
Max load	Inductive load	80VA
	Lamp load	100W
Min load		DC5V 10mA
Response time	OFF→ON	10ms
response time	ON→OFF	10ms

Transistor output

External power supply		DC5~30V
Circuit insulation		Optocoupler insulation
Action indicator		LED indicator
	Resistive load	0.3A
Max load	Inductive load	7.2W/DC24V
	Lamp load	1.5W/DC24V
Min load		DC5V 2mA
Open circuit leakage current		Below 0.1mA
Dannana tima	OFF→ON	Below 0.2ms
Response time	ON→OFF	Below 0.2ms

High speed pulse output

Model	RT/T model	T4 model	T6 model	T10 model
High speed pulse output terminal	Terminal Y0~Y1	Terminal Y0~Y3	Terminal Y0~Y5	Terminal Y0~Y11
External power supply	Below DC5~30V			
Action indicator	LED indicator			
Max current	50mA			
Pulse max output frequency	100KHz			

*Note: Terminal Y2, Y3 max pulse output frequency of XD3-24T4/32T4 is 20KHz.

Differential high speed output

Model		XD5-xDnTm-E
Output signal		5V differential signal
Max frequency		920KHz
Circuit insulation		Photoelectric coupling insulation
Action indicator		LED indicator
Response time	OFF→ON	Below 0.2ms

Serial port (RS232/RS485) communication parameter specification

Item	Parameter	
Communication mode	Half duplex	
Baud rate	4800bps, 9600bps, 19200bps (default), 38400bps, 57600bps, 115200bps	
Data type	Data bit: 5, 6, 7, 8 (default), 9 Stop bit: 1 (default), 1.5, 2 Parity bit: none, odd, even (default)	
Mode	RTU (default), ASCII, free format	
Station number	1~255 (the default is 1)	
Delay before sending	1~100ms (the default is 3ms)	
Reply timeout	1~1000ms (the default is 300ms)	
Retry count	1~20 times (the default is 3 times)	

Expansion Unit

In order to meet more application requirements, XD series PLC basic units can be equipped with rich I/O expansion modules, analog input and output modules, temperature control modules, BD boards and left expansion modules. The ontology can expand up to 10 ~ 16 right expansion modules, 1 ~ 2 BD boards and 1 left expansion module of different types.



Left expansion module Expansion BD

Analog and temperature expansion module

With D/A, A/D conversion and temperature measurement function.

Communication module

PLC can realize wireless WiFi, 4G and other data transmission, as well as wired communication of RS232, RS485 and CANopen

The compact expansion card can be directly installed on the basic unit, does not occupy excess space, and can complete the communication

Right expansion module

I/O expansion module It is used to expand the number of input and output points. The number of points is 8 ~ 32, and the basic unit can be expanded by 512 points at most.

The output expansion module is divided into transistor (T) and relay (R) output types.

Analog and temperature expansion module

It has D/A and A/D conversion functions. By expanding analog input/output module, temperature control module, XD series PLC can be used in temperature, flow, liquid level, pressure and other process control systems.

By adding PID regulation function, it can be used more widely, flexibly and controlled with higher precision. Only four parameters need to be set.

Each channel of the temperature control module can carry out PID control independently, which can do self-tuning, and exchange information with the PLC through FROM and TO instructions.

General specification

Item	Specification	
Using environment	No corrosive gas	
Ambient temperature	0°C ~ 60°C	
Storage temperature	-20 ~ 70°C	
Ambient humidity	5~95%RH	
Storage humidity	5~95%RH	
Installation	It can be fixed with M3 screws or directly installed on the guide rail of DIN46277 (35mm wide). BD board is directly installed on the top of PLC.	

- Small-sized PLC

Expansion Unit

Right expansion module

I/O expansion module

When the number of ontology points cannot meet the use requirements, this type of extension module can be used. The basic unit can be expanded by 512 points.



Total I/O points: 8 points/16 points

Total I/O points: 32 points

Digital input module

Model NPN input type PNP input type		Function description	Charification	
		Function description	Specification	
XD-E8X	XD-E8PX	8 channels digital input, DC24V power supply	Input filter time 1~50ms External wiring method: terminal block Wiring method: same to PLC unit	
XD-E16X	XD-E16PX	16 channels digital input, DC24V power supply		
XD-E32X-E	XD-E32PX-E	32 channels digital input, AC220V power supply		
XD-E32X-C	XD-E32PX-C	32 channels digital input, DC24V power supply		

Digital output module

Model	Function description	Specification
XD-E8YR	8 channels relay output, no need power supply	
XD-E8YT	8 channels transistor output, no need power supply	R: relay output
XD-E16YR	16 channels relay output, no need power supply	T: transistor output R response time below 10ms
XD-E16YT	16 channels transistor output, no need power supply	T response time below 0.2ms
XD-E32YR-E	32 channels relay output, AC220V power supply	R max load: resistive 3A, inductive 80VA
XD-E32YR-C	32 channels relay output, DC24V power supply	T max load: max output current of each point is 0.3A External wiring method: terminal block
XD-E32YT-E	32 channels transistor output, AC220V power supply	Wiring method: same to PLC unit
XD-E32YT-C	32 channels transistor output, DC24V power supply	

Digital I/O module

Model		Function description	Charification
NPN input type	PNP input type	Function description	Specification
XD-E8X8YR	XD-E8PX8YR	8 channels digital input, 8 channels relay output, DC24V power supply	Input filter time 1~50ms R: output relay
XD-E8X8YT	XD-E8PX8YT	8 channels digital input, 8 channels transistor output, DC24V power supply	T: output transistor R response time below 10ms
XD-E16X16YR-E	XD-E16PX16YR-E	16 channels digital input, 16 channels relay output, AC220V power supply	T response time below 0.2ms R max load: resistive 3A.
XD-E16X16YR-C	XD-E16PX16YR-C	16 channels digital input, 16 channels relay output, DC24V power supply	inductive 80VA T max load: resistive 3A, T max load: max output current of
XD-E16X16YT-E	XD-E16PX16YT-E	16 channels digital input, 16 channels transistor output, AC220V power supply	each point is 0.3A External wiring method: terminal block Wiring method: same to PLC unit
XD-E16X16YT-C	XD-E16PX16YT-C	16 channels digital input, 16 channels transistor output, DC24V power supply	

Analog and temperature expansion module

It has D/A and A/D conversion functions. By expanding analog input and output module, temperature control module and XD series PLC, it can be applied to process control systems such as temperature, flow, liquid level and pressure.

With PID regulation function, it can be used more widely, flexibly, and has higher control accuracy. Only four parameters need to be set.

Each channel of the temperature control module can carry out PID control independently, can do self-tuning, and exchange information with the PLC through the FROM, TO command.



Analog input module (AD type)

Model	Channel	Input signal	Specification
XD-E4AD	4	Input voltage: 0~5V/0~10V/-5~5V/-10~10V Input current: 0~20mA/4~20mA/-20~20mA	
XD-E8AD	8	Input voltage: 0~5V/0~10V/-5~5V/-10~10V Input current: 0~20mA/4~20mA/-20~20mA (first four channels are voltage, last four channels are current)	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Resolution 1/16383 (14 bits) Comprehensive accuracy ±1% AD filter coefficient 0~254 Channel enabit bit is added AD channel has the functions of short circuit, open circuit and over range detection
XD-E8AD-A	8	Input current: 0~20mA/4~20mA/-20~20mA	
XD-E8AD-V	8	Input voltage: 0~5V/0~10V/-5~5V/-10~10V	
XD-E12AD-V	12	Input voltage: 0~5V/0~10V/-5~5V/-10~10V	

Analog output module (DA type)

Model	Channel	Input signal	Specification
XD-E2DA	2	Output voltage: 0~5V/0~10V/-5~5V/-10~10V Output current: 0~20mA/4~20mA	Power supply for analog DC24V±10%, 150mA Conversion speed 240k/hannel
XD-E4DA	4	Output voltage: 0~5V/0~10V Output current: 0~20mA/4~20mA	Resolution 1/4095 (12 bits) Comprehensive accuracy ±1% Channel enabit bit is added

Temperature control module (PT&TC type)

Model	Channel	Input signal	Specification	
XD-E6PT-P	6	PT100 Platinum thermistor Temperature range -100°C~500°C (digital output range -1000~5000, signed 16 bits, binary)	Power supply for analog DC24V±10%, 150mA Control precision ±5% Resolution 0.1°C	
XD- E2TC-P	2	Thermosouple type V. C. F. N. D. T. Lead D.	Comprehensive accuracy ±1% (relative max value)	
XD- E6TC-P	6	Thermocouple type K, S, E, N, B, T, J and R Temperature range 0°C~1300°C (type K) (digital output range 0~13000, signed 16 bits, binary)	PT conversion speed 80ms/channel TC conversion speed 80ms/channel PT3 conversion speed 450ms/4 channels PT filter coefficient 0~254 Each channel has independent PID parameters	
XD-E6TC-P-H	6	(-5,		
XD-E4PT3-P	4	Pt100 Platinum thermistor Temperature range -100°C~500°C (digital output range -1000~5000, signed 16 bits, binary)	and support self-tuning function Optional sampling period Isolation between XD-E6TC-P-H channels	

Small-sized PLC

Expansion Unit

Analog I/O hybrid module (nADxPTmDA type)

Model	Model		I/O signal	Specification		
Model	Input	Output	i/O signal	Specification		
XD-E4AD2DA	4	2	Input voltage: 0~5V/0~10V/-5~5V/-10~10V Input current: 0~20mA/4~20mA/-20~20mA Output voltage: 0~5V/0~10V/-5~5V/-10~10V Output current: 0~20mA/4~20mA	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Input resolution 1/16383 (14-bit) Output resolution 1/4095 (12-bit) AD filter coefficient 0~254 Comprehensive accuracy ±1% Channel enable bit is added AD channel has the functions of short circuit, open circuit and over range detection		
XD-E2AD2PT2DA	4	2	Input voltage: 0~5V/0~10V Input current: 0~20mA/4~20mA Output voltage: 0~5V/0~10V Output current: 0~20mA/4~20mA Temperature collection: PT100 Platinum thermistor Temperature range: -100°C ~500°C (digital output range -1000~5000, signed 16 bits, binary)	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Input resolution 1/16383 (16-bit) Output resolution 1/1023 (10-bit) AD filter coefficient 0~254 PT channel resolution 0.1°C Comprehensive accuracy ±1% (relative max value) PT conversion speed 2ms/channel PT filter coefficient 0~254 Channel enable bit is added		
XD-E3AD4PT2DA	7	2	Input current: 0~20mA/4~20mA Output voltage: 0~5V/0~10V Temperature collection: PT100 Platinum thermistor Temperature range: -100°C ~500°C (digital output range -1000~5000, signed 16 bits, binary)	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Input resolution 1/16383 (14-bit) Output resolution 1/1023 (10-bit) AD filter coefficient 0~254 PT channel resolution 0.1°C Comprehensive accuracy ±1% (relative max value) PT conversion speed 2ms/channel PT filter coefficient 0~254 Channel enable bit is added		

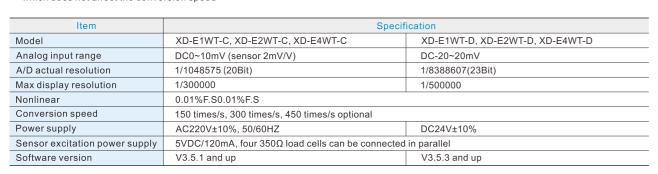
Weighing extension module

It is used to convert the analog signal of the load cell into digital signal. The weighing module has the characteristics of dynamic weighing, small volume, stable performance, simple and practical operation.

occasions.It can be widely used in seed, chemical industry, grain, feed weight control and other

Module features

- ① New algorithm, optimized hardware system, faster and accurate weighing control
- ② Analog voltage signals of 4 load cells can be collected at the same time
- 3 High performance A/D conversion, sampling speed up to 450 times/s
- 4 The display accuracy up to 1/300000
- ⑤ Automatic zero tracking function
- © The real-time data communicates with PLC at high speed through the bus, which does not affect the conversion speed



1~2 channels weighing

4 channels weighing

SSI encoder measurement module XD-E4SSI

Module features

- ① Support 4-channel absolute encoder position or displacement sensor detection
- ② Suitable for 10 ~ 31 bits SSI encoder, supporting 125KHz ~ 1MHz communication frequency and gray code or binary format coding
- 3 It has the function of disconnection detection and alarm



Specification

Item	Specification
Module power supply	DC24V (input range: 20.4~28.8V)
Module power consumption	1W (no load)
Position detection	Absolute mode
Difference between SSI data and clock signal	Comply with RS422 standard
Encoder bit number	10bit~31bit
Digital output range	0~encoder max feedback value
Resolution	1/encoder max feedback value
Communication frequency	125KHz~1MHz
Coding type	Gray code or binary code
Comprehensive accuracy	1%
Conversion speed	400us/channel
Power supply for encoder	DC24V±10%, 100mA or 300mA

XD-E4SSI communication speed and cable length

Communication speed	Shielded twisted pair length	
125KHz	Max 320m	
250KHz	Max 160m	
500KHz	Max 60m	
1MHz	Max 20m	

Macro measurement module XD-E2GRP

Precision displacement sensor is also called position sensor. Digital displacement sensors are widely used to transform old machine tools and equip new machine tools. After ordinary machine tools are equipped with digital display devices, they can meet the machining accuracy requirements of most parts and are suitable for machining complex parts.

XD-E2GRP can be widely used in precision measurement occasions, such as bearing inner and outer diameter detection, shaft product detection, non-standard product detection, etc.

Performance features

- 1) Range: ±1000UM
- 2 Resolution: 0.1um
- ③ Full range linearity error: ≤0.1%
- ④ Repeatability error: ≤1um
- ⑤ Working temperature range: -10~50°C
- 6 Data collection mode: parallel communication



Specification

	,
Item	Specification
Power supply	DC24V±10%
Nonlinear	0.001%F.S
Time drift	0.005%F.S
Input sensitivity	0.004uV/d
Comprehensive accuracy	0.1%

Small-sized PLC

Expansion Unit

Left expansion ED module

In addition to supporting the right expansion module, XD series PLC can also expand another ED module on the left side of the PLC. The left expansion ED module is designed as a thin sheet, occupies less space, and has the functions of AD/DA conversion, temperature measurement, remote communication and so on.

Analog and temperature expansion ED module

With the functions of AD/DA conversion, temperature measurement. XD series (except XD1 series) can connect 1 ED module.

Model	I/O signal	Specification		
XD-4AD-A-ED	4 channels current input: 0~20mA/4~20mA			
XD-4AD-V-ED	4 channels voltage input: 0~5V/0~10V			
XD-4DA-A-ED	4 channels current output: 0~20mA/4~20mA	Dower cumply for the module: DC241/+100/		
XD-4DA-V-ED	4 channels voltage output: 0~5V/0~10V	Power supply for the module: DC24V±10%, 150mA		
XD-2AD2DA-A-ED	2 channels current input: 0~20mA/4~20mA 2 channels current output: 0~20mA/4~20mA	Conversion speed: 10ms (all the channels)		
XD-2AD2DA-V-ED	2 channels voltage input: 0~5V/0~10V 2 channels voltage output: 0~5V/0~10V	Current/voltage input resolution: 1/4095 (12-bit) Current/voltage output resolution: 1/1023 (10-bit)		
XD-2AD2PT-A-ED	2 channels current input: 0~20mA/4~20mA 2 channels temperature input: PT100 platinum thermistor	AD/DA conversion comprehensive accuracy: ±1 PT:		
XD-2AD2PT-V-ED	2 channels voltage input: 0~5V/0~10V 2 channels temperature input: PT100 platinum thermistor	Temperature range: -100~500°C Digital output range: -1000~5000 Temperature input resolution: 0.1°C PT channel comprehensive accuracy: ±0.8% of the full scale		
XD-2PT2DA-A-ED	2 channels temperature input: PT100 platinum thermistor 2 channels current output: 0~20mA/4~20mA			
XD-2PT2DA-V-ED	2 channels temperature input: PT100 platinum thermistor 2 channels voltage output: 0~5V/0~10V			

Communication expansion ED module

PLC can realize wireless WIFI, 4G and other data transmission, as well as wired communication such as RS232, RS485 and CANopen.

XD-4GBOXL-ED Left expansion 4GBOX module

- - ① Realize wireless downloading and real-time monitoring of PLC program
 - ② SMS communication with user's mobile phone
 - 3 Support remote monitoring
 - Support multiple Telecom operators including China Mobile, China Telecom, China Unicom
 - ⑤ Support GPS positioning function⑥ As the left expansion ED module of XD series
 - PLC, the transmission rate can reach 1M
 - To Support fieldbus (X-NET) and deep optimization of data monitoring
 - ® Long lasting online, with disconnection redial and watchdog functions

XD-NES-ED Left expansion RS232/RS485 module



XD series extended ED module can expand one RS232 or RS485 port (support fieldbus communication).

XD-WBOXL-ED Left expansion WIFI module



- ① Support 2.4GHz wireless WLAN technology
- ② Support AP (wireless hotspot) and STA mode
- $\ensuremath{\mathfrak{I}}$ XD-WBOX-ED is left expansion TTL interface
- 4 Support wireless hotspot (same SSID) roaming
- ⑤ XD series PLC provides data support for XD-WBOX-ED
- © Support Modbus-TCP communication protocol (up to 4 connections)
- Support X-NET communication protocol, support Xinje Cloud access

XD-COBOX-ED CANopen communication module



- 1) The communication rate can reach 1Mbps
- (2) 64 communication nodes
- 3 Support master and slave modes
- 4 The reliability of the system is improved
- (5) Heartbeat protection
- 6 Easier wiring

Expansion BD board

Communication expansion BD board

XD-NE-BD

XD series expansion BD, fieldbus, X-NET interface.



The names of each part are as follows:

Name		Function		
Communication indicator		The indicator flashes when the BD board communicating successfully		
	Α	485+		
Terminal block	В	485-		
Terminal block	SG	Signal ground		
	•	Vacant terminal		
Terminal resist dialing switch	ance	Select whether terminal resistance is required through the dial switch (120 Ω)		

XD-NO-BD

XD series expansion BD, fieldbus communication function and X-NET optical fiber interface. It is used for optical fiber communication. It has the advantages of high speed and strong anti-interference.



The names of each part are as follows:

Name	Function	
Communication indicator	The indicator flashes when the BD board communicating successfully	
Terminal block	On the left is the signal input terminal and on the right is the signal output terminal	

XD-NS-BD

XD series expansion RS-232 BD.



The names of each part are as follows:

Name		Function
Communication indicator		The indicator flashes when the BD board communicating successfully
	TX	Signal sending terminal
Terminal	RX	Signal receiving terminal
block	GND	Grounding terminal
	•	Vacant terminal

Precise clock expansion BD

XD-RTC-BD

More accurate clock function can be realized, and the clock error is about 13s per month.

Software version requirements: V3.5.3 and up.



Small-sized PLC
Small-sized PLC

Expansion Unit

Marine special module CCSD series

CCSD series modules are equipped with marine special controller CCSD series, which is used for ships and offshore facilities. CCSD series modules include digital input and output, analog input and output, temperature control and RS485 communication expansion. They are suitable for temperature, flow, liquid level, pressure and other process control systems, and support up to 16 expansion modules.





General specification

Item	Specification	
Using environment	No corrosive gas	
Ambient temperature	0°C ~ 60°C	
Storage temperature	-20 ~ 70°C	
Ambient humidity	5~95%RH	
Storage humidity	5 ~ 95%RH	
Installation It can be fixed with M3 screws or directly installed on the guide rail of DIN46277 (35mm wi BD board is directly installed on the top of PLC		

Digital I/O module CCSD-nXmY

Model	Function description	Specification	
CCSD-E16X16YR-E	16 channels digital input, 16 channels relay output, AC220V power supply	Input filter time 1~50ms R: output relay	
CCSD-E16X16YR-C	16 channels digital input, 16 channels relay output, DC24V power supply	T: output transistor R response time below 10ms T response time below 0.2ms	
CCSD-E16X16YT-E	16 channels digital input, 16 channels transistor output, AC220V power supply	R max load: resistive 3A inductive 80VA T max load: max output current of each point 0.3A	
CCSD-E16X16YT-C	16 channels digital input, 16 channels transistor output, DC24V power supply	External wiring mode: terminal block Wiring method: same to PLC	

Analog I/O module CCSD-nAD

Model	Channels	Input signal	Specification
CCSD-E8AD	8	Input voltage: 0~5V/0~10V/-5~5V/-10~10V Input current: 0~20mA/4~20mA/-20~20mA (first four channels are voltage, last four channels are current)	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Resolution 1/16383 (14-bit) Comprehensive accuracy ±1% AD filter coefficient 0~254 Channel enable bit is added AD channel has the functions of short circuit, open circuit and over range detection

Analog I/O module CCSD-nADmDA

Model	Channels		I/O output signal	Constituent	
Model	Input	Output	1/O output signal	Specification	
CCSD-E4AD2DA	4	2	Input voltage: 0~5V/0~10V/-5~5V/-10~10V Input current: 0~20mA/4~20mA/-20~20mA Output voltage: 0~5V/0~10V/-5~5V/-10~10V Output current: 0~20mA/4~20mA	Power supply for analog DC24V±10%, 150mA Conversion speed 2ms/channel Input resolution 1/16383 (14-bit) Output resolution 1/4095 (12-bit) Comprehensive accuracy ±1% AD filter coefficient 0~254 Channel enable bit is added AD channel has the functions of short circuit, open circuit and over range detection	

Temperature control module CCSD-nPT-P/CCSD-nTC-P

Model	Channels	Input signal	Specification	
CCSD-E6PT-P	6	PT100 platinum thermistor Temperature range -100°C~500°C (digital output range -1000~5000, signed 16-bit, binary)	Power supply for analog DC24V±10%, 150mA Control precision: ±0.5% Resolution 0.1°C Comprehensive accuracy ±1% (relative max value) PT conversion speed 80ms/channel TC conversion speed 80ms/channel	
CCSD-E6TC-P	6	Type K, S, E, N, B, T, J and R thermocouple Temperature range 0°C~1300°C (type K) (digital output range 0~13000, signed 16-bit, binary)	PT3 conversion speed 450ms/4 channels PT filter coefficient 0~254 Each channel has independent PID parameters, supports self-tuning function and optional sampling period	

Communication expansion BD board

CCSD-NE-BD

CCSD series expansion BD board can realize RS485 and X-NET fieldbus communication.



The names of each part are as follows:

	Name		Function
	Communication indicator		The indicator flashes when the BD board communicating successfully
		Α	485+
	Wiring terminal block	В	485-
		SG	Signal ground
		•	Vacant terminal
	Terminal resistance dialing switch		Select whether terminal resistance (120 $\!\Omega)$ is required through the dial switch

Expansion Unit

Data acquisition control module MA series

MA series modules include digital input and output, analog input and output, temperature control, RS485 communication port, based on the standard Modbus communication protocol, can connect PLC, HMI, all-in-one machine and other equipment supporting Modbus protocol. It is suitable for temperature, flow, liquid level, pressure and other process control systems, and supports the expansion of up to 16 modules.

Digital expansion module MA-nXnY

Model	Explanation	
MA-8X8YR	8 channels digital input, 8 channels digital output (relay output)	
MA-8X8YT	8 channels digital input, 8 channels digital output (transistor output)	
MA-16X	16 channels digital input	
MA-16YR	16 channels digital output (relay output)	
MA-16YT 16 channels digital output (transistor output)		

Analog output module MA-nDA

Model	Explanation	
MA-2DA 2 channels, 10-bit high precision analog output (voltage current optional)		
MA-4DA	4 channels, 10-bit high precision analog output (voltage current optional)	

Analog input module MA-nAD

Model	Explanation
MA-4AD	4 channels, 12-bit high precision analog input (voltage, current optional), PID control for each channel

Analog input output module MA-nADmDA

Model	Explanation
MA-4AD2DA	4 channels, 12-bit high precision analog input (voltage, current optional), PID control for each channel. 2 channels, 10-bit high precision analog output (voltage, current optional).

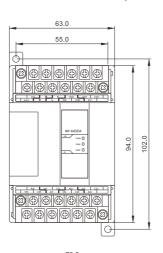
Temperature control module MA-nPT-P/MA-nTCA-P

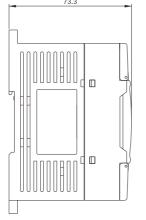
Model	Explanation
MA-6PT-P	6 channels PT100 input, PID for each channel, 6 channels output. 1mA constant current output, not affected by the external environment changing
MA-6TCA-P	6 channels thermocouple input, PID control for each channel, 6 channels output.



Dimension drawing

(Unit: mm)





Parts

List of basic unit accessories

Communication/programming cable XVP/DVP

For communication and program uploading/downloading.



DB9 to RS485 cable

JC-EB-Length

DB9 to RS485 cable for RS485 communication between HMI and PLC. It has three models: JC-EB-3 (3m), JC-EB-5 (5m), JC-EB-8 (8m).



USB to serial port convertor

USB-COM

For interface conversion between DB9 female port and USB port.



X-NET fieldbus cable

JC-EA-Length

Use together with XD-NE-BD or XD-NES-BD. It has 7 models:

JC-EA-1 (1m), JC-EA-05 (5m), JC-EA-10 (10m), JC-EA-20 (20m), JC-EA-30 (30m), JC-EA-50 (50m), JC-EA-100 (100m)



USB printer cable

JC-UA-15

Special download cable for Xinje products (except products without USB-B interface). Black, with double magnetic rings to improve anti-interference performance.



Relay module

JR-EH

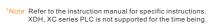
Suitable for all the RS485 communication occasions.



Program downloader

JD-P0

- Without computer, it can be used for program and data transfer and download between multiple Xinje PLCs.
- ② Suitable PLC: uploading requires the XD/XL/XG2 series PLC firmware v3.4.6 or above v3.5.3 (Ethernet type) or ZG/ZP series integrated controller. Downloading requires the PLC firmware v3.4 and up.
- 3 JD-P03 has small appearance and takes up small space.





List of expansion module accessories

XD expansion module extension cable

XD extension cable has the length of 0.7m and 1.5m. Two 0.7m or one 1.5m cables can be added to a series of modules, and two 1.5m cables are not supported.



XD series terminal resistance

XD-ETR

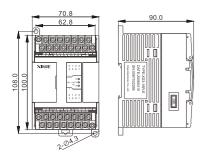
The terminal resistance is a small plug-in board, which is inserted into the expansion port of the last expansion module to improve the signal quality. This accessory is required when more than 5 modules are connected or extension cables are used.



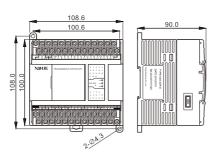
Dimension Drawing

(Unit: mm)

XD series basic unit



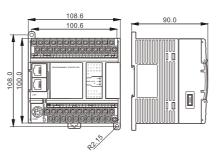




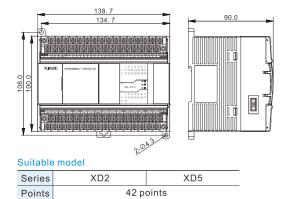
Suitable model

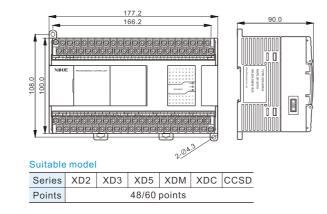
Series | XD1 | XD2 | XD3 | XD5 | XDM | XDC | CCSD |

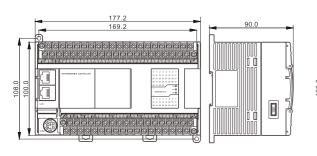
Points | 24/32 points



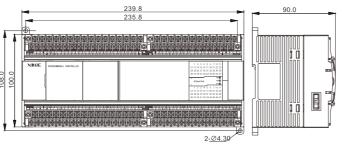
Suitable model				
	Series	XD5E	XDME	XDF
	Points		30 points	





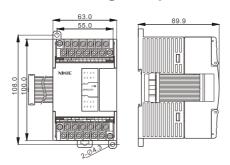


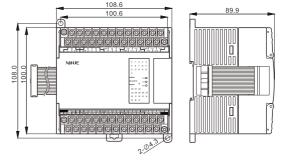




Series	XD5			
Points	80 points			

XD series right expansion module





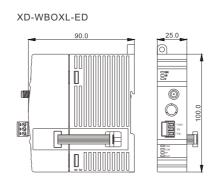
Applicable model

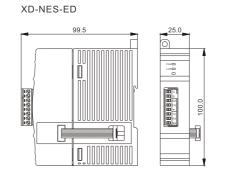
Module type Digital value 8X
8Y
Model 8X8Y
16X
16Y

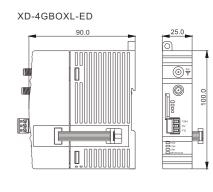
Analog value

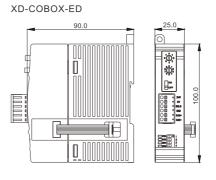
	Applicable model		
	Module type	Digital value	Analog valu
		32X	XD-E4WT-0
	Model	32Y	XD-E4WT-0
		16X16Y	XD-E2GRP

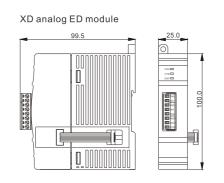
XD series left expansion ED module







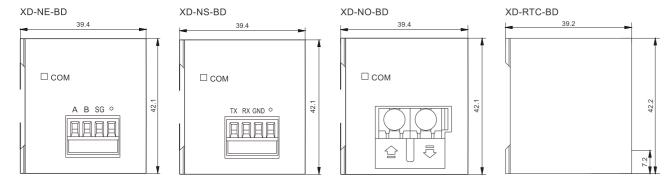




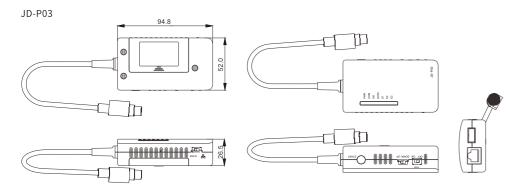
Dimension Drawing

(Unit: mm)

XD series expansion BD board



Host accessories



Slim Type PLC

Small size, large function, powerful core

XL series PLC has card design, ultra-thin appearance, equipped with powerful CPU processor, complete functions, high reliability and compact structure, especially suitable for narrow installation space.

XL5 series

① Slim appearance, small and practical

XL3 series

② Strong compatibility

XL1 series

- ③ Strong expansion ability
- 4 Outstanding cost performance5 Save more installation space



XL5N series

XLH series

XSLH series

XL5E/XLME series



Economic Type

XL1 Series

The function is relatively simple, which can carry out logic control, data operation and other general functions. XL1 series is equipped with RS232 port, RS485 port, USB port and supports the networking function of X-NET fieldbus. No expansion, high-speed processing function.

- ① Program capacity 256KB
- ② I/O sequential control
- 3 Max I/O 16 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- ${\ensuremath{ {\mathfrak T}}}$ USB port high speed download (max 12Mbps)



Performance specification

Product series XI	L1-	16T	16T-U			
Total points		16	16			
Main body I/O	Input points	8	8			
	Output points	8	8			
Max I/O points		16	16			
High speed	General pulse output	-	-			
positioning	Differential pulse output	-	-			
High speed	Single/AB phase mode	-	-			
input	Input mode	-	-			
	Right expansion module	-	-			
Expansion ability	Left expansion module	-	-			
ability	BD board	-	-			
	External interrupt	6	6			
Interruption	Timing interrupt	20	20			
	Other interrupts	-	-			
Communication	Communication port	2 RS232 ports, 1 RS485 port	1 RS232 port, 1 RS485 port, 1 USB port			
function	Communication protocol	Standard Modbus ASCII/RTU communication, free	e format communication			
Bus function		X-NET fieldbus				
PWM pulse width	modulation	-				
Frequency meas	urement	-				
Precise timing		-				
Multi-station con	trol	-				
Program execution	on mode	Cyclic scanning mode				
Programming me	thod	Instruction, ladder diagram, C language				
Power off holding]	Use FlashROM and lithium battery (3V button battery)				
Basic instruction	processing speed	0.02~0.05us				
User program capa	acity (secret download mode)	256KB				

XL1 series model list

	Model											
		DC power	rsupply									
	Relay output Transistor output Transistor relay mixed output				Transistor output	Transistor relay mixed output						
NPN type	-	-	-	-	XL1-16T	-						
игитуре	-	-	-	-	XL1-16T-U	-						
PNP type	-	-	-	-	-	-						

Prod	uct series XL1-		16T	16T-U		
	rity function		6-bit ASCII password protection, secret download			
	diagnosis functio	n	Power on self-test, monitoring timer, syntax check			
	-time clock		Built-in clock, Lithium battery, power off m			
SD e	xpansion card		-			
	Input relay (X)		896 points: X0~X77, X10000~X11177, X2	0000~X20177, X30000~X30077		
	Output relay (Y)	896 points: Y0~Y77, Y10000~Y11177, Y20	<u> </u>		
		General M	8000 points M0~M7999			
	Auxiliary relay	Power off holding HM	960 points HM0~HM959			
		Special SM	2048 points SM0~SM2047			
÷		General S	1024 points S0~S1023			
oft	Flow	Power off holding HS	128 points HS0~HS127			
Bit soft component		Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s			
one	Timer	General T	576 points T0~T575			
'n		Power off holding HT	96 points HT0~HT95			
	0	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+21474836	47		
	Counter	General C	576 points C0~C575			
		Power off holding HC	96 points HC0~HC95			
	Special coil for	WAIT instruction	32 points SEM0~SEM31			
		General D	8000 points D0~D7999			
° <	Data register	Power off holding HD	1000 points HD0~HD999			
m or		Special SD	2048 points SD0~SD2047			
Word soft	FleebDOM	Power off holding FD	5120 points FD0~FD5119			
Word soft component	FlashROM register	Special SFD	2000 points SFD0~SFD1999			
		Security register FS	48 points FS0~FS47			

*Note: ① The '-' in the table indicates that this model doesn't have this function.

 $\ensuremath{\mathfrak{D}}$ Special refers to system occupancy, cannot be used for other purposes.

Standard Type

XL3 Series

It has complete functions. In addition to the general data processing function, it also has special functions such as high-speed pulse output, high-speed counting function, pulse width modulation, frequency measurement and accurate timing. It supports the connection of right expansion module and left expansion module, which can meet various use needs.

- ① Program capacity 256KB
- ② I/O sequential control
- 3 Max I/O 352 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ① USB port high speed download (max 12Mbps)
- ® 3 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- 9 2 channels 100KHz pulse output



Performance specification

Product series XL3-		16R/T	32R/T			
Total points		16	32			
PLC body I/O	Input points	8	16			
	Output points	8	16			
Max I/O points		336	352			
High speed	General pulse output	2 axes	2 axes			
positioning	Differential pulse output	-	-			
High speed	Single/AB phase mode	3 channels	3 channels			
input	Input mode	OC	OC			
	Right expansion module	10	10			
Expansion ability	Left expansion module	1	1			
~~ <u>,</u>	BD board	-	-			
	External interrupt	6	10			
Interruption	Timing interrupt	20				
	Other interrupts	High speed counter interrupt, pulse interrupt				
Communication	Communication port	1 RS232 port, 1 RS485 port, 1 USB port				
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication				
Bus function		X-NET fieldbus	X-NET fieldbus			
PWM pulse width	modulation	Support				
Frequency meas	urement	Support				
Precise timing		26 points ET0~ET25 (Only even numbers can be used)				
Multi-station con	trol	-				
Program execution mode		Cyclic scanning mode				
Programming me	thod	Command, ladder chart, C language				
Power off holding]	FlashROM and lithium battery (3V button battery)				
Basic instruction	processing speed	0.02~0.05us				
User program capa	acity (secret download mode)	256KB				

XL3 series model list

	Model											
		AC power	rsupply		DC power	rsupply						
	Relay output Transistor output Transistor relay mixed output				Transistor output	Transistor relay mixed output						
NPN type	-	-	-	XL3-16R	XL3-16T	-						
W Wype	-	-	-	XL3-32R	XL3-32T	-						
DND	-	-	-	XL3-16PR	-	-						
PNP type	-	-	-	XL3-32PR	-	-						

	uct series XL3-	151.01				
	Security function 6-bit ASCII password protection, secret download					
Self-	diagnosis functio	n	Power on self-test, monitoring timer, syn	tax check		
Real	-time clock		Built-in clock, Lithium battery, power off r	memory		
SD e	xpansion card		-			
	Input relay (X)		896 points: X0~X77, X10000~X11177, X	20000~X20177, X30000~X30077		
	Output relay (Y)	896 points: Y0~Y77, Y10000~Y11177, Y2	20000~Y20177, Y30000~Y30077		
		General M	8000 points M0~M7999			
	Auxiliary relay	Power off holding HM	960 points HM0~HM959			
Œ		Special SM	2048 points SM0~SM2047			
: s	Flow	General S	1024 points S0~S1023			
oft	FIOW	Power off holding HS	128 points HS0~HS127			
Bit soft component		Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s			
one	Timer	General T	576 points T0~T575			
nt		Power off holding HT	96 points HT0~HT95			
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483	647		
	Counter	General C	576 points C0~C575			
		Power off holding HC	96 points HC0~HC95			
	Special coil for	WAIT instruction	32 points SEM0~SEM31			
		General D	8000 points D0~D7999			
° <	Data register	Power off holding HD	1000 points HD0~HD999			
Word soft		Special SD	2048 points SD0~SD2047			
d s	5 5.014	Power off holding FD	5120 points FD0~FD5119			
Word soft component	FlashROM register	Special SFD	2000 points SFD0~SFD1999			
-	. 5 3 10 10 1	Security register FS	48 points FS0~FS47			

The '-' in the table indicates that the model does not have this function.
 Special means it is occupied by the system and cannot be used for other purposes.

Enhanced Type

XL5 Series

In addition to all the functions of standard PLC, it has faster processing speed (about 15 times of XC series), larger internal resource space, 2 ~ 4 channels high-speed pulse output, supports the connection of right expansion module and left expansion ED module, and can meet various use requirements.

- ① Program capacity 512KB
- ② I/O sequential control
- 3 Max I/O 576 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- ① USB port high speed download (max 12Mbps)
- \circledR 3~4 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- 9 2~10 channels 100KHz pulse output



Performance specification

Product series XI	L5-	16T	32T	32T4	64T10			
	Total points	16	32	32	64			
PLC body I/O	Input points	8	16	16	32			
	Output points	8	16	16	32			
Max I/O points		528	544	544	576			
High speed	General pulse output	2 axes	2 axes	4 axes	10 axes			
positioning	Differential pulse output	-	-	-	-			
High speed	Single/AB phase mode	3 channels	3 channels	4 channels	10 channels			
input	Input mode	ОС	ОС	ОС	ОС			
	Right expansion module	16	16	16	16			
Expansion ability	Left expansion module	1	1	1	1			
ability	BD board	-	=	-	-			
	External interrupt	6	10	10	10			
Interruption	Timing interrupt	20						
	Other interrupts	High speed counter interrupt, pulse interrupt						
Communication	Communication port	1 RS232 port, 1 RS485 port, 1 USB port						
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication						
Bus function		X-NET fieldbus						
PWM pulse width	modulation	Support						
Frequency meas	urement	Support						
Precise timing		26 points ET0~ET25 (Only even numbers can be used)						
Multi-station con	trol	-						
Program execution mode		Cyclic scanning mode						
Programming me	thod	Command, ladder chart, C language						
Power off holding]	FlashROM and lithium battery (3V button battery)						
Basic instruction	processing speed	0.02~0.05us						
User program capa	acity (secret download mode)	512KB						

XL5 series model list

	Model											
		AC power	rsupply		DC power	rsupply						
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output						
	-	-	-	-	XL5-16T	-						
NPN type	-	-	-	-	XL5-32T	-						
ини туре	-	-	-	-	XL5-32T4	-						
	-	-	-	-	XL5-64T10	-						
PNP type	-	-	=	-	XL5-32PT4	-						

Slim type PLC -

Dood	-1' VI 0		407	207	0074	0.474.0			
	uct series XL3-		16T	32T	32T4	64T10			
Security function			6-bit ASCII password protection, secret download						
	diagnosis functio	in		t, monitoring timer, syn					
	-time clock		Built-in clock, Lith	nium battery, power off	memory				
SD e	xpansion card		-	-					
	Input relay (X)		1280 points: X0~	X77, X10000~X11777,	X20000~X20177, X300	00~X30077			
	Output relay (Y)	1280 points: Y0~	Y77, Y10000~Y11777,	Y20000~Y20177, Y300	00~Y30077			
		General M	70000 points M0~	-M69999					
	Auxiliary relay	Power off holding HM	12000 points HM)~HM11999					
σ		Special SM	5000 points SM0	-SM4999					
: s	Flow	General S	8000 points S0~S	7999					
욹	FIOW	Power off holding HS	1000 points HS0~						
Bit soft component		Specification	100ms timer: 0.1- 1ms timer: 0.001-	-3276.7s, 10ms timer: (-32.767s	0.01~327.67s,				
one	Timer	General T	5000 points C0~0	24999					
ň		Power off holding HT	2000 points HC0-	-HC1999					
	Carrata	Specification	16-bit counter: 0~ 32-bit counter: -2	-32767 147483648~+2147483	647				
	Counter	General C	5000 points C0~0	24999					
		Power off holding HC	2000 points HT0~	·HT1999					
	Special coil for	WAIT instruction	32 points SEM0~	SEM31					
		General D	70000 points D0~	D69999					
° <	Data register	Power off holding HD	25000 points HD0)~HD24999					
ĭ or		Special SD	5000 points SD0~SD4999						
Word soft component		Power off holding FD	8192 points FD0~	FD8191					
oft	FlashROM register	Special SFD	6000 points SFD()~SFD5999					
-	register	Security register FS	48 points FS0~FS	647					

*Note: ① The '-' in the table indicates that this model doesn't have this function.
② Special refers to system occupancy, cannot be used for other purposes.

Ethernet Communication Type

XL5E Series

In addition to all the functions of XL5 series, it has faster processing speed (about 2 \sim 3 times that of XDM series), larger internal resource space (1M), RS232, RS485 and Ethernet ports, supports 2 \sim 10 channels pulse output, and supports the connection of right expansion module and left expansion module.

- ① Program capacity 1MB
- ② I/O sequential control
- ③ Max I/O 576 points
- 4 Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ① 2~10 channels 100KHz pulse output
- ® 3~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)



Performance specification

Product series XI	_5E-	16T	32T	32T4	64T6	64T10		
	Total points	16	32	32	64	64		
PLC body I/O	Input points	8	16	16	32	32		
	Output points	8	16	16	32	32		
Max I/O points		528	544	544	576	576		
High speed	General pulse output	2 axes	2 axes	4 axes	6 axes	10 axes		
positioning	Differential pulse output	-	-	-	-	-		
High speed	Single/AB phase mode	3 channels	3 channels	4 channels	6 channels	10 channels		
input	Input mode	OC	OC	ОС	OC	ОС		
	Right expansion module	16	16	16	16	16		
Expansion ability	Left expansion module	1	1	1	1	1		
	BD board	-	-	-	-	-		
	External interrupt	6	10	10	10	10		
Interruption	Timing interrupt	20						
	Other interrupts	High speed counter interrupt, pulse interrupt						
Communication	Communication port	1 RS232 port, 1 RS485 port, 2 RJ45 ports						
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication						
Bus function		X-NET fieldbus						
PWM pulse width	modulation	Support						
Frequency measu	urement	Support						
Precise timing		26 points ET0~ET25 (Only even numbers can be used)						
Multi-station cont	trol	Support						
Program execution	Program execution mode		Cyclic scanning mode					
Programming me	thod	Command, ladde	er chart, C language					
Power off holding	l	FlashROM and lithium battery (3V button battery)						
Basic instruction	processing speed	0.01~0.03us						
User program capa	acity (secret download mode)	1MB						

XL5E series model list

	Model											
		AC power	supply		DC power	supply						
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output						
	-	-	-	-	XL5E-16T	-						
	-	-	-	-	XL5E-32T	-						
NPN type	-	-	-	-	XL5E-32T4	-						
	-	-	-	-	XL5E-64T6	-						
	-	-	-	-	XL5E-64T10	-						
PNP type	-	-	-	-	XL5E-32PT4	-						

Drod	uct series XL5E-		16T	32T	32T4	64T6	64T10	
	rity function					0410	04110	
	Security function 6-bit ASCII password protection, secret download Self-diagnosis function Power on self-test, monitoring timer, syntax check							
		ın						
	Real-time clock Built-in clock, Lithium battery, power off memory							
SD e	xpansion card		-					
	Input relay (X)		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	X11777, X20000~X	· · · · · · · · · · · · · · · · · · ·		
	Output relay (Y)	1280 points:	Y0~Y77, Y10000~	Y11777, Y20000~Y	20177, Y30000~`	Y30077	
		General M	70000 points	M0~M69999				
	Auxiliary relay	Power off holding HM	12000 points	HM0~HM11999				
Bit		Special SM	5000 points 5	SM0~SM4999				
it s	Flow	General S	8000 points S	S0~S7999				
o t	FIOW	Power off holding HS	1000 points HS0~HS999					
soft component		Specification		0.1~3276.7s, 10m 001~32.767s	s timer: 0.01~327.6	67s,		
one	Timer	General T	5000 points (C0~C4999				
nt		Power off holding HT	2000 points I	HC0~HC1999				
	Counter	Specification	16-bit counte 32-bit counte	er: 0~32767 er: -2147483648~+	2147483647			
	Counter	General C	5000 points (C0~C4999				
		Power off holding HC	2000 points HT0~HT1999					
	Special coil for	WAIT instruction	32 points SEM0~SEM31					
		General D	70000 points	D0~D69999				
° <	Data register	Power off holding HD	25000 points	HD0~HD24999				
om Vor		Special SD	5000 points SD0~SD4999					
Word soft component		Power off holding FD	8192 points F	FD0~FD8191				
oft	FlashROM register	Special SFD	6000 points S	SFD0~SFD5999				
~	register	Security register FS	48 points FS	0~FS47				

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

CAN Communication Type

XL5N Series

Compatible with most functions of XL5E series, it has built-in twochannel independent CAN communication, equipped with RS232, RS485, RJ45 port, supports two-channel pulse output, three-channel high-speed counting, and supports the connection of right expansion module and left expansion module.

- ① Program capacity 1MB
- ② I/O sequential control
- 3 Max I/O 544 points
- 4 Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- © 2 channels CAN communication, support CANopen and CAN free format communication
- ③ Support Ethernet communication
- 8 2 channels 100KHz pulse output
- ③ 3 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)



Performance specification

Product series XI	L5N-	32T	
	Total points	32	
PLC body I/O	Input points	16	
	Output points	16	
Max I/O points		544	
High speed	General pulse output	2 axes	
positioning	Differential pulse output	-	
High speed	Single/AB phase mode	3 channels	
input	Input mode	OC	
F	Right expansion module	16	
Expansion ability	Left expansion module	1	
	BD board	-	
	External interrupt	10	
Interruption	Timing interrupt	20	
	Other interrupts	High speed counter interrupt, pulse interrupt	
	Communication port	1 RS232 port, 1 RS485 port, 2 RJ45 ports	
Communication function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication, CAN communication	
Bus function		CANbus control, X-NET fieldbus	
PWM pulse width	modulation	Support	
Frequency meas	urement	Support	
Precise timing		Support	
Multi-station control		Support	
Program execution mode		Cyclic scanning mode	
Programming method		Command, ladder chart, C language	
Power off holding		FlashROM	
Basic instruction	processing speed	0.01~0.03us	
User program capa	acity (secret download mode)	1MB	

XL5N series model list

	Model					
	AC power supply			DC power supply		
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN type	-	-	-	-	XL5N-32T	-

	uct series XL5N-		32T
	Security function		6-bit ASCII password protection, secret download
Self-	diagnosis functio	n	Power on self-test, monitoring timer, syntax check
Real	-time clock		Built-in clock, Lithium battery, power off memory
SD e	xpansion card		
	Input relay (X)		1280 points: X0~X77, X10000~X11777, X20000~X20177, X30000~X30077
	Output relay (Y)	1280 points: Y0~Y77, Y10000~Y11777, Y20000~Y20177, Y30000~Y30077
		General M	200000 points M0~M199999
	Auxiliary relay	Power off holding HM	20000 points HM0~HM19999
Œ		Special SM	5000 points SM0~SM4999
Bit soft component		General S	20000 points S0~S19999
	Flow	Power off holding HS	2000 points HS0~HS1999
comp	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s
one		General T	20000 points T0~T19999
ň		Power off holding HT	2000 points HT0~HT1999
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647
	Counter	General C	20000 points C0~C19999
		Power off holding HC	2000 points HC0~HC1999
	Special coil for	WAIT instruction	32 points SEM0~SEM31
		General D	500000 points D0~D499999
0 <	Data register	Power off holding HD	50000 points HD0~HD49999
om Vor		Special SD	50000 points SD0~SD49999
Word soft		Power off holding FD	65536 points FD0~FD65535
Word soft component	FlashROM register	Special SFD	50000 points SFD0~SFD49999
_	- Togistoi	Security register FS	48 points FS0~FS47

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

Ethernet Communication Type

XLME Series

In addition to all the functions of XDM series small-sized PLC, it has faster processing speed (about 2 ~ 3 times that of XDM series), larger internal resource space (1M), supports up to 10 channels pulse output, is equipped with RS232, RS485 port and 2 RJ45 ports, and supports the connection of right expansion module and left expansion module.

- ① Program capacity 1MB
- ② I/O sequential control
- 3 Max I/O 576 points
- 4 Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- 6 X-NET fieldbus
- 7 4~10 channels 100KHz pulse output
- $\ensuremath{\$}\xspace$ $4{\sim}10$ channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- 9 Linear/arc interpolation
- 10 Follow-up function



Performance specification

Product series XLME-		32T4	64T10		
	Total points	32	64		
PLC body I/O	Input points	16	32		
	Output points	16	32		
Max I/O points		544	576		
High speed	General pulse output	4 axes	10 axes		
positioning	Differential pulse output	-	-		
High speed	Single/AB phase mode	4 channels	10 channels		
input	Input mode	OC	OC		
F	Right expansion module	16	16		
Expansion ability	Left expansion module	1	1		
azınıy	BD board	-	-		
	External interrupt	10	10		
Interruption	Timing interrupt	20			
	Other interrupts	High speed counter interrupt, pulse interrupt			
	Communication port	1 RS232 port, 1 RS485 port, 2 RJ45 ports			
Communication function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication			
Bus function		X-NET fieldbus			
PWM pulse width	n modulation	Support			
Frequency meas	urement	Support			
Precise timing		26 points ET0~ET25 (Only even numbers can be used)			
Multi-station control		Support			
Program execution mode		Cyclic scanning mode			
Programming me	ethod	Command, ladder chart, C language			
Power off holding]	FlashROM and lithium battery (3V button battery)			
Basic instruction	processing speed	0.01~0.03us			
User program capa	acity (secret download mode)	1MB			

XLME series model list

	Model					
	AC power supply			DC power supply		
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN type	-	-	-	-	XLME-32T4	-
иги туре	-	-	-	-	XLME-64T10	-

Drod	uct series XLME-		32T4	64T10	
	rity function	<u>'</u>	6-bit ASCII password protection, secret download		
	Self-diagnosis function		Power on self-test, monitoring timer, syntax check		
	time clock	'11	, , ,		
			Built-in clock, Lithium battery, power off me	emory	
SD e.	xpansion card				
	Input relay (X)	`	1280 points: X0~X77, X10000~X11777, X2	<u> </u>	
	Output relay (Y	,	1280 points: Y0~Y77, Y10000~Y11777, Y2	20000~Y20177, Y30000~Y30077	
		General M	70000 points M0~M69999		
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999		
<u></u>		Special SM	5000 points SM0~SM4999		
ts	Flow	General S	8000 points S0~S7999		
oft	1100	Power off holding HS	1000 points HS0~HS999		
Bit soft component	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s		
one		General T	5000 points T0~T4999		
nt		Power off holding HT	2000 points HT0~HT1999		
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+214748364	47	
	Counter	General C	5000 points C0~C4999		
		Power off holding HC	2000 points HC0~HC1999		
	Special coil for	WAIT instruction	32 points SEM0~SEM31		
		General D	70000 points D0~D69999		
° <	Data register	Power off holding HD	25000 points HD0~HD24999		
ĕor		Special SD	5000 points SD0~SD4999		
Word soft component	5 50.4	Power off holding FD	8192 points FD0~FD8191		
oft	FlashROM register	Special SFD	6000 points SFD0~SFD5999		
_	logistol	Security register FS	48 points FS0~FS47		

*Note: ① The '-' in the table indicates that this model doesn't have this function.

② Special refers to system occupancy, cannot be used for other purposes.

EtherCAT Bus Type

XLH Series

Compatible with most functions of XLME, it has larger program capacity and faster processing speed, supports Ethernet communication, EtherCAT bus, motion control commands such as interpolation and follow-up, can connect expansion module and left expansion ED module.

- ① Program capacity 2~4MB
- 2 Max I/O 542 points
- 3 Basic instruction 0.01~0.05us
- 4 RS232, RS485, RJ45
- Ethernet communication
- ⑥ X-NET fieldbus
- ① EtherCAT bus control
- ® 4 channels 100KHz pulse output
- 9 4 channels high speed counter (up to 200KHz)
- 10 Follow-up function
- 1) 3 axes linear/arc interpolation
- ② 16 channels electronic CAM (XLH-24A16L cannot support)



Performance specification

Product series XLH-		24A16	24A16L	30A32			
	Total points	24	24	30			
PLC body I/O	Input points	12	12	14			
	Output points	12	12	16			
Max I/O points		536	536	542			
High speed	General pulse output	4 axes	4 axes	4 axes			
positioning	Differential pulse output	-	-	-			
High speed	Single/AB phase mode	4 channels	4 channels	4 channels			
input	Input mode	ОС	OC	2 channels differential signal + 2 channels OC			
	Right expansion module	16					
Expansion ability	Left expansion module	1					
ability	BD board	-	-				
	External interrupt	10					
Interruption	Timing interrupt	20					
	Other interrupts	High speed counter interrupt, pulse interrupt					
Communication	Communication port	1 RS232 port, 1 RS485 port, 2 RJ45 ports					
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication, CAN communication (only 30A32 support)					
Bus function		EtherCAT bus control XLH-24A16, XLH-30A32: support single axis, axis group motion control and electronic CAM function XLH-24A16L: support single axis, axis group motion control (Note: cannot support electronic CAM function)					
PWM pulse width	modulation	-					
Frequency meas	urement	-					
Precise timing		26 points ET0~ET25 (cannot support this function)					
Multi-station control		Support					
Program execution mode		Cyclic scanning mode					
Programming method		Command, ladder chart, C language					
Power off holding		FlashROM					
Basic instruction	processing speed	0.02~0.05us	0.02~0.05us	0.01~0.03us			
User program capacity (secret download mode)		2MB	2MB	4MB			

XLH series model list

	Model					
	AC power supply				DC power	rsupply
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
	-	-	-	-	XLH-24A16	-
NPN type	-	-	-	-	XLH-24A16L	-
	-	-	-	-	XLH-30A32	-

Prod	uct series XLH-		24A16	24A16L	30A32	
	rity function		6-bit ASCII password protection, secret download			
	Self-diagnosis function		Power on self-test, monitoring timer, syntax check			
Real	-time clock		Built-in clock, Lithium battery	, power off memory		
SD e	xpansion card			· · · · · · · · · · · · · · · · · · ·		
	Input relay (X)		1280 points: X0~X77, X1000		30000~X30077	
	Output relay (Y)	1280 points: Y0~Y77, Y1000	0~Y11777, Y20000~Y20177, Y	30000~Y30077	
		General M	200000 points M0~M199999			
	Auxiliary relay	Power off holding HM	20000 points HM0~HM19999			
		Special SM	50000 points SM0~SM49999			
Bit	Flow	General S	20000 points S0~S19999			
	FIOW	Power off holding HS	2000 points HS0~HS1999			
Bit soft component	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s			
<u> </u>		General T	20000 points T0~T19999			
on		Power off holding HT	2000 points HT0~HT1999			
ent		Precise timing	40 points ET0~ET39			
-		Specification	16-bit counter: 0~32767 32-bit counter: -2147483648	~+2147483647		
	Counter	General C	20000 points C0~C19999			
		Power off holding HC	2000 points HC0~HC1999			
		High speed counter	40 points HSC0~HSC39			
	Special coil for	WAIT instruction	32 points SEM0~SEM31			
		General D	500000 points D0~D499999	500000 points D0~D499999	1000000 points D0~D999999	
0 ≤	Data register	Power off holding HD	50000 points HD0~HD49999	50000 points HD0~HD49999	100000 points HD0~HD99999	
npo		Special SD	50000 points SD0~SD49999			
Word soft component	FlashROM	Power off holding FD	65536 points FD0~FD65535			
ž #	register	Special SFD	50000 points SFD0~SFD499	99		
		Security register FS	48 points FS0~FS47			

*Note: ① The '-' in the table indicates that this model doesn't have this function.

Special refers to system occupancy, cannot be used for other purposes.

CODESYS High Performance Type

XSLH Series

The small PLC developed based on Codesys platform can significantly improve the programming efficiency and support the PLCopen programming specification. Many standard function libraries can be referenced to develop proprietary function blocks and instruction libraries.

- ① EtherCAT motion control
- ② Support EtherCAT remote IO
- ③ 32 channels electronic CAM
- 4 Ethernet communication
- ⑤ Online download



Performance specification

Product series X	SLH-	30A32	
	Total points	30	
PLC body I/O	Input points	14	
	Output points	16	
Max I/O points		542	
High speed	General pulse output	4 axes	
positioning	Differential pulse output	-	
High speed	Single/AB phase mode	4 channels	
input	Input mode	2 channels differential signal + 2 channels OC	
	Right expansion module	16	
Expansion ability	Left expansion module	1	
y	BD board	-	
External interrup	t	10	
Communication	Communication port	1 RS232 port, 1 RS485 port, 2 RJ45 ports	
function	Communication protocol	Standard Modbus ASCII/RTU communication, Ethernet communication, CAN communication	
Bus function		EtherCAT bus control (max 32 nodes)	
Programming method		ST, SFC, FBD, CFC, LD and IL	
Main processor		Cortex-A8, dominant frequency 1GHz	
User program capacity		32MB	
Data capacity	Total points	30MB	
Data capacity	Power off holding	2MB	

Basic Unit Specification

General specification

Item	Specification
Insulation voltage	Above DC500V 2MΩ
Anti-noise	Noise voltage 1000Vp-p 1us pulse 1 minute
Air	No corrosive and combustible gas
Ambient temperature	0°C~55°C
Ambient humidity	5%RH~95%RH (no condensation)
Installation	Directly mounted on the guide rail
Grounding	The third kind of grounding (not common grounding with strong current system)

Power supply specification

DC power supply

1 11 2	
Item	Specification
Rated voltage	DC24V
Allowable voltage range	DC21.6V~26.4V
Rated power	120mA DC24V
Allowable instantaneous power off time	10ms DC24V
Impact current	10A DC26.4V
Max power consumption	15W (16 points) / 30W (24 points and up)
Power supply for sensor	24VDC±10% 16 points max 200mA, 32 points max 400mA

Input specification

NPN mode

Item	Specification
Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input response time	About 10ms
Input signal format	Contactor input or NPN open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when input is ON

PNP mode

141 mode	
Item	Specification
Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input response time	About 10ms
Input signal format	Contactor input or PNP open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when input is ON

Differential mode

Item	Specification
Input signal	5V differential signal
Input max frequency	1MHz
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when input is ON

Output specification

Relay output

External power supply		Below AC250V, DC30V	
Circuit ins	sulation	Mechanical insulation	
Action indicator		LED light	
	Resistive load	3A	
Max load	Inductive load	80VA	
	Lamp load	100W	
Min load		DC5V 10mA	
Response	OFF→ON	10ms	
time	ON→OFF	10ms	

Transistor output

	•	
External power supply		DC5~30 V
Circuit insulation		Optocoupler insulation
Action indicator		LED light
Max load	Resistive load	0.3A
	Inductive load	7.2W/DC24V
	Lamp load	1.5W/DC24V
Min load		DC5V 2mA
Open circuit	leakage current	Below 0.1mA
Response	OFF→ON	Below 0.2ms
time	ON→OFF	Below 0.2ms

High speed pulse output

Model	Т	T4	Т6	T10
High speed pulse output terminal	Y0~Y1	Y0~Y3	Y0~Y5	Y0~Y1
External power supply	Below DC5~30V			
Action indicator	LED light			
Max current	50m	Α		
Pulse max output frequency	1001	ΚΗz		

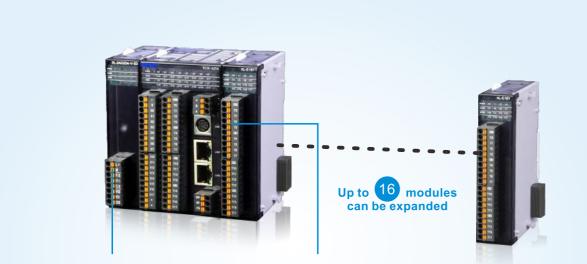
Serial port (RS232/RS485) communication parameter specification

Item	Parameter	
Communication mode	Half duplex	
Baud rate	4800bps, 9600bps, 19200bps (default), 38400bps, 57600bps, 115200bps	
Data type	Data bit: 5, 6, 7, 8 (default), 9. Stop bit: 1 (default), 1.5, 2. Parity bit: none, odd, even (default)	
Mode	RTU (default), ASCII, free format	
Station no.	1~255 (default 1)	
Delay before sending	1~100ms (default 3ms)	
Reply timeout	1~1000ms (default 300ms)	
Retry count	1~20 times (default 3 times)	

^{&#}x27;Note: XL5/XL5E/XLME series 64 points models don't have input ON/OFF current. Their input ON voltage is below 9V, and input OFF voltage is above 19V.

Expansion Unit

In order to meet the application requirements of more occasions, XL series PLC can be equipped with rich I/O expansion module, analog input and output module, temperature control module and left expansion module. The main body can expand 10~16 different type of right expansion modules and one left expansion ED module.



Left expansion ED module

Analog and temperature expansion module With D/A, A/D conversion and temperature measurement function.

Communication module

PLC can realize CANopen, RS232, RS485 communication.

Right expansion module

I/O expansion module

To expand the I/O points, the points include $8\sim32$ points. The basic unit can extend to 512 points.

The output type includes transistor (T) and relay (R).

Analog and temperature expansion module

It has D/A and A/D conversion functions. XD/XL series PLC can be applied to temperature, flow, liquid level, pressure and other process control systems by expanding analog input/output module and temperature control module.

Adding PID regulation function, it has wider and more flexible use and higher control accuracy. Only four parameters need to be set.

Each channel of the temperature control module can carry out PID control independently, which can be self-tuning, and exchange information with the main body through FROM and TO instructions.

General specification

Item	Specification	
Using environment	No corrosive gas	
Ambient temperature	0°C ~ 55°C	
Storage temperature	-20 ~ 70°C	
Ambient humidity	5~95%RH	
Storage humidity	5~95%RH	
Installation	It is directly installed on the guide rail of DIN46277 (35mm width)	

Right expansion module

I/O expansion module

When the number of main body points cannot meet the use requirements, this type of expansion module can be used to expand the I/O points to 544 points at most.



European terminal: 16/32 points Horn terminal: 16/32 points

External terminal strip is required

Digital input module

Туре		Function description	Charification
NPN input	PNP input	Function description	Specification
XL-E16X	XL-E16PX	16 channels digital input	DC24V power supply Input filter time 1~50ms optional
XL-E32X	XL-E32PX	32 channels digital input	External wiring method: 16X, 32X: built-in terminal strip 32X-A: external terminal block
XL-E32X-A	-	32 channels digital input	is required The wiring method is same to PLC main body

Digital output module

Model	Function description	Specification
XL-E16YR	16 channels relay output, no power supply required	The module does not require power supply R: output relay
XL-E16YT	16 channels transistor output, no power supply required	T: output transistor R response time is below 10ms
XL-E16YT-A	16 channels transistor output, no power supply required	T response time is below 0.2ms R max load: resistive 3A inductive 80VA T max load: each point max output current is 0.3A
XL-E32YT	32 channels transistor output, no power supply required	External wiring method: 16YR, 16YT, 32YT: built-in terminal strip 16YT-A, 32YT-A: external terminal block
XL-E32YT-A	32 channels transistor output, no power supply required	is required The wiring method is same to PLC main body

Digital I/O module

Мо	del	Function description	Specification
NPN input	PNP input	T unction description	Specification
XL-E8X8YR	XL-E8PX8YR	8 channels digital input, 8 channels relay output	DC 24V power supply Input filter time 1∼50ms optional R: output relay
XL-E8X8YT	XL-E8PX8YT	8 channels digital input, 8 channels transistor output	T: output transistor R response time is below 10ms T response time is below 0.2ms R max load: resistive 3A inductive 80VA
XL-E16X16YT	XL-E16PX16YT	16 channels digital input, 16 channels transistor output	T max load: each point max output current is 0.3A External wiring method: 8X8YR, 8X8YT, 16X16YT: built-in terminal strip
XL-E16X16YT-A	-	16 channels digital input, 16 channels transistor output	16X16YT-A: external terminal block is required The wiring method is same to PLC main body

Slim type PLC — Slim type PLC

Expansion Unit

Analog and temperature expansion module

It has D/A and A/D conversion functions. XD/XL series PLC can be applied to temperature, flow, liquid level, pressure and other process control systems by expanding analog input/output module and temperature control module.

 $\label{thm:control} \mbox{Adding PID regulation function, it has wider and more flexible use and higher control accuracy. Only four parameters need to be set. \\$

Each channel of the temperature control module can carry out PID control independently, which can be self-tuning, and exchange information with the main body through FROM and TO instructions.



Temperature control module (PT&TC type)

Model	Channel	Input signal	Specification
XL-E4PT3-P	4	PT100 platinum thermistor Measuring temperature range: -100°C ~500°C (Digital output range -1000~5000, with sign 16-bit, binary)	Power supply for analog DC24V ±10%, 50mA Control precision ±0.5% Resolution 0.1°C Comprehensive accuracy ±1% (relative max value) PT conversion speed 450ms/4 channels
XL- E4TC-P	4	K, S, E, N, B, T, J and R type of thermocouple Measuring temperature range: 0°C ~1300°C (type K) (Digital output range 0~13000, with sign 16-bit, binary)	TC conversion speed 420ms/4 channels PT filter coefficient 0~254 4 groups of PID parameters, support self-tuning function Sampling period optional

Analog input module (AD type)

Model	Channel	Input signal	Specification
XL-E8AD-A	8	Current input: 0~20mA/4~20mA/-20~20mA	Power supply for analog DC24V ±10%, 150mA Conversion speed 2ms/channel Resolution 1/16383 (14-bit) Comprehensive accuracy ±1%
XL-E8AD-V	8	Voltage input: 0~5V/0~10V/-5~5V/-10~10V	AD filter coefficient 0~254 Channel enable bit is added AD channel has the functions of short circuit, open circuit and over range detection

Analog output module (DA type)

Model	Channel	Input signal	Specification
XL-E4DA	4	Voltage output: $0\sim5V/0\sim10V/-5\sim5V/-10\sim10V$ (external load resistor $2k\Omega\sim1M\Omega$) Current output: $0\sim20mA/4\sim20mA$ (external load resistor less than 500Ω)	Power supply for analog DC24V ±10%, 150mA Conversion speed 2ms/channel Resolution 1/4095 (12-bit) Comprehensive accuracy ±1% Channel enable bit is added

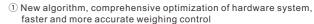
Analog I/O module (nADmDA type)

	Model	del Channel Input Output				
				Input/output signal	Specification	
	XL-E4AD2DA	4	2	Current input: $0\sim20\text{mA}/4\sim20\text{mA}/-20\sim20\text{mA}$ Voltage input: $0\sim5\text{V}/0\sim10\text{V}/-5\sim5\text{V}/-10\sim10\text{V}$ Voltage output: $0\sim5\text{V}/0\sim10\text{V}/-5\sim5\text{V}/-10\sim10\text{V}$ (external load resistor $2\text{k}\Omega\sim1\text{M}\Omega$) Current output: $0\sim20\text{mA}/4\sim20\text{mA}$ (external load resistor less than 500Ω)	Power supply for analog DC24V ±10%, 150mA Conversion speed 2ms/channel Input resolution 1/16383 (14-bit) Output resolution 1/4095 (12-bit) Comprehensive accuracy ±1% AD filter coefficient 0~254 Channel enable bit is added AD channel has the functions of short circuit, open circuit and over range detection	

Weighing extension module

It is used to convert the analog signal of the load cell into digital signal. The weighing module has the characteristics of dynamic weighing, small volume, stable performance, simple and applicable operation.

It can be widely used in seed, chemical industry, grain, feed weight control and other occasions.



- ② Up to 4 analog voltage signals of load cells can be collected at the same time
- ③ High performance AD conversion, sampling speed up to 450 times/s
- 4 Display accuracy up to 1/300000
- ⑤ Automatic zero tracking function
- © The real-time data communicates with PLC at high speed through the bus, which does not affect the conversion speed





XL-E1WT-D/XL-E2WT-D

XL-E4WT-D

14 a ma	Openition
Item	Specification
Model	XL-E1WT-D, XL-E2WT-D, XL-E4WT-D
Analog input range	DC-20~20mV
AD actual resolution	1/8388607 (23Bit)
Max display resolution	1/500000
Nonlinear	0.01%F.S
Conversion speed	150 times/s, 300 times/s, 450 times/s
Power supply	DC24V±10%
Sensor excitation power supply	5VDC/120mA, four 3500 load cells can be connected in parallel

Left expansion ED module

XL series left expansion ED module has the type of DA, AD conversion, temperature measurement, RS232, RS485 communication. XL series basic unit can connect 1 ED module (XL1 cannot support).

Analog and temperature expansion ED module

Model	Input/output signal	Specification
XL-4AD-A-ED	4 channels current input: 0~20mA/4~20mA	
XL-4AD-V-ED	4 channels voltage input: 0~5V/0~10V	B 1 5 11 B004/1409/ 450 A
XL-4DA-A-ED	4 channels current output: 0~20mA/4~20mA	Power supply of module: DC24V±10%, 150mA Conversion speed: 10ms (all the channels)
XL-4DA-V-ED	4 channels voltage output: 0~5V/0~10V	, , , , , , , , , , , , , , , , , , , ,
XL-2AD2DA-A-ED	2 channels current input: 0~20mA/4~20mA 2 channels current output: 0~20mA/4~20mA	AD/DA: Current/voltage input resolution: 1/4095 (12-bit) Current/voltage output resolution: 1/1023 (10-bit)
XL-2AD2DA-V-ED	2 channels voltage input: 0~5V/0~10V 2 channels voltage output: 0~5V/0~10V	AD/DA conversion comprehensive accuracy: ±1% AD filter coefficient: 0~254
XL-2AD2PT-A-ED	2 channels current input: 0~20mA/4~20mA 2 channels temperature input: PT100 platinum thermistor	PT: Temperature measurement range: -100~500°C
XL-2AD2PT-V-ED	2 channels voltage input: 0~5V/0~10V 2 channels temperature input: PT100 platinum thermistor	Digital output range: -1000~5000 PT filter 0~254
XL-2PT2DA-A-ED	2 channels current output: 0~20mA/4~20mA 2 channels temperature input: PT100 platinum thermistor	Temperature input resolution: 0.1°C PT channel comprehensive accuracy: ±0.8% of the full scale
XL-2PT2DA-V-ED	2 channels voltage output: 0~5V/0~10V 2 channels temperature input: PT100 platinum thermistor	

Communication expansion ED module

Model	Description
XL-NES-ED	For the XL series PLC left side to expand RS232 or RS485 port. Only one can be used between RS232 and RS485, serial port is COM3
XL-COBOX-ED	CANopen communication module. ① The communication speed can up to 1Mbps ② 64 communication nodes ③ Support master station and slave station mode ④ The reliability of the system is improved ⑤ Heartbeat protection ⑥ Simple wiring

Accessories

Basic unit accessories list

Name	Model	Description	Product drawing
Communication/ programming cable	XVP/DVP	For communication and program uploading/downloading	
USB to serial port convertor	USB-COM	For the conversion of DB9 female port and USB port	The same of the sa
USB print cable	JC-UA-15	Special USB download cable for Xinje products (except the products without USB-B port) Black, with double magnetic rings to improve anti-interference ability	-9
DB9 to RS485 cable	JC-EB-Length	DB9 to RS485 cable, for the RS485 communication between HMI and PLC, There are three models for selection: JC-EB-3 (3m), JC-EB-5 (5m), JC-EB-8 (8m)	
X-NET fieldbus cable	JC-EA-Length	Used together with XD-NE-BD or XD-NES-BD There are 7 models: JC-EA-1 (1m), JC-EA-05 (5m), JC-EA-10 (10m), JC-EA-20 (20m), JC-EA-30 (30m), JC-EA-50 (50m), JC-EA-100 (100m)	

Special power supply module

XL independent power supply ensures the normal operation of PLC in a good and reliable power supply system, which can prolong the service life of PLC.

	Specification
AC85-20	65V
DC24V	
2A	
No corro	sive and combustible gas
0°C~60°	C
5%RH~	95%RH (no condensation)
Directly	mounted on the guide rail
	d kind of grounding (not common ng with strong current system)



XL series terminal resistance

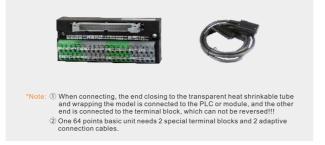
XL series terminal resistance module is required when external right expansion module is connected. Only for expansion module hardware version H3.1 and up.



XL series external terminal block

Some basic units and expansion modules need external terminal blocks, Xinje provide adapter terminal and connecting cable required by the following products.

Product model	Terminal block model	Adaptive connecting cable
XL5-64T10	JT-E32X+JT-E32YT	
XL5E-64T6	JT-E32X+JT-E32YT	
XL5E-64T10	JT-E32X+JT-E32YT	JC-TE32-NN05 (0.5m)
XL-E32X-A	JT-E32X	JC-TE32-NN10 (1.0m)
XL-E16X16YT-A	JT-E16X16YT	JC-TE32-NN15 (1.5m)
XL-E32YT-A	JT-E32YT	
XL-E16YT-A	JT-E16YT-A	



Program donwloader

JD-P03

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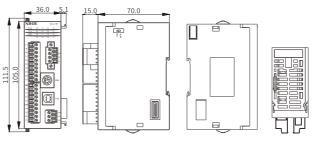
- ① Without computer, it can be used for program and data transfer and download between multiple Xinje PLCs. It must be used together with JC-ED-25 and USB-COM (hardware version H2).
- ② Suitable PLC: uploading requires the XD/XL/XG2 series PLC or ZG/ZP series integrated controller firmware version v3.4.6 or v3.5.3 (Ethernet models) and up. Downloading requires the PLC firmware v3.4 and up.
- ③ JD-P03 has small size and footprint.
- *Note: Please refer to the manual for details. XDH, XC series PLC are not supported temporarily.

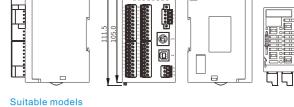


Dimension Drawing

(Unit: mm)

XL series PLC basic unit





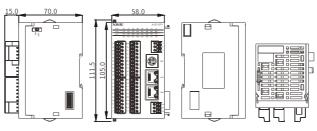
Suitable models

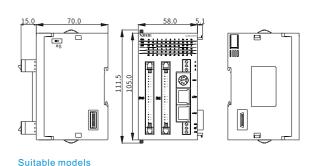
Series	XL1	XL3	XL5	XL5E
Points	16 points			

*Note: The location of USB port for XL1-16T is RS232 port. XL5E-16 is double Ethernet ports.



Series	XL3	XL
Points	32 p	oints

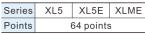




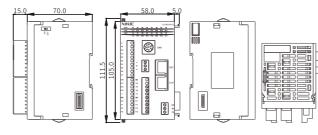
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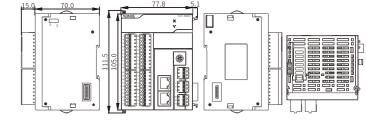
Suitable	e models	3	
Series	XL5E	XLME	
Points	32 p	oints	





*Note: XL5-64 doesn't have two Ethernet ports.





Suitable models Serie

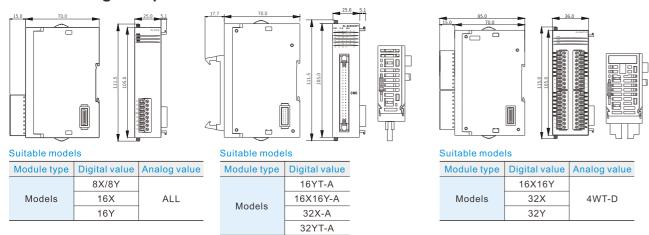
Series XLH
Points 24 points



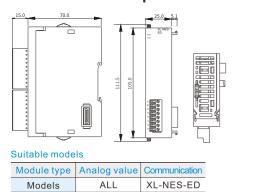
Dimension Drawing

(Unit: mm)

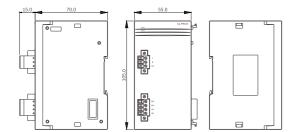
XL series right expansion module



XL series left expansion ED module



XL series power supply module



JT series external terminal block

